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The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE JANUARY 5, 1921.

REPORT OF AERIAL FOREST FIRE PATROL
FOR
SEASON OF 1920
AS SUBMITTED BY
AIR OFFICER, HEADQUARTERS NINTH CORPS AREA
SAN FRANCISCO, CAL.

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INTRODUCTION

The Aerial Forest Fire Patrol for the season of 1920 started when personnel of the Ninth Aero Squadron was moved from Mather Field to Fresno and Red Bluff on May 10, 1920. The patrolling was to conform to the routes outlined on the accompanying map (Exhibit "A"), and was to cover the state of California in accordance with patrol routes as indicated below:

- * Patrol No. 1 - From March Field to Rockwell Field and return.
- * " " 2 - From March Field to Santa Barbara and return.
- " " 3 - From Fresno to Bakersfield and return.
- " " 4 - From Fresno to Cooperstown and return.
- " " 5 - From Mather Field to Cooperstown and return.
- " " 6 - From Mather Field to Red Bluff and return.
- " " 7 - From Red Bluff to Alturas and return.
- " " 8 - From Red Bluff to Montague and return.
- " " 9 - From Red Bluff to Covelo and return.

* Note: The personnel for Patrols Nos. 1 and 2 was furnished by March Field.

Early in the season it became apparent that the only Air Service troops available for this work would be those from the two squadrons on duty in the Ninth Corps Area, namely, the Ninth and Ninety-first. Accordingly, plans were first made to patrol only the forests in the State of California, as this state had the longest dry season and consequently, the greatest continuous fire hazard. However, about the middle of May, conditions in Oregon became such that, after a conference among the Governor of the State of Oregon, the District Forester of the Sixth Forestry District, the State Forester of the State of Oregon and the Air Officer of the Ninth Corps Area, plans were completed whereby patrols would start in Oregon about July First. Flight "A" of the Ninety-first Squadron was, therefore, taken from border patrol and sent to Oregon for forest patrol duty, beginning operations on July 1st, according to schedule.

Radio stations were established at the following places on the dates indicated; the radio personnel for the ground stations, together with the signal corps receiving sets, (No. BC-14-A) being sent out from the Presidio of San Francisco by automobile truck to each station, with the exception of the stations in Oregon, to which places rail transportation was furnished:

NAME OF STATION APPROXIMATE DATE ESTABLISHED

5/23	Mather Field, California)
5/23	Fresno ")
5/23	Red Bluff ")
5/23	Alturas ")
5/23	March Field ")
5/23	Santa Barbara ")
5/23	Rockwell Field ")

Established between May 10th and May 15th.

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32
42

3444

NAME OF STATION (Cont'd)APPROXIMATE DATE ESTABLISHED

Hot Springs, California)
 Senora ")

Established between June 10th
 and June 15th.

Eugene, Oregon)
 Medford, ")
 Portland, ")

Established approximately June
 25th.

ROUTES

The routes as outlined contemplated the pilot's flying from the base of the sub-base in about two hours, which, together with the return trip, would make about four hours in the air. By having three pilots for each patrol, it was thought that each pilot would in this way have two days off for each day of flying. This was considered the maximum amount of flying which should be required of the pilots, due to the fact that the country over which flights were made was exceedingly rough, emergency landing fields were few and far between, and in almost every instance where an emergency, or forced landing was made, a complete wreck resulted. Later in the season, due to the shortage of personnel it was found necessary to combine patrols Nos. 4 and 5 (from Fresno to Cooperstown and return, and from Mather Field to Cooperstown and return). When these two patrols were combined, the pilot flew from Fresno to Mather Field in one day returning to Fresno on the following day.

The method of patrolling contemplated the pilot's adhering to the routes laid out on the map. In case a fire was discovered, the pilot was permitted to leave his patrol route for a distance not to exceed fifteen (15) miles. In order to determine the exact location of the fire and the other details which it was necessary for the Forest officials to have in order to fight the fire, successfully.

The airplane patrol usually left the base about 9:00 A.M., arriving at the sub-base about 11:00 A.M. It then remained over until about 1:00 P.M., arriving at its home station again about 3:00 P.M., so that about four hours of twenty-four the airplane was in the air, covering some part of the national forests. The greatest fire hazard is believed to be during the middle of the day, when the sun is hottest, and when most of the dampness has left the wood. For this reason an attempt was made to have the patrols cover the forests during this portion of the day. It is not believed, however, that this is the most efficient use of airplanes for forest fire patrol work. It is believed that during the next season a plan of patrol will be developed which will combine the method of patrolling used with a scheme whereby the patrols will be used on special reconnaissance missions for observing and directing the fighting of large fires. Such a use of the airplane was tested in a limited manner during the past season and proved entirely successful.

The maps used were not entirely satisfactory for either the pilots or the observers. There was no standard map available for all parts of the state of California, and Oregon had an entirely different set of maps. In order to remedy this difficulty, a conference was held with the Forest officials to determine the best possible kind of map available for forest fire patrol work. The Forest officials will endeavor to prepare a satisfactory map for the coming season.

Landing fields were developed as rapidly as was possible in all cases. It was endeavored to have emergency landing fields within flying distance of the various patrols, and in order to insure their being kept and marked, steps were taken to interest the various towns along the patrols to prepare such landing fields. The number of landing fields procured in this manner, however, was very limited. It is planned for the coming year to have the Forest Service mark each of the landing fields selected as possible emergency fields. The method of doing this will have to be a Forest official from each district go over the country in the immediate vicinity of the patrols with an Air Service officer, first by airplane and later by automobiles, so that all landing fields will be marked before the patrols actually start.

SUPPLIES AND EQUIPMENT

AIRPLANES

The airplanes used this year were all DH4-B's, and, although they were criticised in a mild manner, there is no other type of airplane known to the undersigned which would be better adapted for forest fire patrol duty. The majority of the pilots feel that if they had a two-engine plane which could be flown on one engine and which had a cruising radius of about five hours, they would feel safer while on patrol. Especial attention is invited to the fact, however, that there was only one case of a forced landing during the past season with a DH4-B which resulted fatally - this in spite of the fact that there were 476,085 miles flown, covering a period of 3,994 hours. The cruising radius of the DH4-B was ample, except where very strong head winds were encountered. In some instances this necessitated the pilot's remaining in the air over four hours. The greatest defect found in the airplane was in the tires. It has been demonstrated by the patrols this year that the rubber in these tires has deteriorated to such an extent that it was practically impossible to tell just when a tire would blow out, thereby causing a wheel to collapse and the airplane to go on its nose and sometimes on its back. There were many such minor accidents during the past season. It is hoped that better tires and better wheels will be secured before the next season starts.

During the first part of the season it was found necessary at various times to discontinue one or more patrols, due to the shortage of supplies for the upkeep and repair of the airplanes. This may have been due to lack of foresight on the part of the supply officers of the various bases. However, steps will be taken for the coming year to see that similar trouble is not encountered.

RADIO EQUIPMENT

Radio equipment is, without doubt, the most important part of the airplane patrol, for without the radio the airplane is practically useless. No matter how many fires the airplane discovers, it would be of no assistance to the Forest Service if reports of such fires were not received on the ground nearly as soon as the fires were discovered. This makes the use of radio equipment imperative, and it was found by actual experience that the radio equipment this year was the weakest link in the entire chain of aerial forest fire patrol equipment.

The type of radio equipment used on the airplane was the SCR-73. The performance of this set at the various bases and sub-bases is shown by charts accompanying the report.

Attention is invited to the improvement of conditions subsequent to August 1st over those prior to this date. This is explained by the fact, that prior to August 1st, enlisted personnel were in charge of the radio equipment at the various bases and sub-bases, and although it is true that the receiving sets had a very limited range, yet the enlisted men did not know whether this condition was the fault of the receiving station itself, or of the set on the airplane. After the radio officers were assigned to duty with the various patrol units, however, conditions improved so materially that the airplanes were within hearing distance of the ground stations practically all the time while on patrol. It is hoped that during the next season the ground receiving station will be manned exclusively by Air Service personnel.

It is believed that the radio system for the coming year should include one tractor, or equally powerful set, established at Fresno and Red Bluff, in California, and at Medford and Eugene in Oregon. These tractor sets, in conjunction with the permanent sending sets at Rockwell, March and Mather Fields, would provide a constant source of communication from Portland on the North, to Rockwell Field on the South. It is recommended that this matter be studied carefully by the Radio Section in Washington, and that result of such study be forwarded to this office, so that requisitions for the necessary patrol season actually starts. It is also recommended that the Forest Service secure and install receiving sets, so that there will be at least one available for each National Forest, thereby providing another link in the chain of rapid communication between the airplane and the man who is actually directing the fire fighting. There are sufficient foresters in the Forest Service who understand radio, to make this scheme not only possible, but practicable.

Constant communication is essential between the bases and the sub-bases. During the past season this was maintained by airplane, telegraph and long distance telephone. The expense to the Government will be materially decreased if a net work of radio stations such as is herein outlined, is established.

Before the patrol for the coming season is started, sufficient trained radio officers and enlisted men should be on hand in the Ninth Corps Area to permit of one radio officer's being stationed at each of the following places:

March Field, Calif.	Fresno, Calif.
Mather Field, Calif.	Red Bluff, Calif.
Eugene, Oregon.	

In addition, there should be one radio officer in charge of all radio activities of aerial forest fire patrol. If the patrol is extended to include Montana and Idaho, sufficient additional radio officers must be secured to make it possible for a radio officer to be stationed at each base.

TRANSPORTATION

Experience during the past two years has proved that the transportation for each patrol base and sub-base should be:

- 1 - Motorcycle with side car.
- 1 - Passenger car.
- 1 - Motor Truck.

If the base is an important one from which more than two patrols are sent out, and which supplies a certain number of sub-bases with material and spare parts, the transportation must be increased accordingly. During the past season the following transportation was used at the various bases and sub-bases:

FRESNO

- 1 - 3/4 Ton Ambulance
- 1 - Five Ton Truck
- 1 - 3/4 Ton Truck
- 1 - Dodge Touring Car
- 1 - Harley-Davidson Motorcycle, with side car.
- 2 - Tank Trailers
- 1 - Machine Shop Trunk and Trailer

RED BLUFF

- 1 - Dodge Touring Car
- 1 - Three Ton Truck
- 1 - Three Ton Tank Trailer
- 1 - Three-quarter Ton Ambulance
- 1 - Motorcycle, with Side Car
- 1 - Kitchen K3K.

MEDFORD, OREGON

- 1 - Standard Class "B" Five Ton Truck.

EUGENE, OREGON

- 1 - Field Machine Shop Truck.
- 1 - Standard Class "B" five-ton Truck.

At Mather and March Fields, the field and squadron transportation was pooled.

PERSONNEL

The efficiency of the pilots and observers during the work of the past season increased in proportion to the time they were on patrol duty, which was, of course, but natural.

In aerial forest fire patrol work the pilot leaves the ground in the summer when the weather is hot, and rises to an altitude of often fifteen thousand feet,

at which height most of the patrols are flown, and at which altitude it is found that the temperature is more or less cool even when the weather is hottest in the valley. The work is in many ways similar to activities in war time. The fire must be spotted from a distance. It is then approached and circled at a lower altitude than that at which the patrol is flown, during which time the observer secures all the information possible as to the progress being made by the fire; its general direction of advance; its size, and the character of the timber being burned. This information is sent from the airplane by radio to the nearest Forestry Liaison Officer, the location of the fire being determined by landmarks which must be known beforehand by both the pilot and the observer. All ships must be ready to leave on patrol when the time comes, and the pilot and observer are each given their turn, and take their turn regularly, regardless of any minor conditions which may have a tendency to interfere. Aerial forest fire patrol means a continual grind, with no relief until the end of the season.

In addition to the actual flying tests the opportunities for training mechanics and engineer officers are without equal in peace time flying. The continual flying is a constant strain on the airplanes, during which they must meet the most severe conditions - conditions which prove an unerring guide to the ultimate weakness or strength of the airplane and engine used. For instance, based on this year's forest patrol, it became necessary absolutely to prohibit the use of the Nordyke-Marmon Liberty engines in the Ninth Corps Area until new camshaft drive gears were furnished.

Viewing the activities of the past year as a criterion, it is essential that three pilots and three observers be available for any one route followed. This will give each pilot and observer two days off out of three, or assuming that the patrol routes are of the same distance as those flown this year, each pilot and observer will fly about forty to fifty hours a month.

It will be necessary in addition especially to train the pilots and observers for their work for a short period before the patrols are actually started. The length of this period of training will naturally depend upon the adaptability of the personnel. In this connection, an agreement has been reached with the District Forester whereby, if possible, a school for the special training of foresters, pilots and observers will be opened at Mather Field, commencing about January 15, 1921. Based upon what was accomplished at a similar school held at March Field during the past season, such a school will do more to bring about cooperation between the foresters, pilots and aerial observers, than any other one move which can be made. It has been decided, tentatively, that the course of instruction at this school should comprise - about two months. A course of instruction will be drawn up at Mather Field and submitted for approval, however, before any final arrangements are made.

Observers should be selected, if possible, from civilian reserve officers who have been trained as observers or pilots. These officers can be placed in the employ of the Forest Service, thereby giving them an official standing with that service. Such men are much more efficient than any enlisted observers who may now be secured. If it is impossible to obtain a sufficient number of this type of men, those needed in addition should be secured from cadet personnel. However, enlisted and civilian observers should never be stationed at the same base or sub-base together.

During the past season, due to the shortage of officer personnel and to other exigencies of the service, certain of the pilots on patrol were obliged to fly as much as sixty hours a month. Flying over thickly wooded country for such extended periods of time, with landing fields few and far between, gradually began to tell upon the pilots and observers, and the result was only what could be expected under these conditions - breakdowns at just the most inopportune period of the patrol season. The most efficient pilots became nervous, and did not do work commensurate with their ability. Those of lesser ability had their morale more or less weakened, and this affected their flying to such an extent that the crashes increased at an alarming rate. For instance, there were four crashes in one day from one base. It is true that some of the crashes were of a minor nature, but it is more probable that none of them would have occurred had the pilot's efficiency been up to the standard. This condition was remedied by changing commanding officers; affording new amusements and recreation when the pilots were not on duty; making certain that the pilots and observers went away on hunting and fishing leaves; and combining patrols so that less work was required of the same group of men. The results obtained after these changes were effected speak for themselves.

In connection with maintaining the morale of the pilots and observers during the strenuous work of aerial forest fire patrol, there originated with the Forest Service, during the early part of the season, an idea for establishing a recreation camp to which the pilots and observers could go in order absolutely to forget flying and the worries incident thereto. After conference with Air Service officers, the culmination of this idea has been the tentative setting aside of several hundred acres of land in the Kennedy Lake district in the Stanislaus National Forest, where excellent hunting and fishing are available. This area of land will be used for a recreation camp, as mentioned above. At the present time, this country is more or less snowed in. As soon as it opens up in the Spring, an Air Service officer will be sent there with a Forest official to stake out several hundred acres of land. It is proposed during the coming season, to send all pilots and observers up to this district, having them spend at least two weeks out of every two months in the woods. Cabins will be built by the Air Service personnel from time to time, and it is hoped that the camp will be built and in full use by the middle of the coming summer.

During the past season the Forest Service has in all cases met the Air Service more than half way. When it came to a question of sparing pilots and machines at the expense of patrols, forest officials themselves were always the ones to suggest the change. Forest rangers, District Supervisors and other forest officials went over the patrols as observers, using the airplane time after time on special missions for observing and directing the fighting of a particularly large fire. While the forest patrol, as carried on during the season of 1919, was an experiment which proved that the airplane could be used successfully for spotting forest fires, the patrols during the past season not only successfully located forest fires, but also actually directed the fighting of the large fires, and, in some instances, carried personnel from one part of the state where their services were not needed, to another part of the state where their services were very urgently required for fire fighting.

RECOMMENDATIONS

The following recommendations are submitted:

PERSONNEL:

- (1) That this office be notified as soon as possible whether any additional personnel will be authorized for aerial forest fire patrol during the coming season.
- (2) That six hundred (600) enlisted men be assigned to the Ninth Corps Area for forest fire patrol duty about May 1, 1921.
- (3) That the entire class of cadets which graduates at March Field about May 1st, or the last class graduating before that date, be assigned to the Air Officer, Ninth Corps Area, for forest fire patrol duty.
- (4) That authority be granted to call into active service such reserve officers as are needed to act as observers and pilots, if the patrol is to be extended to include Washington, Montana and Idaho.
- (5) That authority be granted to conduct at Mather Field for two months a school for forest rangers, pilots and observers - the equipment at Mather Field to be used, and all forest officials to pay their own expenses while attending this school.

H. H. ARNOLD,
Major, A. S.,
Air Officer, Ninth Corps Area.

EUROPE RECOGNIZES SUCCESS OF U. S. AIR MAIL ✓

Transportation of the mails by aircraft won recognition and approval at the International Postal Congress at Madrid, according to Otto Praeger, Second Assistant Postmaster General, who represented the United States and who returned Saturday, Dec. 11 on the Cunarder "Aquatania".

"There is intense interest in the Air Mail throughout Europe", said Mr. Praeger to a representative of the Manufacturers Aircraft Association. "Practically every

country either has opened an Air Mail experimental line or plans to do so in the near future. The report of the U. S. Air Mail Service which I submitted to the CONGRESS was the subject of much discussion. Many countries have asked for more detailed information, particularly Denmark, Norway, and Sweden, which already have some posts carried by air but are eager to extend the system.

"The International Postal Congress recognized the transportation of mail by aircraft and prepared the way for signatory powers to enter into agreements for special compensation where it was desired to transmit postal matter either wholly or partly by air."

"Europe is crisscrossed with Air Mail lines radiating from London, Paris, Copenhagen and Berlin and extending through every country on the Continent. The English and French services between London and Paris are eminently successful, while their branch routes through other countries are developing rapidly. Holland, Belgium, Switzerland, Germany and Spain are fostering mail routes either by Government operation or by private companies. Italy had a government air mail service between Turin and Rome, but has had difficulty retaining planes and aviators, a pilot on setting out with his plane well supplied with gasoline, would fly over the Fiume and join D'Annunzio's forces."

"Czecho-Slovakia is organizing an air mail service between Prague, Warsaw and Paris, fostered by French capital. Other nations are following the example of France, which has established great junction points, one at Nice for all traffic between Rome, Paris and Bucharest, while at Strassburg it has established a junction for planes flying between Germany, Poland, France and Russia. One reason for success in Europe is the availability of landing fields. A pilot finds an airport wherever he flies. The French believe that within ten years the public will use airplanes as much, and for as many purposes, as it now uses railroads. More than one thousand persons have flown from Paris to London in French machines alone."

NEW YORK TO FLORIDA IN SIXTEEN AND A HALF HOURS

Sixteen hours and thirty minutes flying time to Florida, as against forty-eight hours continuous travel by rail, was made by the Aeromarine Navy Cruiser "Christopher Columbus" according to telegrams received Dec. 13, Fla. by the Aeromarine Plane & Motor Company. The fourteen passenger flying boat left New York City on the morning of December 10th. It is one of a fleet being operated by the Aeromarine West Indies Airways, Inc.

THE EXTENT OF RADIO - EQUIPPED AIRCRAFT

The following will show in a measure the extent of the Air Service Operations which employed radio-equipped aircraft from July 1 to September 30, 1920. This list however is incomplete, additional reports having arrived after compilation.

Permanent and temporary landing fields and gasoline stations from which radio-equipped aircraft was operated: (Ground Radio Stations were maintained and operated at practically all of these stations)	40
Average number of radio-equipped aircraft in commission for these operations:	101
Average number of missions <u>per week</u> in which radio telegraph or telephone was employed:	150
Average number of hours flown <u>per week</u> by radio-equipped aircraft in these operations:	403
Distances over which radio communication was carried on varied, from less than 1 mile to	200

In addition to its employment in Air Service activities proper, such as Coast, Border and Forest Patrols, and routine work at Flying Fields, aircraft radio was employed in work with ground troops in various parts of the country.

In some cases where the ground troops were not provided with apparatus or operating personnel, the Air Service furnished the ground service. Work with Coast Artillery proper covered operations at Fort Hancock, N.Y., Fort Monroe, Va., Fort Caswell, N.C., Fort Scriven, Ga., Fort Dade, Fla., Fort Crockett, Tex., Forts Rosecrans and Berry, Calif., and in the Panama, Hawaiian and Philippine Department Work was carried on with Railway Artillery at Camp Eustis, Va., and Rockport, Mass and with Anti-aircraft Artillery at Fort Monroe, Va. Work was also carried on with the Field Artillery, Cavalry, Infantry and Tank Corps included operations at Camps Bragg and Knox, Leon Springs, and Fort Bliss, Texas, Fort Sill, Okla., Camp Meade, Md. and Camp Benning, Ga.

PRELIMINARY TRAINING COURSE AT A. S. MECHANICS SCHOOL, KELLY FIELD

The addition of a course of mathematical instruction to every course taught in this school marks another advance in air service instruction. This course, known as the Preliminary Training Course, is of four weeks duration. It is a short course in elementary mathematics up to and including the principles of algebra and geometry, sandwiched in with some intensive military training. Every student entering this school for a course of instruction, must first complete this elementary work before he specializes on a branch of aviation. The military training is directly supervised by a commissioned officer and is given by a number of picked non-commissioned officers, none of whom has had less than 10 year's military service. This military work includes Infantry Drill Regulations, including "School of the Company", Interior Guard Regulations, lecture work on Army Regulations, Manual of Courts Martial, Personal Hygiene, Discipline, and other subjects which a recruit needs to know. This course is compulsory, and men attending it are excused from all other duties. It is believed that the addition of this course will mean a material gain in the school's efficiency.

FREE BALLOON FLIGHT AT FORT OMAHA

A free balloon flight was made from this Post on November 28, 1920, leaving at 5:30 A.M. with Captain H. C. White, A.S., as pilot, and First Lieut. R. E. Thompson, A.S., Master Sergeant, H. J. Bertram and Mr. H. P. Lister as passengers. The balloon flew in a northwesterly direction and landed at 7:30 A.M. 6 miles south of Craig, Neb., a distance of 50 miles from Fort Omaha. After a stop of five minutes the balloon continued and landed the second time at 8:35 A.M. 3 miles north of Oakland, Neb., a distance of ten miles from the first landing. Maximum altitude reached, 2,000 feet. The flight was made without any unusual occurrence. The rate of travel was about 20 M.P.H.

RECRUITS REPORTED FROM FORT OMAHA

Recruits obtained during the past week were 100 per cent more than obtained during the preceding week, 12 being enlisted and for the following services; 4 for Air Service, Heavier-than-air; 5 for Air Service, Lighter-than-air; 1 for Signal Corps; 1 for Medical Corps.

It is believed that this number will be increased during the succeeding week.

FREE BALLOON FLIGHT AT BROOKS FIELD

A free balloon flight was made Friday night ascending at 1:50 A.M.:
Pilot: 1st Lieut. Roland L. Davis, Air Service; Passengers: 1st Lieut. Asa J. Etheridge, Air Service; 2nd Lieut. John H. Crawford, Air Service; Staff Sergeant Otto H. Nelson, 6th Balloon Company; Staff Sergeant Guy McIntyre, 7th Balloon Company; Corporal Sylvester B. Zowada, 4th Balloon Company.
Balloon landed at Round Rock, Texas, 120 miles north at 8:30 A.M.
Observation Balloon Time for week 43 hours 47 minutes.

LIAISON EXERCISE AT DOUGLAS AIRBROME

Two teams and two planes from Douglas flew to Ft. Huachuca to carry on a Liaison exercise with the 10th Cavalry of that Post. Due to problem starting early in the morning the Air Service officers flew to the post the previous day and stayed at the officer's club that night.

The problem was a terrain exercise with two squadrons of Cavalry and the Liaison plane. In general the whole exercise was very successful, and plans are in to have a similar problem each Wednesday.

323 FLIGHTS AT PILOTS SCHOOL MARCH FIELD

Sixty-seven planes were used in making 323 flights from this field during the past week; total flying time 225 hours 10 minutes. Preliminary instruction required 137 hrs. 20 min.; advance instruction, 23 hrs. 45 min.; miscellaneous flights 54 hrs. 45 min., and test flights 4 hrs. 50 min.

ACTIVITIES OF THE FOURTEENTH BALLOON COMPANY

This company has been traveling so much since April 1st, that there has been little time for telling about it. On April 10th, the company left Fort Omaha for San Francisco for work with the Coast Artillery Defenses. The company stayed in San Francisco one month and did some interesting work in conjunction with the 24th Balloon Company.

The main problem was the development of a system for tracking moving vessels. The necessary communications were established and have worked well ever since. The balloons were stationed at each end of a base line of about seven miles in length. A sextant in each balloon was the first instrument used to measure the angle between opposite balloon and the target. These were not satisfactory, and the problems were not complete successes.

From San Francisco the 14th and 24th companies moved to the Coast Defenses of Puget Sound north of Seattle, Washington. Instruments composed of old type azimuth instruments were developed by means of which two balloons can now accurately track a moving target.

From Seattle, the two companies moved to Camp Lewis, Washington, where four months were spent working with the 31st Coast Artillery Brigade.

On October 1st the organizations arrived in San Francisco for further experimental work with the Coast Defenses. This work culminated in a problem with long range guns on November 24th. Twelve rounds were fired by Fort Barry; using only balloon data, (on ground observation posts) and nine hits were registered. This is a source of gratification both to the Coast Defense Officers and men who so efficiently handled the firing and to the members of the two balloon companies.

"Recruiting" has been the big word in this company for the past month. In the latter part of October the Morning Report showed thirty men. It now shows eighty, an increase of 165% and is just starting. It is expected to have 100 men by December 15th, and by January 1st to be at least one organization in the army up to full strength. Every man in the company is a recruiter. They are recruits one day and "Recruiters" the next.

Private Hill (now Corporal Hill) has been in the army seven months. He put in a day's work in the company and then went out and got five men, one day. He played a fine game of football in Antioch, California against the American Legion team at that place and after the game, having ten minutes to wait before the trucks left, he went out and brought in a good man.

Company spirit and the "Recruiting Fever" is soon going to bring the 14th Balloon Company up.

DEATH OF CAPTAIN ROY L. NOGGLE AT MARCH FIELD.

Captain Roy L. Noggle, recently assigned to duty at March Field for a "refresher course" was killed Wednesday morning in an airplane accident on the solo field just east of main flying field. The deceased had but recently returned from civilian life having been discharged from the Air Service about a year ago.

Captain Noggle came to the Air Service from the Hawaiian national guard and obtained his early training at Rockwell Field, San Diego. Late in 1917 he was ordered to the Atlantic seaboard and thence overseas where he served under Colonel Baldwin at Orly Field near Paris. He was for many months in charge of all airplanes that were to be forwarded to the various squadrons at the front and frequently had as many as 75 pilots under his command.

Upon reporting for duty at this school and because of his ability to fly almost any type of plane, Captain Noggle was considered one of the best fliers of the command. He was taking his JMA test at the time of the accident. Brief memorial services were held at the Service Men's Club Saturday morning the entire personnel of the field attending, Chaplain Spaulding officiating. The remains are to be shipped to Honolulu for burial where a widow survives. A son resides in Alaska.

RECONNAISSANCE FLIGHT FROM KELLY FIELD TO MCALLEN TEXAS

1st Lieut. B. A. Doyle and 2nd Lieut. H. W. Beaton made a reconnaissance flight to McAllen, Texas, going by way of Laredo. The total time was three hours, and twenty minutes, there being a very high wind.

FOUR INTERESTING BALLOON FLIGHTS AT ROSS FIELD ARCADIA, CALIFORNIA

A series of flights was made by four free balloons during the week. One, a 24000 cubic foot balloon was used for nine separate flights on Wednesday the 8th, this being the longest run of record here. It ascended from the field at 3:30 A.M. with 1st Lieut. George F. Parris piloting and Cadets John B. Strider and Ronald H. Short as passengers. Seven flights were made with Captains Hawthorne C. Gray and Lawrence F. Stone interchanging with the Cadets as passengers. The last two flights were solos, one by Captain Stone and one by Cadet Short. All flights were made without incident except Captain Stone's solo. Ripping in a high wind he was dragged some distance and rendered unconscious by a blow on the head from the load ring. He recovered consciousness in a few minutes and experienced no bad results from the shake up. An air line distance of 115 miles was covered in the nine flights. The general direction was southwest to San Pedro, out over the ocean about ten miles toward Catalina Island and then eastward to Riverside where a final landing was made.

A 19000 cubic foot balloon made three flights the same day. It left the field at 8:30 A.M. with Lieut. Col. Theodore A. Baldwin and Majors Oscar Westover and Arthur G. Fisher aboard. Major Westover piloted the first two flights and the third was a solo by Lieut. Colonel Baldwin. Major Westover utilized the same air currents as did Lieut. Parris, traveling west to Pasadena and then east to a few miles beyond Azusa. No unusual incidents occurred during these flights.

On the 10th, three solo flights were made by Captain Gray and Cadets Guy W. Brown and Kenneth L. Frazier. Each flight was of approximately one hour's duration and the course was first southwest and then east. Captain Gray making the last solo, landed near Covina.

The same day a 19000 cubic foot balloon made three flights carrying two passengers each trip. The first was made by Major Norman W. Peek and Captain Gray, with Major Peek piloting. They left the field at 8:30 A.M. and landed near Pasadena at 9:30. Major Harold A. Strauss and Major Peek made the second flight. They landed several miles south of the field in the Rio Hondo Wash at 10:40 A.M. The third flight was piloted by 2nd Lieut. Dache M. Reeves, Major Peek riding as passenger. They came down at 10:05 P.M. near Duarte, about eight miles east of Ross Field. As there was little wind Lieut. Reeves deflated the balloon by valving instead of using the rip panel as is customary. When it is possible to do this considerable work is saved in putting the balloon in commission for another flight.

DEPARTMENT OF COMMERCIAL AVIATION

UNITED STATES.

WRIGHT MOTOR NOW ENTIRELY AMERICAN

The recent announcement of the Wright Aeronautical Corporation that it had so changed and improved the motor which it had been manufacturing as the Wright-Hispano that it had changed the name to Wright, is of more than passing interest in the aeronautical world.

Improvements have so changed the engine that the Wright Company believe that it is entirely American now, and, in the words of F. B. Rentschler, vice-president of the Company, "is no more a Hispano-Suiza engine than the Liberty is a German Mercedes."

"Nothing in this world can remain stationary" Mr. Rentschler said. "It either goes forward or backward. This is especially true in everything pertaining to aeronautics. An aeronautical engine must change constantly; must be improved to meet the changing demands placed upon it by the plane designers and by the needs of the army and navy air services. Our engineers have so improved the Hispano-Suiza that we consider we are justified in changing the name to that of the fathers of flying - the Wright Brothers.

The Corporation was well aware of the criticism against the Hispano to the effect that the valves were delicate and set about the solution of this problem. To illustrate the results obtained by the change in cylinder construction, one Wright engine has been running at McCook Field, Dayton, in ordinary flight for more than 150 hours without overhaul, and at the last report was still running, causing no trouble. The valves on this engine have never been ground nor has any other repair work been done."

More than fifteen major mechanical changes and improvements have been made in the "Hisso" by the Wright engineers.

The early French engine had very thin heads in the cylinder sleeves and considerable trouble was experienced with the valves. At first the Wright engineers thought the trouble was due to valve warpage, but careful study revealed that it was due to cylinder head warpage. The thickening of the cylinder head did away with the thin plate or diaphragm action of this head, and permitted expansion without warping. This elimination of warping assured the perfect seating of the valves.

The valves themselves were also somewhat changed in design. The size of the neck was increased to allow a better heat flow away from the face of the valve, thus keeping it cooler and making it less likely to burn. The design of the cylinder block was changed to allow increased circulation of cooling water around the exhaust valve seats.

The installation of American magnetos and an American ignition system was one of the first changes made.

The design of the pistons was altered completely. The piston pin was changed from the fixed to a floating type. The modified piston does not burn so easily and is a better manufacturing job. The original Hispanos had a set screw which held the piston pin in place. This in service, due chiefly to the carelessness of mechanics, was sometimes likely to drop out, often going through the head of the piston or through the bottom of the crank case. This permitted the piston pin to rub against the cylinder wall, scoring it and spoiling the motor until expensive repairs could be made. The floating type of piston pin, it has been found, gives better wear than the fixed type.

Changes were also made in the connecting rod and bearing. The French inner connecting rod and bearing were integral with each other. This made the lightest possible construction, but defects were that the manufacture of these bearings was exceedingly difficult and their life in actual service was short even under the best conditions. The change to the Wright type gave a great increase in duration of this member, and also made a simpler manufacturing operation.

A new carburetor for the "Hisso" was also developed. The new carburetor has many merits, but the most important is the more complete control of the mixture. This is especially useful in altitude work.

Several changes were made in the magneto bracket until a modification was obtained which made it possible to use a straight engine bed in the plane, simplifying removal and replacement. A change in the vertical shaft which made for greater ease in manufacture and in timing was also made.

UNITED STATES (Cont'd)

The French design of the lower half of the crank case was for a wet sump meter, that is, one carrying its own oil in the lower half of the crankcase. On steep dives or steep climbs this meant there was danger that the cylinders in front or in the rear would be flooded. The first American modification was to use an auxiliary oil pump placed on the rear of the magneto bracket to make the meter a dry sump job. This was found to be only a makeshift. A later design placed all oil pumps together in a compact unit, easily accessible and properly placed. An oil lead from the front end of the camshaft housing was run back down to the crankcase to take care of overflow oil when the plane is diving, as well as to prevent the camshaft housing from inundation and possible leaking down the valve stems.

A slight change was also made in the upper half of the crankcase in order to give oil a direct lead to the front thrust bearing. This improvement permits unobstructed lubrication of the bearing, which is very heavily worked and is also a precaution against possible trouble from partial failure of splash lubrication. The rear end of the crankcase was slightly changed to accommodate the magneto bracket, which is interchangeable on the 180 and 300 horsepower engine.

The design of the water pump attachment and outlet was slightly modified to make them more compact and accessible. A fuel pump for handling gasoline without the use of a pressure tank and air pump has been provided on the bottom of the new magneto bracket, and provision has been made for the installation on the magneto end of the engine of a standard type electric starter.

But although the "Americanized" engine is, in the opinion of many aeronautical experts besides those of the Wright Corporation, as near perfect as is possible in this year 1920, the work of altering, improving and amending is going ahead as steadily on the Wright motor as on the old "Hisso" from which it developed.

PARIS-BERLIN AIR SERVICE SCHEME

GERMANY

The Westminster Gazette is authority for the announcement by Reuter's that the aviator Voisin, nephew of the well-known aeroplane constructor, made a visit recently to Berlin, whither he traveled by aeroplane, studying with German experts the possibility of establishing a commercial air service between Paris and Berlin.

BAN ON GERMAN AIR SERVICE

The Inter-Allied Commission of Control appears very active in Germany, according to reports in the English Press. The latest move by the Commission is to place a ban on the 149 converted war aeroplanes which were flying on the air routes of Germany. The effect of this is to permit the machines to carry on operations in Germany itself but to prohibit them from flying on the international routes though the five commercial aircrafts now in use may continue to fly over these routes. In some quarters it has been suggested that this ban will cause Germany to give up all her foreign air service. Such an idea is foolish in the extreme.

With the approach of winter the German air transport companies - governed by the Hamburg-Amerika and Norddeutscher Lloyd shipping lines - curtailed their service, and the factories will spend the winter building machines for commercial use in spring. Though it takes considerable time to design, construct, test and modify a new type of aeroplane, once the type is declared efficient it can be turned out rapidly in large numbers. As there are already five commercial aircraft flying in Germany, it need not be many months before all demands are satisfied. With the coming of summer activity on the part of German air transport companies is predicted.

ENGLAND

THE COMMERCIAL AIRSHIP: ITS OPERATION AND CONSTRUCTION

In a paper read by Commander Sir Trevor Dawson, Bart., R.N., at the Air Conference of Oct. 14, some interesting points with regard to the construction

and operation of the commercial airship were treated in detail.

"It is important that there should be in the consideration of the future of the airship a conservative rather than an exaggerated attitude of mind," Sir Trevor Dawson points out: "It should not be contended that airships will enter into direct competition with transport services which can be satisfactorily operated by railways and ocean liners. It is only claimed that the airship will be supplementary to these means of transportation and will not in any way replace them. Airship services do, however, offer a means of expediting communication where time-saving is a predominant consideration. The airship needs no track, expensive in construction and maintenance.

"It is, however, on the world ocean routes that an airship will have its great opportunity, particularly for direct communication between Europe and America, South Africa, India, Australia and the East."

The "Engineer" of Nov. 19, in making an abstract of Sir Trevor Dawson's paper, quotes him rather fully on the following sub-topics with regard to the operation of airship service: Traffic Possibilities: Size of Airship Required: Safety and Dependability: Development of the Mooring Tower: Airship Bases: Need for Trained Pilots: Cost: Earnings.

The last two topics have more than passing interest for those who are thinking, planning and making calculations along the practical side of air transportation.

The capital required for three airships and equipment of a type designed to carry 100 passengers and a further carrying capacity for about ten tons of mail and special freight, is estimated at £1,500,000, and for sheds, mooring masts, etc., for two aerodromes £1,300,000, giving a total of £2,800,000, or, in round numbers, £3,000,000. Allowing for paying interest at 15 per cent, this would mean an annual charge of £450,000.

The total annual costs, including petrol, oil and hydrogen, according to the estimates are summed up as follows:

1 - 15 per cent on capital -----	£400,000 to	600,000
2 - Depreciation and Obsolescence-----	400,000 to	600,000
3 - Repairs and Maintenance -----	100,000 to	300,000
4 - Establishment expenses -----	150,000 to	200,000
5 - Insurance -----	200,000 to	500,000
6 - Running Costs -----	400,000 to	600,000
	<u>£1,650,000 to</u>	<u>2,800,000</u>

As to the earnings, assuming a full load is carried every voyage, the total paying load per year would be 5000 tons, carried a distance of 3000 miles, and, to cover the total expense enumerated in the table, might be surmised at anything from 4s. 6d. per ton mile upward with a conservative estimate probably nearer 10s.

In the matter of construction and development, the report is interestingly explicit. "Apart from the increase in size that is necessary to enable an economical load to be carried for a distance of 3500 miles, and to allow of increasing the speed up to 80 miles per hour, the following disiderata are the most important which affect design:

(1) An airship must be able to depart and arrive at the bases in all kinds of weather with safety and regularity.

(2) A really reliable and economical engine specially suited for airships has yet to be produced.

(3) Methods of treating the outer cover fabric are required that will ensure tautness and water-tightness in all kinds of weather and extremes of temperature for a reasonable length of time without rapid deterioration and necessity of frequent replacement.

(4) Experience is necessary as to the effect of climatic conditions on the covers and gas bags and on the maintenance of the airship generally.

"With the exception of the Wolsley-built Maybach motor," the report concludes, "no essentially airship-design engine has yet been produced in England, and, although excellent results have been obtained with the use of the Rolls-Royce and Sunbeam engines for relatively short runs, an engine of a simpler and more robust type is wanted which can run continuously for periods of at least 50 hours without any risk of breakdown, and without requiring constant overhaul by highly skilled labor. The ideal type of internal combustion engine for air-

ships would be of the Diesel two-cycle type, which would have most valuable advantages. As 1000 brake horse-power could probably be developed in not more than eight cylinders, and all induction and exhaust valves would be eliminated, the possibilities of breakdown would be greatly reduced, and overhaul would be greatly simplified. There has not yet been any serious attempt to produce a Diesel engine suitable for aero purposes; the lightest type of Diesel engine yet made weighs about 30 lb. per brake horse power, and no attempt has been made to use special materials or methods of reducing weight used in the aero engine. Although with its higher compression pressure it will essentially be heavier than the petrol engine, there does not appear to be any reason why a suitable Diesel engine should not be produced of, say 10 lb. per brake horse power. Even with this weight the lower fuel consumption would allow of a less total weight of engines and fuel than would be the case with a petrol engine for voyages requiring the carrying of fuel for 50 hours and upwards. In addition it would have the great mechanical advantages previously mentioned."

"THE INFLUENCE IN THE FUTURE OF AIRCRAFT
UPON PROBLEMS OF IMPERIAL DEFENSE."

Immensely significant evidence of the trend of thought as to the importance of aeronautics in matters of national defense is the announcement by the Royal United Service Institution of England that the subject of the Military Essay for 1921 is to be "The Influence of the Future of Aircraft Upon Problems of Imperial Defense."

words

The essays are limited in length to approximately, 16,500/ and should be submitted to the Royal United Service Institution on or before November 15th, 1921. A gold medal will be awarded for the most meritorious.

SQUADRON NEWS

A. S. Flying Station, Weissenthurm, Germany, Nov. 13.

The first three days of the past week were given over to Liaison work with the First Brigade, A. F. in Germany. It consisted of three Battalion problems, and this organization furnished a contact patrol plane for each problem for a period of about four hours.

Due to the extreme cold which made it very uncomfortable for the same pilot and observer to remain in the air for this length of time, these exercises were split into two shifts of two hours each, thus relieving the first pilot and observer and also giving officers an opportunity to obtain actual training in Liaison.

Due to the dense fog which has covered this region for the past three weeks, only one problem was a complete success as on the other two days it was impossible to get a plane off until the maneuvers had started, but due to the fact that a time schedule had been arranged by Lieut. Walter Bender, Operations Officer, all observers were unable to take up the work at any time upon their arrival during the maneuver and successfully end the liaison.

The Blue Forces with which the organization was working, consisted of a Battalion of the Eighth Infantry and the Seventh Machine Gun Battalion. Their objective was Hochst B, a ridge about six hundred feet high overlooking Laubach.

Both the officers and men of this organization suffered a rather keen disappointment on Armistice Day, as seven planes had been warmed up and waiting to take off to fly a celebration formation over Coblenz, but due to the dense fog which failed to lift all day, were unable to leave the ground.

Major Frank M. Andrews with Lieutenants Greenslade and Arthur have been working to get a Y.M.C.A. Hut built on the field. The need of this is especially great due to the situation here at Weissenthurm as there are no amusement places in the city except those connected with cafes. Due to bad train connections it is next to impossible for the men to get to Coblenz and return the same evening. For this reason the three officers have put forward strenuous efforts to obtain a Hut from the Y.M.C.A. The whole command is jubilant over the good news that plans had been approved for the building on the Airdrome, of a model hut of standard construction to conform with the other buildings on the field. This Hut will contain a large stage, and it is planned to have the stock company from the Festhalls in Coblenz play here once a week. The latest moving pictures will be shown the other six nights. A canteen will also be opened in the building, and it will provide a place for religious services.

Lieut. Walter Bender and Lieut. W. S. Hamlin are leaving tomorrow for Antwerp to meet their families, who are due to arrive at that port on the U. S. Army Transport Pocahontas.

Major Frank M. Andrews, Chief of Air Service, A. F. in Germany, made a rigid inspection of the mess billets, hangars and construction of the Airdrome during the past week, also of civilian sanitary conditions in Weissenthurm.

Lieut. C. M. Cutler, Supply Officer, has completed his supply room, which he had to build almost entirely of airplane crates, due to the scarcity of lumber in Germany.

Lieut. Vieter H. Bertrandias has obtained suitable billets in Weissenthurm and expects his wife to arrive from Paris in a few days.

Kelly Field, San Antonio, Texas, Dec. 11.

Lieut. F. E. White piloted Major Beverly, M.C. to Laredo during the past week. Major Beverly took the examinations in July but was twenty pounds under weight. The whole field rejoiced when recently the major was given his permanent commission. The Major is an ideal flight surgeon.

Lieut. D. M. Myers piloted Mr. Lewis of the Construction Department to Ellington Field, returning the same day.

Lieuts. Henry Pascale, Muir S. Fairchild, John R. Brun, Delmar H. Dunton, Clarence McIver and George E. Roberson went by train to the Aviation Repair Depot and ferried five DeHavillands and one S.E.5A to Kelly Field. The return trip was made without incident.

The cadets taking the Bombardment Course are making very satisfactory headway and an effort is being made to lay out a bombing course at Camp Stanley, where they can have practice in dropping dummy bombs before the completion of their course.

The Commanding Office has just announced a policy of having practically all pilots take the air and fly formation at least two Saturdays of each month. The inspections will be held on the other Saturdays. This will give an opportunity to staff officers and others who have not much time for flying to lay aside their routine work and get in time in the air which undoubtedly they need. Officers who are just a little below par in their flying will also be assigned to instructors and fly for a little while early each morning until they are deemed proficient. There is not an officer on the field who has a spare moment at the present time. Consequently a number of officers have not spent the time in the air that they should. December 11th, the 1st Day Bombardment will send out two bombing formations with all available pilots. One formation will form over the town of Kirk, Texas, and proceed to bomb Lytle. The other will form over Von Ormy ten minutes later and proceed to bomb Devine. Both these formations will be escorted by protective patrols of pursuit planes. Due to the fact that a number of the S.E.5's have been declared unsafe for acrobatic purposes, there will be no enemy either real or indicated. A little later, when the formation work has improved, dummy bombs will be dropped at Camp Stanley from high altitudes and high altitude patrols will accompany the bombers. Other pursuit planes will be stationed to act as enemy planes and will try to prevent the bombers from accomplishing their mission. While it is realized that this is not the time of year designated in instructions for field exercises, this work will not interfere with the regular schedule of indoor instruction, and it is thought that it will be welcomed by all the pilots.

Lieut. Langhorne W. Motley, Adjutant of the Air Service Mechanics School and Miss Amy Pierce were married in San Antonio on Wednesday, December 8th. Lieut. Motley is expecting orders to proceed to Rantoul, Ill. for the purpose of preparing for the removal of the A.S.M.S. to that station.

Lieut. Stanley Smith, for sometime past the Radio Officer of the 1st Pursuit Group, was married on Thursday, December 9th, to Miss Lucile Manville. Lieut. Smith is under orders to proceed to Post Field, Ft. Sill, Okla.

Cadet H. John Laas and Miss Angelina Lenger of Chicago were married on Tuesday, December 7, in San Antonio.

March Field, Riverside, California.

In compliance with War Department instructions March Field's enlisted personnel will go to the ballot next Thursday evening to elect five members to a Board of Governors who will supervise activities at the Service Club. The E & R officer, club steward, camp hostess, chaplain and librarian will act as the advisory committee to the various committees of the Board. Twenty nominations have already been made.

William Kenyon, ex-Air Service Captain, formerly stationed at this field, was renewing acquaintanceship with officers of the Post Thursday afternoon. He is now advertising manager of the Ace Publishing Co., a monthly publication devoted to commercial aviation.

Capt. Rescoe A. Fawcett has been appointed recruiting officer for the Post, vice First Lieut. F. B. Wieners. Staff Sergt. John T. Grimble is the non-commissioned officer in charge of newly equipped offices at Room No. 8 in the school building.

Captains George H. Peabody, Ernest Clark and First Lieut. A. L. Foster, have been appointed members of the Board to conduct JMA tests at this field. Several officers have already been directed to appear before this Board for examination.

Unemployment in the east seems to have its effect upon enlistments for the Air Service. No less than 20 men, recruits, have reported at this field during the past ten days, from Jefferson Barracks, Mo. They appear to be a better class of men than ordinarily report from these recruit centers, many of them having previous service and qualifications that will make them valuable men to the Air Service.

Airdrome, McAllen, Texas

On December 3rd, 1920 the 8th Aero Squadron had the distinction of inaugurating what was probably the first inspection made by the Inspector General of the Army via the air route. At this time of the year roads military and otherwise along the border are nearly impassable.

Major General Chamberlain and Major Mills had come through from Brownsville by motor intending to proceed to Laredo, Eagle Pass and Del Rio in the same conveyance. Their first day of road travel rather disgusted them, and at the suggestion of Major McLean, C.O., Camp McAllen, two planes were placed at their disposal. The General lost no time in accepting the offer, and on Friday morning Lieut. Meloy with the Inspector General as his passenger, and Lieut. McReynolds with Major Mills in the rear cockpit, proceeded on their way. Landings were made at Ringgold, Laredo, Eagle Pass and Del Rio. The party lunched at the Airdrome at Laredo and reached their last stop just before dark. The trip pleased the General immensely, and even during about twenty minutes of rain between Laredo and Eagle Pass he appeared not to be the least bit disconcerted. What pleased him most, however, was the time saved by taking the air route; not to mention the comfort and ease such travel afforded.

During the last week the Squadron lost the services of two of its oldest and most valuable officers; Lieut. Gerald E. Grimes, the newest Benedict of the 8th, was transferred to Bolling Field, Washington, D.C. Jerry and his family left for the east on Thursday after having spent a fifteen day leave exploring New Orleans.

Lieut. L. P. Hickey returned from a fifteen day leave and departed for the west coast, where he will add the other wing to one he has. He was an overseas man with line experience and his services will be very greatly missed.

Barron Field, Ft. Worth, Texas, Dec. 11, 1920.

During the past week Major C. W. Russell, who has been in command of this station for the past year, was ordered to A. & M. College, Bryan, Tex., for duty as Assistant Professor of Military Tactics and Science, and for the purpose of establishing an Air Service unit, R.O.T.C.

"A" Flight, 90th Aero Squadron, Del Rio, Texas

On December 17th, 2nd Lieut. James H. Doolittle made a hurry up trip to Eagle Pass, a distance of approximately 65 miles air line. One of the gentle border zephyrs was in evidence. It took 23 minutes to go down and one hour and six minutes to come back, flying at 1500 revolutions.

General Chamberlain, in making the inspection of the border, traveled by air. It is these practical demonstrations that will convince the inspectors of the absolute necessity of an adequate Air Service, especially trained for border work. Certainly it will keep them in a thinking mood and ready to put in a good word when appropriate.

Very friendly relations have been established between the officers of this flight and the officers of the 2nd Squadron, 79th (Mexican) Cavalry, now stationed at Villa Acuna, Mexico, just across the river from this station. There have been several opportunities to exchange courtesies. No doubt the friendly relations that exist between the two organizations will go far toward assuring uninterrupted peace and quiet in this particular sector.

The result of Major Pratt's inspection of this Drome was very satisfactory and gratifying to all. Evidently everything was "bueno" for there were no criticisms or corrections.

Carlstrom Field, Arcadia, Florida, Dec. 10.

Mid-year examinations are near at hand, and the student officers are beginning to realize the importance of earnest study.

Chaplain Reynolds has just arrived at this post.

France Field, C. Z., Dec. 4.

With the daily expected arrival of the dry season, plans are being formulated for a continuance of the exploration flights to the practically unknown interior of the Republic of Panama. There are a number of very interesting places which were seen from the air during the last dry season which it is hoped may be more closely explored soon. Among these are the little mountain lake about fifteen miles northwest of Chame, the big bowl high in the mountains about twenty-five miles northeast of Anton, the territory near Punta Mala, where there is a Government wireless station, the unexplored country on the west of the Los Santos peninsula where the Boston-Panama Cocomat Company has a big plantation, the mountain district north of Toli, and the wonderful country around David and Boquette. Cross country flights will be to all of these places and it is practically sure that in making these flights that more points of interest will be discovered.

There is a thrill in making these flights, even for the seasoned pilots and observers, but especially for the enlisted men who are carried as passengers. The country is practically unknown, unexplored, and semi-civilized, while the natives think the visiting airplanes are anything from the devil to a flying dragon.

The enlisted men selected to make these flights are those who have shown an interest in their work and who have expressed a desire to make these flights. There is always a large number of applications on file by men wishing to make these flights. While flights can be made to the interior of Panama during the rainy season, it is not advisable, as showers will sometimes cut an airplane off from a return to the field. During the dry season, however, there is always excellent weather and the exploring planes are assured of clear weather no matter where they go.

It is probable that several bases will be established in the interior where the planes may land and replenish oil and gasoline. One base will be at David and another at either Aguadulce or Anton, all these places having wonderful natural landing fields. Several other towns have asked to have bases established near them because they like to have the airplanes visit them, but the above named places are the most accessible for the shipment of supplies and also are ideally located as centers of operations.

The approach of the dry season has clearly been indicated by recent atmospheric conditions and it will not be many days before the reliable north-east trade winds will arrive for their four months continued visit. Then will come the early morning take-offs with maps, cameras, emergency rations and spare parts and the return at night with the planes loaded with tropical fruit, pets, Indian curios, fresh eggs, poultry, and photographs of heretofore unphotographed places.

Much to the disappointment of the fliers at this field, word was received during the past week that sanction for the projected flight to San Jose, Costa Rica, had been withheld for the present. It was hoped that this flight could be made the last week in this month in order that the planes might attend the annual carnival from December 27th to January 2nd. Representatives of the Costa Rican Government have visited this field twice in the last two months in attempts to insure the flight being present at the carnival. The Costa Rican Government had extended full privileges to our fliers and promised cooperation by all branches of their Government.

This flight is only a distance of about four hundred miles and it was planned to make one stop at David to replenish gasoline and oil. Everyone here is hoping that official approval of this flight will be given before the end of the dry season.

Poor luck attended the attempts to conduct Artillery Reglage Missions with the Coast Artillery this week. One problem had to be called off on Wednesday because of rain and rough sea, while on Thursday it was impossible because of storms for a plane to fly to the Pacific side of the Zone for a problem scheduled there. Another problem was scheduled for Fort Amador on Friday, but the meeting of a General Courts-Martial, of which practically all the officers of this post are members, left no pilot and observer available for the work. Problems are scheduled for practically every day next week and then will come twelve days of "War Operations Period", in which there will be at least two problems per day. With only three observers and six pilots available, all will have an abundance of work during this time.

Duck shooting is very popular here at present and some fine bags have been brought in. Several large flocks of Blue-winged Teal have established headquarters near the field, one flock numbering at least two hundred upon its arrival. A flock of ducks flying near the field commands instant attention and if they are seen to alight in any of the nearby waters, there is usually a hunt on as soon as working hours are over. Major Millard F. Harmon, Jr., 1st Lieut. Harlan N. Holden and 2nd Lieut. Homer B. Chandler have had fine luck recently and provided numerous duck dinners. This trio recently returned from a Saturday afternoon hunt with only one Jack-snipe apiece but on arriving at the field, discovered a flock of ducks awaiting them almost at the waters edge in their front door yards. The trio approached the ducks in a canoe and there was a great fusillade as the flocks attempted to get away. When "cease firing" was ordered, eleven ducks were dead or wounded and five were making a hasty attempt to reach parts unknown. It was found that the ducks were Blue Bills, and had evidently just arrived from the north as they were far too heavily feathered for birds reared in a warm climate. The curlew and snipe shooting season is just over and owing to the discovery of several new feeding places for these birds, good shooting was always obtainable. During September, October and November hundreds of these birds were brought into camp by both officers and men.

Hunting for bigger game will be on the program as the dry season gets under way, and tapir, deer, mountain lions, panthers, wild hogs, wild turkeys and other jungle game will all receive personal attention from the France Field hunters.

Fourteenth Balloon Company, Ft. Funston, California, Dec. 11.

During the past week the Coast Defense of San Francisco, California, fired two interesting problems with balloon observation. The 14th and 24th Balloon Companies participated. In the first problem the balloons called the deviations of the shots and in the second tracked the target and called deviations. In the first problem, eight of fifteen would have struck a battleship and in the second five of thirteen. Both problems were considered successful by the Coast Artillery officers in charge.

The 14th Company's Recruiting Drive is still under way. Twelve men were added during the past week bringing our total to ninety-two, an increase of 206% since the latter part of October. The company numbered thirty men then. All of this work has been done by members of the company, only two men having been enlisted by the General Recruiting Service. The Recruiting officer at San Francisco, however, has given his hearty cooperation in our drive.

In the last eight months the 14th Balloon Company has traveled 4175 miles; has flown a balloon 221 times for a total of 213 hours 53 minutes. Our flying time last week was 12 hours 23 minutes. A seventy-two mile an hour gale prevented flying on Thursday.

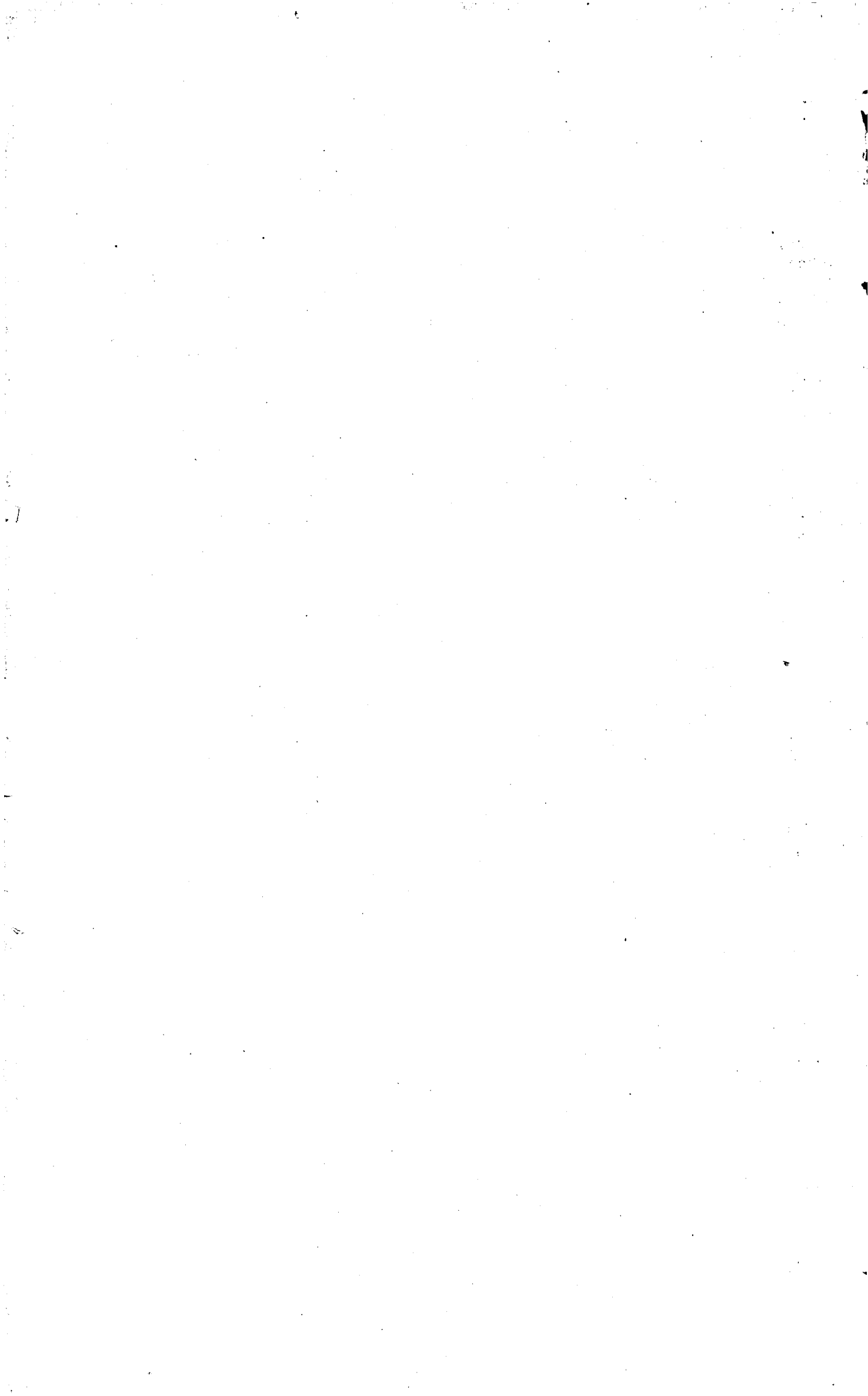
Mather Field, Sacramento, California.

2nd Lieut. Spencer Hall, 9th Aero Squadron, left for Seattle, Wash., on the 4th for a recruiting tour for the Air Service and from which point he will canvass all the principal towns in the northwest. Quite a few recruits are expected from this tour.

2nd Lieut. Warren A. Maxwell, 91st Aero Squadron and Flying Cadet Lyle H. Scott, attached to the 9th Aero Squadron, flew to Santa Rosa, California, and returned with flash-light pictures for publication in the Sacramento Bee, of the lynching of three notorious gangsters at that place.

The 91st Aero Squadron has been engaged in pistol practice preliminary to firing the record course, and so far very favorable results have been obtained. In spite of the bad weather during the practice, over 50% of the men have qualified for the record course. The men are very enthusiastic over the shooting and keen competition is expected.

Very little flying has been engaged in during the week owing to continued rain and wind storm and muddy landing field.



DM

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE JANUARY 13, 1921.

"AND I LEARNED ABOUT FLYING FROM THAT"

It is proposed to start a column in the News Letter for the purpose of disseminating information on flying. This column is to be run on the principle of the old-fashioned Methodist experience meeting in which individuals were wont to get up and bare their souls for their own benefit and for the benefit of others. Sometime in the life of every pilot, he has an experience in flying which is unusual and from which he derives a great amount of valuable information. It is proposed in this column to run the personal accounts of such incidents in order that all pilots in the Air Service and elsewhere may take full advantage of them. These articles may be signed, if desired, or the names of the authors will be treated as confidential.

Aviators' alibis are notoriously untrustworthy, and it is always possible to ascribe some rational cause for accidents which the pilot himself knows was due to his own thoughtlessness or ignorance. It is recognized that while this is a common trait and that everyone of us who has had a crash has been able to come in with a story that reflects nothing but credit on our good judgment, it will take quite a little nerve to tell the real cause of the accident. The little things which are forgotten or ignored, the little things which everybody should know are the things which cause the great majority of accidents and it is essential that all pilots have them constantly in mind. If every pilot who has had such an experience can bring himself to the point where he is willing to relate it for the benefit of his fellow pilots, many accidents and much loss of life and equipment can be prevented.

Two general classes of stories are desired. First, those in which we have done something particularly foolish, and second, those in which we have done something which we consider to be particularly good. It is very probable that the first class will be anonymous and that the second class will be signed. In either case, however, much benefit can be derived, and both classes are urgently solicited. It may be said in conclusion that no recommendation from this office for grounding a pilot will be given as a reward for a free and open confession.

Send your contributions in at once to the Air Service News Letter.

U. S. AVIATORS ENTERING CANADA MUST REGARD CANADIAN AIR REGULATIONS

Attention of the Chief of Air Service has been officially called to the fact that aviators entering Canada from the United States are in the habit of disregarding Canadian Air Regulations of 1920. These regulations provide that machines entering Canada must be registered in the United States; that their pilots must be duly qualified military pilots and that they must not carry passengers for hire between points both of which are in Canada.

Since all Air Service personnel must obtain authority to fly outside the limits of the United States before embarking upon a flight, it is believed that the infringement of the laws referred to comes from civilian fliers, who, no doubt, may not be aware of the Canadian air regulations.

Under present legislation there is no governmental agency in the United States charged with the control of aerial traffic nor is there any machinery in existence for promulgating information to aviators out of service except the "News Letter" issued by the Army Air Service and the "Notice to Aviators" issued by the Hydrographic Office of the Navy.

The Chief of Air Service uses, therefore, the means at his disposal to call attention, through this notice, of all civilian aviators, to the necessity for observing Canadian air regulations when crossing the border.

AIRPLANE RADIO DIRECTION FINDING

In view of the coming extensive use of radio direction finding in the Air Service in connection with cross-country flying, results of experiments conducted by Engineering Division, McCook Field as to the accuracy that may be expected will be of interest to all branches of the Air Service.

Experiments were conducted by the Engineering Division during the past summer using radio as a means of assisting airplanes to return to the home airdrome. Results of these experiments have shown that it is possible to guide an airplane with absolute accuracy to any radio transmitting station, and further that an experienced operator is not needed for this work.

The method used was that of two closed loops mounted on the wings of an airplane at right angles to each other, and operating upon a maximum signal. The particular installation used was mounted on a Curtiss NJ-4-H airplane, and consisted of two main or "fore and aft" loops of four turns each, connected in series, one loop being mounted on the outside struts of each wing. The auxiliary loop consisted of four turns of wire and was mounted at right angles to the main loops, struts numbers 4 and 10 being used. The fuselage of the airplane was enclosed by this loop. The wire was sewed into fabric and the strips of fabric were doped on to the struts and wings of the airplane. Leads were brought from the loops into the rear cockpit of the airplane and there connections were made to suitable switches, condensers, amplifiers, etc.

When flying at a height of 2000 feet it was possible to guide the airplane exactly over the transmitting station. This was done while allowing the man operating the switches in the rear cockpit to control the rudder, and thus steer the airplane as he desired. This experiment was tried both with experienced radio men in the rear cockpit and with men who knew absolutely nothing of radio and who did not know the Morse code. Results were the same in all cases - the airplane was brought directly to the transmitting station, no note being taken of the course steered from other than a radio standpoint. When flying at 2000 feet it is possible for the operator to easily detect when the airplane passed as small a distance as 100 feet from directly over the transmitting station.

These experiments do not embody any new departure in radio direction finding in airplanes. The method used was a part of the method brought out in England during the war, and which was to be used for navigating the Handley-Page night bombers of our Air Service. These experiments are cited merely to show the degree of accuracy which may be obtained when using this method of radio direction finding for guiding aircraft.

PRINCIPLES OF RADIO COMMUNICATION FOR AIRCRAFT

The following principles of radio communication for aircraft covering the fundamentals for inter-department radio control have been formally approved by the War Department, Navy Department, Post Office Department and Department of Commerce and Labor. These principles were formulated by representatives from the several departments.

(a) Radio Stations belonging to the various departments of the Government should be made available for use of other departments and should be so utilized by those other departments wherever practicable for communication between the landing field and aircraft.

(b) When such communication is not available, the department concerned should erect its own station at the aerodrome. Such stations should use the latest and most modern equipment, conforming to the inter-national agreements, and using tunes to be agreed upon.

(c) As a general rule, no department of the government should erect radio transmitting stations (except radio beacons) within twenty miles radius of another government radio station. Where existing government radio stations are within a

twenty mile radius of a landing field, provisions should be made for the remote control of such station from the landing field. For example, in places similar to Cleveland, where there is a naval radio station near the post office airplane landing field, arrangements should be made to control the Naval Radio Station from the Post Office Landing Field.

(d) Any department of the government should have full authority to establish radio beacons at its own aerodromes. These beacons should be limited in range to thirty miles along the coasts and border; and should be limited to a range of fifty miles in the interior of the country, except in extreme cases where it would be a loss of economy to erect a multiplicity of radio beacon stations.

(e) All departments of the government concerned in aeronautics should cooperate in matters pertaining to the collection and dissemination of meteorological data for aircraft.

(f) As a general rule, the radio stations should not be utilized for communication between aerodromes, but should be reserved for communication between aircraft and aerodromes.

(g) There should be standard specifications for radio beacons in the United States, and these specifications should be compiled by technical representatives of the departments interested; and where applicable, should conform to international requirements.

(h) As a general rule, radio beacons should be installed by the government, and the Post Office should install and provide for the operation of radio beacons for airplanes along the regular air mail routes, and at public landing fields along such routes used in common with any department of the government. The Army and Navy should install radio beacons at their own landing fields.

(i) In the case of private landing fields, the Post Office Department should not be required to establish a radio beacon, but in the case of the establishment of such beacons, the Department of Commerce should require the private individual to install a radio beacon conforming to the standard specifications.

(j) When once radio beacons are established, they shall be available for use to all aircraft during peace times.

(k) The Post Office, the Army, the Navy, and the Department of Commerce should endeavor to obtain legislation from Congress providing for the establishment of a National Radio Commission to regulate all Radio communication in the United States and its possessions.

(l) If it is impossible to obtain legislation from Congress in the near future, there should be established by the President an Inter-departmental Board consisting of representatives from the Army, the Navy, the Department of Commerce and the Post Office. The function of this board should be to endeavor to provide means by which the radio communication systems of the government could operate without interference with one another or with private radio communication.

THE FIRST MORTAR PROBLEM TO BE FIRED BY BALLOONS

The 14th and 24th Balloon Companies are still engaged in their work with the Coast Defenses of San Francisco. After carefully checking the Balloon Plotting Board and the Plotting Board of Battery Alexander, 12 inch mortars, and after elaborate arrangements, the first mortar problem to be fired by balloons was undertaken. This problem was similar to the one undertaken two weeks ago with Battery Mendell, 12 inch disappearing rifles. The firing took place on Wednesday, the 8th of December, with ideal weather conditions.

The first problem of the day consisted of 19 shots in the inner zone. This range was too short to be plotted on the Balloon Plotting Board, so the balloons called the deflection and range of the splash with field glasses. After this problem was completed the target moved out to the outer zone, range approximately 15,000 yards, and firing was begun by balloon data. This problem consisted of two trial shots and sixteen shots at a pyramidal target towed by a tug and was done completely by balloon data; the balloons doing both the tracking and the observing at the same time and with the same instrument. Results were very satisfactory and the shots were all well grouped.

There is still an error of about 30/100 of a degree in the Balloon Plotting Board. Every effort is being made to locate this and when corrected it is believed that a surprising degree of accuracy will be obtained by balloon data. In fact

results to date prove that this method is perfectly practicable with average weather conditions. It is almost as accurate as the bi-lateral ground observation and has the added advantage of greatly increased range and visibility which would be a decisive factor in an actual engagement.

MAKES LANDING ON ONE WHEEL ✓

Scores of officers and men at Mitchel Field were treated to a thrill on Monday afternoon, Dec. 13th, when Major Abbey, Commanding Officer of the Fifth Squadron, landed an S.E. 5 on one wheel. Unaware that he had lost his right wheel in taking off, the Major had led a couple of D-H's, sent up to appraise him of the fact, a merry chase for some time before the situation dawned on him. Although the machine turned turtle in landing, Major Abbey's coolness and skill saved both the machine and himself from serious injury, and it may be said that he found the situation far more amusing than the ambulance men and pyrene experts who were sent out to salvage him.

Training Schedule Officer's School, Mitchel Field.

The winter training schedule for flying personnel was inaugurated last week with the opening of an Officer's School. Thirty-nine officers are taking the course which is arranged as follows: Topography: Monday, Wednesday and Friday mornings; Instructor, Major Henry Abbey, Jr. Administration: Tuesday and Thursday mornings; Instructor, Major Th. C. Lamphier. Aerial Tactics: Tuesday and Thursday afternoons; Instructor, Major A. R. Christie.

Other courses will be added and lectures covering special phases of Air Service work will be arranged according to the progress and needs of the organization at this Post.

Operations at Mitchel Field

Despite much poor weather the Fall Training Schedule has been carried through as originally outlined. Before the Christmas Holidays the First and Fifth Aero Squadrons will have completed practices in all the activities conducted by Corps Air Service in modern warfare except Infantry Liaison.

During the week ending December 11th, the following missions in pursuance of this schedule of training were successfully carried out. Photographic Problems 6; Visual Reconnaissance, 5; Puff Target Reglage with radiophone, 5; Flight Formations, 12; Squadron Formations, 5.

HS2L FLYING BOAT LANDS IN OPEN SEA ✓

One of the two HS2L flying boats which took off from Luke Field on Thursday, December 2, on a flight to the island of Hawaii met with disaster fifteen miles short of the destination. Forced down with motor trouble the plane was landed in the open sea about a mile from shore. The pilots of the other plane observing the difficulty hastened to Hilo and solicited the aid of some speed boats. Before the boats could arrive the plane driven by heavy winds and a high sea had drifted ashore and on the rocks. As the plane crashed into the shore Lieutenants Duke and Gale, pilots, and Captain Johnson, observer, climbed out on the wings and jumped. All reached shore in safety except Lieut. Gale, who received a bad but not serious cut over the eye. Within four minutes of the time the boat hit shore it was totally demolished. When the rescue boats arrived the only part of the plane which they could recover was the motor. A large crowd of natives attracted by the distressed plane lowered ropes over the 300 foot cliff against which the officers had been dashed and pulled them up to safety. The party was then taken up to Hilo, where somewhat battered and worn looking from their experience, they reported to Major Curry who had been waiting their arrival.

Those making the flight were Lieutenants Wooten, Duke, Duncan, Gale and Moorman and Captain Johnson. The officers whose plane was lost will remain with the party, making ground reconnaissance by motor car.

FIRE PATROL AT CAMP BENNING

The military reservation at Camp Benning covering an area of 97,000 acres, a greater portion of which is covered with weeds or heavy underbrush. During the period from November 1st to December 10th, little or no rain had fallen in this vicinity. Due to ease in which fires were started and the rapidity in which they grow in intensity and the great distance from the Headquarters of the Fire Department, it was suggested to the Executive Officer that the Airplane Detachment at this station be allowed to run fire patrols daily for the purpose of reporting forest fires.

Under authority of letter from the Camp Executive Officer, a daily Forest Patrol covering the entire reservation and adjoining forests was started by this detachment on November 4th, 1920.

Patrol is flown daily between the hours of 9:00 and 10:00 A.M. with the exception of Saturday and Sunday. One officer as observer making notation as to actual location of fires and wirelessness position by coordinance to Detachment Radio Station. Should fires be located, upon patrols return they are accurately located on maps, and positions phoned to Camp Executive Officer. The wireless being used only for the purpose of training of observer and radio detail.

To date, four fires have been reported, all of which have failed to be noticed by ground patrols located on the reservation.

Total number of patrols, 18: total time of patrols, 13 hours, 10 min.

FREE BALLOON ADVENTURE AT BROOKS FIELD, SAN ANTONIO, TEX.

The fine uncertainties of free balloon adventures together with the exceptional opportunities which free ballooning offers for observation of air navigating conditions, keep this a valued and favored activity of lighter-than-air men. The 4th Balloon Company reports a free balloon flight from Brooks Field, San Antonio to Pfluegersville, Texas. The crew, Lieut. R. L. Davis, pilot, Lieut. A. J. Etheridge, Lieut. J. S. Crawford, Staff Sergeants Nelson and McIntyre, and Corporal Zowada, weighed off in a close hanging mist at about one o'clock in the morning and headed northward. The fog was very heavy. This caused a complete sense of isolation. The sense of direction was lost, and it was impossible to tell whether the balloon was moving. Morning brought with it the usual sounds from the earth, the crowing of roosters, the barking of dogs, the lowing of cattle, and occasionally a human voice; but there was little light. The crew frequently called down to earth for information as to location and finally the query, "Where are we?" brought back the unexpected reply, "I'm at Dripping Springs; damned if I know where you are!" Shut in by the fog all night the balloon had seemed at a standstill most of the time, whereas it had actually been traveling at a good rate.

Carrier pigeons were carried on this trip and one of these was released at this time. Ballast was thrown and the balloon allowed to rise to 2000 feet at which height it just cleared the fog and was in the bright sunshine. Such a sea of fog colored by the rainbows here and there and with the black shadow of the balloon upon it, is a picture vividly remembered as a thing of beauty. After an hour's flight above the fog, the balloon was valved for the descent to explore the possibilities for landing. An easy landing was made in a cotton field near Pfluegersville, Texas.

Men at the cordage and fabric school at Brooks Field are working on the envelope of an airship preparing it for shipment. Observation balloon flying is also going on. Free balloon flights and other activities such as these are producing men trained for field service by continuous experience in regular field work.

SUCCESSFUL OPERATION OF 14th AND 24th BALLOON COMPANIES WITH COAST DEFENSE FORCES.

The 14th and 24th Balloon Companies are completing a period of successful operation with the Coast Defense Forces of San Francisco. These organizations are going through the kind of active duty which has elements of interest and excitement such as are needed to keep the service in a progressive state of mind. Early in

December the balloon of the 24th Company gave the men a stormy lesson. Towards evening of that day a California southwester started stirring about. The balloon, bedded down well in a valley protected on all sides but the north, was presumably secure. At nine o'clock, in the darkness, the balloon guards noticed that an especially strong blast of wind was pulling loose some of the balloon rigging. The guards got into action; but before much could be done the wind got under the balloon, lifted it up, and pulled some two dozen screw anchors from the ground, which had been softened by previous rains. In spite of the hard fight put up by the balloon guards, amid entangling rigging and flying screw anchors and sand bags, the balloon pulled away and was wrecked. Such experiences are of the kind which may be expected in actual active service and are part of the training which is making dependable balloon companies for the Army.

LIEUT. BATTEN WINS IN NATIONAL WINTER AIR
TOURNAMENT AT LONG BEACH, CALIF.

There was a great deal of rivalry between the pilots from the Ninety-first Aero Squadron with Headquarters at Crissy Field, Presidio of California, and the fliers from March Field, Riverside, at the National Winter Air Tournament held under the auspices of the Aero Club of Southern California, at Long Beach, Dec. 25 - 26. The honors, however, went to the former, when Lieut. E. C. Batten, and Capt. Lowell H. Smith, both of the Ninety-first Aero Squadron won first and second places. Lieut. Batten, flying a Liberty motored LePere biplane, covered 100 miles in 40 min. 52 sec., an average speed of 146.4 miles per hour. "Not only was Lieut. Batten's speed the fastest time ever made on a triangular course by a Liberty motored airplane far exceeding previous marks," says the Los Angeles Times of Dec. 26th, "but the whole race was a sensational triumph for the Liberty engine, the first six places going to planes using this famous American power plant."

The planes finished as follows:

Lieut. E. C. Batten, LePere, 40 m. 52 s.
Capt. L. H. Smith, DeHaviland, 41 m. 37 s.
Lieut. Harold Brand, DeHaviland, 42 m. flat
Lieut. Y. A. Pitts, DeHaviland, 42 m. 24 s.
Lieut. Milo N. Clark, DeHaviland, 42 m. 49 s.
M.S.E., T.J. Robins, DeHaviland, 42 m. 1 s.
Lieutenant W. D. Coney, Spad, 43 m. 29 s.
Cadet L. H. Scott, DeHaviland, 43 m. 47 s.
Lieut. B. N. Ott, S.E.H-5, 44 m. 27 s.
Frank Clark, Fokker, 47 m. 39 s.
Lieut. Frank Siefert, Le Pere, 47 m. 51 s.

MODEL AIRPLANE CLUB AT KELLY FIELD

To increase the morale and interest of the students of the A.S. Mechanics School at Kelly, a model airplane club is being formed, in the course for airplane mechanics. The instructors and students are taking an active part. Several excellent models have been built, and some very good straight-away and circular flights have been made. Standard distance models and scale models are under construction. The greatest stress, however, will be laid upon scale flying models of service planes.

The students will have every opportunity to test their rigging ideas on these tiny ships. It is thought the information derived from this source will be very beneficial. This work, of course, is being carried on during the men's spare time. In the evenings, when the air is steady, the flying field presents an animated appearance with these pigmy ships whining about. Later in the season model contests are to be held and cups presented.

KELLY FIELD AVIATORS HAVE "WON THEIR SPURS"

In capturing from a collection of cavalrymen forming the strong Eighth Corps Area Headquarters four, the final game of the Polo Tournament, held Dec. 11, 12,

13 in the grounds off the Frio Road, San Antonio, Texas, thereby securing the championship, Kelly Field aviators may justly feel that they have "won their spurs", even though they are no longer entitled to wear them. The cup is a reality, however, and is on its way to Washington, being brought up by Capt. E. E. Adler, one of the winning team, to be placed in the trophy room of the Air Service.

The Commanding Officer at Kelly Field has sent the following report of the three days event in which all aviators will be interested, since it furnishes proof that fliers can score on the ground as well as in the air.

"The Kelly Field Team stepped out Saturday, when they ran away from the 16th Cavalry First Team, the second strongest in the 8th Corps Area with a 9-7 score. The game was fast from start to finish. Kelly easily outplayed the Cavalry in 5 out of 8 periods; the other three were the Cavalry's by a shade.

This game decided whether the Air Service or the Cavalry stayed in for the final game.

The line up was as follows: 16th Cavalry (7), Holbrook, Allen, Smith, Taylor; Kelly Field (9), Brophy, Garrison, Adler, Clark.

Overcoming a handicap of 13, the 8th Corps Area Headquarters Polo Team defeated the 16th Cavalry Second Team by a score of 17-16 on Dec. 12.

The Headquarters Polo Team is the strongest in the 8th Corps Area. They demonstrated it clearly in overcoming the large handicap in the first five periods. The yellow and purple men refused to be put down, though, and fought the Headquarters men every inch of the way. The eighth period saw a 16 all score. After a five minutes rest the teams took the field again and, by better polo, the 8th Corps Area Team put the ball through.

The Line up was: 8th Corps Area Headquarters (17); Foster, Howell, Mills, Morris; 16th Cavalry, 2nd Team (16), Holbrook, McDowell, Dessinger, Thornburgh.

The Kelly Field Polo Team, playing a strictly defensive game against the 8th Corps Area Headquarters on the 13th, held them from battering the Kelly Field handicap 9, winning the game and the Tournament for the Air Service. The final score was 9-7. The game was played under ideal conditions. Both teams were in excellent shape. Kelly Field felt confident of victory with their handicap of 9, but the Headquarters Team were in no way cast down. From the first whistle they started to tear down that handicap. Time and again they carried their ball right to their goal posts, only to have some Kelly Fielder step in and, take the ball into safer territory. Kelly's attempts at the goal were fruitless. Every time the ball was in Kelly's territory, there seemed to be just about double the number of Corps Area men trying to get it back, but in spite of that Kelly Field held the ball near their goal fully half the time. In the first half, the Corps Area men made three goals, leaving Kelly Field with a lead of six. In the second half the Headquarters Team had an unexpected turn of luck when two ponies took a hand in the game and kicked two goals, bringing the score up to 5. Major Foster and Major Howell scored in the last period for the Quadrangle men, making a total score of 9-7. The defensive game played by Kelly Field in holding the strongest team in the entire Corps Area below their handicap is considered very good.

Polo on Kelly Field is scarcely seven month's old, yet the Air Service has been successful. May all of its future undertakings be so.

After the game, Major Spatz presented the trophies, which consisted of silver cups; a large cup for the team and a small cup for each player. The winners were warmly congratulated on their victory by the 8th Corps Area Team. The large cup won in this Tournament will be taken in person to Washington by Captain E. E. Adler, who played No. 3 on the winning team. This cup is to be placed in the Trophy Room of the Air Service.

The line up was: Kelly Field; Brophy, Garrison, Adler, Clark. 8th Corps Area; Foster, Howell, Mills, Morris.

ACROSS THE UNITED STATES IN A DAY

The Chief of Air Service, U. S. Army, officially announces that on February 22, 1921, an attempt will be made to cross the United States by airplane within a period of 24 hours.

The route chosen extends between Florida and Southern California. The starting point in Florida will be Pablo Beach, Jacksonville, and the starting point in Southern California will be San Diego. The former point is within the 8th Corps Area and the latter point is within the 9th Corps Area. The distance flown will be

2079 miles. There will be two participants in this flight. Lieut. Alexander Pearson, Jr., will take off from Pablo Beach, Florida, making the flight in three hops; from Jacksonville, Florida to Ellington Field, Houston, Texas, 804 miles; from Ellington Field to El Paso, Texas, 660 miles; from El Paso to Rockwell Field, San Diego, Calif., 615 miles. The participant from San Diego, whose name has not been announced, will reverse this schedule, making the flight on the same day.

It is believed that this flight will produce records of performance which will be of extreme interest in the furtherance of both commercial and military aeronautics and will be the first in history in which the United States has been completely traversed in so short a period of time.

UNIQUE PHOTOGRAPHIC FLIGHT AT FRANCE FIELD ✓

A unique photographic flight was made during the week of the 11th of Dec. by Capt. Thomas Boland and Cpl. Claude W. Carson. In a plane remodeled to use a K-1 camera, a flight was made during which 80 photographs were taken which will constitute a mosaic from the Atlantic to the Pacific Oceans. The 12th Photo Section has practically completed the work on these exposures and the results promise to be the best which have ever been obtained here.

FIVE PROBLEMS WITH AERIAL OBSERVATION AT FRANCE FIELD ✓

The preliminary training and target practice of the Coast Artillery in preparation of their "War Operations Period" were completed this week, five problems being fired with aerial observation.

The first artillery réglage mission this week was on Wednesday at Fort Sherman, with a 12 in. mortar battery and was flown by 2nd Lieut. S.M. Connell, Pilot and 2nd Lieut. Dayton D. Watson, observer. A problem had been scheduled for 8:30 A.M. but the call for the observation plane was not sent in until 11:45 A.M., and as all the men had gone to mess, the Commanding Officer notified the battery that a plane could not be sent until 12:30 P.M. The battery proceeded with its problem without aerial observation. Another problem was scheduled for the afternoon and this was partially successful. The battery failed to acknowledge the radio phone call of the observer and then fired without warning. As the range was about 19,000 yards and the plane was over the battery when the shot was fired, there was no chance to observe the splash. Panels were displayed at the battery but none in acknowledgement of repeated calls from the observer and none to tell him that his messages could not be heard. Another shot was fired with one minute's warning but this was also lost, due to the long range. The observer became convinced that the ground station was out of commission, as he could hear messages from other stations and dropped the battery a message requesting a warning of four or five minutes before the firing of each shot. This was done and by using drop messages the problem was completed with seven more shots. Lieut. Watson reported excellent co-operation on the part of the Battery Commander and the panel detail after he dropped his first message.

Two more problems were scheduled on Thursday, these being with 12 in. mortar batteries at Fort Randolph. 2nd Lieut. H. B. Chandler, pilot and 1st Lieut. A.C. George, observer, conducted both problems. The first problem was started at 9:30 A.M., and after the first shot, which was fired before the plane was in a position to observe, everything went smoothly. The firing was by indirect method and was slow, it taking nearly two hours to fire twelve shots. All shots except the first were spotted, and sensings sent to the battery by radio telephone.

The second problem was started immediately at the conclusion of the first, firing being at a new target at about 19,000 yards. Three shots were fired before the airplane could locate the new target. The plane then landed because the battery signalled a "long wait". The plane returned to observe later, one shot having been fired while the plane was away. The clouds were at a 2,000 foot level and this made long range observation very difficult. Of the eight shots fired in the afternoon, five were sensed and three lost. The shots lost were fired before the plane could get into position to observe.

1st Lieut. Harlan W. Holden, observer, with 1st Lieut. R.C.W. Blessley, pilot, conducted two very successful problems at Fort Amador on Friday. In the morning the phone worked with two 12 in. mortar batteries, firing at two towed targets. Three ranging shots were followed by twenty-one shots for effect, the

fire being shifted during the middle of the problem from the first to the second target. All shots were sensed and the results telephoned to the battery by radio-
phone as the shots fell. The problem was fired rapidly being completed in about
sixteen minutes after the first trial shot was fired.

The afternoon problem was with fourteen inch rifles at a towed target, ten
shots being allowed. The firing of these shots were completed in about fourteen
minutes and four of the shots would have been hits on a battleship. The range
was about 13,000 yards. Excellent results were obtained with the radio telephone
on both these problems.

PULITZER TROPHY RACE COURSE SURVEYED

Through the courtesy of the Geological Survey, the course of the Pulitzer
Trophy race has been surveyed. The length of one lap is 29.0202 miles, making the
entire course of four laps 116.0808 miles.

PRESENT ADDRESS OF COL. CHARLES DeF. CHANDLER, RETIRED

The present address of Colonel Charles DeF. Chandler, formerly Chief of Balloon
and Airship Division of the U. S. Army Air Service, retired from active service on
Oct. 16, 1920, is "Care Farmers' Loan and Trust Co., 41 Boulevard Haussmann, Paris."

75 PLANES MAKE 354 FLIGHTS AT MARCH FIELD

Seventy-five ships made 354 flights from the local flying field during the
past week. Total time - 243 hrs. 45 min.; approximate mileage, 13,882. Preliminary
instruction required 160 hrs. 05 min.; advance instruction, 28 hrs. 50 min.; test
flights, 9 hrs. 20 min., and miscellaneous flights 12 hrs. 30 min.

GENERAL NIVELLE SEES A TWO-MILE LINE UP OF PLANES AT KELLY FIELD

When the first sentry at Kelly Field saluted General Robert Georges Nivelles
at 4:00 P.M., Dec. 13, the word was passed to the waiting airmen and as General
Nivelles's car rounded Hangar #1, he saw a line of ships that stood wing to wing from
Hangar #1 to #24. A line of S.E. 5's, DeHavilands, Fokkers, Spads, Curtiss, JN6's,
Capronis and Handley Pages, every plane in working order with its crew and pilot
lined up in front.

The General rode down the entire line. When he returned to the reviewing
stand the word of command was given and the big line of pilots and mechanics simul-
taneously broke, and from Hangar #1 the bark of a single S.E. was the signal for
the entire line of ships to "come to life", and they did. Three minutes later
there was not a single dead motor on the line, and the First Pursuit Formation was
already out on the field ready to take off. They were followed by three other
S.E. Formations; then the DeHavilands rounded off. The Formation circled the field
and passed over the reviewing stand. The highest Formation was 2000 feet; the
lowest 500.

There was a typical Texas Norther in action, with a 35 mile wind on the ground
and naturally it was a little bumpy. You who have flown in Texas know what that
means, but the Formations were all close and some excellent stunting was carried
on despite conditions.

The A.S.M.S. contributed pilots to a Pursuit and Bombing Formation. Both
formations were low and close and the Mechanics School men showed that, though they
were supposed to be more familiar with the monkey wrench than the Joy stick, when
occasion demanded they could handle both in a more than passing manner.

After the exhibition, a tea was given at the Aviation Club in honor of the
General. All officers of both fields were present. The General was very much
pleased with his afternoon at the Field.

A MESSAGE FROM THE AIR SERVICE TO THE YOUNG MEN OF AMERICA

The following article was written by Staff Sgt. George W. Meek, of the Trade Test Department of the A. S. Mechanics School, San Antonio, Texas. It is a typical expression of the attitude of a man in the Air Service who knows what he is talking about. Sgt. Meek is one of the Senior Examiners on the Master Trade Board. He has had over twelve year's experience in automobile and airplane motors. It is believed that if a few more men such as this can express their opinion of service in this branch, it may serve to enlighten some doubtful prospect and make him want "to be on the inside looking out" rather than "on the outside looking in".

"What are your plans for the future, young man? What do you intend to do with yourself? Where can you place yourself to the best advantage? You can't go through this world following the path of least resistance. You must work, think, study, in order to become successful. Become a skilled tradesman. Are you mechanically inclined? Do you wish for an opportunity to be turned loose in the midst of up-to-date machinery, with everything you need to work with? Do you want to make things? Are you inventive? Are you curious to find what is inside of a motor? What makes it run? We will teach you. Enlist in the Air Service for one or three year period, and learn a trade. Become a specialist in special work.

Or would you like office work? Stenography? Bookkeeping? All forms of paper work? We have the schools to teach you. Now is the time to take up this offer. Don't delay. If you miss this you will always be sorry.

Go to any Air Service Recruiting Office, meet the officers and non-commissioned officers, who represent us. See what they can do for you. They don't care how many questions you ask; they enjoy answering them. Take home our literature to your mother, father, or bring them to the office. They can send you to any school you want. Do you want to learn electricity, radio telephone, telegraphy, motors, machinist, carpenter, cabinet-maker, metal worker, or any trade you think you would like? We have what you want. Do you possess what we need? We don't want much. We only want the opportunity to teach you something that will be of use to us after you have learned it. We will make of you a skilled man, able to earn big salaries. We have the largest and most up-to-date schools of the kind in the world. We will teach you anything and everything. What is it you want? We've got it. We'll give it to you. It doesn't cost you anything but your time. You will be paid while learning. We have what you want. Bring along nothing but a desire to learn a trade. Get on the ground floor; grow up with us. We have a good start, we're in the lead. Join us and become one of us bunch of good fellows. Do you know who we are? We are the ones that are making history, the pioneers of aviation; we are only a few years old but big for our age.

If you have the ability to pass a pilot's examination, you can be a flyer. We have a school to teach you what a pilot needs to know. You cannot fail to better yourself if you join us. We don't make any promises we can't fulfill. This is your chance to hop on the wagon of Opportunity for a long ride. Experience is the driver, Ambition is the power, Success is at the end of the road ahead. The roughest part of the road has been passed. There may be rough spots ahead but we have Old Man Experience, the wisest of teachers, at the wheel to guide us through. Hop on and ride; your fare is your time.

If you are interested and want to know more about us, write us a letter asking anything you wish to know. Address it in care of Commanding Officer, A. S. M. S., Kelly Field, Texas. What you ask will be explained in detail. We will be glad to hear from you or your parents.

AIR SERVICE COOPERATES WITH COAST ARTILLERY PRACTICES AT FORT MILLS, P. I.

The Second Aero Squadron is participating in the annual Coast Artillery target practices with all the equipment in fine condition, including five of the large H. S. 2 L's flying boats all equipped with radio and wireless telephones and photographic instruments. Also several N. 9 H's all fully equipped for observation work.

This modern cooperation of the Air Service greatly expedites the usual old methods of ascertaining the accuracy of the gunners by taking photographic views of all shots fired.

Two Mobile Radio Telephone Sets are in operation and used in cooperation with the Coast Artillery target practices which are moved to the different batteries for tests each day. Two kilowatt sending and receiving sets have been installed on the Air Service launch "Geary" and are also being used for the practices.

RADIO GUNNERY AND PHOTOGRAPHIC CLASSES AT FT. MILLS

The Radio Aerial Gunnery and Photographic classes consisting of the Second Aero Squadron enlisted men only, which is being conducted at the hangars, is progressing very rapidly; many of the men are well advanced in Radio, receiving and sending approximately fifteen words per minute, and the gunnery class is turning out some expert machine gunners.

The gunnery classes fired from the ground on the machine gun range, using both the Marlin and Lewis guns. The primary purpose of the target practice, however was to test out all guns to be used on the ships.

THE LONGEST NON-STOP FLIGHT IN PHILIPPINE ISLANDS

A record for the longest non-stop flight in the Philippines was made by Lieutenant Ira C. Eaker, Executive Officer, and Major Danielson, Department Construction Officer, November 7th. The plane, a D.H. 4, piloted by Lieutenant Eaker left Manila at 8:12 A.M. and proceeded towards Corregidor, from there following the Marrailus Mountains to Baguio, and after a little time spent in observation the return trip was made. Lieutenant Eaker landed in Manila after 3 hours and 21 minutes in the air.

SEAPLANES PROVE THEIR VALUE IN COAST ARTILLERY PRACTICE IN PHILIPPINES

Seaplanes prove their value as a main factor in the Coast Artillery target practices in observation work. The first day of the shoot from several of the batteries was arranged and carried out very successfully with Air Service Garrison Seaplanes and Balloon making observations and reporting all shots fired by radio to the Batteries.

The H. S. 2 L's seem to be more adaptable for observation work than the N 9 H's, although the latter were used to good advantage in connection with the practices.

DEPARTMENT OF COMMERCIAL AVIATION

UNITED STATES

WESTERN AIRLINE SYNDICATE ✓

The announcement comes from the Cincinnati Aircraft Co. that C. E. Lay formerly president of the company, while still retaining his connection with that concern, is organizing a larger corporation which he is to head, that of the Western Airline Syndicate.

During the past season Mr. Lay has operated eight planes in passenger and exhibition work. The planes, which are said to have done almost continuous service, have traveled thousands of miles entirely without accident. Mr. Lay attributes his remarkable success in operating his planes largely to the fact that he has intelligently made use of the Weather Bureau reports of flying conditions. His pilots have been kept constantly posted on weather conditions and were under orders to move their planes in time to locate them in a territory where flying weather prevailed.

In an interview a few days ago Mr. Lay stated that he considered the revenue from exhibition flights and passenger carrying "Barnstorming" virtually at an end. "What the people want now is regularly scheduled Airline service. I do not consider that it is a time yet for a full fledged passenger service by air," he said.

"We must begin with a freight service and gradually develop the passenger carrying plane as the present equipment will not give us enough revenue but we can make good as an express line until such time as the engineer develops something for us, and until that time the passenger will have to be carried at his pound rate."

"I shall endeavor to establish our lines over the less hazardous flying territory, reaching the greatest centers of population offering the shortest flights. These express lines will have an advantage in operation over our present conditions, in that there will be less wear and tear on equipment as we will avoid the continuous landings and takeoffs enabling us to throttle down our engines while in the air and save them a great deal. We will cut our overhead all around."

The first step in the detailed work of getting the Western Airline organization started was begun in the several cities Monday, November 29th, when M. H. Held, business manager, started soliciting business men to ascertain and compile tonnage that will be available for air transportation and comparing the relative costs.

Chief Engineer Witherup, together with Lee Shephard, Vice President, are making an extensive trip through the middle west viewing numerous sites for a factory and test field which have been submitted by industrial agents of the several railroads.

Nothing definite has been accomplished along this line but it is said that an ideal location has been submitted near Chicago which will no doubt be chosen. A new two cycle engine has been developed and tried out which is still another step along the right lines as it will give a greater power than the engines used at present at the same weight. This engine develops 130 horsepower replacing in the same equipment the present 90 horsepower power plant. Several changes will also be made in the fuselage to admit the carrying of a greater load.

ENGLAND.

THE AIRPLANE OF THE FUTURE MUST BE ALL-METAL

According to the Morning Post of London Major-General Seely, Under Secretary of State for Air, speaking recently at Cambridge at a meeting of the Air League of the British Empire, stated that the object of the League "was not to have a vast array of fighting aeroplanes ready to pounce upon our neighbors, but for the purpose of peace". Although the first flight in an aeroplane was not made by an Englishman, General Seely contended that England had done considerably more for aviation than other nations. "England's claim to air supremacy cannot be gainsaid by any other power," General Seely is quoted as having stated: "our peculiar position demanded it, and it was essential to our far-flung Empire to have both air and sea supremacy. Marshal Foch said that the next war would be in the air, because it will be swift, secret and most deadly".

"Although great strides have been made in the science of aeronautics much remains to be done, and it is to Cambridge scientists that we must look for great service in this respect. The aeroplanes of the future must be of all-metal. The present method of wood construction is quite wrong where an internal combustion engine is used. Greater safety and greater comfort are needed. We are behind other nations in this respect, and the need is a very urgent one at the present time."

GERMANY

REPORT OF INSPECTION OF GERMAN AIRCRAFT IN ENGLAND

Major C. C. Turner, in the London Telegraph of Nov. 13, writes: "During the past few days a collection of surrendered German aeroplanes and parts assembled at the Isle of Grain aerodrome have, by the courtesy of the Air Ministry, been examined by a number of British experts. The most interesting of them are those that illustrate the design of the big bombing machines which our late enemies were preparing in the spring of 1918, when they suddenly ceased from making air raids on this country."

But, Major Turner comments, knowing what the English aircraft designers were preparing for the chastisement of Germany at the date of the armistice, and, comparing these with the surrendered aircraft, he finds no reason for dissatisfaction.

A comparison, however, it is pointed out, must not be made without reference to the fact that the problems which confronted Germany were essentially different from those which England faced. For instance, Germany's bombing squadron bases were very much nearer to London than any of the English bases were to the cities beyond the Rhine. Also, it must be borne in mind, Germany ran short of certain materials, notably rubber, and so was forced to make some curious makeshifts. While it is quite evident that Germany was suffering from megalomania, and imagined that the bigger the aeroplane the more effective and terrifying it would be, a careful examination of the material assembled at the Isle of Grain fails, it is said, to disclose a single reason for believing that the two-engine Gotha was not the best long-distance bomber they possessed.

There is, for example, the body of a five-engine Zeppelin aeroplane of striking appearance, partly because of its double row of aluminum petrol tanks standing upright like stout milk-churns. These tanks are wholly unprotected, and it would appear that even with 5 engines, since each is of 260 h.p. only, and with the need for carrying crew, petrol and bombs, there would be little margin for the additional weight of armor plate. Indeed, a feature of the German design seems to be the low power of the multi-engine machine, a four engine aeroplane seldom developing more than 1000 h.p., whereas the British four-engine machines have produced nearly twice as much h.p.

The German engines are said to be heavy in relation to power, and, to the eyes of British engineers, much of the construction is coarse and clumsy. The gears are on the heavy side, and the scattered parts of engines and propulsion gear almost suggests the machinery of a battleship.

The shortage of rubber is illustrated by the wooden-tired wheels whose only apparent virtue would seem to be that of being puncture-proof.

The collection includes a big Linke-Hoffman, parts of a huge Zeppelin sea-plane with duraluminum multi-stepped floats 40 feet in length, a twelve-cylinder 500 h.p. Benz engine, and one of the earlier Junkers all-metal machines. Some of these engines have parts of super-chargers on them, showing that they were, at any rate, the subject of experiment.

It is worthy of note that the Germans used no streamline wire, holding that the slight gain in speed was not worth the greater cost and the trouble of adjustment. Their aircraft illustrate ingenious shortcuts and economics or, rather, parsimonies, here and there, but extravagance and clumsiness elsewhere. But, the report seems up, in so far as the 1918 period goes, British designers have nothing to fear from a comparison.

SQUADRON NEWS

First Surveillance Group, Fort Bliss, Texas

"B" Flight 104th Aero Squadron has been especially active during the past two weeks, and has succeeded in recruiting the organization up to the required strength. Much credit is given to the non-commissioned officers for the good work and they are now busy recruiting for the Headquarters Detachment and First Photo Section.

Lieuts. Bettis, Smith and Burgess were transferred from 104th Aero Squadron to Bolling Field, Washington, D.C. Lieuts. DeShields and Post were transferred from Bolling Field to this Station, and assigned to 104th Aero Squadron.

Successful Artillery Adjustment with 82nd Field Artillery was carried on this week. Liaison with 8th Cavalry was also carried on to a certain extent, but as this organization was too busy preparing for their circus it was impossible to get co-operation. Special liaison with 7th Cavalry was carried on for two days; it was very successful and much pleasure was derived working with this organization as real interest and co-operation were given.

Kelly Field, San Antonio, Texas

Lieut. H. L. Speck, Air Service, as Pilot, and Lieut. A. B. Hanes, Q.M., as passenger, left Kelly Field Sunday morning, December 5th, at 10:15 A.M. for Nogales, Ariz., landed at Sanderson for gas and oil, and had lunch with troops at Sanderson. Took off for El Paso at 2:00 P.M. and were caught in a terrific dust storm at Sierra Blanca, 45 minutes out of El Paso; were flying at an altitude of 8500 feet. On account of the dust the flyers could not see the ground or the sun, and decided to go to Marfa, Tex., where they spent the night with Major Somerville, at the Army Post. They started next morning to El Paso, arriving after two hours and 45 minutes flying over the mountains alternated by sand banks. Lieut. Hanes had to spend one day and a half, in order to straighten out problems in regard to Land Leases in connection with Col. Caraham commanding the 25th Infantry Regiment. On Wednesday they headed for El Paso, Tex., where they landed after two hours and twenty-five minutes, staying there until Friday. They started for Sanderson, where they arrived at 12:35 P.M. After lunch they took off for Kelly Field, where they arrived in two hours and twenty-five minutes, a total flying time from El Paso of four hours and fifty minutes. The motor was in ideal condition all the way, and the weather was fair, with the exception of Sunday, the day of the start.

The cadets are fast completing their courses in Bombardment and Pursuit.

On the 13th, General Georges Robert Nivelles, of the French Army, famous as the defender of Verdun, visited Kelly Field. Three bombing formations of D.H.4 planes took the air; two formations of Curtiss planes and four Pursuit formations, in honor of the visitor. Although the weather was far from ideal, pilots flew with great skill and were highly spoken of by General Nivelles, who donned a flying suit, viewed San Antonio from the air for fifteen minutes. Lieut. Beaton piloted the General in a D.H.4 plane. The General's remark upon landing was that "it was all too brief". A tea dance was given at the Aviation Club immediately after the inspection. Officers of the 8th Corps Area were present with their wives and families. The affair was a great success.

Headquarters 2nd Observation Group, Luke Field, Pearl Harbor, H. I.

Major General Charles G. Morton, Department Commander, made an inspection of all troops and equipment of this command on Saturday, December 11, 1920. A keen interest was expressed by the General and members of his staff who observed the work of two pilots of the Group who flew over the camera obscura as a demonstration of the effectiveness of bomb dropping. At the conclusion of the inspection the General made a flight as a passenger in an HS2L flying boat, piloted by Major J. B. Brooks, Assistant Department Air Service Officer. The course of this flight was over the city of Honolulu, where the Commanding General had his first opportunity to observe the capital city and its surrounding military defenses.

Hdqs. 2nd Observation Group, Cont'd.

The surviving seaplane of the two which made the flight to Hilo, Hawaii, a week ago on a reconnaissance tour, returned on the 8th of December to Luke Field without mishap. With a strong tail wind driving them homeward they returned in the record time of two hours and forty-five minutes - approximately two hours less time than the time consumed in the flight to Hilo. Lieutenants Duke and Cale, pilots of the plane which, on the flight to Hawaii was forced to land when within fifteen miles of Hilo and was dashed to pieces on the rocks, returned to Luke Field by steamer.

A. S. Pilots School, March Field, Riverside, Calif.

First Lieut. Bob E. Noland has been assigned to duty at this field reporting from Ninth Corps Area headquarters at San Francisco.

Second Lieut. John A. Laird has been appointed Post Signal Officer vice First Lieut. H. G. Halverson, relieved. Lieut. Laird will also assume command of the Signal Corps detachment at this field as well as supervise work in the Meteorological Department.

At least 50 recruits have reported at this station from eastern points within the past ten days. Several others have been enlisted at this station. At such a rate this school will have been recruited up to full strength soon after the Xmas Holidays.

Five majors, namely, Rudolph, Lohman, Weaver, Howard and Tinker, all student officers, have been "soloed" during the past week.

Major B. K. Yount, commanding officer, at the request of the chief of staff of the Ninth Corps Area, on Thursday of this week, journeyed to Los Angeles where he greeted General Robt. Georges Nivelle, soldier of France and hero of Verdun. In the general's party was also Col. Paul Azan of the French Army and Col. Myrvin C. Buckey, U.S.A., representing the War Department.

Three army Air Service DeHaviland's were placed at the disposal of the General. It had been proposed that the visiting Frenchman be taken on an aerial tour of the Southland, but engagements made by the Los Angeles entertainment committee made it impossible for the General to visit elsewhere than in the immediate vicinity of Los Angeles.

Captain Harry Mustin, Lieut. Commanders M. A. Mitscher and Grow and Lieut. Elliott of the naval air station at San Diego were visitors at March Field during the past week. They came via air in two Vought type ships, the first of this make of craft to visit this flying school.

Captain Mustin will be in command of the 14 naval seaplanes which will leave San Diego January 8th for the Panama Canal Zone. They expect to cover the 6,000 miles in about 5 days. Commander John H. Towers of NC-4 fame will be in command of the NC flight with Lieut. Commander C. P. Mason in command of the F5L squadron.

First Lieut. W. H. Bleakley has assumed command of the "B" flight, vice First Lieut. H. H. George. Lieut. Bleakley was one of the first Gosport instructors in this country.

Second Lieut. Lawrence P. Hickey reported for duty at this field during the past week. He was transferred from the Eighth Corps Area.

Master Sergt. Wm. Sterling has reported for duty from Langley Field.

Major J. M. Downes and Capt. Arthur Bell, M.C. have reported for duty from civilian life.

Capt. Harry B. Flounders has been ordered to Godman Field, Camp Knox, Ky., where he will assume command of Air Service troops.

Second Lieut. Joseph Bailey has been ordered to Ross Field, Arcadia, Calif., where he will assume duties with the Quartermaster Corps.

Captains Geo. H. Peabody and Blackburn Hall received notice from the Adjutant General during the week of their promotion to majors in the Air Service.

Private Dean Soles of this command has received an offer from a publishing house in San Francisco to publish his book on Gas Engine Ignition in Greek. It will be the first book of its kind placed on the market in this country, according to the publishers. Soles, who belongs to the enlisted staff assigned to Headquarters flight, has been working on his book for more than a year.

Seven enlisted men of the Command have been placed on flying status. They are: Staff Sergrts., Metcalf and Redfern; Sergrts., Jensen and Morrison; Corporal Gerritsen; Private 1st Cl. Brandt and Pvt. J. J. Sunshinsky.

A. S. Flying School, Mather Field, Sacramento, Calif.

Major H. A. Arnold, 9th Corps Area Air Officer, visited the Post on Tuesday, the 14th, returning to San Francisco the same afternoon.

Major Charles S. Freedman, Medical Corps, reported for duty at this station on the 11th.

First Lieut. LeClair D. Schulze, Air Service, and Second Lieut. Valentine S. Miner, Air Service, reported for duty on the 13th and have been assigned to the Ninth Aero Squadron.

Lieut. Colonel Wilson, Inspector General, visited the field Thursday, the 16th, returning to San Francisco that afternoon.

On the 16th, plane No. 63465, belonging to the 91st Aero Squadron, caught fire just prior to taking off due to broken gas lead but was extinguished before serious damage was done. The ignition wires, right side of fuselage and engine bed burned. The propeller was also partially burned.

The 9th Aero Squadron enjoys the distinction of having four sets of brothers in its enlisted personnel. This is an excellent recommendation for the Squadron as the men are so well pleased with it that after joining they send for their relations.

U. S. Army Balloon School, Fort Omaha, Nebr.

Recruits are being received at Fort Omaha as never before. During the week ending December 18th, 15 were enlisted for the following branches of service: Air Service, Lighter-than-air, 3; Air Service, Heavier-than-air, 2; Signal Corps, 1; Medical Corps, 2; Quartermaster Corps, 1; E.M.D.L., 1.

This is the result of the good work being done by Master Sergeant Glenn H. Benn, 9th Balloon Company, who has been, and is at present, on recruiting duty in the city of Omaha.

The 12th Balloon Company gave their Third Anniversary Dance on December 15th. The decorations were, in every way, most appropriate for the Air Service, and the event was a great success.

France Field, C. Z.

Major Hobbs, military attache to Cuba, was visitor at the Field on Saturday, and was given a flight across the Canal Zone and back by 2nd Lieut., John F. Whiteley.

Regular aerial gunnery practice was started on Monday, one pilot and one observer going up each day. This practice is to be continued until each flying officer has fired the required number of practice targets which have been constructed. Considerable difficulty has been experienced with the fixed guns as the metallic belts continually cause jams on some of the guns.

2nd Lieut. Samuel M. Connell was ordered to represent this post at a meeting for the formation of an Army and Navy base-ball league. The meeting was at Balboa on Friday and Lieut. Connell made the trip by airplane, using the Fort Amador parade ground for a landing field on the Pacific side of the zone.

Camp Stotsenburg, Pampanga, P.I.

This station was inspected Monday by Major General Kernan, commanding the Philippine Department.

Work in Artillery observation for the student observers was started with renewed vigor this week. Most of their work will be in the air from now on.

General Treat arrived on the Sherman last Monday, and is now Commanding Officer of Camp Stotsenburg.

Our six student observers are away this week, observing Artillery fire at Fort Mills, Corregidor.

Headquarters Detachment First Obs. Group
Manila, P. I.

Lieutenant John Blaney, Mess Officer for the 3rd Aero Squadron, dropped down from the Bondoc in his D-H to do some Thanksgiving shopping for the mess.

Major Roy S. Brown, C.O. Air Service Station, Camp Stotsenburg, flew to Manila on official business.

The 2nd Aero Squadron on the "Rock" are doing a good deal of formation flying with the Curtiss H. S. 2 L. flying boats. A five ship formation passed over Manila, Friday and was the cause of much interest.

Major E. L. Canady, Department Air Service Officer and Mrs. Canady, arrived in Manila on the U.S.A.T. Sherman after a five week stay in Japan. Major Canady is quite certain that there is no place like home.

The Transport Sherman carried, on its return to the states, a large number of temporary officers from all branches. The Air Service quota was as follows: Captains Lewis and Stewart, Lieutenants Bennett, Floyd, Robinson, Greer and Frewer. It is unnecessary to say how much these officers will be missed in this Department.

Fort Mills, Corregidor, P. I.

Lieutenant Ira C. Baker and Lieutenant W. A. Gray were members of an examining board which met here recently to determine the fitness of certain enlisted men for attendance at training camps for Flying Cadets. Captain R.G. Ervin, Commanding Officer of the Air Service Garrison, was president of the board and Major Moreno M.C. the medico.

Several officers from the 3rd Aero Squadron from Camp Stotsenburg were ordered to participate as observers in the Coast Artillery practices at this station.

The married Non-commissioned Officers went on a week-end trip to Olongapo and Subic on the Air Service launch "Geary".

Lieutenant Blaney of the 3rd Aero Squadron, formerly of the 2nd Aero Squadron is detailed on special duty as student observer in connection with the Coast Artillery practices.

A farewell party was given last evening by the officers of the Squadron to Lieutenants Bennett and Greer, who are leaving on the transport Sherman to the States for discharge. These popular officers will be greatly missed by the entire personnel of the Garrison and their many friends on the Island and in Manila.

First Lieutenant John B. Patrick who has been on special duty as construction officer at Paranaque Beach, Manila, P.I., has reported back for duty as Air Service Garrison Adjutant.

Second Lieutenants Jerry L. Bennett and Rowan A. Greer who have been on duty with the Squadron since it organized at Rockwell Field in 1919, are under orders to return to the United States on the next transport which sails on or about November 20, 1920.

Four of the best men of the Organization successfully passed the required examination for Flying Cadets recently held at this station, and they are anxiously awaiting travel orders for a training field.

Fifteen additional men arrived recently on the transport Sherman for assignment with the Second Squadron, which has been below the required strength for sometime. These men were experienced in the Air Service game and were immediately assigned to the different departments for duty.

This station is boasting at present of having one of the best Baseball Teams in the Orient, having won all honors so far on Corregidor Island and in Manila. There was recently organized through the able directorship of the Air Service Commander, Captain R. Gilpin Ervin, an independent league, constituting the Second Aero Squadron, the 17th and 27th Balloon Companies, and three ^{other} teams on the Island.

24th Balloon Co., Fort Baker, California

The 24th Balloon Company was fortunate in having for a visitor this week, Second Lieutenant Albert F. Hebbard, A.S., who is on his way from Fort

Omaha, Nebraska, to Honolulu to join a Balloon Company. Lieutenant Hebbard spent his time in receiving instruction in the work now going on. He takes with him complete plans and information pertaining to this work, and is anticipating inaugurating some work of this kind in Hawaii.

Work is being greatly retarded by the unfavorable weather conditions prevailing. Only 10 flights were made this week for a total duration of 11 hours and 41 minutes. Twenty-five per cent of the daylight hours were favorable for Balloon work; the other seventy-five per cent being accompanied by fog, rain and very high winds.

Both organizations are obtaining excellent results in recruiting and expect no difficulty in filling each company to authorized strength within a month or two.

There still remains one more mortar problem to be fired by Balloon data and every effort is being exerted to establish a new and unprecedented record for this work. Arrangements are also being started for the night firing which will be taken up upon completion of the day schedule. The preliminary work on these problems, which present some very interesting points for solution before the actual tests can be conducted, are gradually being completed and the final results are expected to establish a system of Balloon control for the Coast Defenses which can be operated either day or night under average weather conditions with all the desired accuracy and innumerable additional advantages resulting from aerial observation.

Selfridge Field, Mt. Clemens, Mich.

In compliance with orders received from Headquarters, Sixth Corps Area, Staff Sergeant Elmer J. Spencer, Supply Detachment, this station, has been attached to the Staff of the Recruiting Officer, Detroit, Michigan, on temporary duty in connection with Air Service recruiting. It is believed that this plan of having a representative of the Air Service in the Detroit office will greatly augment the number of Air Service recruits obtained in that city.

In anticipation of freezing weather the water transportation at this field has been removed from the water and properly housed for the coming winter. In view of the great weight and general unwieldiness of the Hickman sea-sleds this undertaking presented many difficulties, but these have been overcome and the boats are now protected from the rigors of Jack Frost.

Mitchel Field, Long Island.

It will be of interest to many members of the Air Service to know that Lieutenant Eric H. Nelson, Engineering Officer of Alaskan flight, has been recommissioned as First Lieutenant in the Regular Army, and has started on a three months leave to Sweden.

1st Lieutenant Clarence L. Midcap, A.S. and Martin S. Lindgrove, formerly of this field, have been transferred to the Philippine Islands. We wish them joy in these balmy climes.

Captain George B. Obear, S.C., formerly attached to the Post Hospital, and 2nd Lieutenant John Vander Voorb, A.S., have been discharged.

Seventy men have been sent to the Mechanics School at Kelly Field, and shortly ten others will leave to attend the Aerial Photography School at Langley Field.

1st Lieutenant Peroy Wightman has been designated as Assistant to the Air Service Officer, Second Corps Area.

Sergeant Andrew Anderson, who has put in some twenty years in the service, will be remembered by many old-timers as Supply Officer of the First Observation Group in the A.E.F., reenlisted on Nov. 24th at Mitchel Field where he is on duty as Sergeant Major of the First Aero Squadron.

The following officers of the Medical Corps, having successfully completed course for Flight Surgeons have been detailed to duty as follows:

Capt. L. W. Ballantyne, M.C. to Panama Canal Zone.

Capt. Eugen Reinertz, M. C. to March Field, Riverside, Calif.

1st Lieutenant L. M. Field, M.C. to Mather Field, Mills, Calif.

1st Lieut. James M. Odell, M.C. to Bolling Field.

Mitchel Field, Long Island, Cont'd.

Major Wm. W. Vougan formerly C.O. of the Hospital has been transferred to Rockwell Field, Coronado, Calif., and former Flight Surgeon Major S. Strong to McCook Field, Dayton, Ohio.

Pope Field, N.C., Dec. 13.

During the week orders were received from the 4th Corps Aero Headquarters making "B" Flight of the 8th Aero Squadron permanent at Pope Field. The news was gladly received by all members of the Flight as much work has been done toward making Pope Field a more attractive and livable home, which we would regret to leave.

Airdrome, Del Rio, Texas

Plans have been perfected for instruction of officers and enlisted men during the coming year, and a comprehensive schedule will be put into operation about the first of the month. Silhouettes for Gunnery and Bombing are being constructed and material for a Smoke Bomb Range is being arranged for. The Radio and Gunnery Departments have complete class room equipment installed with all necessary maps, blue prints, charts, etc.

A. S. Flying Station, Weissenthurm, Germany, Dec. 4.

The wiring of the temporary buildings, tents and hangars, for electric lights, is now completed, and as there has been considerable delay in completing the power line from Andernach, Lieut. Bertrandias, officer in charge of the machine-shop has put the motor-generator in operation and is furnishing us current.

The Utilities Department has completed a concrete dead-line running the full length of the hangars. The construction is one foot deep by eight inches wide, and the top is slightly convex. At sixty foot intervals are concrete warming up tables, each eight feet square, and at the proper distances eye bolts are sunk in the line for the purpose of tying down the wing skids.

This station has secured its own ambulance, and Lieut. Bertrandias, Transportation Officer, has had it completely overhauled, repainted and equipped with Pyrenes, wire cutters, axes, etc.

Fifty-nine German laborers are working on the landing field, cutting down the ridges and leveling it off. A five ton gasoline roller is following them up.

The sodding of the grass plots around the temporary Headquarters building is now completed. This not only beautifies the Airdrome but also helps to combat the mud which is the result of the heavy rains.

The Operations Officer has assigned two enlisted men on Flying Status to each pilot, for the purpose of getting in their flying time. This arrangement eliminates the usual confusion at the end of each month's incident to the last minute effort to give them their required number of flights and is altogether a more pleasant and interesting arrangement for both officers and men.

The work on the permanent buildings is progressing very well. The walls and floors of the enlisted men's quarters, Mess Hall, and the Headquarters building are finished and the foundations for the officers' quarters and pump house are laid.

Last Wednesday this entire organization was out on the dead-line momentarily expecting the first crash at this station. The reason being that Lieut. C. M. Cutler who was at the British Airdrome at Cologne, returning some Very pistols which had been borrowed, phoned at 3:30 P.M. to obtain information as to weather conditions. As everything was O.K. he was told to come ahead, but before his arrival a heavy bank of fog rolled into the valley in which this station is located, completely covering the Airdrome. At 4:50 P.M. when Lieut. Cutler arrived overhead it was too late to return to Cologne, and as no other landing fields are available he was forced to land through the dense fog. Fortunately he accomplished this without mishap.

Lieut. Ployer P. Hill also gave the station a thrill on Thursday, Dec. 1st, when his motor cut out on the take off when he was testing a new plane. When the motor quit the plane was only about eight feet off the ground. Consequently he was forced to land straight ahead toward a gully forty feet deep on the edge of the Airdrome, but by doing a ground loop and skidding, he was able to stop the plane about two feet from the edge of the precipice.

Edger

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE JANUARY 20, 1921.

THE MEDICAL PROBLEMS OF FLYING

The question of occupational diseases is one of fairly widespread interest, not alone to medical men but to those who give thought to the welfare and development of humanity.

When the industrial era was unfolding in the nineteenth century little personal thought and no hard thinking was given to the hygiene of industry, and so there are still long arrears of occupational diseases and injury to atone for. Many industries have still to establish their right to exist before the tribunal of public health. Since we hope to do these things better in the twentieth century, every new medium in and through which the business of the future is in any way to be transacted, is made, at the outset of its career, to pass within the scrutiny of medical as well as commercial experts.

In this connection the study of the medical problems that have appeared in the development of aeronautics is of paramount interest, and those who may be engaged in investigation along this line will find valuable information in the pages of the latest report of the Air Investigation Committee appointed by the Medical Research Council in consultation with the Air Ministry of Great Britain.

"It is clearly impossible," according to the report referred to, "to draw an absolutely sharp line of distinction between the immediate and remote effects of flying at low as opposed to high altitudes, because many symptoms are common to both. At the same time, in healthy and fit individuals who fly from 15,000 to 20,000 feet or more, a group of symptoms can be isolated which may, properly, be attributed to the physical effects induced by the lowered pressure of oxygen in the air breathed. It must be borne in mind that the necessity for attention to the technical and other duties of a flight may, in itself, suffice to divert a flier's notice from physical symptoms unless the latter become imperative. Further, it must be remembered that one of the most important effects of oxygen starvation is a dulling of the judgment and intellect and an unwarranted sense of well-being and security.

In this connection the cases of two flight commanders may be cited who averred they were just as fit at 20,000 feet as on the ground, and scoffed at the idea of using oxygen. A week later, however, these same officers, having both used oxygen for a long flight of more than three hours at an altitude of over 18,000 feet, were loud in their praise of the benefits it conferred, and made its use compulsory among their pilots and observers."

The most interesting aspect of the whole question, and one of great practical importance, is the remarkable variation met with among individuals who are, apparently, equally healthy. The use of Flack's bag experiment enables one to isolate those very rare cases of men with heart and lungs stethoscopically normal who are so peculiarly sensitive to the effects of even a moderate fall of barometric pressure that they are, practically, debarred from flying of any description. But, beyond these quite exceptional cases, marked differences exist as regards the reaction of the organism to diminished oxygen pressure, and many pilots, especially scout pilots, notice nothing unusual when flying at 18,000 feet.

The Air Medical Investigation Committee not only gave assistance in France as well in England to experimental work which had been undertaken by medical men and physiologists both in and out of the military service, but at the close of the war formally offered its services to the President of the Air Board, to whom it has supplied further expert assistance.

It is to be noted, therefore, that the standards for all the tests reported were worked out in the first instance upon successful flying officers, and that all deductions are designed to aid in clinical examinations and not in any way to supplant them.

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AIR BOMBING AND WHAT IT WILL MEAN IN FUTURE WARFARE.

In his annual report for 1920, Major General Cox, Chief of Coast Artillery, and, consequently, in charge of the defense of seaports, does not shrink from pointing out the obvious fact, that, by reason of the increasing development of military aircraft, the security of the United States can no longer be guaranteed from attack. While the limited radius of the airplane today gives the thought of attack from that source a somewhat negligible quantity, the rapid development of aircraft of all kinds should serve to dispel any prolonged feeling of security on the part of the United States. The recent successful trans-Atlantic flights can be regarded as ample and sufficient warning of what may be possible, at least, in the future.

In line with the food for thought contained in General Cox's report is an article on "Air Bombing of Industrial Plants", by Colonel William A. Borden, Chief of Aircraft Armament Division, office of Chief of Ordnance, which appeared in "Army Ordnance" for Nov.-Dec., 1920.

An editorial note preceding this article reads as follows: "The outstanding lesson of the World War was the controlling influence of munitions power, in contradistinction to man power. Accordingly, it is highly probable that the strategy of future wars will turn largely on attempts to destroy or diminish munition power by attacks upon industrial centers. Of the methods available for this purpose, the most logical will undoubtedly, appear to be the dropping from aeroplanes of huge bombs containing a ton or more of high explosives and capable of effecting complete effacement of the factories attacked".

Colonel Borden reminds us that "France, England, and other European countries were, during the war, subjected to numerous aerial attacks in which the main munitions used were bombs, and, although bombing was not highly developed even when hostilities ceased, considerable material damage resulted from these air raids. The morale of the people in raided localities was lowered and the production of munitions and other necessary items of supply were interfered with and delayed".

"Although of the number of bombs dropped, only a very small percentage hit the mark, the destruction which it was possible to effect by bombing operations was recognized and elaborate systems of defense were instituted particularly in areas where important manufacturing activities were under way. Anti-aircraft equipment, searchlights, aviation patrols, and a system of warning signals were employed in the defense of these localities. The important machines in manufacturing plants were protected by armor plate shields, other parts of the plant were protected by earthen embankments and transverses to limit the effect of flying fragments, while various systems of camouflage were employed in screening the building. However, in spite of the extensive means of defense, bombing raids were becoming increasingly effective at the close of the war."

Describing briefly the general types as Demolition, Fragmentation, and Chemical, Colonel Borden points out that bombs weighing from a few ounces up to 1100 and 2200 pounds have actually been produced, and states that the development of others which will weigh more is contemplated. There seems to be no limit to the size of bombs, provided aircraft can be made large enough to carry and drop them.

There is, also, no limit to their destructive qualities. Of the general types referred to, the Demolition bomb, which, as the name implies, is meant to demolish, performs its work of destruction by the blast produced by the detonation. Such a bomb, weighing say 1000 lbs., hitting almost any of the present day factories would completely wreck it; for it must be borne in mind, that these bombs have fuses which give a delay action, so that the explosion does not take place on the roof but the detonation occurs after the bomb has penetrated to the interior when it literally rends the building apart.

While Fragmentation bombs are, primarily, designed to wound or kill and are particularly effective against massed bodies of troops, as in billets, in columns, or convoys, they may also, of course, be used to supplement Demolition bombs in attacks upon manufacturing plants by reducing to fragments the wreckage of the building.

That the work of destruction may be made quite complete next comes the Incendiary bomb, which produces a conflagration.

If we add to the list of horrible possibilities the Poisonous gas bomb which would attack the personnel and not material, and would seek out the cellars, subways and similar places of once-supposed security, a faint suggestion, at least, may be obtained of what aerial warfare of the future may have in prospect.

Directly bearing upon the subject of this article by Colonel Borden, are reports that have appeared recently in the press regarding devices for luring aircraft away from cities, munition plants, etc., by means of luminous camouflage. "As early as May, 1916," the New York Herald points out, "certain plants were submitted to the British War Office, by Messrs. Dillon and Shallard." While the Dillon and Shellard ideas were not adapted, they were pronounced as "meriting the sincere praise of the National Defense," and certain other methods grouping incandescent projectors were put into operation both by the French and English.

Also it may be noted in Feb., 1917 a United States patent was granted to Joseph A. Steinmetz of Philadelphia, for an invention the object of which "is to provide effective means for the destruction of aircraft by luring the hostile craft to a point where it can do little harm, being designed as lures to draw the attack of bomb dropping aircraft by simulating importance which they do not possess, and in arranging anti-aircraft guns for sending projectiles over the device at varying heights".

AERIAL GUNNERY MATCH AT LUKE FIELD

Aerial gunnery teams representing the Fourth and Sixth Squadrons of the Second Observation Group met in competitive gunnery matches at the Schofield Barracks range on Saturday, December 18th. The match was the first to be conducted in this department, and, as far as has been ascertained, the first in any department of the service, where squadrons competed against each other. The best score of the day was made by Lieut. Maitland, pilot, and Lieutenant Moorman, gunner, Sixth Squadron, who made a team score of 12.2 per cent. A ten by ten target with a 30 inch bulls-eye was used - horizontal for gunners and vertical for pilots.

A CORRECTION

Tabulated sheet of tactical operations attached to Official Air Service News Letter dated November 27, 1920, does not show artillery observation flights made by the detachment of the 91st Aero Squadron at Crissy Field. Operations report of this detachment for the week ending November 27, 1920, shows that three flights were made on this duty.

LANDING FIELD IN JAPAN

The following extract from "Commerce Reports" of Jan. 3, 1921 will be of interest:

"The Japan Advertiser, quoting from the Jiji, states that a million yen bridge is to be built just back of Tokyo station across the canal. A public park with grounds for landing of passenger airplanes is included in the scheme. Marble will be used for building the bridge."

ONLY 4 RAINY DAYS IN FLYING TIME FOR 1920 AT LUKE FIELD

Luke Field reports an enviable weather record, having had only four days of rain during flying time for the entire year of 1920. Three of these, it may be noted, occurred during the last two weeks of the old year.

LONG DISTANCE FLYING

The following article setting forth the importance of long distance flying is of special significance as it comes from Captain Howard Douglas, A.S., the Pathfinder of the Alaskan Expedition.

Since the close of the war, the Air Service of every important country in the world has been conducting long distance flights. One of the first and one

of the most spectacular was the crossing of the Atlantic Ocean in a land plane in a non-stop flight, and also of supreme value was the splendid performance of the U.S. Navy in crossing the Atlantic in a seaplane. The English air force has carried out flights to Australia and from Cairo to Cape Town. The Alps have been explored by airplane and flights from France to Northern Africa have been carried out. In the United States, the Army Air Service has conducted a transcontinental reliability test; a transcontinental flight from San Diego, California to Jacksonville, Florida; a flight around the rim of the United States of almost 10,000 miles; and a flight from New York City to Nome on the Bering Sea and return; a distance of approximately 9,000 miles.

There are still individuals, presumably of average intelligence, who will ask the question, "Why are these dangerous flights attempted?" It is a matter of courtesy to explain the reasons for such expeditions, but to the person who has paid any attention to aeronautics and its development, the reason is very obvious.

It is only the attempt to accomplish difficult things that will develop aviation. Long distance reconnaissance flying has met with such unqualified success during the past year that it is possible to foresee the time when no part of the world will be inaccessible to airplanes. It has not been the policy of the United States Army Air Service to wait for the time to come when airplanes, specially designed for long distance flying, were built. Using the equipment we have had at hand for war purposes, we have successfully accomplished flights that a few years ago would have been considered impossible. We have carried flying operations into parts of the world where airplanes have never been before. On the Alaska trip, there was country traversed which no man had ever seen before. The exploratory value of such flights as these is unlimited. It demands a daring imagination to even estimate the extent and future possibilities of aerial exploring.

Aside from the exploratory value of long distance reconnaissance flights, there is a very material military value. Experience and training, impossible of attainment by any other means, is to be had. Pilots and mechanics, who participate in such flights, carry on operations thousands of miles from their base. Every long distance flight ever attempted has given the flying personnel engaged a wonderful opportunity to study the art of flying. It affords the best opportunity to check the value of navigating instruments. Every flight has its own individual problems involving mechanical operation, supply and navigation. The successful solution of all these problems is the best possible training for Air Service personnel. Practice flying around an airdrome is essential, but however important such flying may be, it cannot compare in any way with long distance cross country flying. These flights already successfully carried out have done more than any one thing to foster and develop commercial aviation, and from a military standpoint, the experience and training gained have been invaluable.

"WAR OPERATIONS PERIOD" AT FRANCE FIELD

The "War Operations Period" of the Coast Defenses of Cristobal began with a declaration of war against the "Reds" on Thursday. The first activity occurred Friday morning when it was reported that ten Reds who had attempted to sink a boat at the entrance of the harbor were attempting to escape in a motor boat. 1st Lieut. Charles B. Austin, who had returned from leave in the United States the day before, was dispatched after the boat and severely strafed it with machine gun fire. Staff Sergt. Adam Kralik handled the Lewis guns from the rear cockpit. Assuming the improbable, that the boat had not been put out of commission by the airplane, a battery of anti-aircraft guns and a battery of six "Coast Defense guns" opened fire. 2nd Lieut. Dayton D. Watson, observer, and 2nd Lieut. Samuel Connell, pilot, regulated the fire of the six inch guns with excellent success.

In the afternoon a reconnaissance plane with 1st Lieut. R.C.W. Blessley, pilot, and 1st Lieut. H.W. Holden, observer, located a "Red" battleship approaching about fifteen miles from the harbor. A call for a plane to regulate fire on this objective was answered by 1st Lieut. A.C. George, observer, and 1st Lieut. H.B. Chandler, pilot. The battery found difficulty in firing on the target where it was located, and after over two hours in the air the plane returned, having spotted only one shot.

Early Saturday morning two "Red" battle cruiser's were located by two reconnaissance planes and Lieuts. Blessley and Holden answered a call from Fort Sherman

for an adjusting plane. This battery also failed to fire successfully, only four shots being spotted in two hours. This ended one phase of the problem.

On Monday there was little activity which called for cooperation from the Air Service, only one plane being requested. 2nd Lieut. John F. Whiteley made a reconnaissance mission to locate a "Red" warship which was reported to be in the vicinity of Las Minas Bay. The enemy destroyer was located in about twenty minutes and a report sent to the Coast Defense Commander.

The adjusting planes were requested on Tuesday morning. The first call was from Fort Sherman and 1st Lieut. A.C. George, observer, and 2nd Lieut. H. B. Chandler, pilot, were assigned to the mission. An enemy battleship was the objective of a Mortar Battery, but because of low clouds and hazy atmosphere, it was almost impossible for the observer to sense shots for the battery. Half an hour after this plane was called, the target was also assigned to a mortar battery at Fort Randolph, and 1st Lieut. R.C.W. Blessley, pilot, and 1st Lieut. H. W. Holden, observer, went up to adjust this battery. Poor visibility greatly hindered observation and three out of ten shots were lost at a range of over 12,000 yards, but the other sensings were given to the battery by radio-phone.

In the afternoon an enemy warship was assigned to a battery of six inch coast defense guns as an objective and the adjustment of these guns was conducted by 2nd Lieut. Dayton D. Watson, observer, and 1st Lieut. Charles B. Austin, pilot. This problem went off with great smoothness, all the shots being sensed and immediately phoned to the battery. The shooting was very accurate.

This same battery went into action again on Wednesday morning with the shots being spotted by 1st Lieut. Holden, observer, and 1st Lieut. Blessley, pilot, and another very successful result was obtained. The battery fired eleven shots in rapid succession and each sensing was given the battery commander by radio-phone as the shots struck the water. Many of the shots would have been hits on a real warship.

Soon after the completion of this problem word was received that enemy fleets had come to anchor at two different points along the coast and Lieutenants Holden and Lieut. Blessley went to locate the fleets. Both fleets, which were represented by stationary targets, were accurately located by means of a plotted map and the locations reported to the Coast Defense Commander. 1st Lieut. George and 2nd Lieut. Watson, observers, with 2nd Lieut. Chandler and 1st Lieut. Austin, respectively, as pilots, answered calls to adjust mortar batteries from Fort Randolph on these targets. Each battery fired only three shots and then firing was suspended as the targets were out of range of the batteries. The targets were moved and the same problem was repeated in the afternoon, Lieut. Watson and 2nd Lieut. Samuel M. Connell locating the targets and the adjusting of the batteries being done by 1st Lieut. George and 1st Lieut. Holden with 2nd Lieut. Chandler and 1st Lieut. Blessley as pilots. Clouds and rain interrupted the firing conducted by Lieut. George after three shots had been fired, but the other battery had excellent results. The first shot was about 1,000 shots over and about 500 yards right but the airplane observations brought the big guns quickly on to the target and the fifth shot fired only missed the small target by fifteen yards. The range error was corrected on the first shot and the deflection error on the third shot. This problem was at extreme ranges, about 20,000 yards, but by instructing the battery to fire in about four minutes after they displayed the "Battery ready" panel, it was impossible for a plane to reach a position where observation was possible by the time the shot fell. Low clouds which made flying impossible above 2,000 feet added to the difficulties of the mission.

An attempt was made to adjust the fire of a mortar battery that night but owing to misty weather when the battery was finally ready to fire, the plane had to return to the field without attempting to sense any shots. Lieut. Blessley and Lieut. George were the team which attempted this mission.

It had been expected that more problems would be assigned for Thursday but the "War" was called off late Wednesday night. The next work of this kind will be in connection with the "War Operations Period" of the Coast Defenses of Balboa from January 3rd to 7th inclusive.

SANTA CLAUS CAME BY AIR TO FRANCE FIELD

Christmas in the tropics is rather difficult to realize with the entire lack of cold weather, snow, evergreens and other things always identified with the Yuletide celebrations in the States, but while the France Field celebration

lacked these things it had everything else and several things which were entirely unexpected.

To the children of the Post it will be a day long remembered, and to the other personnel it will go down as a unique celebration. Various musicians of the Post started the day with a serenade in front of the barracks, the non-commissioned officers' quarters and then down the officers' line. Various games and sports were enjoyed during the morning and then at noon came the big dinner at the 7th Aero Squadron.

The Christmas tree exercises were where the surprises came thick and fast. A white airplane was seen approaching and when it was announced that Santa Claus was in the plane, there was a big rush by the children for the edge of the flying field. The airplane landed and taxied rapidly to the hangar and out jumped Santa Claus in all his glory and with a large pack on his back. The greeting given him by the children was all that could have been expected and the large audience was as breathless as the children as each child shook hands with Santa. Greetings over, Santa was conducted by Major Millard F. Harmon, Jr., to the big Christmas tree and immediately began to disburse presents in a lavish manner to the children. Presents had been provided so that each child would have an armful and roars of laughter greeted the antics of the children as they went forward to get their presents.

Then came a surprise for the enlisted men of the Post. Over a month ago letters had been sent to the relatives of all the enlisted personnel of the Post, asking these relatives to forward a Christmas present to the E. & R. Officer. The response from these requests exceeded all expectations and the mail orderly had been buried beneath all sorts of packages for the two weeks preceding the holiday. The giving out of these packages was the big surprise to the men, most of whom had come to the tree to see the children get presents, and the gratified and pleased expressions as the packages were opened would certainly have been relished by the senders of these presents.

Candies and nuts were also distributed to all the ladies present and then Santa Claus said goodbye to everyone and again took to his airplane amid the many good wishes of the children.

The events of the day were terminated at the Service Club at night when Chaplain Chester conducted a general Christmas service.

THE FUTURE OF THE ZEPPELIN COMPANY

Since the visit to America last summer of representatives of the Zeppelin interests, there have appeared from time to time in the public press many contradictory reports as to the future plans of this company. Apropos of this an item which appeared in the German "Flug-Welt" of Nov. 24, 1920, will be of interest.

According to this report, certain commercial steps were discussed and negotiations initiated with regard to the delivery of a ship. However, no contract was made and nothing conclusive resulted from these preliminaries. In point of fact, according to "Flug-Welt", the Zeppelin plant is still inoperative by reason of treaty regulations, and the use of the company's commercial ships has also been forbidden awaiting certain discussions of the Air Commission. Meanwhile, of course, the company is cut off from international competition.

"The transfer of the Zeppelin plant to the United States is clearly impossible, says "Flug-Welt"; "it is, however, not impossible that a branch may be started in that country in the future."

PILOTS AT MARCH FIELD FLY DISTANCE EQUAL TO 46 TIMES AROUND THE WORLD

During the year just passed pilots at March Field have flown a distance equal to 46 times around the globe. Jules Verne's hero accomplished the feat of going once "around the world in 80 days". According to March Field statistics, this record would be far and away bested, as 46 times around in 365 days would reduce the time for one circumnavigation to 7 days, 26 hours and 26 seconds, to get down to very minute details.

A more logical calculation, of course, would be to divide 25000 miles, the circumference of the earth, by 80, the rate in miles per hour and again divide this quotient by 24, the number of hours in a day. The result thus obtained would be 13 days, the time required to make one circumnavigation of the globe. However, the following calculations made at March Field contain some interesting suggestions:

"Figuratively speaking, March Field pilots have circled the globe, during the past year, just 46 times, or once in about every seven and a half days. Or, in other words, estimating air speed at 80 miles an hour and with a total of 14,523 hours of flying time, planes from this school have flown approximately 1,161,840 miles. Therefore, 1,161,840 divided by 25,000 gives the 46 plus or minus.

Since establishment of this school three years ago it is estimated that 50,000 flying hours have been recorded or a total mileage of approximately 4,000,000, or 160 times around the world. During this period about 1,500 pilots have been "soloed" and graduated, in addition to a class of about 150 officers and cadets who are now under instruction.

It would be interesting to know just how many Fords it would take to consume an equal amount of gasoline and oil burned up by the various type planes in negotiating these four million or more miles. It is also interesting to note that during this three year period this school has had the remarkably low mortality rate of $4\frac{1}{2}$ per thousand, or $1\frac{1}{2}$ per thousand per year."

"THE HISTORY OF 60 SQUADRON, R. A. F."

It is surprising how few histories of the war have appeared and how little actual historical data concerning its activities has found its way into print. It would seem that those who actually participated in any way in the great conflict are more concerned with the business of forgetting than of remembering. It should be borne in mind, however, that as memory fades the sharp line of detail vanishes, and so, presently, the historical and statistical value is dimmed of such recollections as may at some future time rise to the surface and find their way into print. Records, to be of value, must be records, and not recollections or reminiscences.

In this connection, of more than passing interest is "The History of 60 Squadron, R. A. F.", by Captain A. J. L. Scott, C. B., M. C., A. F. E., which has recently appeared from the Heinemann press, 20-21 Bedford St., Strand, London W. C. 2. The book, for which the Rt. Hon. Lord Hugh Cecil, P. C., M. P., has written a preface, describes the formation and exploits of 60 Squadron, and is illustrative of the valor of men who fought a new warfare with old but unsurpassed courage, and who found the way of glory among the untrodden paths of the air".

An interesting account is given of two American Squadrons, Nos. 17 and 148, with whom 60 fought on terms of close comradeship. In addition to numerous illustrations, two maps are published, one showing diagrammatically the position of the troops on the Western Front in Sept. 1918. The other shows the ground gained and the prisoners taken in that great series of battles on the Western Front which brought the contest to a triumphant close.

The Rt. Hon. Winston S. Churchill says of "The History of 60 Squadron", "I regard this as a valuable straightforward and thrilling record of some of the finest air fighting in the war."

LETTER OF APPRECIATION TO SECRETARY OF WAR FROM
SECRETARY OF NAVY

NAVY DEPARTMENT
Washington

January 7, 1921.

From: The Secretary of the Navy.
To: The Secretary of War.
Subject: Assistance of Army Air Service in attempting to locate Navy Free Balloon A-5598.

When informed recently that Naval balloonists were missing and unaccounted for, Army airplanes were dispatched from Mitchel Field, in an endeavor to gain information of the Navy balloon which left Rockaway, Long Island, on December 13th, 1920. Due to the heavy snows and extremely bad weather encountered, the efforts of the Army fliers were hampered and their search was made exceedingly difficult and hazardous.

The assistance extended to the Navy by the Air Service of the Army upon this occasion, shows a very commendable spirit of cooperation which accords with the best and highest traditions of the two services. For this timely aid loaned by the Army please accept the sincere thanks of the Navy Department.

Josephus Daniels.

SQUADRON NEWS

A. S. Flying Station, A.F.G., Weissenthurm, Germany.

On Wednesday, December 8, 1920, the Airdrome was inspected by Major T. C. Lonergan, Assistant Chief of Staff, Training and Operations, AFG., and Major F. M. Andrews, Chief of Air Service, AFG.. The two officers made a thorough inspection of the Radio, Armament and Photographic Sections, and all the enlisted men's mess and billets. After the inspection Major Lonergan accepted Major Andrews' invitation to take a flight over the unoccupied area. After the two officers returned from the hop Major Lonergan appeared very enthusiastic over aviation. He also expressed himself as being surprised at the efficient manner in which operations were carried on.

Major Louis Brereton, Military Attache at Paris, accompanied by Lieut. Colonel Stechehan, A. S. Reserve Corps, of Paris, made an inspection of the field, on Friday November 10th. Colonel Stechehan and Lieut. Hamlin, Photographic Officer, held a short consultation on matters pertaining to the Photographic Department.

Major F. M. Andrews, Chief of Air Service, AFG, accompanied by Major Melvin Hall, A.S., Military Attache of London, made an inspection of the Airdrome on Saturday, December 11th. Major Hall was especially interested in the improved type of D.H.4 B, as this was the first time he had seen one of this type, also in the machine gun sight which is being tested.

This Airdrome was also inspected on Thursday by Major Fournier, Commandant of a French Pursuit Group, and Lieut. Fournier, of the French Mission, accompanied by Major F. M. Andrews.

Commanding Officer, Major H. B. Burwell, has left for Switzerland for the purpose of inspecting an airplane motor muffler which is being developed by the Swiss.

Mather Field, Sacramento, California.

Recruiting activities at this station have far exceeded expectations. Thirty-four men were received during the week. Men on "furlough recruiting" have done excellent work securing applicants some of which have been enlisted at the Post while the majority have been sent to Recruiting Stations and from there to this field. After the holidays it is contemplated sending a limited number of the enlisted personnel to their home towns by airplane for a period of ten days for the purpose of recruiting. It is believed that this method will prove quite effective.

Orders have been received for the assignment of Second Lieuts. William S. Sullivan and Charles McKinley Robinson, Air Service, to duty at this station.

Selfridge Field, Mt. Clemens, Mich., Jan. 1.

Mr. Ray Blain, Telephone Plant Engineer, Sixth Corps Area, Fort Sheridan, Illinois, visited this Field during the past week for the purpose of inspecting the telephone system.

Pvt. Patrick Gilrane, who served with the 40th Aero Squadron at this station during 1917-1918, heard the call of the service again last week and has re-enlisted for three years.

The Township of Harrison has completed the erection of a bridge on the road leading from the Field to Mt. Clemens. The completion of this project is welcomed by the chauffeurs of this station, as it obviates the necessity of using a short, and somewhat dangerous, detour around this spot.

Headquarters, "B" Flight 8th Aero Squadron, Pope Field, N. C.

During the week each man on the field was noticed to be doing everything toward making the last week of the old year the busiest and most successful one.

Headquarters, "B" Flight 8th Aero Squadron, Fone Field, N.C., Cont'd.

The supply of gasoline at this station being very low few activities were engaged in during the week. The men of the Engineering Department were kept busy, however, cleaning the grounds around the hangars, putting a pipe line from the "main" to the oil house, in order to have water more convenient in servicing the planes, and digging a few drain ditches. Class room work on airplane motors was continued and well attended. The men have taken a great deal of interest in the school, and although about half of the Engineering Department are assigned to the first classes, all attend every lecture and take part in all practical work.

The first of the week Corporal Otto Johnson was transferred from the Stock Keepers School at Dayton, Ohio to this organization. The corporal was once a member of the Air Service Detachment at this station and the men of this Flight are glad to extend to him a hearty welcome.

France Field, C.Z., Dec. 18, 1920.

An interested visitor at the field this week was Brig. Gen. Henry A. Reed, retired. General Reed, who is seventy-six years old, was given an ocean to ocean flight over the canal by Lieut. Chandler, and was highly delighted with his first aerial journey. General Reed talked to many of the officers, comparing present day army conditions with those of his day. He is a veteran of the Civil War having been a 1st Lieutenant, in command of a company at the close. After the war he entered West Point and was commissioned a 2nd Lieutenant in 1870. He had to serve twenty-eight years before he reached the rank of Captain, promotions being so slow in those days, and again commanded a company.

Aerial gunnery practice was suspended during the week because of the rush of other duties, but will be taken up again after the Holidays. A thorough course in bombing will also be inaugurated next month, using both a camera-obscura and dummy bombs.

2nd Aero Squadron, Ft. Mills, Corregidor, P.I., Nov. 27, 1920.

Cooperation in connection with the Coast Artillery Target practices as Aerial Observers occupied most of the time of the personnel during the week.

Testing out the new Lewis Machine Guns on the H-S-2-L's proves to be excellent sport. Lieutenant Dallas as pilot and Corporal Davis as gunner, made a trial flight recently and readily proved that a few machine guns installed in seaplanes could easily make a strong defense for the islands should the necessity arise.

The contractors at the tail of the island are excavating for several more large steel hangars which are to be erected in the near future.

Headquarters 1st Pursuit Group, Kelly Field, Tex.

Flying training in the First Pursuit Group has been handicapped greatly due to the small number of officers at present on duty with the organization, as some of the squadrons have only one officer, he is extremely lucky if he has the opportunity for one or two flips in the air a week. However, the graduate cadets and cadets undergoing Pursuit Training are now making up for lost time between the hours of 8:00 and 4:00, they may be seen in one of their tactical formations.

Pursuit offensive and defensive combat patrols are now being planned to take effect immediately after the Christmas holidays, also in conjunction with the Pursuit training given to the cadets cross-country trips are now in order and all of the available personnel will soon be flying over the delineated battle sector and to the near border stations.

The First Pursuit Group cadet detachment have not only maintained and repaired their own ships the JN6's, but have set up, tested and flown the SE5 upon which they recently matriculated.

The spick and span condition of the grounds about Hangar No. 1 received favorable comment during the recent inspection during which the Pursuit cadets in a Tactical Formation of three planes flew an exhibition formation in honor of

Headquarters 1st Pursuit, Cont'd.

visiting Mexican General, in the course of which Cadet Holmes collided with Cadet Williams' plane, both Cadet Holmes and Williams continued flying and landed in the specified place.

1st Lieutenant Dorris A. Hanes, Quartermaster Corps, General Supply Depot, accompanied by 2nd Lieutenant Harry L. Speck, Air Service, Kelly Field, Texas, as pilot, left by air for Ellington Field, Houston, Texas, for temporary duty in connection with real estate matters.

2nd Lieutenants Marl J. Plumb, John R. Drumm, Harold W. Beaton, Dudley E. Rowland, Air Service, left Kelly Field, Texas, by rail on December 23, 1920, to Dallas, Texas, for the purpose of ferrying back to this field three DH-4E and one SE-5 airplanes.

Kelly Field will lose one of her officers, as 2nd Lieutenant Corley P. McDarment, Air Service, has been transferred to Carlstrom Field, Florida, for permanent duty on pilot training.

Lieutenant J. H. Wilson left this field by airplane for Denver, Colorado, on recruiting duty for the Air Service. He has been assigned to this duty for an undetermined period.

Carlstrom Field, Arcadia, Florida.

Activities and training in particular on the field have returned to normal since the close of vacation week, and the return to duty of numerous men who took Christmas leave. Captain Ford, Lieutenant Patrick, and Lieutenant Cronau took a hunting trip into the Everglades after deer and wild turkey, which are quite plentiful there. They reported a good bag. Incidentally, the Everglades is considered one of the best hunting grounds in this section of America, being one of the last strongholds of wild turkey.

The new cadet class of thirty-three has commenced flying, and the Navy fliers are nearing the end of their course. All of the student officers are well into solo work; the work in the motor and rigging shops is completed and examinations in these lines have been given; and aerial navigation, meteorology, instruments and drawing are being treated now.

Several transfers have been made on the post during the week; Lieutenant Camblin has gone to Kelly Field for pursuit work; Capt. Mileau has been ordered to Post Field; Lieut. Ennis and Lieut. Castor are going to the Philippines, and Lieut. Guy Kirksey is going to Langley Field.

March Field, Riverside, California, Jan. 1.

Ten pilots from this school entered in the Air Races at Long Beach on December 25 and 26, returned to the first honors in the 60-mile handicap event and third, fourth and fifth places in the 100-mile free-for-all race.

Ideal flying weather prevailed throughout the three day show. In addition to planes entered in the aerial events March Field had an exhibit of aircraft equipment which served well to advertise the Air Service to some 100,000 or more who visited Daugherty Field during the three-day tournament. Not an accident marred the entire show and but three forced landings were reported.

Despite the holiday season recruits have thronged into March Field and necessitated that a Sergeant and Medical Officer remain on the job constantly to care for their applications. Many of them are California men while still others have come west as a result of factories closing down in the east. A large percentage of the applicants are previous service men.

Captain Philip A. Scholl, property auditor of the finance department, has been going over the books at the Quartermaster supply house during the past week.

Several March Field officers witnessed the "take-off" at San Diego, Thursday, December 30, morning when 14 naval planes started for the Panama Canal Zone.

Piloted by Lieut. Commander W. Masek, a Glenn Martin Bomber, first twin-motored plane to visit this field, landed at March Field late Thursday afternoon. The big ship came from the Naval Air Station at San Diego. Several of the local pilots were taken for a short hop and experienced quite a thrill when given turns at the "stick".

First Surveillance Group, Ft. Bliss, Texas.

Tuesday, December 28, 1920, a liaison problem was held with the 8th Cavalry. Two planes were used, Command and Contact planes, Lts. Boquet and Hinkle acted as observers and Lts. Harvey and Gaffney as pilots. The problem was a success and the Commanding Officer of the 8th Cavalry complimented the Air Service on its good work.

Wednesday, Dec. 29th, 1920, two Artillery Adjustment problems were carried on with 82nd F.A. Capt. Jones of F.A. was Observer and Lt. Gaffney was pilot in the first problem. Lt. Hinkle and Liebhauser fired second problem. Adjustment was carried up to fire for effect.

Thursday, Dec. 30th, 1920, another liaison problem was held with the 8th Cavalry. Observers were Lts. Boquet and Gaffney, Pilots, Lts. Harvey and Hinkle. The troops were kept busy at all times receiving and sending messages, using all means of communication. The exercise was a success and very interesting; the entire personnel of the 8th Cavalry were enthusiastic over the work. Classes are being held once a week in liaison with the Cavalry for instructional purposes in D R Flag signalling.

Aberdeen Proving Ground, Md.

Headquarters and Flight A, 258th Heavy Bombardment Squadron left this station for Langley Field, Hampton, Va. on December 21, 1920, with three officers and one hundred and fifty enlisted men. Flight B now has eight officers and twenty enlisted men assigned to it to carry on the test work here.

We have recently laid out a silhouette of a battleship on the bombing field the outline being made of boards painted white. The dimensions correspond to those of the battleship Massachusetts. After bombing this as we contemplate doing in the near future, we shall make a graph and spot the shots, and send in a copy to Washington.

Captain Carolin just returned from a trip to Cleveland where he got a Martin Bomber, which he flew back to Langley Field. With a head wind the trip consumed about five and three quarter hours.

All but four planes belonging to Flight A have been ferried to Langley Field. The others shall follow as soon as they are tuned up a little.

HERE AND THERE WITH THE EDITORS

TORPEDO PLANE MAY SOLVE COSTLY NAVAL ARMAMENTS

Under the above caption the Philadelphia Public Ledger of Jan. 10th, gives front page publicity to an article by Frederick William Wile, who says in part: "The torpedo plane may solve the problem of costly naval armaments before international statesmen agree about them. Every navy in the world today is conducting secret and extensive experiments with aircraft capable of launching submarine automobile torpedoes".

"If such airplanes can be perfected, it is the consensus among naval experts that the great surface man-of-war is doomed".

"The 'torpedo plane' is transported on a ship and makes its ascent from the deck. The torpedo is slung alongside or under the car of the airplane and is released by a lever. Practical experiments have been carried out in Europe with an airplane that had a 'spread' of 52 feet and which weighed including torpedo and fuel 5720 pounds. The machine had a radius of 5 hours.

"Owing to the speed of attack the torpedo-launching airplane enjoys tremendous advantages. The time needed for descending to a launching position is so short even vessels actually on guard may be successfully attacked. The torpedo enters the water at a speed about equal to that of an airplane and greater than that which ordinarily belongs to it, thus creating entirely new launching conditions.

"Another advantage of the 'automobile torpedo' is, it follows a horizontal course through which it is constantly offensive. It thus is the only weapon which directly attacks the hull of a vessel."

HERE AND THERE WITH THE EDITORS (Cont'd) ✓

AIRMAN SAYS SOUNDS ASCEND 10,000 FEET

In the letter from Lieut. Hinton, one of the Naval balloonists stranded in the Canadian woods, to his wife and published yesterday, occurred this passage:

"While at an altitude of 6,500 feet heard a dog bark."

This statement caused some discussion among readers, with the result that the World asked the Rockaway Air Station to explain the point. This explanation was made by Lieut. Myron F. Eddy, Intelligence Officer and an experienced airman:

"Although in the still air one may not be able to hear sounds 1,000 feet above him, when in aircraft he can easily hear with amazing clearness sounds that come from as far as 10,000 feet below him. It was not strange therefore that the balloonists were able at 6,500 feet to hear the barking of a dog."

(N.Y. World 1/10/21)

D.C. SITE OFFERED AS FLYING STATION ✓

An area in Benning, D.C., and a section of College Park, Md., adjacent to the District have been suggested as flying field locations for the engineering branch of the Army Air Service, in a letter sent yesterday to Gen. C. T. Menoher, Chief of the Air Service, by Philip King, president of the Merchants and Manufacturers Association.

The Benning site is bounded on the east by Anacostia road, on the west by the proposed Anacostia Park, on the north by the District line and on the south by Benning road. The length of the field is one and three quarter miles and its width is one and one half miles.

This site could be extended into Maryland or Anacostia Park and most of the area is owned by the Government.

The College Park site is an area that extends from Ashland Avenue north along the railroad to Waugh Avenue, about two miles long and three quarters of a mile wide. There is an electric car line one block from the field, and the Baltimore boulevard is two blocks away.

Several other sites were recommended to General Menoher by the association.

(Washington Times 1/9/21)

MADE CHEVALIER OF ITALIAN CROWN ORDER ✓

Lieutenant H. R. Harris of McCook Field has been decorated Chevalier, Order of the Crown of Italy by the Italian Government.

Information to this effect was received by Lieutenant Harris yesterday. He served with the A.E.F. in Italy for a year during the world war.

(Dayton Herald, date not given)

PLANS TO FLY HERE FROM PERU

San Salvador, Jan. 9 - Juan Leguia, Chief of the Seaplane Service of the Peruvian Government is planning a flight from Peru to the United States the latter part of this month. Information as to his plans was received here in the form of a request from the Peruvian Government to the Salvadorean Government that he be permitted to land on Salvadorean soil in the course of his flight if it became necessary.

(N.Y. Times 1/10/21)

SAFETY COWL FOR AIRPLANE ✓

A new safety cowl has been designed to lessen or eliminate injury to the pilot's face in the event of crash. In practically every wreck that

HERE AND THERE WITH THE EDITORS (Cont'd)

occurs the pilot's head is thrown forward and injuries to the face result of a more or less serious nature.

The new device is fitted to the Curtiss training plane. The original line of cowling is cut away in a U shaped opening in front of the pilot's head and the space is fitted with a flexible elastic and leather material.

All the planes used at the Texas flying fields were equipped with this device. Flight surgeons, it is said, highly recommend its use.

The device was designed by Lieut. John M. Williams Jr., of Montclair, N.J. (Science and Invention Dec. 1920)

HELIUM PLANT ABOUT READY ✓

Fort Worth, Tex. Jan. 7 - Finishing touches are being put on the Federal Government's \$5,000,000 helium gas plant six miles north of Fort Worth, and operations on a large scale are expected to begin soon. The last of the machinery was shipped to Fort Worth before the first of the year.

Established in 1917 at a cost of \$800,000, the worth of the gas and its economy for use by the Navy and Army balloons have been proved to the satisfaction of military experts.

In addition to the plant near Fort Worth, the Government also has constructed a private pipe line from Petrolia, which brings natural gas from the Lone Star Company's wells right into the plant. After the argon qualities, from which helium is obtained, have been extracted, the gas is returned to the mains and burned by Fort Worth and other consumers in Northern Texas.

The gas is non-inflammable and non-combustible. Its value was discovered before the war, but the process of extracting it was then too costly to make the gas practical. Government agents have since perfected an economical method. (N.Y. World 1/8/21)

EGYPTIANS AIR LINE PROJECTED ✓

London, Jan. 7 - The establishment of a regular service between England and Egypt is being planned here. It is said the service probably will be inaugurated before the present year is over and may include Palestine.

(N.Y. Tribune 1/8/21)

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

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FOR RELEASE JANUARY 29, 1921.

THE FIRST SEMI-ANNUAL REPORT OF THE
CIVIL AFFAIRS DIVISION, T. & O. GROUP.

January 14, 1921.

Introduction:

"Tactical success in war" is the "raison d'etre" of the Air Service as of any other branch of the Army. It is for this purpose that the Air Service exists. Training and Operations Group has under its jurisdiction the instruments, including units, personnel and material, that will bring about this tactical success of the Air Service. It is a recognized fact that there are two functions for aircraft in war. One, service to the Army, co-operating with troops on the ground; the other, what might be termed independent or combatant, operating in the air, irrespective of land definitions or of the location of the Army units and in comparison with that portion of the Air Service that operates as an auxiliary to the Army many times larger in numbers, more highly complicated in organization and tactical control and more mobile than the other auxiliary that is purely and distinctly Army Air Service.

Under the Army Re-organization Act of June 14, 1920, only sufficient Air Service was provided to suit Army needs. With the exception of a very small nucleus of pursuit, bombardment and attack, no provision was made for the maintenance of the independent or air force side of military aviation. It became quite evident that from a financial standpoint, if from no other, the Chief of Air Service would have to adopt a policy of maintaining a small but highly efficient Army Air Service depending for the strength on mobilization in an emergency upon the large reserves of personnel and a well established aeronautical industry for its material out of which will be built the combatant force. This meant that commercial aviation had to be fostered in much the same way as the merchant marine.

With the beginning of the fiscal year on July 1, 1920, one finds little or no organized commercial industry in the United States. No legislation existed that would warrant the promotion of a large air transportation company, although in reality many small operators had sprung up and were struggling along throughout the country in a more or less independent manner, unrecognized by any Government body, uncontrolled either by State or Federal legislation, at best a temporary proposition, hanging on until that time when their efforts would be appreciated as a national asset in a legitimate industry.

In the course of its training and maneuvers the Air Service constantly came in touch with the private enterprise and it is only natural to find it acting in many specific localities as a big brother to some small operator. With no extra expense the War Department found itself in a position whereby it could assist in the building up of a commercial reserve, furnishing as it were for their benefit certain unused by-products of the daily routine of the Air Service activities. These by-products included mainly information on aeronautical subjects, landing fields recognized and used by the Army, and such other assistance of this nature as legally can be furnished the struggling operator.

Undoubtedly commercial aviation will, if left to itself, grow and become of its own impetus a healthy component of the nation's machine. But under the influence of the Army Air Service it will grow more quickly and at the same time be organized and built up in such a way that it can readily, in the event of an emergency, be trained to good use by the nation. Just as the

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Training and Operations Group must provide for the building up and organization of the reserve unit, so it must look out for this potential reserve, and on August 28th, 1920, a recommendation was made to the Executive embracing the new division and outlining the functions of the group as they were construed at that time. This was approved, with certain changes, by the Executive on September 8, 1920, and Training and Operations Group in a memorandum dated September 14, 1920 set forth suggested changes for Pamphlet 10 and outlined the functions of Civil Affairs and the internal organization thereof.

Further conferences with the Advisory Board have been held on this subject to define clearly the functions of commercial aviation as carried on in the Information Group and in Civil Affairs, and the Information Group sends out such data on commercial aviation as is a matter of fact or record, while Civil Affairs Division, as part of the Training and Operations Group, fosters commercial aviation in conjunction with the regular activities of the Group, sending out opinions or advice based upon actual operations and working out, where necessary, new problems. Civil Affairs Division has access, through the Chief of Training to all troops and planes of the Air Service and must at all times consider our plans with a view to recommending such changes as may produce results that will foster commercial aviation.

Upon removal of the office of the Chief of Air Service from temporary Building "B", 7th and B Streets, N.W., to its present location in the Munitions Building on September 25, 1920, the Civil Affairs Division began business. Capt. Hartney, until November 1st, was unable to devote his full time to the organization of the Division because of the fact that he was Acting Chief of Operations, but since the return of the Alaska flyers he has been able to devote his entire time to the Division.

Under the approved organization of this Division, there are four sections. Owing to the shortage of personnel and undeveloped condition of the whole division, the Chief of the Division has had to be content with one assistant only, who has had charge of the Photographic Section. Lieut. Goddard reported to the Division October 14, 1920, and is substituting for Lieut. Wheeler, the present section chief, who is about to take flying training. While no actual officer has been in charge of each section, the Chief has attempted to maintain the distinction and the organization so that as the division is built up all of its activities will be looked out for, responsibility placed, and each co-ordinated in due course.

LEGISLATIVE SECTION

All recommendations for legislation made by the Chief of Air Service must in due course go to the War Department. This section is concerned, therefore, only with such legislation as will enable the operators of aircraft in the Army to foster commercial aviation.

During the life of the division the only control the Air Service has been able to exert over the commercial operator is to insist on the obedience to Army rules for civilian planes upon landing on Government fields and by urging where possible, the use of the standard flying and airdrome rules of the Air Service now in force at all its activities. In several cases this has been done so that virtually the Chief of Air Service does exercise a certain control over the commercial operator. Until such time as legislation designates a body for this purpose the work of this section will be extremely small.

AIRWAYS SECTION

The function of this section is to construct and supervise airways, municipal landing fields, advise on forest patrol and all other civilian activities of the Air Service. During the period September 25th to December 31st one of the accomplishments of the division has been the preparation of a project for the development of airways throughout the whole of the United States by the Corps Area Commanders and stations under them, the work to be in the ordinary course of training and maneuvers. This project has been submitted to the Chief of the Group and has received his approval.

The construction of a model airway is under way, the work on this particular case being assigned to Bolling Field. The model airway is in the nature of an experiment which will permit of the necessary orders to all the Corps Area Commanders in due course. The Commanding Officer of Bolling Field is co-operating with the Chambers of Commerce and other municipal organizations en route. The radio development which is to occupy such an important part in the success of the route will of necessity be slow. This requires further training of the personnel interested and this includes pilots. Some of the equipment is not yet manufactured but progress has been made on the installation in the planes of the necessary antenna and with the location of a field at Wheeling and the erection of a hangar there, it will be possible to actually start radio operations, at first reporting weather conditions and communicating with Langley, Mitchel, Bolling and Dayton, later establishing communication with the planes themselves.

Some of the other projects of this section are worthy of note, for their influence on the development of commercial aviation will be far reaching and serve as a background to the subsequent development. These projects are as follows:

Development of Aeronautical Maps: In conjunction with the Information Group and the Navigation Experimental Officer at McCook Field, this division is recommending certain changes in the conventional signs now in use for marking maps. This is the first step taken by this division towards obtaining for flyers a suitable map that will be beneficial not only to the military pilot but to the commercial as well. With the establishment of the airways it will be possible to work up a very satisfactory flyers' map using oblique and vertical views to show the landing fields.

Aerial Photography in Connection With City Planning: This is a subject that has received some attention in France and England but very little as yet in this country. Several applications from cities have been received by the Chief of Air Service, the last being from Macon, Georgia, but it has not been possible as yet to lend any assistance for this important work.

Aerial Photography in Connection With Agriculture: This promises to be a very important phase of flying wherein the War Department can stimulate a demand for commercial planes. A communication was addressed to the President of the Massachusetts Agricultural College at Amherst which received his hearty approval and which is being checked over by him with a view to the Air Service conducting certain experiments in the course of its maneuvers for the stimulating of this important phase of aviation which may increase the production of agricultural products in the country and tend towards better, scientific farming.

Development of Air Lanes for Dirigibles: The heavier-than-air portion of the Air Service has developed certain routes across the continent, but owing to the very nature of the airships themselves and the fact that they must select routes both from a meteorological and topographical standpoint, it is not strange to find a local engineer applying to this division for the best possible route for dirigibles across the continent. This data is being worked up in co-operation with the Weather Bureau and the Topographical Branch of the Geological Survey of the Interior Department.

Development of Commercial Planes: It is the opinion of many authorities that aviation would have made faster progress in this country and indeed in all countries had it not been that the flyer was burdened with the surplus war material and forced to use uneconomical motors and planes for commercial purposes, for those planes having a high speed and performance from a military standpoint were wholly inefficient from a dividend-paying standpoint. The same people suggest that Germany, stripped of all her military surplus airplanes, will surge ahead over other nations, less favored, and that the taking over of planes under the terms of the armistice will defeat itself. Whether or not this contention is correct, the fact remains that there are in existence post-war designed planes which, from a commercial operator's standpoint, are much more satisfactory, more reliable, more economical and capable of landing on and getting off smaller landing fields. There being no real industry or market in this country for these planes, it is difficult for the manufacturer to divert the necessary work to the construction of a plane that would fill these requirements. This division proposes to get in touch with manufacturers, ascertain what, if any, proposals they have in this connection, co-ordinate these and issue an advisory pamphlet on the matter.

Aeronautical Insurance: Before commercial aviation can be considered a sound, legitimate business proposition, it will be necessary to have aircraft insurance. This division is working with the National Aircraft Underwriters Association towards this end.

Forest Fire Patrol: A great deal of work has been done in forest fire patrol in the Ninth Corps Area, but little or none elsewhere. Demands from other localities in the United States are forthcoming and in some cases have actually arrived. It will be necessary, therefore, for the Air Service to balance off these requisitions upon its services and establish a priority list consistent with location of troops, equipment and training program.

Foreign Aeronautical Trade Development: Work of this nature would tend to stabilize the airplane manufacturing industry. The opinion of this Group is obtained by Supply Group on declaring property surplus and as this property should be used to good advantage in foreign countries, such as those of South America, where it is essential that American aircraft industry penetrate, it is felt that this division can further commercial aviation by looking out where possible for extension of the trade in South American and other foreign countries.

Aerial Contests for the Stimulation of Aeronautical Development: All nations that are developing their air forces are considering the offering of prizes for the stimulation of aviation. England last year, through the Air Ministry, awarded prizes to manufacturers for improved design. This country has done little or nothing in this connection, other than the awarding of prizes for speed contests, such as the Pulitzer Trophy Race held on November 25th last. In a communication to the Los Angeles Chamber of Commerce a very interesting and at the same time adequate system for awarding prizes is indicated and it is felt that by the institution of this scheme in various localities throughout the country a very great stimulus to aeronautical development will accrue to the good of the War Department.

Timber Cruising: In connection with airplane work over forest areas, it has been found that a company in Canada employs an American with airplanes for timber cruising and that they have had very great success and that it is a paying aeronautical commercial enterprise. Steps have been taken by this division to introduce this where possible in this country.

Grand Canyon Development: A request has been received by the Secretary of War from the Secretary of the Interior asking for airplane co-operation in the Grand Canyon, for geological work and for an estimate as to whether or not commercial planes might operate in the Canyon successfully for carrying passengers and viewing the world-famed wonders of the Canyon from the air in this manner. The Superintendent of the Park and the Secretary of the Interior have just disapproved a plan for the construction of cable lines throughout the Canyon, designed to obtain this end. It is felt that the airplane could do this better and with greater safety and without detracting from the grandeur of this natural, national monument. A project is being prepared whereby an airplane will be sent from the Eighth or Ninth Corps Area to the Canyon to spend two weeks looking over the possibilities, finding landing fields and generally making an estimate so that subsequent action can be taken.

Co-operation with Boy Scout Organization: The Chief of the Group feels that a great field of activity that will stimulate obtaining reserve lies with the Boy Scout organizations of the country. These organizations have in the past rendered very valuable service by guarding airplanes over night where pilots have been forced to land away from airdromes, and by rendering other useful assistance to stranded aviators. The National Council of Boy Scouts in New York realizes that their forces can render a great aid to the nation and the Chief of Air Service feels that work to the mutual benefit of both can be accomplished with little, if any, cost to the Government. Therefore a project is now being prepared by this Division whereby scout organizations of the country will co-operate with the Air Service and the first great work that they will be asked to do is the marking of the landing fields on the model airway.

PHOTOGRAPHIC SECTION

The Chief of this Section, Lieut. Wheeler, has, in addition to his responsibility as Chief of the Photographic Section, been required to answer for all photographic activities in the Group. Following are activities which have been performed by this section which are particularly valuable in the aid of commercial aviation.

Manual of Aerial Photography. The official Air Service manual of aerial photography was prepared by the Photographic Section and published in tentative form under date of July 18, 1920, as Air Service Information Circular, Volume 1, No. 96.

Work of Photo Sections: The nine authorized photo sections are designated and located as follows: Photo Section #1, El Paso, Texas; Photo Section #2, Kelly Field; Photo Section #4, Post Field; Photo Section #6, Camp Stotsenburg, Philippine Islands; Photo Section #7, Langley Field; Photo Section #11, Luke Field; Photo Section #12, France Field; Photo Section #14, Mitchel Field; Photo Section #15, Crissy Field. In addition to the usual work done by the photo sections, including all photographic work necessary at the fields where they are located and the making of mosaics, the sections in Texas have co-operated with the Corps of Engineers in the making of photographs for use in preparation of military maps. Other sections, namely Photo Sections Nos. 7, 14 and 15, have devoted their operations very largely to the making of aerial photographs of coast defenses. The making of these pictures of all the coast defenses in the United States was directed by the Adjutant General of the Army at the request of the Chief of Engineers and the Chief of Coast Artillery. At present this work is almost half completed.

The 4th Photo Section did the necessary aerial photographic work in connection with the Air Service - School of Line Maneuvers at Fort Leavenworth, Kansas, consisting principally of the making of a photographic mosaic of the reservation, and individual aerial photographs for various uses in connection with maneuvers. Later, this section made a mosaic of the Artillery Firing Center at Camp Knox, Kentucky.

Work in and near Washington: Aerial photographic work in and near Washington has been performed by photographic personnel from Langley Field, and that on duty in the office of the Chief of Air Service, for the use of the Secretary of War, Surgeon General, Chief of Motor Transport Service, Chief of Engineers, Officer in charge of Public Buildings and Grounds, Fine Arts Commission, and the Chief of Balloon and Airship Division of this Group.

Photographic Work in New York State: Two photographic officers were sent from the photographic school to Mitchel Field, from which they made excellent aerial photographs of the New York City river and harbor front, which were used in connection with the plans for the improvement of New York harbor. These officers then proceeded to Rochester, N.Y. and co-operated with the Eastman Kodak Company in testing a new type of aerial camera. This co-operative work has been productive of much valuable information to the Air Service.

Photographic Work by the Alaskan Flight: The Photographic Section gave advice as to the kind of photographic equipment needed by the Alaskan Flight, and originated the orders for the procurement of the equipment and material, and at the same time arranged for the instruction of two of the officers assigned to the flight to receive instruction in the use of one of the newer models of the aerial cameras carried by the expedition. While conditions did not permit of the making of a large number of aerial photographs, some very excellent and interesting photographs were, however, secured by this expedition.

International Rifle Matches: A photographic officer was sent from the Air Service Engineering Division to Camp Perry, Ohio to demonstrate the usefulness of aerial photography at the International Rifle Matches held at Camp Perry. Some excellent photographic work was done.

Co-operation with the Mapping Departments: The Photographic Section has co-operated with the Corps of Engineers in the preparation of detailed plans for the making of aerial photographs to be used in preparing a map of the Tennessee River Basin in Tennessee. The Chief of the Photographic Section represented the Air Service at a conference on this subject held in the Office of the District Engineer, U.S.A., at Chattanooga, Tennessee.

The Chief of the Photographic Section was appointed a member of a sub-committee of the standing committee on photographic surveying of the Board of Surveys and Maps of the Federal Government, and as such assisted in the preparation of a report on the application of aerial photography to map making. This report is a comprehensive and valuable survey of the subject and as many requests have been received for copies of it, steps have been taken to have it published as an Air Service Information Circular.

The Photographic Section has also co-operated with the Geographic and Topographic Divisions of the U. S. Geological Survey. The co-operation with the Geographic Division has consisted in furnishing airplane facilities and aerial photographs to an expert geographer of the Survey, for use in the intimate study he is making of the application of aerial photography to geography. The co-operation with the Topographic Division of the Geological Survey has embraced the making of aerial photographs for the use in the revision and preparation of topographical maps. Requests from the Geological Survey on hand at present involve the photographing of more than 45,000 square miles of territory, the separate areas being located in most of the states of the Union. This work is being engaged upon to the very limited extent that trained Air Service photographic personnel permits.

Similarly the Air Service is co-operating with the U. S. Coast and Geodetic Survey by making aerial photography for their use in the revision and preparation of maps or charts issued by that Service. Compliance with the requests on hand from the Coast and Geodetic Survey will necessitate the photographing of upwards of 2500 miles.

Commercial Application of Aerial Photography: All efforts possible are being made to assist commercial concerns engaged in the making of aerial photographs and in the manufacture of aerial photographic apparatus. To this end, a comprehensive statement as to the policy governing photographic work in the Air Service is being prepared for submission to the Chief of Air Service. If this policy is adopted, it will prevent Air Service personnel from unintentionally encroaching upon the field which should be left to the commercial aerial photographer. Aerial photography in connection with agriculture, the lumber industry and other pursuits, is being investigated and every opportunity presented is seized to encourage its use.

Miscellaneous: Efforts are being made to keep in close touch with the developments of aerial photographic equipment and methods abroad. Sample lenses and cameras manufactured in other countries are being purchased for use in connection with developmental work in the Air Service.

Steps have been taken to secure authority for the organization of additional photo sections. If this is secured, additional units will be placed in the field, organized from personnel at the photographic school as it becomes sufficiently trained in photography.

The need of the Air Service for a control photographic laboratory and negative repository to be located as near Washington, D.C. as possible has been called to attention and detailed plans are now in course of preparation.

Steps have also been taken toward the preparation of an official Air Service Manual on the interpretation of aerial photographs. This will involve the compilation of valuable information which at present is scattered, not only throughout the Air Service, but even among several branches of the Army.

Practical instructions or working directions for the use of the new Air Service camera known as type K-1, were prepared and issued in stenciled circular form to all Air Service photographic activities.

H. E. HARTNEY,
Captain, Air Service,
Chief, Civil Affairs Division.

SUGGESTED COMPETITION FOR LOS ANGELES CHAMBER OF COMMERCE TROPHY

Notice to California Aviators, Airmen and Airplane Corporations.

Of immense significance as an indication of the trend of aeronautic activities in the United States are the following suggestions submitted to the

Los Angeles Chamber of Commerce in response to request for information from the office of the Chief of Air Service through its Civil Affairs Division as to the best method of encouraging commercial aviation through the instituting of aerial competitions and the offering of prizes for performance records.

"General Nature of Competition:

1. The Los Angeles Chamber of Commerce, for the purpose of encouraging practical aeronautics in the State of California, offers a trophy (describe trophy) to that individual, partnership or corporation who, during the year 1920, for a period of not less than one month, engaged in commercial aviation in a business way and as a result of their efforts directly or indirectly contributed to the advance of commerce and the economic wealth of the state.

2. Any type of airplane, seaplane or dirigible, engine, fuel or lubricant, may have been used.

3. The activity for which the prize is claimed must have extended over a period of one calendar month.

4. Points will be given for each of the following phases of the activity and the prize will be awarded to that individual, partnership or corporation obtaining the largest number of points of a total of 100.

- (a) Safety to life 40
- (b) Financial profit to community 20
- (c) Financial profit to firm or individual 10
- (d) Efficiency in airplane performance 10
- (e) Permanence of occupation 20

Explanation:

1. Safety to life: 40 points will be given to that firm who during the month selected did not damage an airplane other than the ordinary wear and tear. 50% will be deducted for each crash requiring repair beyond one working day.

(b) Financial profit to community. 20 points will be allowed to that competitor who shows that he has performed a certain economic function better than could otherwise have been performed by any available existing agency. All applicants will be rated priority and allotted proportionately their share of the total of 20 points under this heading.

(c) Financial profit to firm or individual. A financial statement showing cost and net profit for any one month must be given under this heading and points will be allotted accordingly.

(d) Efficiency in airplane performance. An estimate based on useful load, on the ratio of pounds carried per gallon of gasoline used, using the formulé $\frac{W}{G}$, where W is the useful load, irrespective of time carried or weight of pilot, instruments and standard essential load.

(e) Permanence of occupation. 20 points will be given under this heading to the firms still operating in the same manner. 5% of this number of points will be deducted for each month that the firm does not carry on the occupation named and nothing will be allotted to a firm that has ceased operations entirely with no intention of carrying on the business.

Application Form:

To be made up in accordance with above."

A. S. M. S. MOVES TO CHANUTE FIELD

Orders have been received at Kelly Field for the removal of the Air Service Mechanics School to Chanute Field, Rantoul, Illinois. Lieutenant L.W. Motley Adjutant, and two other officers and ten enlisted men will start immediately for Rantoul, Illinois to make preparations for the arrival of the personnel and equipment of the School, according to orders drafted at Headquarters Eighth Corps Area.

The first train of Air Students will leave for Rantoul, on January 20, 1921, besides the party which is to leave Kelly Field on January 8, 1921. This is the first move of the School personnel to Rantoul, Ill., the new station. Civilians employed in the Mechanics' School will leave on a section to start about January 25, 1921. Lieutenant H. A. Shevlin, Air Service, has been appointed adjutant of the school to succeed Lieutenant L.W. Motley during his absence, who leaves with the advance group.

BOMBARDMENT DETACHMENT AT KELLY FIELD DISCONTINUED

The Cadet Detachment with its dual flying and advanced training stage has been discontinued and the Cadets have been apportioned and assigned to the four Squadrons of the Group. All training will, in the future, be carried out within the Squadron.

This change gives each Squadron an average of about eighteen pilots for duty and brings them up to a good flying strength. Each Cadet has been given the work of assisting an officer in charge of some department, such as, Operations, Engineering, Adjutant, Flight Commander, Supply, etc. We look for very smooth running organizations in the near future.

COAST ARTILLERY PRACTICE OF FLIGHT "A" 91st AERO SQUADRON

On September 27th, after a very successful season on forest patrol, Flight "A", 91st Aero Squadron reported at Crissy Field, Presidio of San Francisco, for duty in connection with the Coast Artillery practice of the Coast Defense of San Francisco. The personnel of this flight consisted of Captain Lowell H. Smith, commanding officer, and Lieutenants E.C. Kiel, E.C. Batten, W.C. Holdsbrough and W.D. Coney, all of whom are widely known throughout the West as expert pilots.

Regardless of the fact that none of these pilots was experienced in spotting artillery fire there was never an instance of the Air Service officers failing in their part of the work during the practice.

The observing was done in DH 4B type of plane which is equipped with two complete radio sending sets. Two keys are installed in each cockpit making it possible for either the pilot or observer to send messages.

A definite set of panels was decided upon consisting of the following messages: "operator listening in", "message received", "signals confused, repeat", "wait a few minutes", "battery ready to fire single shots", "battery ready to fire salvos" and "no further need of you". The most popular of these from the pilot's point of view being the "no further need of you" panel and the one most frequently displayed, "wait a few minutes".

The field was in constant communication with the battery by means of a wireless telephone. Five minutes after the message was received requesting a plane, the observer could be heard adjusting his radio set and calling to the battery for a panel. When the panel "battery ready to fire" was displayed the ship immediately made its way out to the target, a distance of seventeen to nineteen thousand yards out to sea.

No difficulty was encountered in sighting the splashes caused by either the 12-inch guns or the mortars at an altitude of three thousand feet, which was found to be the best height for observation. The basic measurement for all observation was the tow-line.

During the last month of the practice the detachment was left with only three pilots. Captain Lowell H. Smith was appointed Commanding Officer of the 91st Aero Squadron and left for Mather Field, California, to assume his new duties, and Lieutenant W. D. Coney left for Rockwell Field to assume command of the detachment there. Due to the fact that one plane must be ready as a relief plane at all times, it became necessary for the pilot to act as observer also. This was accomplished with very satisfactory results.

Coast Artillery Practice, etc.

The cooperation of the Air Service detachment with the Coast Artillery was so gratifying that officials of the Coast Defenses declared Artillery obsolete without the aid of balloons for tracking and planes for observing.

The results obtained led to an experiment in night work. The Air Service was called upon to turn darkness into daylight so that the practice could be carried on at night. This was accomplished in the following way:

The bomb racks of three planes were filled with parachute flares, giving the plane the appearance of a mother duck with ten young ducklings under her

wings. Two powerful search-lights were placed at one end of the field in order to illuminate the high bluff over which the planes must pass in taking off. Fliers from eastern fields have marvelled over the fact that these pilots have been flying in and out of such a small field without serious accidents. Regardless of this danger, Lieutenants E. C. Kiel, W. C. Goldsborough and H. A. Halverson willingly undertook the task of flying out of this field at night.

The first night of this practice there was to be no firing and the problem consisted of dropping the flares near the target in order to determine whether or not sufficient light would be thrown to enable the balloons to track.

The three planes took off at five minute intervals. The first, piloted by Lieutenant E. C. Kiel, climbed to an altitude of four thousand feet and dropped one flare in order to obtain the wind direction. The other flares were then dropped at intervals of approximately three minutes so that the target would be constantly illuminated. As soon as the supply of flares carried by this plane was exhausted the observer fired a Very pistol as a signal for Lieutenant Goldsborough, piloting plane number two, to come over the target and drop his supply of flares. The third plane piloted by Lieutenant H. A. Halverson, experienced great difficulty in taking off and gave the pilot, observer and spectators a thrill that will long be remembered, as it appeared to all that he would crash into the bluff. However, his take-off was successful and his landing also, but examination of the plane disclosed a jammed rudder which caused his trouble. This was caused by a small board used in connection with the radio set having fallen and lodged between the rudder and the Pyrene.

The flares dropped by the other two planes illuminated the target for a period of twenty-five minutes sufficient for tracking to be done.

The same program was to be pursued the following night in addition to which the Coast Artillery was to fire. This plan could not be accomplished, however, as the majority of the flares were defective and failed to give proper light. Further experiments are expected to be undertaken later.

In addition to the regular Coast Artillery practice the detachment of Air Service carried out a training program of machine gun work and bomb dropping.

As an experiment a magnavox was installed in a DH 4B piloted by Lieutenant E. C. Batten with Lieutenant E. C. Kiel as observer. Tests were made to determine the possibilities of its use from a plane. It was found that at an altitude of four thousand feet directly over the field and with the motor shut off a message could be clearly heard. At an altitude of six thousand feet and three miles from the field the voice could be heard but not clearly understood. At one thousand feet directly over the field with the motor on the voice could be heard but not plainly understood.

Lieutenant E. C. Batten is not mentioned in connection with the night flying as he was in Los Angeles while this work was being done. He participated in the Southern California Air Tournament and was successful in maintaining the excellent reputation of the 91st Aero Squadron as he won the first prize in the Free-for-all Race and the distinction of having his name the first engraved on the Albert H. Hayes trophy. The Le Pere which he piloted is the "pet" of Major H. H. Arnold, Air Service Officer, 9th Corps Area.

FLIGHTS OF 1st PURSUIT GROUP AT KELLY FIELD

Cadet A. J. Tillery made a reconnaissance flight to Del Rio and Laredo, Texas, leaving here Saturday, January 8, 1921, returning January 9, 1921.

Cadets McNowa and Carrier as pilots, made cross country flights in two DH 4B's to Sanderson and Marfa, Texas, on December 26, 1920. Cadet J. C. Annis with Private Ermschler as passenger, made a flight to Del Rio, Texas, in a DH 4B on December 26, 1920.

Cadets W. W. Moore and C. A. Harkey made a cross country flight for training purposes, leaving this field on January 15, 1921, and returning January 16, 1921. Lieutenant W. R. Maynard, as passenger with Cadet Harkey, went to Marfa, Texas, for the purpose of procuring Radio Equipment.

Cadets L. V. McDaniels, pilot, J. E. Baker, observer; Joe Mountain, pilot; A. J. Tillery, pilot, and Earl E. Haight, observer, made a long distance reconnaissance flight to McAllen, Marfa, Del Rio and Laredo, Texas, for training purposes.

Lieutenant M. S. Fairchild, pilot, with Staff Sergeant R.O. Rouse, passenger, and Lieutenant E. Abbey, pilot, made a flight to El Paso, Texas, on Jan. 15, 1921, returning on Jan. 16, 1921.

Lieutenant D. H. Dunton made a reconnaissance flight to Ellington Field, Houston, Texas, for the purpose of locating airplane material. Mr. Cramer went as passenger. They left on January 12, 1921 and returned the same day.

Two DH 4B's left Kelly Field, Texas, on December 26, 1920 for Eagle Pass, Texas, with Lieutenants Drumm and Dunton as pilots and Lieutenants Hanlon and Horton as passengers.

Lieutenant Harry L. Speck has been ordered to start by airplane for Del Rio, Texas with Lieutenant D. A. Hanes, Quartermaster Corps, as passenger, instructed to return to Kelly Field upon completion of their special duty.

PURSUIT AIRPLANES IN PRODUCTION

The first airplanes to be delivered under the production orders for pursuit types have been received at McCook Field and assembled for test. The Thomas-Morse MB-3, powered with 300 h.p. Wright engine of which fifty have been ordered, is being flown to insure that the construction and operation is entirely satisfactory before proceeding with the delivery of the remaining forty-nine airplanes.

The first production model of the Orenco "D" of which fifty are being built by the Curtiss Company, has also been received and is being assembled to undergo acceptance tests.

FIRST TEST IN NEW AIR SERVICE ENGINE

The initial run of the new Engineering Division 700 h.p. Model "W" engine was made on January 10th, with very satisfactory results. This engine was completely designed by the Staff of the Engineering Division at McCook Field. This engine is of the W type, having eighteen cylinders arranged in three banks of six, and develops more horsepower than any engine which has been built in the United States. The actual figures on the test have not been divulged, but are said to exceed the designers expectations.

LARGE TENT HANGAR ✓

The largest tent hangar in the world has recently been erected at McCook Field for test. This hangar is 130 ft. by 30 ft. with a clear opening across the front. It is large enough to accommodate three Martin Bombers and should prove very valuable in service use if it withstands the weathering test satisfactorily.

NOW THAT SPURS ARE A THING OF THE PAST

The following comes with the approval of Commanding Officer, Headquarters Detachment First Observation Group, Manila, P.I.

Sergeant: "What's all the noise about in the office?"

Squadron Clerk: "Oh, that's only the C.O. trying to keep his feet on the desk. You see, the Air Service spurs have disappeared as per recent orders."

DEATH OF TWO FLIERS AT CARLSTROM FIELD

"Lieut. Raymond Brandi of Grand Rapids, Mich., and Cadet Harry M. Poole of Richland Center, Wis., were instantly killed Thursday morning, Jan. 6," says Carlstrom Field News of Jan. 10, "when their instruction plane fell into a flat spin from an altitude of two hundred feet and crashed. The wreckage was immediately enveloped in a mass of flames making it impossible to rescue the bodies until over an hour had elapsed.

Lieut. Brandi came to Carlstrom Field as a student officer last summer and after passing both the primary and pursuit course was assigned as an instructor of student officers and cadets. As a pilot and officer Lieut. Brandi was held in high regard by his fellow officers and the enlisted personnel of the field.

Cadet Poole has had considerable experience in the flying game, being with the Royal Flying Corps during the war and having a record of six hundred hours in the air, he has several hundred hours to his credit as an observer, much of it being service over the lines. Soon after the Armistice he transferred to the American Air Service and previous to being appointed to cadet status was stationed with the Fifth Aero Squadron, Mitchel Field, Long Island.

The loss of these two unfortunate young men is a sad blow, and it is with deep feeling that we extend our sincere sympathies to the bereaved families."

CADET TRAINING AT KELLY FIELD

Cadets have been successfully trained in Radio, and after having completed this course, sixty-one of them are being trained in bombing, and from this it is expected to have a very well trained personnel in the Reserve Pilots after they complete their Military Aviation Training at this Field.

The following is a schedule for cadet training for the next two weeks:

Time	Subject	Instructor
Jan. 10, 1 P.M. to 3 P.M.	Bombing	Lt. Kunkel
Jan. 11, 1 P.M. to 3 P.M.	Bombing	Lt. Kunkel
Jan. 12, 1 P.M. to 3 P.M.	Gunnery	Lt. Carlson
Jan. 13, 1 P.M. to 3 P.M.	Reconnaissance	Lt. Speck
Jan. 14, 1 P.M. to 3 P.M.	Reconnaissance	Lt. Speck
Jan. 17, 1 P.M. to 3 P.M.	Infantry Contact	Lt. Speck
Jan. 18, 1 P.M. to 3 P.M.	Photography	Lt. Abbey
Jan. 19, 1 P.M. to 3 P.M.	Bombing	Lt. Kunkel
Jan. 20, 1 P.M. to 3 P.M.	Gunnery	Lt. Carlson
Jan. 21, 1 P.M. to 3 P.M.	Gunnery	Lt. Carlson

1st PURSUIT GROUP PREPARING FOR BATTALION REVIEW

The First Pursuit Group has been preparing for the Battalion Review to be held next Saturday. In spite of the inclement weather during the early part of the week reviews have been held and the provisions of the new I.D.R. carried out to the letter. During the early part of the week, practice fog flying and cloud flying were engaged in by all available personnel. Props have been tested by flying about in the vicinity of the Airdrome in the rain and the performance noted. Tactical instruction formations have been held under the supervision of the squadron commanders and Group echelon formation under the command of the Group Commander have flown about the vicinity of the airdrome. Due to the acute shortage of enlisted personnel in the hangars it has been a hard struggle to keep all planes in commission for the available personnel. Reconnaissance missions have been successfully executed both by the officers personnel and the flying cadets personnel. A course of advanced pursuit training for the officers assigned to the First Pursuit Group has been installed and effective results are anticipated.

THE USES OF AEROPLANES

Here are a few of the uses to which aeroplanes have been put during the past year, says the Aerial Age Weekly:

Commuting, taxi service, aerial express, flights for guests at hotels and summer resorts, campaigning, selecting land sites, oil field survey, carrying pay-rolls, serving summonses, delivering fresh fish, civic planning, food distribution, film delivery, transportation of Government officials, laying out logging routes, mail carrying, forest fire patrol, aerial photography, making

motion picture films, ranching, missionary work, commercial travelling, delivering clearance papers, fire surveys, carrying prisoners, visiting remote points, railroad surveys, passport delivery, surveying for Chamber of Commerce reports of real estate and city property. Carrying samples of minerals and timber, aerial advertising, astronomical observations, emergency medical service, sheep and cattle herding, scouting for market fish, soliciting towing business, surveys of docking, delivery of perishable products, machine-part delivery. Polar exploration, baseball transportation, ambulance work, wheatfield survey, air exploration, boundary patrol, real estate survey, carrying precious ore, quick delivery of merchandise, fur-carrying, hospital transfer work, delivering newspapers, railway terminal surveys, Southern plantation travel, aerial ferrying, life guard-work, carrying newspaper reporters, forestry survey, delivering mail at sea, delivering delayed documents, bombing ice jams, locating schools of fish, detecting cattle rustlers, etc., etc., etc.

CHIEF OF THE ITALIAN ARMY AIR SERVICE EXTENDS
THANKS TO THE CHIEF OF U. S. ARMY AIR SERVICE

Lieutenant Colonel A. Guidoni, Air Attache' of the Italian Embassy, has forwarded to the office of the Chief of Air Service the following letter from General De Siebert, Chief of the Italian Army Air Service, expressing appreciation for the courtesies extended the Italian pilots who participated in the Gordon Bennett Balloon Race held in Birmingham, Alabama, Oct. 23, 1920:

General Mencher,
Chief of the Army Air Service,
Washington, D.C.

My dear General Mencher:

The Chief of the Italian Army Air Service has the honor to present to you and to the divisions of your Service, especially the Balloon Division, thanks for the fraternal aid given to our Pilots who participated in the Gordon Bennett Balloon Race.

Such kindness is the indication of cordial understanding between Americans and Italians; and of the sympathy existing between the U. S. Air Service and the Italian Air Service.

Accept, my dear General, my personal greetings and the salutation of the Italian Air Service to the U. S. Army Air Service.

THE COMMANDING GENERAL OF AERONAUTICS.

A. De Siebert.

PRACTICE BOMBING ON SILHOUETTE OF THE ✓
"MASSACHUSETTS" AT ABERDEEN

A silhouette of the battleship Massachusetts has been laid out on the bombing field at Aberdeen Proving Ground, and bombing is being carried on from various altitudes. All bombs are being recorded and a complete report will be rendered on the program with the view of bombing the battleship at some future date.

HEAVY BOMBARDMENT SQUADRON

The 258th Aero Squadron at Aberdeen Proving Ground is being organized into a Heavy Bombardment Squadron. It is the intention to equip the squadron with the new type Martins and Handley Pages. Flight A is now at Langley Field and is taking over the new equipment. Flight B is at Aberdeen and is carrying on experimental work with bombs, sights and chemical warfare experiments.

GENERAL PIERCE FLIES TO ABERDEEN

General Pierce, assistant to the Chief of Ordnance, found himself in Washington the other day when he was due to deliver a lecture to the student officers of the Ordnance School of Application at Aberdeen at two o'clock. Finding that it was impossible to reach his destination in time, he called on the Chief of the Air Service. A plane and pilot were placed at his disposal and allowed him to make the round trip of one hundred and forty miles in one hour, thus saving three hours over the time required on the train.

CHEMICAL WARFARE IN THE AIR

A DH-4B, equipped by the Chemical Warfare Service with gas tanks was flown on a test flight a few days ago, the object of this test being to determine the feasibility of using gas against an enemy in the air and against troops on the ground. This plane was equipped with two gases which released formed a black smoke in the flight path. It is the intention of this command to adopt this method for camera obscura work, the assumption being that a plane cannot readily be seen against a blue sky, whereas the smoke can be seen at all times.

379 FLIGHTS AT MARCH FIELD

Fifty planes made 379 flights from March Field during the week of Jan. 8. Two hundred and seventy-four hours were consumed in flight. Approximately 15,837 miles were covered. Preliminary instruction of student pilots required 154 hours 35 minutes; advance instruction, 49 hrs. 20 min.; test flights, 17 hrs. 35 min., and miscellaneous flights, 52 hrs. 30 min.

DEATH AT MARCH FIELD OF LIEUT. JOHN V. ANDERSON

Brief military services preceded shipment of the body of Lieut. John V. Anderson from Riverside Thursday evening to his home in Texas for burial. Commissioned officers and enlisted men alike paid tribute to their deceased brother officer and soldier. Lieut. Anderson was killed in an airplane accident at this field shortly before noon Tuesday. It was one of the most unfortunate fatalities in the history of the school.

Lieut. Anderson was about to make his first "solo-hop". Cadet John C. Blair, already in the solo stage was on the ground and to the rear of Anderson's plane. In taking off Blair crashed into Anderson's plane and was unable to zoom over it. Both planes were demolished, though Blair escaped uninjured.

428 FLIGHTS AT MARCH FIELD DURING WEEK

Fifty-two planes at this field made a total of 428 flights during the past week. Approximately 15,930 miles were flown in a total of 242 hrs. 10 min. Preliminary instruction required 158 hours. Advance instruction 37 hrs. 15 min.; test flights, 7 hours, 20 minutes; and miscellaneous flights 39 hours 35 minutes.

TWO PILOTS WILL ATTEMPT COAST TO COAST FLIGHT

One of the most sensational flights in the history of American aviation will be attempted by Lieut. W. B. Coney, 91st Aero Squadron, stationed at Rockwell Field, who has been authorized to fly from the Pacific to the Atlantic Oceans in an effort to establish a new trans-continental airplane speed record, says the March Field "Fly-Leaf" of January 15.

Lieut. Coney plans to make only one stop in his 2000-mile dash across the continent. This will be at Fort Worth, Texas.

Leaving Rockwell Field at sundown, February 21, Lieut. Coney plans to fly all night, landing at Fort Worth shortly after daybreak on Washington's birthday. After having breakfast and filling the gas tanks he will leave Fort Worth for a non-stop flight to Jacksonville.

Lieut. Coney said yesterday that he expects to be in the air between San Diego and Fort Worth 11½ hours and that he should reach Jacksonville from the Texas city in 9½ hours after the take-off.

The night flight of Lieut. Coney from San Diego to the Texas Panhandle will be the first air trip of its kind ever attempted by an American airman.

The daring army flier will use a rehabilitated DeHaviland airplane, which is being made ready at Mather Field, Sacramento. The front seat of the airplane is being removed and in its place will be installed spare gasoline and lubricating oil tanks. Tanks will be provided for carrying 260 gallons of high-grade gasoline, which Coney estimates will be sufficient to carry him safely into Fort Worth, no matter what wind conditions he may encounter.

Leaving Jacksonville, Florida, the morning of February 22, Lieut. Alexander Pearson, Jr., will attempt to reach the Pacific Coast in 24 hours. His flight plans call for three "hops" with landings at Ellington Field, and El Paso, Texas. The total distance from coast to coast to be covered by both pilots is approximately 2,080 miles.

MATHER FIELD TO BE ENLARGED

Sacramento dispatches state that Mather Field is soon to be the largest Army Air Service Garrison in the Ninth Corps Area with five service squadrons and approximately 1,000 men. It is understood that the northern field is to be the central base for all Air Service forest fire patrol operations during the coming summer.

RECENT APPLICATION OF RADIO TO MILITARY AERONAUTICS

The use of radio communication, both telegraph and telephone, on the military airplane is perhaps the latest application of radio science, increasing tenfold the usefulness of the airplane and already influencing the design of military aircraft. Airplanes have been called the eyes of the army but eyes without means of instantly communicating images and impressions registered upon the retina would find but a limited sphere of application. It is in the performance of this function that radio finds such an important place in military aeronautics. The dots and dashes of the Morse code transmitted from the trailing aerial of the airplane carry to the ears of the artillery battery commander the correction for each shot fired, enabling him to group his hits on an invisible target with a degree of accuracy as great as is possible when the target can be seen, or bring to a waiting general news of enemy troop movement observed from the air.

Squadrons of Attack Pursuit Planes can be maneuvered in flight by means of the wireless telephone from the airplane of the squadron commander or from the ground easily as a company of infantry is handled. By the same means, a machine engaged in aerial combat and outnumbered may call for assistance.

Bombing planes lost in the fog or darkness are directed unerringly to the home airdrome by the radio direction finder and airplanes without pilots, controlled entirely by radio, are already a reality.

The Air Service of the Army, realizing the importance of this newest phase of radio, has established a school for the training of personnel to install, operate and maintain the radio equipment of airplanes at all the flying fields throughout the country. Radio engineers and operators, as well as experienced amateurs, may qualify for attendance at this school upon application to any army recruiting officer or to the office of the Chief of Air Service, Washington, D.C.

FOREIGN NOTES ON AVIATION

France.

GIANT STEEL AEROPLANE

According to a recent report from Reuter's Paris, a giant aeroplane is being built by the Breguet Company, which, when completed, will be a veritable aerial ship. It is constructed with an engine-room in the nose of the machine, the total motive power being 1,000 h.p., and a comfortable saloon for passengers has been arranged in the fuselage. The wings are of a new design and the machine is being built entirely of steel. It has recently been inspected by M. Flandin, Under-Secretary of State for Air.

England.

A TROLLEY AIRSHIP

The English periodical "Electricity", for Dec., 1920, is authority for the following: "The power equipment of the modern lighter-than-air vessel is subject to weight limitations and the relationship of horse-power to weight of internal combustion engines carried on the vessel to develop that power, making due allowance for necessary fuel reserves. If the project for connecting Southsea with the Isle of Wight by captive travelling airship materializes, we may be introduced to quite a new phase of aerial transport in which the propulsion energy is not limited by such factors. Under the projected scheme the island would be connected to the main land by an aerial cable or trolley wire, along the route of which airships could travel, deriving their electrical power from the cable in the usual manner."

Commenting on the trolley project a writer in "Sportsman" waxes humorous at the expense of the originator. "Even more superbly freakish is the plan of the gentleman who desires to put up a piece of string or something between Southsea and the Isle of Wight, to which string he proposes to tie the airships," says the "Sportsman". "It is said the string will contain electricity for the propulsion of the airships. Whether the string is to be supported on the way or not is declared 'an interesting question'. One agrees after all it is only a five-mile span! The idea is that the airship shall travel along the string, though why it should be tied to anything at all, and why it cannot carry sufficient power plant for a five mile trip are, presumably, details which may not at this time be published."

LONDON HAS REAL FLYING FORCE

Scotland Yard has bought four aeroplanes, and seven police officers who are detailed for special flying work will be on duty in relays, day and night at Hounslow, where the machine will be stationed.

The aeroplanes are to be fitted with dark rooms, according to the "London Evening Standard", in which photographic plates can be developed. "This is the latest move to checkmate the up-to-date criminal who appreciates the value of the petrol engine to procure his speedy escape, whether by road or air."

"Both France and America use aeroplanes in the detection of crime," the "Standard" comments. "United States patrols fly over the Canadian Lakes to frustrate the smuggling of alcohol which has been so active under Prohibition that the whiskey runners use fast motor-boats to carry on the traffic. In France recently the police, learning that a stolen safe containing valuables had been taken to a marsh, sent out aerial scouts who spotted a suspicious mound and hovered overhead until the thieves dug up the booty."

NEW ACTIVITY FOR CIVIL AVIATION IN ENGLAND

The taking over by the Civil Aviation Department of all the airship bases and material surplus to Service requirements, and five airships, including two surrendered Zeppelins, opens a new sphere of activity, according to the London press. It is intended to proceed immediately with experimental work to gain experience for the running of commercial airship services. "It is hoped", says the authority quoted, "that the surplus airships will, ultimately, be handed over on approved terms to private companies to operate, and that the knowledge and experience gained by the Department will be made available to any such companies."

South Africa

AVIATION IN RHODESIA

After four months' tour through South Africa, the aeroplane "Rhodesia" made its last flight from Francistown to Serome, where Chief Khama were visited. "Using Bulawayo as a base", says the "African World", the airmen flew as far north as Broken Hill and as far east as Umtali. Over the Falls some cinematograph pictures were taken by a special representative of the African Films Trust, and other places in Rhodesia, including Bulawayo, were photographed for the films.

Australia

CIVIL CONTROLLER OF AIR APPOINTED FOR AUSTRALIA

The Federal Government has appointed Colonel Bringmead to the office of Controller of Civil Flying, says the Sydney correspondent to the Morning Post of London. Australian airmen have been eagerly awaiting the appointment of a Civil Controller who will organize and announce air navigation regulations.

Germany.

GERMAN AERIAL ENTERPRISE

The Handley Page Berlin correspondent reports that the daily air mail between Berlin and Gelsenkirchen is now linked up with the important manufacturing districts within a 20 mile radius of Essen by means of a regular service of motor cycles to which the local mails and parcels are transferred from the aeroplanes by the postal authorities on arrival at the terminal aerodrome.

The air mail leaves Berlin at 10 A.M. daily and Essen is reached in 2 $\frac{1}{4}$ hours as compared with 10 hours by rail. The German Air Ministry is endeavoring to make arrangements for the establishment of an airport at Cologne with a view to linking up at that city with district air services to Paris and London.

SQUADRON NEWS

Aberdeen Proving Ground, Md.

A crew from this post was ordered to Cleveland to ferry a new type, twin engine Martin from the factory to Langley Field, Va. Prior to the start for Washington, a test flight was made at Cleveland. The trip from Cleveland to Bolling Field consumed three and one-half hours and from Bolling Field to Langley, two hours.

Major Sneed, 3rd Corps Area Air Service Officer, visited the post to make an inspection. A thorough inspection was made of the flying equipment, field, hangars, and operations. Major Sneed witnessed the Chemical Warfare experiments.

Luke Field, Ford's Island, Pearl Harbor, H.T., Dec. 25, 1920.

Competitive bomb dropping between formations representing the Fourth and Sixth Squadrons of the Second Observation Group was conducted on Monday, December 20th as a part of the departmental small-arms competitions, at the Schofield Barracks range. The work of the teams was somewhat obscured by the fact that the dummy bombs were so hard to find in the grass and weed covered ground surrounding the target. Twenty-five pound dummy bombs were used, two bombs being dropped from each plane, in the four plane formations flown by each squadron. The best score was computed to be held by the Fourth Squadron which dropped its load at an average distance of 175 yards from the target.

Lieutenant Thomas Brooks, formerly one of our bachelor officers who was in the States on a months leave, returned on the Transport Madawaska, a benedict. The fact of his quiet marriage in San Francisco while on leave was kept a secret until the day before the arrival of the transport, when the sailing list disclosed the return of "Lieut. and Mrs. Thomas Brooks".

First Pursuit Group, Kelly Field, San Antonio, Tex.

The officers of the Group welcome the assignment to the 147th Aero Squadron of Lieut. R. J. Camblin who was formerly on duty at Carlstrom Field, Fla.

Major Edward L. Napier, Medical Corps, having completed his duties at this station, will proceed to his proper station, Mitchel Field, Long Island, N.Y.

Upon recommendation of the Air Officer, Eighth Corps Area, Second Lieut. Charles R. Evans, A.S. Nogales, Arizona, arrived by airplane at Kelly Field, Tex. on Jan. 10, for the purpose of appearing before a board of examiners for rating as airplane pilot.

Second Lieuts. Harold L. George, A.S., recently of Carlstrom Field, Fla., and Benjamin F. Griffin of Headquarters Eighth Corps Area, are now assigned to the First Day Bombardment Group.

Lieut. James T. Curry, Jr., has been transferred from the A.S. Mechanics School to the First Day Bombardment Group and Lieut. Henry W. Kunkel has been transferred to the A.S. Mechanics School from the First Day Bombardment Group.

Second Lieut. Edgar F. Selzer, A.S., has been transferred to the 90th Aero Squadron, Sanderson, Tex.

Lieut. Levi L. Berry, who has been on detached recruiting service at St. Louis has returned, and is now assigned to the First Day Bombardment Group.

Herbert Pitts, Flying Cadet, having reported at this station from the 90th Aero Squadron, is assigned to the First Day Bombardment Group for the purpose of appearing before a Board of Officers for examination for commission in the Officers Reserve Corps, and for duty with a service squadron.

Classes in army paper work are being organized by the Squadron Commander in order to enable the cadets to obtain a thorough knowledge of this essential phase of military life.

Great effort has been displayed for the organization of a first class orchestra at this post. There is daily practice, and the orchestra now renders a program four days each week at the Post Chapel, during the motion picture entertainment.

Volley ball is still king of sports in the First Pursuit Group, though pool holds its own as in-door amusement.

Selfridge Field, Mt. Clemens, Mich., Jan. 15.

Lieut. Colonel W. E. Gillmore, A.S., office, Chief of Air Service, Washington, D.C., visited the Field on Thursday, January 13, 1921. Colonel Gillmore's visit was in connection with the negotiations leading to the purchase of the Field by the Government.

Carlstrom Field, Arcadia, Florida

The Naval detachment of fliers at this station has completed the course and is awaiting transfer orders to Pursuit training.

Sgt. M. Jones in charge of motors in Headquarters Flight at this field has obtained excellent results on all 180 H.P. Hispano-Suiza engines for the SPAD VII by replacing the Claudel-Hobson Carburetor with a Stromberg type E Carburetor thereby cutting the gas consumption of 14 to 16 gal. per hour to 10 gal. per hour, and increasing the R.P.M. of each engine at least 200 R.P.M. also eliminating the sputtering which was prevalent heretofore at high speeds.

The forty-three planes used the past week on this field made a total of 475 flights with a total flying time of 375 hours.

Ross Field, Arcadia, California.

1st Lieut. Bruce N. Martin, A.S., arrived from Langley Field, Hampton, Virginia, on the 4th to assume command of the 2nd Balloon Company, vice 1st Lieut. George F. Parris, A.S., who is under orders to proceed to Langley Field for dirigible training. Lt. Martin is a dirigible pilot and will have charge of the operation and upkeep of the Pony Blimp recently arrived at this Field.

A.G.S. DEPOT, Fairfield, Ohio

On January 5th the employees of this Depot assembled in the shipping room at 1:15 P.M. for the purpose of saying good-bye to Captain Charles W. Stolze, A.S., who has been discharged and who goes to Marion, Indiana for the purpose of entering upon his new duties as Quartermaster of the Soldiers' Home at that place.

Captain Stolze terminated his services as an officer of the Army after having been constantly in the Military establishment for more than 25 years. He was presented on the occasion of his departure with a handsome Masonic ring, 32 dollars, as a token of esteem and good will of the employees, some of whom had served with him for more than a year.

A.S. Flying School, Mather Field, Sacramento, Calif.

The usual activities have been resumed, the commissioned and enlisted personnel have returned from their holiday leaves and the field is a very busy place once more.

Extensive preparations are being made for the coming forest patrol season in the way of training of personnel and securing supplies. About fifty Foresters are expected to attend the Forestry Conference to be held at this field commencing January 15th. A school for twenty Foresters is also to be established.

The post is receiving quite a number of recruits, thirty-four having arrived during the past week.

Lieut. Halverson accompanied by his mechanic visited the post on the sixth in connection with forest patrol administration returning to San Francisco in the afternoon.

A detachment of the 9th Aero Squadron consisting of 2nd Lieut. John R. Morgan, A.S., Cadets Henry O. Carlson, George E. Hallett, Jr., Oliver A. Jennings, A.S., and twelve enlisted men are leaving this date for Border Patrol at Rockwell Field, Coronado, California, where they will relieve a detachment of the 91st Aero Squadron.

Clark Field, Pampanga, P.I., Dec. 4, 1920

Major Roy S. Brown and Lieut. Newton Longfellow, pilots, accompanied by Lieut. C. L. Webber and Master Sergeant W. C. Hunter flew, on November 30th to Lingayen Pangasinan on the Lingayen Gulf, for the purpose of leasing a site for gunnery and bombing purposes. They found the beach near Lingayen makes an excellent landing field, while a near-by coconut grove is an ideal site for a camp.

Authority of the Governor General, Philippine Department, has been obtained and the week beginning December 6th will be spent in gunnery work, using Lingayen as a temporary base. A special train will carry the necessary supplies and a detachment of sixty men to Dagupan, thence they will proceed by truck to Lingayen and make camp on Dec. 5th. The detachment will be in command of Captain Robert C. Candee, 9th Cavalry, a student observer.

The number of pilots at this field has been reduced to five, all of whom will fly to the gunnery field with their observers. The following officers are scheduled to make the trip: Major Roy S. Brown, Captain Charles T. Phillips, 2nd Lieuts. John Blaney, Newton Longfellow, Charles L. Webber, Majors William B. Duty, Francis H. Poole, 1st Lieuts. Walter A. Ball, Richard H. Ballard, Raymond S. Jett, Fidel V. Segunio.

Second Aero Squadron, Ft. Mills, P.I., Dec. 4, 1920

Coast Artillery practice has continued throughout the week with the second Aero Squadron, 17th Balloon Company and 27th Balloon Company cooperating. Communication from plane to ground stations at batteries by radio has been very successful, and has also insured better firing especially where targets were not visible from the batteries.

Officers who have been taken up on flights during the sensing have been convinced of the aerial observers exceptional advantages in directing battery fire.

Five HS 2-L flying boats, four NDH seaplanes, and one balloon have been available during the week for this practice. The observer's plane is followed immediately by the relief plane, so that, even should an accident occur, the observation may be continuous.

March Field, Riverside, California, January 15th

All new men who have reported at this station since November 6 are being classified by the E & R Department officer preparatory to assignment to academic class work. Every man will be required to take up one or more educational or vocational training subjects.

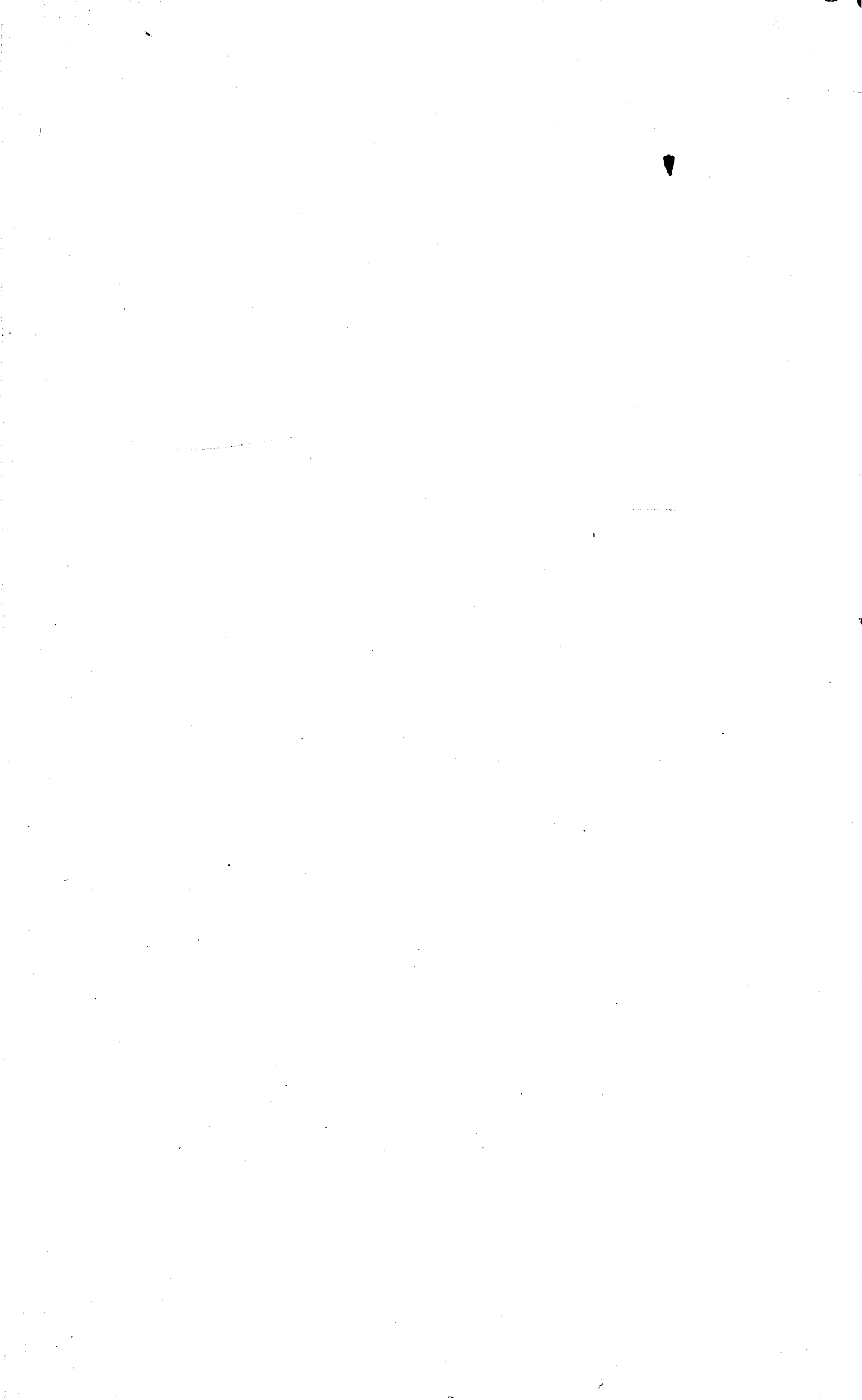
First Lieutenant Arnold W. Shutter has reported at this station for flying instruction.

Second Lieutenant Benjamin S. Catlin has reported at Letterman General Hospital for a minor operation following which he will return to this station for flying instruction.

Plans are being made for an aerial race between the navy blimp B-18 and a similar type dirigible owned and operated by the Goodyear Rubber Company of Los Angeles. The event is to be started at Long Beach, date to be announced later.

Under telegraphic instructions from the War Department the following named officers of March Field have been ordered to appear before an examining board at Fort Rosecrans, Calif., to determine their fitness for promotion.

First Lieutenants Early E. W. Duncan, Henry T. Morrison, Clarence W. Dresser, Francis M. Brady, Chas. E. Rust, Evan M. Sherrill, William E. Farthing, Arthur H. Besse and Walter F. Kraus.



The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE FEBRUARY 4, 1921.

AMERICA'S FIRST AIRWAY

Prophecy of aeronautic progress in 1921 in the face of existing business conditions, would be idle, but what will prove to be a vital milestone in the progress and development of both commercial and military aeronautics will be the creation and establishment of America's First Model Airway from Washington, D.C. to Dayton, Ohio, during the early months of 1921.

The establishment of well organized air routes throughout the country, especially in America is as essential to a well balanced system of national defense as is the developmental work on the aircraft itself. The limitless and boundless ocean of the air must be explored, and charted just as unknown lands and oceans, so that navigators may, with ease make their way without loss of time or danger across vast expanses of territory in peace or war. The installation of an airway entails the location of landing fields with all accessories, including radio direction finding, radio communication, aids to night navigation, housing and maintenance of equipment. It is undoubtedly true that with properly established airways of this kind, cross country flying, night or day, in good or bad weather, will be safer than auto touring by road, and that with the development and perfection of the machine itself, will in time surpass in speed, comfort, and safety, the modern comforts of transports.

These air routes will provide a net work whereon the units of the National Guard and the organized Reserve can be placed. However these highways of the air will not be usurped by the Air Service but they will be open, under legislative restrictions, to all commercial operators who will receive all the benefits and conveniences of such an organization, therefore commercial aeronautic interests will be fostered.

One vital point of value in the creation of national airways is in convincing the public by their operation that aviation control is a matter of Federal rather than State legislation. The operation of the Model Airway for but a very short time would definitely convince the public on this point.

The Model Airway will become then the first unit in a systematic system of airways throughout the United States which will be started under a policy formulated by the Army Air Service and which will be guided in its organization by the experience gained from the establishment and operation of the Model Airway.

The Model Airway as chosen is extremely well suited to the purpose of serving as a basic guide in this expansion program. Almost all of the natural problems attendant to successful air navigation are met on this airway which is one that will always be needed. Incidentally it connects Washington, D.C. with the Air Service Engineering Division Headquarters. In the course of this route appear mountains to be passed over, varying climatic conditions, and terrain of almost every type and character.

The Army Air Service is unable of course to purchase any land or make any expenditures in connection with the creation of this airway but can provide such equipment as is available for getting the route established. The small expense attached to the installation of this route naturally should fall on those who will receive the direct benefits of its existence and operation such as the communities, organizations, and individuals along the route. The Army Air Service will gladly supply all the advice, specifications, and information relative to the creation of the airway. This information would pertain to such things as landing fields, radio, hangars, and even might include the sending of qualified officers to superintend or consult. Therefore Chambers of Commerce, Clubs, Lodges, and all civic or fraternal organizations together with public spirited citizens should take immediate action to install a landing field, by calling on the Army Air Service and by organizing volunteer labor to put the project through. Boy scouts can assist very materially in this program.

10012

Just as the Braddock Trail and the S.S. "Great Eastern" and the Clinton locomotive are historical high water marks, just so will the creation of America's First Airway go down in history and the reflected glory of the event will be the heritage of each and every man that assists manually, financially or otherwise in its installation. Certain terminals on the airway will have gasoline, oil and spare parts for both government and civilian aircraft. Charts will be made of the entire route at the request of the Army Air Service and also a photographic map of the route will be prepared. Oblique aerial photographs of every city, landmark and landing field will be taken and arranged into such form as to provide a guide to the route. Copies of these books can be signed for at one end of the route and turned in at the end of the journey. Flyers along the route will be in constant radio communication with each other and with the various ground stations and in case of fog or clouds will be directed along the route by radio. Should a group of commercial ships desire to negotiate the route unequipped for wireless, then an airplane so equipped can be dispatched with them along the route and they can "follow the leader" in perfect safety.

A system has been devised for marking the landing fields along the route for purposes of identification and will serve as an aid to navigation. Each state is being divided into one hundred parts from West to East, and lettered alphabetically North to South, each letter representing a distance of 30 miles. A field in the northern part of Eastern United States marked O-55-B would be in Ohio, about half way across the state, and between 30 -60 miles below the northern border. Since commercial craft will probably negotiate a 30 mile distance in slightly over 15 minutes locations by this system are sufficiently close together for navigating purposes. More minute detail will be provided in certain subdivisions of the system at or near landing fields and in the laying out of signs and letters.

Some of the cities along the model route are as follows with their identification marked opposite:

MARYLAND.

Cumberland	M-17-A	Newark	O-56-E
Carlos	M-13-A-4	New Concord	O-72-E
Eckhart Mines	M-14-A	Osborn	O-19-E
Friendsville	M-3-A	Pataaskala	O-51-E
Frostburg	M-13-A	Philo	O-68-E
Kensington	M-55-B	Quaker City	O-82-E
Mt. Savage	M-15-A-1	South Charleston	O-28-E
Rockville	M-53-B	Senecaville	O-78-E-8
Vale Summit	M-15-A-3	Shadyside	O-96-E-6
		S. Zanesville	O-65-E
		Springfield	O-24-E
		St. Clairsville	O-92-E
		West Jefferson	O-37-E
		Yellow Springs	O-22-F
		Zanesville	O-66-E

OHIO.

Barton	O-94-E-3		
Barnesville	O-85-E		
Bellaire	O-96-E-5		
Bethesda	O-88-E		
Bridgeport	O-96-E-4		
Byesville	O-76-E		
Beallsville	O-89-E		
Buffalo	O-14-E		
Cambridge	O-75-E		
Cedarville	O-24-F		
Cumberland	O-74-E		
Columbus	O-44-E		
Dayton	O-15-F		
Granville	O-54-E		
Grove City	O-41-E		
Hebron	O-55-E		
London	O-33-E		
Lore City	O-78-E		
Martins Ferry	O-96-E-3		
Neffs	O-94-E-5		

VIRGINIA

Falls Church	V-81-B
Ft. Meyer	V-82-B
Herndon	V-79-B
Lessburg	V-76-A
Rosslyn	V-83-B

WEST VIRGINIA

Benwood	W. V. -40-E-5
Cameron	W. V. -43-B
Charlestown	W. V. -98-D
Elm Grove	W. V. -42-B
McMechen	W. V. -40-B-5
Moundsville	W. V. -40-B-7
Paw Paw	W. V. -85-C
Wheeling	W. V. -40-B-4.

PENNSYLVANIA

Brownfield	P-14-F-7	New Salem	P-13-F-6
Confluence	P-20-F	Rices Landing	P-9-F
Elk Lick	P-25-F	Smithfield	P-12-F-9
Fairchance	P-14-F-9	Uniontown	P-14-F-6
Hopwood	P-15-F	Waynesburg	P-6-F
Masontown	P-12-F	Greensboro	P-11-F-8
Millsboro	F-10-F	Pt. Marion	P-11-F-9

Fairfax, Virginia has an area adaptable for a landing field one quarter mile southwest of town. This field should be put in shape immediately by the cooperation of the various local civic bodies. A large sign for minute identification will have to be laid out near the field.

Herndon, Virginia has a good area for a landing field just south of the town. The name of the town should be laid out in as large white letters as is permissible on the ground near the field.

Leesburg, Virginia has a space available for a landing field just southeast of town. A large marker bearing the letters "LEESBURG, VIRGINIA", should be placed near the field.

Bluemont, Virginia close in toward the Blue Ridge Mountains should prove an important link in the airway, and has space for a landing field northeast of the city. The town itself is on a slope facing the northeast.

Berryville, Virginia just across the Blue Ridge from Washington, has an adaptable field just east of the town.

Charlestown, West Virginia, has a landing field available north of the race track north of the town.

Rockville, Maryland, has a good landing field just west of the town but the stumps should be removed from the center of this field.

Romey West Virginia situated in hilly country, has a fair landing field on the river about two miles west of town near a small island in the river, also a small emergency field is available bordering the west section of the town.

Keyser, West Virginia, has a small landing field available for emergency landings about one mile east of town on the river. Keyser is situated in extremely mountainous country and for that reason is an important link in the airway. This town is distinctly marked by its extensive railroad yards.

Cumberland, Maryland, is easily distinguishable by a large gap in the mountains north of the town. There is a good two-way landing field southwest of the town on the river. The town itself is down in a basin on the river and surrounded by large mountains and peaks on all sides.

Paw Paw, West Virginia, lies just to the west of the hilly country and is distinguishable by a large red building with a black roof. There is a good landing field about one mile north of town on a bend in the river that should be developed.

These points are all within the area of America's Model Airway and they should immediately get together and appoint a local landing field committee to deal with the Army Air Service in putting their own local necessary improvements into existence at once. America's Model Airway must be finished by May, 1921.

Hagerstown, Maryland and Moundsville, West Virginia have already set a pace that will be hard to beat both in cooperation and preparation. Each has come forward with available landing fields and preparations are now being made for erecting the hangars and gas and oil stations, and marking the fields.

ENGLAND TO AUSTRALIA IN A D.H.-9

On that long flight from England to Australia in eight months Lieutenants Parer and McIntosh had experiences which not only entertained them but also furnished tests of their inventive ability and which enable them now to make the way easier for those who may follow in their path.

According to their story their forced landing in Syria was not accompanied by the danger that it might have been if those people had been in normal physical condition. Starvation conditions kept them from making an attack upon the airmen and rendered them more susceptible to being bluffed.

At Calcutta they were in need of funds, so they devised a scheme to secure this necessity from the natives. They covered their machines with posters stating their difficulties and thus aroused sympathy and in a short time the airmen were receiving generous contributions.

Difficulties in the wearing and breaking down of parts of the machine made their plight almost a hopeless one on some occasions, but some thing always turned up to enable them to get the necessary repair accomplished and get away on their journey again.

At Moulmein mention is made of the greatest variety of difficulties. The exhaust pipe developed a fracture so that the hot exhaust gases were blowing right into the faces of the aviators. One of the oil pipes was broken by friction so that the bearings were nearly burned out. Fearing that they might be obliged to make a landing in the sea, they improvised life belts out of some spare inner tubes, but fortunately these did not have to be brought into use.

As they approached the landing place a fair was in session and great crowds of people were assembled on the race course. They saw little chance of making a landing without accident. They dropped a message cautioning the people to make a clearing and to keep well out of the way as there was danger of the machine blowing up when it landed.

The cleared space was so small that they experienced much difficulty in making the landing. The under carriage was smashed, the wheels being pushed through the bottom of the plane, the petrol tank was badly damaged and the air screw was broken beyond repair.

They set about to make all possible repairs. A Caproni propeller was bushed up and made to fit, two motor car radiators were fitted in and the under carriage patched up sufficiently to enable them to go on to Sourabaya. Here they had another crash caused by an unseen ditch on the landing ground.

Fortunately the Dutch Flying Corps in that region use D.H.-9's and through their courtesy the machine in three days was sufficiently patched up to continue to Darwin.

When they arrived at Sydney the only part of the machine that was intact was the 240 h.p. Siddeley "Puma" engine, and as may be expected these aviators are loud in their praise of the satisfactory manner in which the engine carried them through.

Exposure to all sorts of weather during this eight months journey had left the fabric of the machine in a very bad condition, and it was only kept together on the way by repeated coats of dope.

At Sydney they were given a huge reception, fully 15,000 people assembled to receive them among whom were the Mayor and Municipal Council of Mascot, where the Australian Aircraft and Engineering company's aerodrome is located. The State Governor sent as his representative Commander Allison.

THE HONG KONG AERO CLUB

At a recent meeting of the Hong Kong Aero Club the chairman, Hon. P.H. Holyoak read the following from a report setting forth the objects of the club.

1. To encourage and develop the sporting side of aviation in the Colony.
2. To take control, when necessary of the sporting side of aviation in the Colony.
3. To affiliate with the Royal Aero Club and to act as the official representative of that body in the Colony.
4. To request the Government to allow an area of water to be definitely chosen for the landing of aircraft in the vicinity of the town when necessary and to have the site left clear and available for the machines when necessary.
5. To appoint a committee to deal with the following matters: Technical, such as assistance to arriving and departing aircraft and dissemination of information on the conditions governing flying around the Colony, also to reply to the letters sent to the government by the Aero Club of America, and to give assistance and advice to members who desire to purchase and use aircraft.

THE SPORTING AIRSHIP

Airships are being developed now to fill almost every niche of service in the air. Aside from services already widely mentioned, such as seal fishing, observation work, meteorological testing, photographing and surveying, and a number of others the suggestion for a sporting airship calls into play a new idea.

The ship for such a purpose should be small and not built for heavy cargo. Capacity for two or three passengers should be the limit. One of the Zodiac models was designed for this particular purpose. These ships are equipped with a 60 h.p. Le Rhone Z-9 engine, an envelope with a gas capacity of 1,000 cubic meters and with one ballonnet, and the airscoop is brought down into the slipstream of the airscrew. Two single fins and rudders above and below the gas bag, two single tail planes and elevators fitted on either side of the envelope make up the control.

Seats for passengers are situated midway along the car and one set of controls is placed near these.

Such a ship would serve not only as a sporting ship but would be valuable for training also.

KILLED IN AIRPLANE ACCIDENT

On January 22, 1921, the U.S. Army Air Service lost one of its youngest and most talented officers, Lieutenant Henry J. Spalding. His death occurred in an airplane accident near Elkton, Maryland. It is believed by observers that engine trouble drove him to attempt a landing, and the heavy fog over this locality at that time made this task difficult. He circled several times over Elkton, then in bringing his plane down he struck a tree which swerved the plane into a deep embankment, and following this was the explosion and fire which caused his death. Those who rushed to the scene found it impossible to rescue him.

The usual military rites were observed in the funeral services held at Arlington Cemetery at 11 A.M. January 25th, the twenty-fifth anniversary of Lieutenant Spalding's birth. Honorary pall-bearers were Captain David S. Seaton, Lieutenants James A. Healy, Albert J. Clayton, William V. Andrews, Edwin F. Carey and John I. Moore, who were all his friends and co-workers of the Information Group of the Office of the Chief of Air Service.

Bishop Spalding, an uncle of the deceased, conducted Mass at the church and prayed at the grave.

The popularity of this young officer and the esteem in which he was held was evidenced by the long line of friends who followed his body to its last resting place, and by the mass of beautiful floral offerings which covered his bier.

His father, stepmother, uncle, aunt and sister were present.

Lieutenant Spalding's experience as a flying officer had been greatly varied both in France and in the United States. He was a graduate of St. Mary's College, Emmitsburg, Maryland, and had served two years with the Maryland National Guard, six months of which had been on the Mexican Border, before entering the First Officers' Reserve Training Camp at Fort Myer, Virginia in May 1917.

After two months at training camp, he applied for assignment to the Princeton Ground School of the Air Service, and enlisted as a cadet at that station on August 15, 1917. After graduating he applied for a commission in the Aviation Section, Signal Corps, and was ordered to France where he completed his training as a pilot at Chateauroux, and was commissioned First Lieutenant on May 13, 1918.

He was then ordered to the 3rd Aviation Instruction Center at Issoudon. On July 16, 1918, he received a French pilot's brevet. After completing his training as a Pursuit Pilot he was sent to England for instruction, where he qualified as an aerial observer and aerial gunner and bomber, and was ordered to duty with the 1st Day Bombardment Group.

Shortly after his arrival on the front he was wounded in action while attached to the 98th Aero Squadron. He was later ordered to Tours and then to Romorantin.

In September, 1919, his transfer to the United States was requested, where his services were desired in the Office of the Chief of Air Service. Reporting there on September 30th he was assigned to the Information Group, where he was later made Chief of the A.E.F. History Section and given charge of the preparation of the history of the Air Service overseas. In September, 1920 he received a commission as First Lieutenant in the Regular Army.

Lieutenant Spalding was a very capable and enthusiastic officer whose loss will be deeply regretted in the Air Service.

AIR SERVICE MEDICAL POLICY

A board of officers was recently convened by the Chief of Air Service to recommend a definite policy as to the physical standards considered necessary by the Air Service for applicants for flying training in both heavier-than-air and lighter-than-air service.

The action of the board, which was approved by the Chief of Air Service December 31st was as follows:

"The Board recommended unanimously that no waivers of physical defects be recommended in the cases of applicants for flying training, except such minor physical defects as would, in the opinion of the Chief Surgeon of the Air Service, have no bearing on his duties as a pilot or as an observer in either heavier-than-air or lighter-than-air service".

ACCIDENT TO PASSENGER

Lieut. Hugh A. Bivins, piloting a D.H.-4, in landing at Ormond Beach upon his return from Jacksonville, Florida struck a pole which slightly damaged the lower wing. As the obstacle was struck the motor stopped, but due to the fact that the tide was coming in, an effort was made to immediately start the motor to taxi the plane up on the beach. Captain Lawrence J. Wright, who was a passenger, attempted to crank the motor. The motor, being hot, pre-ignited; the propeller striking Capt. Wright's left arm, shattering it at the elbow and badly cutting both hips. Captain Wright was taken to the Ormond Hotel where his arm was set temporarily. He was then rushed to the hospital at Daytona where he is now resting easily.

SUCCESSFUL TEST FLIGHTS

The Aviation Repair Depot at Montgomery, Alabama, is to be congratulated on the excellent work being done at that station. Of five planes assembled at that station and flown by the following pilots:

Major A.H. Gilkenson, A.S.
2nd Lieut. Robert T. Croneau, A.S.
2nd Lieut. Charles C. Chauncey, A.S.
2nd Lieut. Oliver A. Gottschalk, A.S.
2nd Lieut. Stanley M. Impstead, A.S.

in a test flight of one half an hour and then taken on a six hundred mile trip not a single fault or defect was found in any plane. The trip taken was to Carlstrom Field. The country over which the planes were taken is about the worst to be found in the United States. For miles landing places were not to be found. All the motors had been repaired and overhauled at the depot. They all functioned perfectly and gave each pilot a great feeling of confidence over the worst forests in Florida. The success of the flight is attributed to the cooperation extended on the part of the personnel at the Aviation Repair Depot. Everything possible was done by them to make the ferrying of the ships from their station to Carlstrom Field successful.

INSPECTION TRIP OF BORDER STATION

On Monday January 3, at 8:45 A.M. two DH-4 B. planes took off at El Paso on the periodical inspection trip of the border, the party consisting of Major L.G. Heffernan, the Commanding Officer of the 1st Surveillance Group, Captain David A. Myers, the Group Flight Surgeon and Lieutenants Gaffney and Liebhauser, members of the 104th Aero Squadron.

Actual flying time consumed 24 hours and 16 minutes. Dates covered from January 3 to 13.

ATHLETICS AND RECREATION AT FT. BLISS

Believing that through athletics and healthy amusement the service can have better men, and therefore better soldiers, this field has laid out an extensive athletic and recreational program. Provision is made for basketball and baseball. A cinder track has been laid and a boxing ring is to be built in the near future. A service club and library provide everything for indoor amusement and recreation.

TRAINING COURSE AT A. S. MECHANICS' SCHOOL

What is believed will mean a material gain in the efficiency of the Air Service Mechanics' School at Kelly Field is the addition of a course of mathematical instruction to every course taught in this school. The course includes elementary mathematics up to and including the principles of algebra and geometry. Every student entering this school for a course must first complete this elementary work before he can specialize on any branch of aviation.

LANDING FIELD AT CINCINNATI ✓

It is contemplated establishing a landing field at Cincinnati as an intermediate station in connection with the Aerial Mail Service between Pittsburg and St. Louis. It is believed that this field, fully developed would be one of the largest and best landing fields in the country, owing to its natural drainage which would permit its use, the year round. It would be 2900 feet north and south and 3000 feet east and west and lies in a cross section giving a wide center. In addition there are 15 acres of land facing one of the best auto roads in the country. It has been estimated that for a small cost all necessary improvements could be made, but up to date nothing has been done.

WEDDING AT LUKE FIELD

Major John F. Curry, Department Air Service Officer, was quietly married on Thursday afternoon, January 6th in Honolulu to Miss Eleanor D. Montgomery, of Oakland, California. The wedding was attended by a small number of close friends of the bride and groom.

FORMER LIEUTENANT WITH AERONAUTICAL CONSTRUCTION COMPANY

Mr. William E. Huffman, formerly a Second Lieutenant of Air Service, on duty with the 17th Balloon Company, stationed in the Philippines, has returned to the United States and is now employed as foreman of the Aeronautical Construction Department at Fort Omaha.

COMMERCIAL COLUMN ✓

THE BRITISH AERIAL TERMINUS OF THE FUTURE

Something very unique in the way of a terminal station for future traveling is suggested in Flight of January 6. It is a picture by Roderic Hill showing an aerial terminus of the "White Moon Line", raised aloft over a seaport. It is not a flat aerodrome situated on the surface, but is a huge circular structure which towers far above the tallest buildings of the city. On its topmost circumference, platforms swinging on a circular railed bed are carried by two rotating arms on which aero liners alight and from which they take off. On the left of this great tower is a passenger elevator with two cars carrying passengers to and from the embarking level. Inside this structure is a huge elevator for lowering the aero liners for refitting and repair, and in its mysterious depths we can picture workshops lit by flickering arc lamps, where hundreds of mechanics work busily day and night. With such termini as this, sea captains of the future will be looking up at air captains as each in his respective craft draws near to exchange or deposit the cargo in his care, and then it will be that the dreamer of today will behold the fulfillment of his vision.

COLUMN OF FLYING EXPERIENCES ✓

"AND I LEARNED ABOUT FLYING FROM THAT"

Taking advantage of the opportunity offered in the News Letter to set forth one's experiences, would relate the following incident which I deem to be along the line of valued suggestions whereby other pilots might profit by my experience.

"Several months ago, while undergoing D.H. instruction, I was just taking off the ground and was probably ten feet in the air when my motor missed, probably caused by back-fire. I immediately cut the throttle and settled as quickly as I could. There was a strong smell of burning rubber, and when I looked at my motor there was a real flame coming from the carburetor. My instructor, Lieut. J. A. Wilson, had the presence of mind to note that the gas was cut off from the carburetor. By the time that the plane had come to a dead stop we were both out of the machine and I was using the pyrene on the flame to good effect. Before the flame was extinguished, however, the pyrene was exhausted, having been partly emptied a short time before and not refilled. Being a good mile from the hangars our plight was not observed. The flames were soon very threatening again and it seemed inevitable that it was our lot to see the plane burn up without being able to do anything. In looking about, I observed that among the dry grass was growing in patches a certain weed which was very green and would not burn on a bet. I realized that this was our only salvation and began to gather an armful of the weeds as fast as I could. These I handed to Lieut. Wilson, who covered the carburetor with them, while I rushed back to get other armfuls. We kept this up until finally the blaze was completely smothered. Without utilizing these weeds, the only material at hand, the plane would have no doubt taken fire and burned up."

John H. Jones,
Captain, A. S.

SQUADRON NEWS

Airdrome, Nogales, Arizona, Jan. 8.

1st Lieut. W. S. Gravely, Air Service, has been at this Airdrome the past few days for the purpose of clearing property. He was formerly assigned to this flight but was sent to Camp Knox, Ky. on detached service, and is now permanently assigned to that station.

2nd Lt. A. Pearson of Flight A, Douglas, Arizona, this Squadron, has been having the motor in his D.H.4B replaced by a new one at this Airdrome, in preparation for his attempted record flight on February 22, 1921. He expects to leave Pablo Beach, Florida and with only two stops - Houston, Tex. and El Paso, Texas - to reach San Diego, California, within a period of twenty-four hours. This flight if successfully completed, will be a new record in both distance covered and time.

Two Hispano-Suiza motors have been received at this station as the forerunners of the two Curtiss H's which are on the way. These planes will be joyfully received, as it will furnish a little variety in the way of flying.

March Field, Riverside, California, Jan. 8.

The following named officers have reported at this school during the past week for pilot instruction: Major John C. Williams, Lieut. John McRae, Lieut. Aubrey Hornsby and Lieut. Ralph B. Walker.

Thirty-five enlisted men of the command were granted promotions during the holiday week, effective January 1.

Recruits continue to throng into camp and keep the recruiting officer busy night and day. Additional men are arriving from eastern recruit centers, giving this post a full quota, the first time since its establishment as a pilot school.

Several cadets in the present class have advanced to the "solo-stage". Numerous officers in the students pilots class are taking their J.M.A. tests.

Dances every Saturday evening and refreshments for all enlisted men each Sunday afternoon from 5 to 7 o'clock, provided by the War Camp Community Club of Riverside, is proving popular with the enlisted personnel of the field.

Kelly Field, San Antonio, Texas.

The New Year has come and Kelly Field welcomes its new problems on the various subjects through which the members of the command shall be trained for the performance of their different missions. Great activities are noticed at the field in every department, and from present outlook Kelly will remain one of the most active fields in the service.

Lieutenant Harry L. Speck left Kelly Field, Texas, Jan. 5, 1921, by airplane, for Ellington Field, Texas, arriving there without any trouble. The weather conditions were fairly good during the trip. Lieutenant Speck returned to this field January 6, 1921.

1st Lieutenant V. J. Weaver, Reserve Officer, has reported to this field for flying practice.

Lieutenant Dorris A. Hanes, Quartermaster Corps, piloted by Lieut. Harry L. Speck, Air Service, will proceed to Del Rio, Texas, by air, for temporary duty in connection with Real Estate transactions there, according to Eighth Corps Areas to that effect.

Flying Cadets, Edward J. Snyder, Lawrence A. Dennison, Russell J. McNown and Glenn A. Harkley have been ordered to make a long distance reconnaissance flight to border stations, leaving this field on January 8, 1921, to return not later than sun-down January 9, 1921. These flights are for training purposes.

The past week saw the return of all of the personnel who have been on leave and furlough during the Christmas period.

Lieut. Harold L. George, Air Service, has reported at this station from Carlstrom Field, Arcadia, Florida, in accordance with a special order from War Department to that effect. He has been assigned to the First Day Bombardment Group for duty and advanced training.

As per special orders from Headquarters Eighth Corps Area, Lieutenant Benjamin F. Griffin, Air Service, has reported to this field. Orders have been issued from Headquarters, Kelly Field, to assign this officer to the First Day Bombardment Group.

Lieut. Donald R. Goodrich, the backbone of our supply department, is the other victim. "Goody's" taking ways have brought this flight up to a point where it is second to none in regard to supplies and a complete equipment.

The Corps Area Air Officer, has plucked from our happy little family, two very efficient officers, true gentlemen, who are a credit to the Service. Soon "B" of the 104th will bear the ear marks of the most efficient fighting unit in the Air Service viz. "A" Flight of the 90th Aero Squadron, Del Rio, Texas. That also we announce to the world.

The Chief of Air Service has done the Border Units a great favor by recalling the Nordyke-Marmon motors. The Border really is no place for experimenting with such a queerly constructed motor where, while on patrol over such rough country the life and limb of pilots and observers are put in jeopardy. Bring on those good old Liberties made by Ford.

At last we have a ship that will stand the gaff of stunts without necessitating re-alignment when she comes down. We are the recipients of the two "Hisso's", thanks to the Corps Officer, the Group Commander and the Group Flight Surgeon. After two years of Border flying on DH4B's and DH4's, some with those "funny" Marmon Motors, no doubt will find it necessary to requisition instructors to teach us the art of taking off and landing with a training plane but we will wiggle thru all O.K.

France Field, C. Z., Jan. 8.

Regular work was resumed at this field following the Christmas holidays and while a rush of administrative work kept most of the officers extremely busy the seven available pilots managed to get in eighteen flights for a total of nearly nineteen hours.

During the week six flights were made on request of the Coast Artillery three being Artillery Reglage missions, two for photographic missions and one for checking instruments of an anti-aircraft battery. All these flights were at Fort Amador on the Pacific side of the Zone. The first Reglage mission was only partly successful as the battery had failed to provide an antenna officer and no signals were given to the observer, 2nd Lieut. D. D. Watson, to let him know that his sensings by radio-phone were being received. Lieut. Watson conducted a very difficult problem later in the week when four batteries fired at three separate towed targets. The guns in action included fourteen inch rifles, twelve inch mortars and six inch disappearing guns. The firing of these batteries was extremely accurate and while thirty-two sensings were telephoned to the receiving station few of them required any corrections by the batteries. Lieut. Alfred C. George was the observer on another problem at Fort Amador in regulating the fire of twelve inch mortars and this problem was also very successful all the shots being sensed and telephoned to the battery immediately.

Lieut. Charles B. Austin flew the two photographic missions on which exposures were made of a concealed battery on an island in Panama Bay. The results of these missions were both successful and fulfilled the requests for this work made by the Coast Artillery.

Lieut. Austin and Lieut. Watson also flew a mission with an anti-aircraft battery at Fort Amador in which fire was simulated and readings taken by both the battery and airplane to check the altitude readings taken by the battery to get its firing data.

Capt. Thomas Boland and 1st Lieut. Rowland C. W. Blessley made a long cross-country flight along the coast of Panama to the San Blas Islands on Tuesday to see if they could locate the position of a Naval Air Station flying boat of the F 5 L type, which had made a forced landing on the previous day.

Baseball promises to occupy an important place in the minds of the personnel of this field for the next three months. The first games of the Army and Navy League were played this week and while France Field lost its opening game on Wednesday to the Naval Air Station by a 4 to 0 score, the playing of the team was very gratifying to the numerous rooters who accompanied the team. The

team has only been practicing under the direction of 1st Lieut. Harlan W. Holden for a week, but during that time they have rapidly progressed and the prospects of some baseball games appears bright. Not at all downhearted over their first defeat, the team journeyed to Corozal on Saturday and gave that team a trimming which it will remember for some time to come.

Two league games will be played each week until a schedule of twenty seven games has been completed and while France Field can hardly hope to land on the top of the heap because of competing with teams which have about 1500 men to pick from. Some of these picked teams are going to know that it takes the best kind of base ball to turn back aviation players.

Carlstrom Field; California, Jan. 19.

Flight "B" in this station, boasts a Curtiss JN6 Plane with a Wright motor with over 300 hours that is still going strong. This flight also shows speed in changing motors when necessary. They received a ship from the hangars from this field to change the motor at 10:00 A.M. in the morning, and at 3:00 P.M. in the afternoon the ship was in the air again.

The entire Naval Detachment officers, pursuant to telegram from Bureau of Navigation, Washington, D.C., have been transferred, one officer reporting to Rockaway Naval Air Station, Long Island, N.Y., one officer to Indian Head, Md., Naval Ordnance Testing Grounds, two officers to Hampton Roads, Va., Naval Air Station, and the remainder of the detachment were recommended for the advanced training in Pursuit at Kelly Field, San Antonio, Texas, to which station they have departed.

Col. Frederick W. Phisterer of the Inspector General Department, Hdqrs. 4th Corps Area, spent several days of this week inspecting the personnel and field in general.

Ross Field, Arcadia, California, Jan. 15.

Ross Field, Arcadia, Calif., has now a good balloon personnel and is getting in shape for some strenuous balloon operations. There are now five companies at the field almost at full strength and it is expected that four balloons will be in daily operation at the post, beginning early in January. This is the greatest activity since the Armistice. Work on the hangar for housing a "Pony Blimp" is progressing and soon the Ross Field balloonists will be taking air excursions in the little two-man ship.

Lieut. George F. Parris leaves for Langley Field within the next two days where he will take his dirigible training. Lieut. Parris was relieved at this field by Lieut. Bruce N. Martin, who recently arrived from Langley Field, and who is to take charge of the dirigible work at this field, a Goodyear Pony Blimp being the ship to be put in operation. The ship is in storage at this field at present waiting a favorable opportunity to put it in operation.

On Tuesday, January 11, 1921, a series of free balloon flights were taken from this field in two balloons. The larger balloon, a 24,000 cubic foot balloon piloted by Lieut. Clarence H. Welch, left the post at 9 o'clock A.M. with Lieutenants Mooney and Axtater as passengers followed by Lieutenants Benson and Brown. The third and fourth flights were taken by Major Harold Strauss and Captain Raymond O'Neill as passengers. During these flights it was necessary to gain an altitude of 7,000 feet in order to counteract a wind which would have taken the balloons over the mountains, a trip not especially desired at this time due to the heavy snow fall of the two days previous. The fifth and sixth flights were taken by Lieut. Welch and Major Strauss. An altitude of 5,000 feet was gained and a wind from the north was encountered which had a tendency to blow the balloon out to the ocean near Puente at four thirty, where a rip landing was made and the party returned to the Post. The second balloon, one of 19,000 cubic feet capacity, was piloted by Lieut. Dache M. Reeves with Majors Fisher and Peek as the passengers. On the third flight the balloon was over Mt. Wilson so close down that it was possible for the balloonists to carry on a conversation with the people on the mountain side. A high altitude was taken and a wind was found which changed the course of the balloon and it returned to the level country again. These flights were followed by solos by Major Peek and Major Fisher.

32nd Balloon Company, Camp Benning, Ga., Jan. 19.

On January 6th and 7th, 1921, maneuvers took place at this station in which all branches of the Service participated. This maneuver was the most extensive ever undertaken by troops of the U.S. Army, outside of actual warfare. The supposition was that the State of Georgia was being invaded by troops from the State of Alabama, and the troops at Camp Benning were used to repel the imaginary invasion. The enemy's position was promptly determined by Balloon Observers and Aeroplanes, and the rapidity of the Observers in gathering their data and transmitting it to the Staff in charge of Operations enabled the forces employed to repel the invasion and gain their objective in a comparatively short time.

The balloon was maneuvered a distance of about four miles to the scene of operations in order that representatives of the Pathe Weekly Film Co. and the Scenic Film Company might take motion pictures of the maneuvers from the basket of balloon. The balloon was maneuvered to the main camp and back, a distance of about eight miles, in one hour and fifty minutes.

This organization has been working with the 83rd Field Artillery for the past two weeks in adjustment and regulation of fire of 75 M's H. E. and Shrapnel.

8th Airship Company, Camp Bierre, Fort Bliss, Texas, Jan. 12, 1921

One of the essentials of training for battle service is the inclusion in such training of the unusual conditions which are likely to obtain in actual warfare. The training of an airship pilot is not complete unless it contains a large amount of bad weather flying. It would probably be worth while to wreck a few ships in storms in order to give officers and men such experiences as will fit them for flying in war when there will be little choice of the conditions under which flight is made. Battles are not fought nor battleships maneuvered for the attack only on sunny days when the breezes are balmy enough to waft the airships gently through the cerulean ocean. With these thoughts in mind the men of the 8th Airship Company at Camp Bierre, Texas, met a high wind which sprang up during the flight of a "C" type airship. The wind blew squarely across the hangar. Flying close to the ground was difficult, owing to the fact that in this locality there are big "bumps" in the air in a thirty mile wind. Lieut. Shoptaw brought his ship to a safe landing in spite of the difficult conditions and the small landing crew. It was necessary to get some sixty men from the 82nd Artillery to help maneuver the ship into a hangar where the ship had only six feet of clearance on each side.

Airdrome, Fort Bliss, Texas, Jan. 15.

An item of "general Field News", Fort Bliss, describes the growth of this Post as like that of a mushroom. Mention is made of the arrival of two Curtiss H. Planes, and of the pleasure manifested by pilots who now anticipate some unusual acrobatics.

Luke Field, Ford Island, H.T., Jan. 8.

The rainy season which normally exists in name only in these Islands, is continuing with consistency and volume, and as a result prevented flying on two days and interfered with it throughout the other days of the week.

Lieutenant H. H. Young, who has been on temporary duty with the 21st Balloon Company at Fort Kamehameha, returned to the group and has resumed his duties as Squadron Commander of the 4th Observation Squadron.

A Fokker D-7 was tested by Lieut. Walter Miller on Friday, January 7th. This was the first flight made by a single seater in these islands, and was productive of a great deal of comm'at.

Airdrome, Del Rio, Texas, Jan. 8.

This station is entertaining as visitors Major Heffernan, Group Commander, Capt. D. A. Meyers, Group Flight Surgeon, and Lieutenants Gaffney and Liebhauser of the 1st Surveillance Group, with headquarters at camp, at Fort Bliss, Texas. The visit is an official one, as Major Heffernan and Capt. Myers are inspecting material and personnel at all border stations. They will spend the night, and weather permitting, will continue their schedule by flying to Laredo tomorrow morning to inspect "B" Flight of the 8th Aero Squadron.

Jan. 15. It is with a great deal of regret that we announce the orders transferring our Operations and Supply Officer to Marfa, Texas. Lieut. Arthur K. Ladd, who has handled the Operations in such a commendable manner, is to take command of Flight "B", 104th Aero Squadron at Marfa. Due to "Pa" Ladd's efforts our operations room and his method of handling that particular work might well serve as a model to all organizations in the Air Service.

Kelly Field, San Antonio, Texas

Lieutenant Harold L. Clark, Air Service, has been ordered to Dallas, Texas, to be attached to the General Recruiting Office there for temporary duty.

In accordance with orders from Headquarters Eighth Corps Area, Lieutenant Levi L. Berry, Air Service, reported to Kelly Field. He was sent to St. Louis, Mo. on temporary recruiting duty, to return to this field upon completion of that mission.

Lieutenant M. J. Plumb has orders to start for McAllen, Texas, on January 8, 1921.

24th and 14th Balloon Companies, Fort Baker and Funston, Calif.

The interesting work the 14th and 24th Balloon Companies is doing with the Coast Artillery included, in December, tracking mortar firing and working with the artillery at night. The night flying included experiments in lighting balloons by searchlight and the first flights were made in a fifty-five mile wind. The observers agree that unless better stabilizing means are provided for balloons, night flights in fifty mile winds blowing out to sea should be used as a form of punishment rather than as a part of the regular flying duty. The breezy and interesting adventures of this company are undoubtedly factors in attracting the good men who are enlisting in the organization.

Late in December and early in January the work of these companies had developed to the point where all firing data (tracking and spotting) was supplied by the balloons. Firing was carried out by 12" mortars at a range of 15,000 yards with targets towed by a tug. Night work was carried out. New Years eve the flares dropped by the planes to illuminate the target missed their mark, and from this standpoint the work was not satisfactory. One of the flares dropped caught on the plane and set it on fire. The pilot dove in order to shake off the flare and in diving did not notice that he was making for the balloon of the 14th Company, which of course was invisible to him. He was about 250 feet from the balloon when the flare dropped from his machine and he turned. The observers in the balloon were on the edge of the basket at this time, considering, no doubt, the delights of parachute jumping at night. Other fires dropping near the balloons enlivened the evening from time to time.

Fort Baker, California, Jan. 16.

The 24th Balloon Company did no flying during the past week. On Wednesday, the 12th, we were treated to another of California's famous Santa Anna's, which administered the death stroke to another balloon of ours and also the 14th Company's. This balloon had been inflated and in air service since December 2nd and is the best so far obtained by us on this trip. However, no balloon can be expected to withstand the treatment received in this locality on an open bed, especially at this time of year. In spite of what the "Native Sons" would have one believe, the vicinity of San Francisco is far from ideal for captive balloon work. During the past week about 45% of the daylight hours were favorable for balloon work. Most of the weather is composed of equal portions of

rain, haze, and high winds mixed to taste and seasoned with fog that would bring blushes to the cheeks of a Londoner. After Wednesday's storm, which occurred in the early hours of the morning, the balloon was inspected and condemned, and it was decided to make a free balloon flight on Thursday morning, the 13th. When the time came, however, the wind was blowing to sea and the flight called off.

Both companies are anxiously awaiting word as to their permanent station. If it is to be where we are at present we will immediately set about building a new balloon bed and a garage, both of which are badly needed. It is hoped that the balloon hangars will be completed in a reasonable time and so make conditions a little more favorable.

In lieu of flying the week was spent in recruit instruction, drill, inspections, . etc., the company benefitting as a whole by the inclement weather, thus proving the truth of the old adage, "It's an ill wind, etc." Any opportunity for training such as this is greatly welcomed, as we must stand inspections and reviews with the Coast Artillery troops and do not wish to appear at a disadvantage; a thing which has not happened as yet.

The Defense plan to resume firing with the 12 inch disappearing rifles on about January 21st, and we look forward to some more interesting work at that time.

U.S.A. Balloon School, Ft. Omaha, Neb., Jan. 18

During the week ending January 12th seventeen recruits were enlisted at this station, with one exception all for the period of three years.

Recruiting activities at Fort Omaha are incident to the routine duties performed, although recently recruiters were sent to Aberdeen, S.D., Des Moines, Iowa, and Minneapolis, Minnesota, no report of their activities having yet been received. During the period beginning August 24th, 1920, and to date, Fort Omaha has enlisted the following recruits for the Army:

Air Service (Heavier-than-air) -----	38
Air Service (Lighter-than-air) -----	133
Other branches -----	38
Total	209

Master Sergeant G. H. Benn, A.S., in addition to numerous other duties, has been mainly instrumental in securing this large number of enlistments. Master Sergeant Benn has worked with the recruiting party stationed in the City of Omaha, which is in charge of Colonel William E. Cavanaugh, Inf., who has cooperated to the fullest extent in the matter of securing men for the Air Service.

Mather Field, Sacramento, California, Jan. 17.

Recruits continue to arrive in gratifying numbers, forty-four being the number reporting during the past week.

"A" Flight of the 91st Aero Squadron returned to the Post on Tuesday, the 11th, from Crissy Field, Presidio of San Francisco, Calif., where they have been engaged in observation of Coast Artillery fire and night target practice, using parachute flares to illuminate the moving targets.

The 91st Aero Squadron has a rebuilt Fokker, motored with a Hall-Scott Liberty Six. The motor develops forty horse power more than the German Mercedes, is a hundred and seventy-six pounds lighter, is more flexible and does not have the vibration of the German motor. The motor has been loaned by the Hall-Scott Motor Car Company of Berkeley, Calif. to Captain Lowell H. Smith for experimental purposes. This is an excellent performing ship.

A short course in night flying has been carried on with Lieut. Emil C. Kiel of the 91st Aero Squadron as instructor. He reports that the Cadets who are taking the course are doing very good work. The purpose of the course is to acquaint them with night flying before their departure for Crissy Field where they will be required to do night flying and flare dropping over moving targets used by the Coast Defenses of San Francisco in target practice.

A detachment of the 9th Aero Squadron consisting of one officer, three Flying Cadets and twelve enlisted men have reported at Rockwell Field, Coronado, California, for Border Patrol Duty, relieving a detachment of the 91st Aero Squadron who have been on duty at that station.

Captain Albert D. Smith, 9th Aero Squadron, returns to duty on the 15th from the Letterman General Hospital, where he has been under treatment for sometime past.

Lieut. Delbert E. Jones and Flying Cadet Floyd E. Keadle of the 9th Aero Squadron, flew to Modesto, California, in connection with Air Service Recruiting on Sunday, the 16th, but were unable to return that afternoon as intended, on account of rain and high winds.

Seven Forestry Service employees have reported for the course in Forest Patrol work which is to be given at this station. From fifteen to twenty students in this course are expected. Lieut. George W. Pardy, 9th Aero Squadron, has charge of the class and has been kept very busy making the necessary arrangements for their accommodation.

A. F. G. Weissenthurm, Germany, Dec. 18

On Monday, December 13th, our Airdrome received a visit from Capt. Pastier and Capt. Fournier of the French Air Service, who are stationed at Mainz, Germany. These officers are making an inspection of available landing fields throughout the occupied area. Our Operations Officer, Lieut. Walter Bender, was able to secure considerable data from them regarding emergency landing fields.

The past week was rather an exciting one for us as far as flying was concerned, as it furnished us with not only our first crash but also our second one. Lieutenant Playne of the 1st Regiment de Chasse, French Air Service, attempted to make a short landing over our hangars in his 220 H.P. Spad. He pancaked his ship and smashed his under carriage. Lieut. Clarence M. Cutler piloted Lieut. Playne to the French Airdrome at Bonn to enable him to obtain repairs, and as they were landing on their return their ship hit a small rut in the frozen airdrome caused by a ship being taxied across the ground while it was soft. This rut blew out the tire on the right wheel of Lieut. Cutler's ship, causing it to turn over on its back. Fortunately Lieut. Cutler was uninjured, and Lieut. Playne only received a slight scratch on the forehead.

Again, while four of our men were engaged in repairing a hangar, a blow torch which they were using exploded spraying burning gasoline on the side of the hangar. Sgt. Zimmer had a detail of eleven men working a short distance away, and these under the direction of Sgt. Ritter had the four ships removed from the hangar in less than two minutes. The fire was soon put out leaving no worse damage than a hole in the roof and side of the hangar.

This organization was one of the first in the A.F.G. to go over the top 100 per cent strong in the recent Red Cross drive for members.

Our Photographic Department was called upon to obtain moving pictures of the review of the 8th Infantry and a battalion of French troops in Coblenz on Tuesday, December 14th. The ceremony was in honor of the Commanding General Henry T. Allen, who was decorated a grand officer of the Legion of Honor by General DeGoutte. Our photographic officer, Lieut. W. S. Hamlin, obtained about 400 feet of film from the air and the same amount on the ground. He also photographed the actual decoration of the Commanding General, using a Graflex camera, and obtained excellent pictures of the ceremony.

Besides the three cameras which were operated on the ground our two ships which are equipped for photography flew over the review and obtained pictures of the troops on the line of march. The planes were piloted by Lieut. Dogan H. Arthur, and Lieut. Ployer B. Hill; Lieut. Walter Bender and Sgt. Collins acted as observers. Although the review was held late in the afternoon, finished photos of the entire ceremony were delivered to the Commanding General at 10:00 A.M. the following morning, and our Photographic Section has received his congratulations for the prompt and efficient manner in which they held the mission.

Major and Mrs. H. S. Burwell gave a dinner party Tuesday evening at the Officers' Club in Coblenz, in honor of the Commanding General and Mrs. Henry T. Allen. Among the guests present were: Colonel and Mrs. E. A. Sturges, Colonel T. P. Melville of the British Army, Major and Mrs. F. M. Andrews, Major and Mrs. W. A. McCain, Captain and Mrs. R. L. Creed, Lieutenant and Mrs. Hill, Lieut. Henry T. Allen, Jr., Mr. A. Barton and his mother, Mrs. Barton; Lieut. C. G. Hutchison and Lieut. W. B. Sumner. The table was gaily decorated. A large model airplane covered with imitation snow was in the center of the table with the Air Service insignia near by.

HERE AND THERE WITH THE EDITORS

REAL TEST OF AVIATION

An editorial in the Omaha Bee, 12/15/20 pays a tribute to the fliers who are engaged in transporting Uncle Sam's mail across the continent in part as follows:

"One pilot has sent his machine through the air, a total mileage of 15,166 at an average speed of better than eighty miles an hour; quite a number have done 10,000 miles or better at the same speed. Flyers who wing their way between Omaha and Chicago have done 140 miles an hour for the entire 500 mile trip, with several hundred pounds of mail on board.

No fancy flying for these men; no expensive tuning up of specially built machines; just take the cargo of mail sacks aboard, get into the pit, fasten the safety strap, start the engine and away for the run to Chicago or to North Platte. That's all. We do not disparage the "trick" flyers. They are helping some. Millions were thrilled by Lincoln Beachey and Art Moore doing their stunts high in the air, yet the very things they did were tame to what actually was achieved by military flyers. Neither Beachey nor his successor knew anything of the "Immelmann turn", or the "wingslip", or several other highly important maneuvers, but their performances showed the way. So the French flyer is welcome to whatever comfort he can get out of his record for a sprint in an airplane, for he may be helping some, but the men of the aerial mails are the real champions of the game."

MEXICO BUYS 35 AIRPLANES

According to rumors current below the border, the Mexican Government has purchased 35 British airplanes, which are to form the nucleus of a Mexican Army air fleet. These planes are said to be of familiar English types, such as were successfully used by the Allied forces in France.

(Honolulu Star Bulletin 12/24/20)

AIRSHIP EXPERIMENTS

We read in the London Times, 12/28/20, that the Civil Aviation Department of the British Air Ministry is nearing the completion of its plans for using the airship in its commercial service. It is thought that the Department's experimental enterprise will begin next month. The Pulham airship station in Norfolk will be the headquarters.

The airships that are to be taken over for this purpose are the R-36, R-37, L-71 and L-64. The R-33 will be used for mooring out tests.

The R-36 will be fitted with a passenger saloon, and will be the first British airship to be so equipped, and she will also be the only airship to be used at the outset for long distance demonstration flights. If experiments with this ship develop satisfactorily others will be brought into commission. As already stated the long distance route to be followed will be toward Egypt. No other course will be considered until first experiments are completed.

A JAPANESE TWO SEATER

"The Aeroplane", 12/29/20, gives space to the description of the "Fuji-I-Go" two seater airplane designed by Mr. T. Inga Ki of the Itoh Aircraft Factory, Tsudanuma. The general outlines of the plane are very similar to those of certain Sopwith machines. It is a biplane equipped with a 120 h.p. Le Rhone engine.

This machine piloted by Mr. Y. Gotoh, won first prizes for altitude, and for advanced flying, and established a new altitude record of 5,000 metres early in 1920 at the first Tokyo flying meeting.

Drawings illustrating this machine accompany this article and there is appended specifications which give the main dimensions.

AVIATION INVADES HONDURAS

The American aviators have arrived in Honduras with American built flying machines bought for the War Department. They are engaged for a certain period to teach flying and how to care for the planes. It is expected that in peace times the machines will be used for the transportation of mails over the country, where railroads are very scarce and roads very bad.

(N.Y. Herald 1/9/21)

ADVOCATES AIRPOSTS

Montpelier, Vt. Jan. 7-- The early establishment of landing fields in Vermont to keep pace with the progress of aerial transportation was urged as a means of developing the state's resources in the inaugural address of Gov. James Hartness today.

He pointed out that in previous stages of transportation development Vermont had been handicapped by its lack of navigable rivers and the ruggedness of its surface which made railroading difficult and costly, but that by taking timely action the state could be on even terms with others in air transportation.

(Springfield Rep. 1/8/21)

NATIONAL MUSEUM BUILDS PLANE MODELED ON BIRD THEORY
OF LEONARDO DA VINCI

Using the plans and specifications suggested by Leonardo da Vinci 400 years ago, Paul E. Garber, employe at the New National Museum here, has constructed a model of a wing flapping aircraft which is attracting wide attention. Da Vinci is believed to have conceived his idea from a study of birds.

The model as constructed at the museum from da Vinci's book and notes, consists of a wood beam upon which the operator would have to lie, stomach down, with a ring holding him in place. His feet would project into two stirrups attached to ropes, which would flap the wings. The operator's head would fit into a yoke and his arms would have to be outstretched to grasp other ropes also designed to move the wings. It was this flapping of wings, such as is done by birds, which caused da Vinci to believe man power could operate a machine of the type he intended to invent.

The reason that the model was constructed from da Vinci's papers was because Curator Mitman believes the plane is theoretically correct in design and could be flown if a man was found strong enough to operate it. The craft can be constructed mechanically light, there being little weight to it other than the wood beam and wings.

Discovery of da Vinci's notes was made about 40 years ago. They had been lost to the world since 1519. The construction of the da Vinci model is the first of a series of twenty progressive designs of airplanes to be made at the museum.

The da Vinci aircraft plans call for a beam of 15 feet and a total wing spread of 30 feet over all. The model is just one quarter the original size of the plane.

HERE AND THERE WITH THE EDITORS: (Cont'd)

It is believed Professor Samuel P. Langley, one of the first scientists to construct a successful flying plane, got some of his ideas from the papers left by the famous painter. (Washington Times 1/16/21)

PHILIPPINES TAKE UP COMMERCIAL AVIATION

The Philippine Government is to appropriate large sums to further the development of commercial aviation, according to Capt. Carlos Barretto, Chief of the Air Service of the National Guard and a prominent member of the Aero Club of Manila.

"A sum of 120,000 pesos has been set aside for the training of thirty Filipinos as aviators, twenty-four of whom will complete their training in a few days", Capt. Barretto said. "Also 210,000 pesos have been appropriated for the purchase of airplanes and equipment. Five seaplanes, the largest to be set up in the Orient, have been ordered and are en route to Manila."

"The Government will also have spent by the end of the year a total of 200,000 pesos, representing the funds of the National Guard, for the construction of hangars and shops. It will spend a million, if not a million and a half, for the acquisition of a flying field." (N.Y. Herald 1/17/21)

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE FEBRUARY 16, 1921.

SUGGESTIONS FOR CO-OPERATION OF
AIR SERVICE WITH BOY SCOUT ORGANIZATIONS

Education for citizenship is the question uppermost in the minds of thinking people today. How to instill into the youth of the land that reverence and love of country without which patriotism may not be fostered or developed: how a government may stretch forth its hand and so touch the pulse of its people as to be sure of its loyalty: these are problems that must be solved to bring about that spirit of inter-dependence and co-operation by which a nation and its people become one and inseparable, and through which a people develops power and a nation true greatness.

There has never been a time in the history of our country when there was greater need for the Government to know what the young people of the United States are doing - what they are thinking, feeling, believing. There is no higher duty confronting the nation than the training of the youth of the land for citizenship. No means should be neglected by which this high duty may be performed; no suggestion should remain without attention which offers anything of hope or of value.

In this connection, no surer means of reaching the youth of the United States can be conceived than through the Boy Scouts organizations, which have taken so firm a hold upon our young people and which have become so beneficial and conspicuous a part of our social body.

In the first semi-annual report of Captain H.E.Hartney, the Chief of Civil Affairs Division, Training and Operations Group of the Air Service, of date January 14, 1921, the following significant paragraph appeared:

"Co-operation with Boy Scout Organization: The Chief of the Group feels that a great field of activity that will stimulate obtaining reserve lies with the Boy Scout Organizations of the country. These organizations have, in the past, rendered very valuable service by guarding airplanes over night where pilots have been forced to land away from airdromes, and by rendering other useful assistance to stranded aviators. The National Council of Boy Scouts realizes that their forces can render a great aid to the nation, and the Chief of Air Service feels that work to the mutual benefit of both can be accomplished with little, if any, cost to the Government. Therefore, a project is now being prepared by this Division whereby Scout Organizations of the country will co-operate with the Air Service, and the first great work that they will be asked to do is the marking of the landing fields on the model airway."

The paragraph above quoted contains the germ of a great idea - the chrysalis of a thought big with potentialities.

A step farther in the development of this thought by its expansion into a series of eight quite practical and definite suggestions as to means by which the Boy Scouts may aid the Air Service and eight setting forth methods by which the Air Service could assist the Boy Scouts, all presented to the National Council of Boy Scouts by the Civil Affairs Division of the Air Service are as follows:

"A mutual agreement could be entered into between the National Council and the Chief of Air Service, designed to bring about results for both organizations:

A. Means by which Boy Scouts may aid the Air Service:

(1) Marking of municipal landing fields.

(Note: The Air Service will be establishing many air lanes throughout the country. Every town of any importance in the United States within a reasonable radius of these airways, should be mapped according to certain specifications laid down by the Chief of Air Service, with the

name of the town plus certain numbers. The first model airway between Washington and Dayton should be marked out immediately and a list of the towns especially desired will be found attached.

- (2) Weather reporting. Scouts can be of great assistance by notifying the nearest Air Service Station of an existing fog which would be dangerous to aviators, thus preventing accidents.
- (3) Forced landings. Scouts can help aviators who are forced to land by assisting the pilot to obtain supplies and fuel and by guarding his machine over night when necessary.
- (4) Accidents. By reporting and guarding crashed planes when they crash away from the nearest Air Service station until such time as proper authority arrives to take over the damaged government property.
- (5) Night navigation. As night navigation for airplanes develops, boy scouts will be able to assist in the signalling.
- (6) Report on terrain. Some municipal and emergency landing fields will not be provided with paid watchmen and at times a flood or some other agency will render a field unfit for landing. Scouts could be charged with the supervision of fields such as this and report to the nearest Air Service station the condition of the field.
- (7) Aviation control. There is no legislation in this country whereby fliers are licensed, and often civilians are operating sometimes to the danger of the public and the War Department is not cognizant of their existence. Until the necessary legislation is obtained, the scouts could render a valuable service by reporting through their headquarters the visit and landings of any airplanes other than Army, Navy or Post Office and thus a valuable service would be rendered not only to the War Department but to the country during the time when unregistered airplanes are apt to be used for smuggling or other illegal purposes.
- (8) Dispatch. Scouts could welcome pilots at emergency fields, show them to the nearest transportation, fuel, and personal accommodation.

B. The Air Service could assist the Boy Scouts by the following, among other means.

- (1) The organization of new Scout Councils.
- (2) When the Air Service has been officially recognized as a big brother to the scout organization it would stimulate recruiting and expansion for the scout movement.
- (3) By the loan of photographic negatives in select instances where a War Department benefit will accrue.
- (4) By occasional lectures on aeronautics by different officers of the Air Service to Scout Chapters.
- (5) By furnishing advice on matters aeronautical to Scout organizations.
- (6) By permitting scouts to visit the fields and hangars of the Air Service.
- (7) By lending assistance to scout conventions and sporting competitions.
- (8) By recognizing the value of scout training in considering applications for cadet and enlisted status in the Air Service proper.

CABLE LAYING BY AIRPLANE

Not many years ago when the question of laying a trans-Atlantic cable was under consideration there were many opinions expressed pro and con, including a mathematical proof by a Prof. Loring of Harvard University that it was impossible to telegraph three thousand miles under the ocean. Since that time cables have been laid successfully to almost all parts of the world and are today our chief means of rapid long distance communication. Today we have records of cable laying by airplane. On first thought one wonders just where the utility of such a means might appear, but the potentialities of the process are many when duly considered. The laying of cables by aid of airplanes permits a rapid and positive establishment and also maintenance of electric communications connections in the field from a military point of view, entirely independent of the character of the ground, and forms an effective means in the hands of army chiefs or battle leaders for influencing operations or the development of battle.

In the course of operations in the open field a connection can be brought about immediately, as for instance between different marching columns even though they are separated by inaccessible ground which might be of decisive importance under certain situations. Another valuable use would be in establishing communications with troops on forced marches either during an advance or a retreat. Further connections could be established quickly in this way with reconnoitering units operating far away or in places difficult to get at such as for instance cavalry activities, or between artillery and headquarters for directing fire.

Both in cases of field operations and trench warfare lines of communication which have been destroyed by enemy fire can be restored even in the middle of violent action which would be of utmost importance to staff and artillery activity. During operations in a country which is little developed aircraft cable layers are an extremely valuable resource because of the rapidity of establishing communication.

Indicative of the prime importance of a feature such as this, it has been found that connections can be established even in cases where resources previously depended upon have been incapable of functioning completely, or have failed altogether. Infantry operations signal service and coast defense units could possibly use this new system to advantage.

The system of laying cables from airplanes can be briefly characterized in that the apparatus is insignificant in weight and requires little space, and it can be installed readily on any airplane. The apparatus consists mainly of two parts, the one, the wire holder which may conveniently be placed in or near the pilot's cockpit and the signal apparatus which is placed in the rear of the airplane, consisting of an appropriate number of falling weights unfastened by a special method with signal flags attached. When the wires are sent down to the ground, the flags indicate the spot where the wires have taken ground. A device is provided for cutting off the wires after sufficient cable has been laid. The wire runs out from the holder through the signal apparatus. All the apparatus is easy to construct and requires no fine adjustments. The whole cable laying process is effected by a single manipulation, and both single and double wires may be laid. There is no necessity for descent in order to establish the connections.

Sweden. Extensive tests have already been carried out with this system in/ The results of these tests have been excellent, particularly when applied in forest, mountain, lake, fen, marsh, or desert regions. One test of interest was run between two organizations which were about six miles apart and separated by a woods extremely difficult of passage. An airplane took off from a field about forty miles away, came over and executed the laying of the cable with admirable accuracy between the two organizations, and returned to the landing field. From the start of this test to the end the elapsed time was eight minutes, of which six were flying time.

From a commercial point of view there may be possibilities in such a system as this in mining operations, forestry work and lumbering, scientific explorations, or other endeavors where communication is necessary, yet too difficult of installation by other means. In forest fire patrol work such a means as this might be used in maintaining communication between various squads of fire fighters on the ground in the interest of coordinating their efforts. So then all in all this seems to be valuable additional means of establishing communication and very much worth exploration and adoption.

A WORD TO THE WISE IS SUFFICIENT

It was recently noted during the course of consideration of funds for the army that will be available during the coming year that a great deal of money is expended which does not reflect value received. The following extract from the Congressional Record should prove of interest to all:

"I believe the Army can be made useful to themselves and made independent, red-blooded men by permitting them to do things for themselves. I do not believe men are improved as soldiers or as men by lying around the camps without having something to do besides drilling and acting soldiers.

They endeavor to make the Army life attractive by moving pictures and all sorts of recreation. I do not know how it is with other people, but I tell you that about the best recreation a man can have is to perform some good, honest toil. It will bring more contentment and satisfaction than drilling a few hours a day and having the recreation furnished at such an expense. I am going to make every Army man angry when he sees this statement, but I would like to hold up to them as a model the United States Marine Corps. The Marine Corps down here at Quantico are not waiting for Congress to appropriate money to improve their homes. They are taking that old camp, those old tumbledown buildings, unsightly affairs, and are taking off their uniforms and are pulling the buildings up on the hills, on to good lots, and are painting them and putting new foundations under them and making attractive homes of them. In the corps there are brick masons, carpenters, paper hangers, and so forth. Those boys are beautifying Quantico. If the Marine Corps stays there a little while they will have beautiful homes. They do this for a very small sum of money. Not over eight or nine hundred dollars. If you were to see those buildings when they get through with them you would think that they cost \$8,000 to \$10,000. But the Marine Corps is willing to go and "take hold of the smutty end of the chunk" themselves. And you ask why the Marine Corps is a favorite among so many Congressmen and so many people of the United States. And the answer is that it is because of the spirit displayed by it.

Down at Panama, when the Appropriation Committee was making its annual visits for the purpose of ascertaining the amount of money to be appropriated for the canal, General Goethals, who is himself of the Army, told us that he had been guilty of misappropriating some funds. He declined to make any explanation until he showed a beautiful place, with fountains playing, with walks laid out, and the barracks all fixed up, and everything clean. Here was the explanation. He said that a committee of marines had come to him and asked him for a little lumber, paint and cement in order to fix up the barracks, and he gave it to them. He said that he had no authority to do it, but did it. It cost only a few dollars. The result was one of the most beautiful places you ever saw.

Then he took us down to another place, where there were squalid old buildings. The walks were overgrown with vegetation. It was a horrible looking affair. "Now", he said, "I offered to do the same thing for the Army, but when they found out how it was to be done, their expression was, 'To hell with that; if the Government can not fix it up'. The Committee without a dissenting vote indorsed what he had done".

In so far as the Air Service is concerned the matter presented should be given careful consideration and from the point of view of achievement should mean as much to every Air Service organization, both large and small, as does the number of flying hours or other greatly coveted inherent feature.

"THAT NOSE-HEAVY JENNY".

The Chief of Engineering Division, McCook Field, Dayton, Ohio, sends the following description of a modification recently incorporated in the JN-6HG:

"Reports various and numerous, have come into the Engineering Division at McCook Field from Air Service Stations. All agree in one point-- that the JN-6HG is extremely nose heavy and logy, making flying manual labor. As a result many of the 496 airplanes of this type at various stations are not being flown. The problem of elimination of the defect has heretofore withstood all attempts at solution. It has been the veritable Nemesis of Engineer Officers, the awe inspiring Demon of Perversity of riggers, persistently and incessantly thwarting the best of their knowledge and experience, and, finally, the Invisible Gladiator with which the pilots who are forced to fly these derelicts match themselves in feats of physical prowess, a constant and ever-increasing drain on their strength.

Hopeless, dejected, steeped in the depths of the slough of despair, the Oppressed, with a titanic effort, compiled, co-ordinated and crystallized the evidences of the momentous problem, and presented it to the Engineering Division.

A conference was called of the heaviest and most powerful aerodynamic experts extant, two privates 1st class and a 2nd Lieutenant, and the problem placed before this august body. After the subject matter of the report had been read in detail, a singular and significant phenomenon occurred - discussion was conspicuous by its absence. Silently, effectually, but thoroughly, was the conference dissolved and each participant, wearing a profound look of concentration, and cloaked in the enveloping mantle of dignity and authority which is peculiar to the expert worthy of being called a savant, retired to his sanctum sanctorum, where in repose he could wrest the solution from his volume of abstract science with the aid of his tools, the water-cooled slide rule, integral tables and an integrator. The problem baffled the experts for a time, but persistency is the corner-stone of accomplishment, and their efforts were gloriously rewarded when an article was discovered in the secret archives by an eminent authority on stability. Briefly stated, the essence of the report was to the effect that the tail plane section was the crux of the stability problem; that in no case was the lower surface to be entirely devoid of camber if the flying qualities - more particularly those relative to longitudinal stability - were to be unimpaired. A detailed inspection of this JN-6HG tail-plane disclosed the fact that their suspicions were well founded. This element being detached, its section was subjected to microscopic examination - instruments calibrated with the Johanssen blocks being used; computations and calculations checked and rechecked by the Theory of Probability and Least Squares, and, allowing for mean deviation, it was found that the lower section was as flat as a pancake.

Further consultation resulted in the unorthodox and radical procedure of turning over or inverting this member, thus placing the cambered upper section nearer the point of attachment and the flat surface uppermost. A flight test of the newly modified plane was the next step in the procedure, and was observed with interest, the report of the pilot being anxiously awaited.

No sooner had this latest prodigy landed, than the pilot was interrogated and cross examined as to the balance and general behavior of the rehabilitated 'crate'. His report substantiated and gratified the fondest expectations of the dabblers in experimental research, the balance was improved to the decimal point of their calculations; to summarize the report, "She ain't quite so nose heavy."

PURSUIT TRAINING AT KELLY FIELD

Cross-country formations of from 3 to 5 planes have been scheduled and carried out during the past week. Many of these formations have been sent as far as 75 miles and in all cases the formation returned intact. Target practice has been scheduled for nearly each afternoon, but so far the range has not been available because of lack of repairs to the dugout. The 147th Squadron leads the Group for flying time this month with the 94th Squadron following a close second. The 27th Squadron and 95th Squadrons are having a race by themselves with the betting a little in favor of the 95th. During the period from January 1 to January 20th, 1921 the 147th Squadron has piled up a total of 313 flights, with time in the air of 170 hours. The 94th Squadron also has its hat-in-the-ring with 125 hours time, the 95th and 27th Squadrons have 91 and 89 hours respectively. It looks as though the Kicking Mule and Flying Eagle would have to instill a little "pep" into their movements or let their old rivals hopelessly outclass them. Early morning fogs have prevented a full week of Battalion drill, but it is hoped there will be a different story to tell next week.

DETAILED TO GO TO ITALY TO BRING BACK THE "ROMA"

For the purpose of bringing back the giant airship "Roma", recently purchased by the United States from the Italian Government, the following officers and men from the U. S. Army Air Service have been detailed to go to Italy: Major John J. Thornell, A. S.; Captain Dale Mabry, A. S.; 1st Lieutenant Walter J. Reed, A. S.; Master Sergeant Harry A. Chapman; Staff Sergeant Marion J. Beall; Sergeant Joseph M. Budenbach; Corporal Virgil C. Hoffman.

Of the semi-rigid Usuelli type, the "Roma" is believed to be the largest semi-rigid airship in the world. Sold to the United States Government for approximately \$200,000, it would cost at present to duplicate probably \$1,250,000.

Designed originally for commercial purposes, the "Roma" was built by the Italian Government for use during the war. The big airship was constructed under the direction of Signor Usuelli, whose name designates the type, and of the Engineers Prassone and Nobile and Colonel Crocco.

The "Roma" has a capacity of 1,200,000 cubic feet: is 410 feet long, 82 feet wide, 88 feet 6 inches high, and has a cruising radius of 3,500 miles at full speed, or 800 miles at cruising speed.

Equipped with six 12 cylinder Ansaldo engines of 400 h.p. each, the "Roma's" speed is estimated to be 80 m.p.h.: her gross lift about 65,000 pounds, or 32.5 tons: her disposable or useful load, about 38,000 pounds, or 19 tons, which is 58% of the gross lift.

The "Roma" has carrying capacity for 100 passengers in addition to the crew.

In the U.S. Air Service Magazine of June, 1920, Lieutenant Colonel A. Guidoni, Air Attache, Italian Embassy, gives a detailed description of the "Roma" as follows:

"The envelope has twelve divisions for the gas tanks and only six for the ballonnet. A characteristic of this airship is that each of the ballonnet divisions has its own manifold and two controllable exhaust valves.

"In the bottom of the envelope and under it there runs, from fore to aft, a rigid triangular girder with the apex down. This girder has a 12 degree side and the small parts are made out of steel pipe, having articulated couplings to avoid all stresses of secondary flexion and to assure that they will work in a satisfactory manner.

"The top of the envelope is bilunated, much after the fashion of the Astra Torres, but of smaller proportions. Crossing the main beam, there are three longitudinal fabric frameworks in which the supports are attached to the couplings of the girder by means of parabolic ropes.

"In order to make rigid the nose of the ship in flight, the fore part of the girder is shaped in a large braced cupola. There are six 12 cylinder 400 h.p. Ansaldo engines placed in pairs near the fore, the center and the after parts of the ship. Engines and radiators are situated on cantilevers projecting from the central beam.

"The engines of the forward group have the axle at an inclination of 12 degrees over the diametrical plan of the ship: the second pair have an angle of ten degrees, while the third have the axle parallel. This is arranged so that the workings of the different groups of engines do not interfere with each other.

"The propellers have a diameter of 3.50 M, and are directly connected to the engines. There are three fixed rectangular planes and a triplane with elevators. The cabin control is in the girder. For the steering of the ships there are two control wheels, one fore, the other aft."

The airship will be deflated and brought to the United States by transport.

PIGEON RACES AT LUKE FIELD, H.T.

Pigeon races consisting of three events on three consecutive days were engaged in between the pigeons from the Luke Field loft and the Signal Corps loft at Schofield Barracks. On the first day twelve birds from each loft were at five minute intervals released from Kualoa Point, a distance of fifteen miles from each loft. On the second day the Luke Field birds made a twenty mile flight and the Schofield birds made a ten mile flight, and on the last day Luke Field had the advantage of the short flight and the Schofield birds flew the longer distance. The Luke Field pigeons all flying constantly had a total score for the three days of 874 points as compared with 1019½ points for the pigeons of the Schofield loft. The method of computing the scores was to add the time in minutes for each bird from the time of release to the time of trap; for each bird failing to trap by 4:00 P.M. of the date of release, 100 points were added to the total, and 50 points were added for each bird trapping at the wrong loft. The loft having the smaller aggregate figure of merit for the three flights was the winning loft. These were the first pigeon races conducted in the department and aroused considerable interest at both posts.

1ST PURSUIT GROUP PARTICIPATES IN PROTECTION PATROL

The following squadrons of the Pursuit Group furnished five planes each for the protective patrol on January 14, 1921:

27th Aero Squadron: Formation left ground at 1:40 P.M., leader of formation, Second Lieutenant George P. Tourtellot, Air Service. The second five-plane formation from the 95th Aero Squadron joined in echelon at 2000 feet at about 2:05 P.M., climbed to an altitude of 6000 feet and proceeded to Somerset, Tex.; flew about in that vicinity waiting for the DH4B formation. Two planes dropped out of the 95th formation at 2:25 P.M. and started for the airdrome. Met DH formation at 2:35 P.M.; at an altitude of 7000 feet. Flew as protective patrol to Devine, Tex. Mission was accomplished. DH formation returned to airdrome, breaking up over it at 6000 feet, landed at the airdrome at 3:30 P.M.

94th Aero Squadron: Formation left ground at 1:40 P.M., leader of formation, First Lieutenant Samuel G. Frierson, Air Service. Flew over Von Ormy, Texas, at 2:00 P.M. at an altitude of 6000 feet, picked up Bombardment Formation of 5 DH4B's. Protected formation to Lytle, Texas; bombed Lytle at 2:14 P.M., 147th Patrol joined at 2:16 P.M. at 6000 feet. No enemy airplanes observed. Train movement normal. No troop movement. Large fires south east of Von Ormy, Texas, about 20 miles. Returned 2:30 P.M.

95th Aero Squadron: Formation left ground at 1:55 P.M., leader of formation, 2nd Lieutenant Lloyd C. Blackburn, Air Service, met 27th Formation over Lady of the Lake, Texas, at 2:00 P.M., proceeded to Somerset, Texas. Stayed in vicinity of Somerset for ten minutes, when bombing formation arrived at 2:35 P.M. Took position on left about 1000 to rear and 500 to 1000 feet above bombing squadron. Maintained this position until breaking up of formation. No. 2 dropped out at Somerset due to missing motor. No. 5 dropped out a few minutes later due to motor overheating and lack of water. Returned to airdrome at 3:30 P.M.

147th Aero Squadron: Formation left ground at 1:50 P.M., leader of formation, 2nd Lieutenant Hiram W. Sheridan, Jr., Air Service; Flew over Von Ormy, Texas at an altitude of 6500 feet. Picked up Bombardment Formation and 94th Patrol at about 2:15 P.M., east of Lytle, Texas, heading north east, following these formations to airdrome and continued formation for instruction purpose. Landed at 3:50 P.M.

CROSS COUNTRY FLIGHTS AT KELLY FIELD

The following cross country flights were made in DH4B's on January 8, 1921: Lieutenant M. J. Flumb, as pilot and Lieutenant Godard, as passenger, went to McAllen, Texas; Cadet Tillery, as pilot, and E. Roberts, as passenger, to Del Rio, Laredo, Texas; Cadet McNow, as pilot, with Sergeant Hunter as passenger, Cadet Carrier, as pilot, and Sergeant Liefer as passenger, to Jourdanton, Texas; Cadet Snyder as pilot, and Sergeant Koskoski as passenger, to McAllen and Laredo, Texas.

Lieutenant S.F. Landers as pilot, and a sergeant as passenger, made a cross country trip to Del Rio, Texas, on January 20, 1921 and returned the same day.

AIR FORCES IN GERMANY PLAYED SANTA CLAUS TO THE CHILDREN OF WEISSENTHURM

An interesting account comes from the Commanding Officer of the way in which the Air Service Forces in Germany played Santa Claus to the poor children of Weissenthurm.

"The Air Service Forces in Germany did not forget the poor children of Weissenthurm at Christmas, and the kiddies, ranging in age from one to fourteen years, enjoyed the time of their lives. In playing Santa Claus to the children of the village, everything was done in a way worthy of the best traditions of the American Army. To finance the event, the sum of 18,650 marks was raised among the officers and enlisted men of this organization, and especially noticeable was the large proportion contributed by the latter.

Having obtained from the Burgomaster a list of the poor children of the village, with special data about every one, a present was provided in accordance with the particular need of each child. Warm underwear and mittens, plenty of candy, nuts, fruit and cookies were provided for all, while every girl received a doll and every boy a toy. A giant Christmas tree was set up in the

Squadron Mess Hall, and at 4:30 on Christmas eve the little folks began to arrive, the different groups each in charge of a teacher. There were 470 children - every child in the village, in fact, of the ages mentioned, and it was worth all of the effort put forth and more to see the eager wistful faces of these little German folk light up with happiness as their names were called in turn and their arms were loaded with the generous supply of gifts.

Lively cheers greeted the appearance of Santa Claus, ably personated by Private Hart, and, led by their teachers the little voices united beautifully in singing the old Christmas Carols that they knew so well.

Major Frank M. Andrews, Chief of the Air Service, A.F.G., accompanied by Mrs. Andrews and also by Mrs. Allen, wife of the Commanding General, attended the exercises, as did all of the officers of the organization with their families and all of the enlisted men, making it a regular get-together, community occasion.

The success of the affair was due to the efforts of the committee in charge, especial credit being due to Mrs. Walter Bender and Lt. Thomas M. Jervey."

AIRPLANE MOTOR MUFFLER,
A RECENT SWISS INVENTION.
NOTES ON AERONAUTICS IN SWITZERLAND

From the Commanding Officer at Weissenthurm, Germany, there has been received the following report of a visit made by Major H.S. Burwell of that station to Deubendorf, Switzerland, where he witnessed a demonstration of an airplane motor-muffler recently invented by a Mr. Berger of Zurich:

"Major H. S. Burwell proceeded to Deubendorf, Switzerland, on December 8, 1920, and spent three days witnessing the demonstration of an airplane motor muffler recently invented by a Mr. Berger of Zurich, Switzerland. He reported that he was very much surprised and interested to find that the invention was of considerable practical value and apparently did not heat up or diminish the power of the motor, while it reduced the volume of the staccato exhaust noises sufficiently to allow conversation between the pilot and the passenger. A lengthy technical report accompanied by blue-prints and photographs is being prepared for the Chief of Air Service.

"Major Burwell described the fundamental principle of the apparatus as being quite simple, consisting only of a marked rapid cooling of the exhaust gases which action, as well as that of the expulsion of the burnt gases from both the manifold and the muffler, was assisted by a sharp suction created by small revolving blades and by centrifugal motion generated from either a connection on the cam shaft or from small exterior blades around the movable head of the stream lined muffler operating in the slip stream.

"The appliance weighs about 14 kilos, is one meter long, and 34 centimeters in diameter, and is made of thin sheet iron. The gases enter the tapered rear end of silencer into sleeves similar to an automobile muffler and are sucked and thrown out of the spinning head of front end, resulting in well over a 50 per cent reduction of noise, plus a blended and smoother sound hardly discernible from an altitude of 2,000 feet to a listener on the ground. This was tried when a Benz motor of 220 H.P. was being used.

"The natural disadvantage is that of increased drag from wind resistance, which Major Burwell looked upon as objectionable, although the inventor claimed that the apparatus could be practically enclosed in an oval case, placed close to the top or bottom of the motor. Official recommendations are being made to the Chief of Air Service, Washington, D.C., for the purchase or construction of several types of this muffler for experimental purposes in order, possibly, to substantiate the inventor's claim that his present handmade model is sufficiently perfected and efficient to permit an airplane in the future to: (a) carry on verbal ^{instructions} in the air between instructor and primary student; (b) make lower unexpected bombing raids possible; (c) allow the pilot and observer to work easily together and alleviate the difficulty of tuning wireless telephone sets over the noise of the motor; (d) allow plain code signals by use of the muffler cut-out to be sent from the plane to the ground; (e) make both military and civilian aviation more pleasant for the passenger and pilot; (f) reduce the exhaust blast so that the propeller noise is the predominating sound; and possibly even the claim that the muffler assists in keeping the spark plugs clean and aids in securing a purer gas mixture in the cylinders and therefore stronger power strokes.

Airplane Motor Muffler - Cont'd.

The Swiss Federal Aviation Service has inspected, approved and ordered all their planes equipped with this type of muffler as soon as production allows. Major Burwell made a flight around Zurich near the Alps in a Swiss military plane equipped with the muffler and has invited the inventor to visit the flying field at Weisenthurm, Germany, for the purpose of planning a muffler suitable for the Liberty motor. It is believed very considerable difficulty will be encountered when this effort is made on the Liberty, or any 12 cylinder, V-shaped, two-exhaust manifold motor of 400 or more H.P., although the inventor anticipates no serious trouble, and states that with his muffler and fourbladed heavier pitched propellers, opportunity for cutting down all noises has been provided.

Major Burwell gained the impression from his short visit that the Swiss fliers are excessively conservative and that very few are trained in acrobatics. The Swiss Federal Flying Field at Deubendorf is a large, level, smooth, heavily turfed Airdrome. He understood that the Swiss Air Service was practically limited to that at Deubendorf with landing fields at a few of the large cities, and consisted of only 100 planes in reserve and 100 in commission, of which about 50 or 75 were in actual use. The principal plane in use, and apparently the one most favored appeared their so called Swiss Military Biplane purchased from Germany, fitted with a turret mount, with either a 150 H.P. or a 220 Benz motor. It has very little larger dimensions than a Curtiss JN, and did not seem to be as substantial. In fact the Swiss official approached on the subject did not consider it suitable for acrobatics.

Other notes of interest were that foreign Army Officers are not allowed to travel in Switzerland in uniform; that hotel and living expenses are practically as high as in our best hotels in the States; that it is more feasible to check over cafe or hotel bills rendered in Germany, Switzerland or France than it is in the States; that nearly all travelers use 2nd or 3rd class R.R. tickets, and that very few indeed use 1st class tickets, and that many times there is little or no difference in 1st and 2nd class accommodations; that the cuisine and hotel room facilities in Switzerland are most excellent; that the Swiss franc is high, 6.3 for one dollar, while the French franc is 16 to 18 for one dollar.

Major Burwell was also fortunate in having an opportunity to visit the League of Nations in assembly at the Hall of Reformation in Geneva, at which time Bourgeois of France was elected Vice-president of the League, and speeches were made by Mr. Balfour, M. Viviani, Paderewski, and others. The Major also attended a committee meeting of the League, at which time the important subject of disarmament was reported upon. Dr. Lange of Norway, Mr. Fisher and Lord Robert Cecil of Great Britain spoke on the subject but the most interesting remarks were made by Viscount Ishi of Japan, who spoke for an hour on the different phases of the question. Japan appeared to have by far the largest staff assisting its representative, due, it was understood, to the fact that French and English languages were altogether used and required translation after each address made, from English into French, or vice-versa, and that all subject matter had to be written in Japanese long-hand, requiring great labor that could not be lessened without the use of an exceptional typewriter of many hundreds of keys necessary to fit all Japanese symbols."

FIREPROOFING AIRPLANES

In studying the necessary development of safety devices in the construction of airplanes for the last six years, it is conceded that the one detail of greatest importance has been neglected; namely: a simple yet sure method for preventing fires in aircraft.

The nature of the material used as well as the construction of the plane has been such as to aid inflammability, and when a fire started it was certain to spread over the entire wing and tail surfaces, burning away all support and leaving the aviator no chance of saving himself.

Recently there has been introduced a method which promises to prove itself thoroughly practical and reliable for the prevention of fire in aircraft, both in planes and in dirigibles. Experiments to this end have been in operation for five years and it is gratifying to know that at last this problem is nearing its solution.

According to "Aviation" for November 29, 1920, the Phenix Fireproofing dopes are at this time receiving recognition as a success. Some favorable mention is made of the fact that while these dopes have a cellulose base, the active materials which make the fireproofing composition are dissolved in a solution and are not a fire resisting pigment which settles. This quality not only obviates weight but also makes it possible to use the solution from the top as well as from the bottom of the container with equally good effect. That these dopes may retain their non-inflammable properties to best and most certain effect, they must be applied to new and undeveloped cloth. The plan which has given best results is to saturate new and undeveloped fabric with the fireproofing solution and after letting this dry thoroughly then apply three to six coats of dope.

A vast majority of the accidents in the air which have resulted in death have been caused by burning planes. Even the all-metal planes whose construction promised protection against this menace have failed, and have sometimes seemed to prove a death trap for the flier.

If applied fireproofing can be made a success, one of the hazards of flying will be removed, and airplanes and airships of every type will be brought into more general use.

ONE DEAD, ANOTHER INJURED IN AIR-PLANE ACCIDENT AT MARCH FIELD.

Telegraphic communication from the Commanding Officer at March Field, Riverside, California, announces the death of 2nd Lieut. Walter E. Price, and serious injury of 1st Lieut. Evan M. Sherill, the result of an airplane accident which occurred at that station on Feb. 2. Lieut. Price leaves a wife who resides at 184 East 7th St., Riverside, California.

BALLOON R-1043 ESCAPES AT LEE HALL AND DRIFTS OUT TO SEA

While letting the R-1043 out in ballast with ten bags of sand aboard, at Lee Hall, Virginia, at 9:55 A.M., Feb. 1, the cable parted at the splice when the balloon was about 300 feet in the air. Because of low hanging clouds the balloon was not seen after it ascended beyond 1000 feet.

At about 12:25 P.M., word was received that the balloon had landed a half mile out at sea near Fort Story, where the pilot at the light-house had captured it and towed it to shore. The balloon was deflated and saved.

COLUMN OF FLYING EXPERIENCES

"AND I LEARNED ABOUT FLYING FROM THAT"

The incident - I will not call it an accident - happened while I was a member of the 3rd Aviation Instruction Center, Issoudun, France, that huge stage whereon daily were produced scores of thrilling and dramatic incidents which never found their way into print. As far as I know, no one save myself knows what a huge fool I was, and except for this letter, no one ever would.

The whole thing was a result of that indoor pastime of aviators, "Barracks Flying". The relative merits of the different planes were being discussed, and I was strong in my praise of the "Avro". So strong was my contention, in fact, that I went so far as to claim the plane fool-proof. In a way I was right, but let me get it over.

I made the assertion that I could zoom an Avro off the ground and, while still in the zoom, cut my switch to represent a stalled motor, and make a safe landing. No one but a fool would have said such a thing, and no one but a fool would have tried it. My bluff was promptly called, of course, and I had to put up or shut up; so up I put.

The next day, which for a wonder was bright and clear, found me on the line at Field 3 tuning up my Avro. The crowd of the night before was there with bells on, singing "Ten thousand dollars gone home to the folks", and in various other ways adding to the gaiety of the occasion.

The motor turning over well, I took a deep breath, and with a prayer in my heart, took off. I felt the plane lift, and pulling back on my stick, I "chandelled" upward to the right. I was almost ready to cut my switch when the motor obligingly "pouped". Now this had not been in my calculations, but its effect on me was disastrous. For the life of me I cannot tell what I did; in fact I don't think I did anything but hold my breath. At any rate the plane slowly stalled and started to slip off on the right wing, the speed growing faster and faster, until I could see the ground appearing over my right shoulder.

Savagely I did what I could, and, just when a crash appeared imminent, that wonderful plane, with the right wing almost dragging on the ground, came out in a beautiful glide and I made a wonderful 3-point landing into the wind with a dead stick.

I climbed out with what nonchalance I could muster, but, although the day was warm, I felt cold as ice. I managed to light a cigarette and pulled myself together in the short time it took the bunch to run out to the plane, and their arrival found me puffing away casually with a most supercilious air. I was a good dissembler, and my flying ability took a soar upwards as the bunch praised me for the wonderful exhibition. I thanked them, collected my bets and moved off, the hero of the occasion, but, gentlemen - "I certainly learned about flying from that".

Malcolm N. Stewart,
2nd Lieut. Air Service.

IT DOESN'T PAY TO TAKE CHANCES

A short time ago, I was assigned a mission to carry some moving picture films to a city about 300 miles distant from my station. The mission was assigned me at noon and it was the desire of the Commanding Officer that the films be at their destination by dark. Due to minor causes, we did not get off the ground until 2:50 P.M., which gave us, if everything went well, about three hours of daylight - the sun would set about 5:30. We had to buck a 20 mile cross wind, but the motor, a Liberty 12, was running well, and we made the first 100 miles in exactly one hour. The plane, being a brand new De Haviland, we landed to get gas and oil and to "look her over" at the end of the first 100 miles. Everything being in good shape, we took off again at 4:30 P.M., and all went well until we were about 40 miles from our destination, when the motor began to miss.

Right here is where I made the "bull". The sun had gone down but ten minutes before; it was still light enough to land, and there were several landing fields in the vicinity that I could have reached without any trouble. I should have landed right then, because the motor back-fired a couple of times through the carburetor, and then picked up, then missed and backfired and picked up. In fact, it acted just the way motors have of acting when they are not getting enough gas. However, I didn't land because I had the chance of nursing the motor and dragging in to my destination as I had done several times before - in the day time.

I had been over the course many times before, and knew that I had plenty of gas, if I could keep the gas line blown clear of dirt, or whatever, the obstruction was, and so thought that my chances were very good of reaching my destination and getting the films delivered in time.

However, with darkness coming on and the motor still bucking, the upshot of it all was, that I got off my course. I kept my compass course as near as I could judge it from the landmark I had seen, but in trying to avoid some very bad country that lies near my point of destination, I must have passed the city on the other side. The lights of the city were not yet on, it should be borne in mind, and there were numerous brush fires all around in all directions which were very confusing.

It was then about 6:15 P.M., and getting quite dark--so dark that I could hardly tell woods from prairies. I was lost, but by no means ready to give up, for I was familiar with the country around, and knew that if the motor would just keep me up a while longer I would eventually be able to locate myself. Finally I saw the lights of a town ahead and made for it. I thought I knew what place it was, but when I reached it saw that it was not the town I expected to find. However, I thought I recognized it and started in the general direction of my original destination, and when I turned I saw the lights of the city I was trying to reach quite a bit back in the direction from which I had just come.

My spirits rose perceptibly, but only to drop again, for the motor, which I had managed to keep going between misses and backfires, suddenly lost its "pep" and the R.P.M. dropped from 1500 to 400. There was only one thing left to do then, so I started down in the direction of the town I had just left, with the thought that I didn't want the ambulance to have so far to run. I got back to this little town and saw a pretty good landing field - a big one at least - about a mile distant and headed for it.

We were then less than 500 feet above ground, and I was still trying to get the motor to pick up. It finally did so to some extent, so I tried to get around and come in this big field the long way. When we were about half way around the motor quit, so I cut the switches, turned off the gas and landed straight ahead, into a small field. I could see some trees at the edge of the field--in fact, a whole forest--right in front of me as I came in. Not knowing how close the ground was I couldn't side-slip, so I tried to force the plane down in time to swing around before hitting the trees.

We landed just about ten yards ahead of the trees and went right on into them, through a barbed wire fence and up against a sand bank. That is all I remembered until I found myself crawling out of the plane and calling my passenger, asking if he was hurt. He was still in the rear cockpit with his head down, and I was afraid I had killed him, but he soon crawled out and we found that we were none the worse for wear with the exception of a few cuts and bruises and some teeth knocked out.

I had learned two wonderful lessons from that little experience. One was: "Don't go running around loose with a De Haviland after dark", and the other, "It is foolish to take a chance when the point to be gained does not warrant it". If I had landed when my motor first began missing and backfiring, I would have saved the plane, although our mission would not have been accomplished. However, neither would I have put in the most uncomfortable 45 minutes of my life, to date. I took a chance, and if it hadn't been a case of "aviator's luck", both my passenger and I would be pushing up the daisies right now.

FOREIGN NOTES ON AVIATION

EDU CHAVES' LONG DISTANCE FLIGHT

Brazil

The first successful long distance flight made in South America was completed on Dec. 29, 1920, when Edu Chaves, the Brazilian civilian aviator arrived at Buenos Aires, Argentina, at the conclusion of a flight from Rio de Janeiro, Brazil.

Chaves used for the flight a Curtiss-Oriole plane which was furnished him by courtesy of the State Sao Paulo which formerly maintained a school of aviation.

The flight extended over a period of five days, the actual flying time being, approximately, 19 hours, with the following hops: .

Dec. 25, Saturday, from the Army aerodrome, Campos dos Affonsos, Rio de Janeiro to the Campo de Guapira in the city of Sao Paulo, distance 400 kilometers, time elapsed, 2 hrs. 3 min.: Dec. 26, from Sao Paulo to Guaratuba in the State of Parana, distance 450 kilometers, time elapsed, 2 hrs. 50 min.: Dec. 27, from Guaratuba to Porto Alegre to Montevideo, Uruguay, time elapsed, 6 hrs. 10 min.: Dec. 29, from Montevideo to Buenos Aires, distance 220 kilometers, time elapsed, 3 hrs. 3 min.

ARGENTINE ARMY AIR SERVICE

Argentina

The following information has been received in a letter from Buenos Aires Argentina, from a former Lieutenant in the U. S. Army Air Service under date of December 30, 1920.

"Palomar is the Army flying field situated about ten miles southwest of Buenos Aires. It compares in size and contour with the field at Aberdeen, Md. During a day of races, recently held at Palomar by the Argentine Army Air Service, the Curtiss Company was invited to participate. The first exhibition was a formation of eight Caudrons, which with one Nieuport, one Spad and four Avros, approximately completes the equipment of the Argentine Army Air Service. The Caudrons are manufactured in Buenos Aires primarily for training purposes. They are tractors with a nacelle for two passengers, dual control. Gnome and Le Rhone rotary and Anzani radial engines are used.

After the formation a native pilot gave an exhibition of acrobatics in a Nieuport. Lieutenant Wilmet of a British aviation concern also gave a splendid exhibition of acrobatics in an S.E.-5. The next contest was a relay race of four teams, each team consisting of one Avro, one "Airco" (D.H.6), one Curtiss and one Caudron. The afternoon's festivities ended with this relay race, as a heavy storm came up.

It was the writer's opinion that the general public enthusiasm in aviation is confined a great deal to the spectacular. It was noticed that a number of the pilots were very mechanical in their movements and do not seem to fly as well as more experienced flyers from other countries. This, however, is a matter of opinion.

As to commercial aviation, the active commercial operations in or near Buenos Aires seem to be confined to two British concerns; the Handley Page Company and the Airco Company, known locally as the River Platte Aviation Company. In addition to these is the one North American concern, the Curtiss Aeroplane and Motor Company. There was, until recently, a French Company, which has gone out of business.

The Handley Page Company has sold a number of Avros, including twelve to the Army and a number to civilians, in addition a few D.H.'s and Bristols. There are a few Curtiss airplanes in private use. The younger ranch owners have learned to fly and use these planes for trips to town and wherever else time might be saved. It is not known just how many Curtiss planes are being used in the business of carrying passengers but it is estimated the number cannot be more than ten. Storms with high wind and hail are quite sudden and severe. The climate and seasons in the vicinity of Buenos Aires are generally good for flying and the flat surrounding afford many good landing fields."

FRENCH AIR PLANES

FRANCE

While last year the estimates under aviation were, approximately, \$11,500,000, M. Flandin is asking for 1921 over \$16,000,000. It is M. Flandin's ambition, according to "Aerial Age" of Jan. 24, to see France in three years' time at the head of the whole world in aerial transportation; developing lines all over the country and linking up with other nations in fast freight and passenger services. Big grants are to be made to private enterprise in the coming year. Thus subsidies will be given to existing lines between Paris and London, Brussels, Toulouse and Monaco, with extensions to Amsterdam, Strasbourg and Warsaw. Large hangars are to be constructed at Marseilles, Algiers, Casablanca and Tunis, so that a service of lighter-than-air dirigibles between France and North Africa may be put into regular operation. Regular seaplane services between Antibes, Marseilles, Perpignan, and Tunis, Algiers, Oran and Agadis are to be established. It is also proposed to spend a considerable amount of money in developing Constantinople as an Air port.

GERMANY READY TO COMPETE FOR DOMINION OF THE AIR

GERMANY

In the London Times of Dec. 14, 1920, considerable space is given to an article by its Berlin correspondent describing the preparation which Germany is making for entry into competition with other countries in aerial commerce, both by means of airships and aeroplanes.

By article 201 of the Treaty of Versailles, Germany was forbidden for six months after the coming into force of the Treaty to manufacture or import aircraft, parts of aircraft and engines, or parts of engines for aircraft. Owing, however, to Germany's failure to comply with those portions of the Treaty in regard to delivery of air material, the prohibition under article 201 has been prolonged for a period of three months following the completion of the delivery referred to.

"During a recent visit to the aeroplane works of the Zeppelin Company at Staaken," writes the correspondent, "I had occasion to pass through a section of the aeroplane shops of the company. The works, which during the War, employed 3,000 hands, lay still and quiet. In a corner were a few men at work on some technical experiments. A few others were going about the machinery keeping everything well oiled against the day when the manufacture of aeroplanes on a large scale should again be permitted."

"A talk with one of the young engineers on this occasion convinced me of the keenness with which the manufacture of aeroplanes will be taken up when the Germans begin building again. The Germans claim to be pioneers in the air. In the construction of both airships and aeroplanes, they consider that they surpassed all rivals during the war. Their inventive power, they say, was higher, their output greater, their achievements in flight more numerous than those of their enemies. They advanced, they say, during the war, to a position of unrivalled eminence in aeroplane design and manufacture due to the superiority of German technical training and equipment and their view is that this advantage can be maintained by the same methods. These are claims into the merits of which it is not necessary to enter. They are merely reproduced as evidence of what the Germans intend to do in the future.

"When the air industry is set free, it is safe to predict that there will be a great outburst of energy here. There was, already, a certain amount of manufacture for export going on until the Air Commission confiscated the Junker planes at Hamburg, but it was as nothing to the plans in contemplation. These plans are likely to include two separate branches, the rigid airship and the aeroplane. Experts are already thinking out the special problems of each, and, in each case, the first question is that of utility. Long distance oversea flight can be left to the airship, while the shorter ancillary service should belong to the aeroplane.

"Passengers, post and parcels are to be the province of the aeroplane and that over comparatively short flights. A feature of passenger travel by aeroplane that will have to be considered, is the general inaccessibility of aerodromes. Flight is, at present, often in result a slower process than train travel because more time is lost in getting to one aerodrome and away from another than is occupied by the whole air journey.

"German aeronauts are giving this matter considerable attention. Here they have plenty of field for experience and the collection of actual data, since the passenger air service has already passed the stage of mere experiment.

"Recently, for instance, the Deutsche Rederei celebrated the fact that their machines had covered a total of 625,000 miles since beginning operations in February of last year. Their machines had carried, 5,545 passengers in 6,208 flights besides 500 tons of cargo including about 33 tons of postal packages. Of the flights scheduled only 122 had had to be abandoned for weather or other causes, so that 98% were completed. Only three accidents had occurred, and one of these was due to a passenger's jumping out before the machine had come to rest.

"The following are some of the stretches covered by the machines of this single undertaking: Berlin and Weimar; Berlin and Hamburg; Berlin, Hanover and Gelsenkirchen; Berlin and Swinemunde; Berlin and Warnemunde; Berlin and Leipzig; Berlin and Frankfurt; Berlin and Essen; and Hamburg and Westerland.

"It will be seen that all are strategical points. Thus, Swinemunde is the Baltic port of Berlin, and Warnemunde is the station for the train ferry to Gjedser, and connects with Copenhagen.

"When the war ended, Germany had some 40 aeroplane factories at work, turning out about 2,500 machines a week. After the defeat of Germany and the subsequent revolution, the majority of these firms switched over to other work. Three firms decided to manufacture machines for civil aviation. These were the Sablatnik company of Berlin, the Junkers of Dessau, and the Fokker factory of Schwerin. The Government is watching these developments closely, though present conditions do not allow it to take any open part in furthering the building of aeroplanes. The industry is encouraged to maintain its factories at a state of efficiency which will enable it to go ahead immediately when the time comes. The skilled labor is being kept employed.

"The 'Reichs' Air Department is at present in a state of semi-suspension, but its objects, openly stated, are to keep track of progress abroad and to prepare a program for the State subvention of the industry till it shall have established its position. The Department is also entrusted with the preparation of international air-traffic agreements with other countries."

SQUADRON NEWS

France Field, C.Z., Jan. 15.

The first cross-country reconnaissance flights to the interior of Panama were carried out during the week, one flight of four planes going to Anton on Monday and two planes going to Aguadulce on Friday. Both flights were completed without any mishap. The personnel on the Monday flight to Anton was: Capt. Thomas Boland, 1st Lieut. Alfred C. George, 1st Lieut. Rowland C. W. Blessley, Major Richard D. Prescott, S.O.R.C. 2nd Lieut. Homer B. Chandler, 2nd Lieut. Kenneth Garrett, Master Sergeant Denver Price and Cpl. Otis Witham. Capt. Lloyd Ballantyne, M.C. and 2nd Lieut. Samuel M. McConnell had been scheduled to make the trip but owing to a defect in the motor their plane did not leave the field. The inhabitants of Anton turned out in full force to greet the planes, it being only the second time that airplanes have landed at this town, and many invitations were extended to the men to partake of such hospitalities as are available in the town. The leading men of the town urged that the planes come again at some later date in order to take part in a native feast that will be given in honor of the fliers. It is expected that this invitation will be accepted at some time when a landing can be made at the town in connection with some work that is scheduled for that region. Six carrier pigeons were taken in one of the planes and some of the birds made excellent return flights to the France Field loft.

1st Lieut. Blessley, 1st Lieut. Harlan W. Holder, 2nd Lieut. John F. Whitely and Private Tony Maradeo were in the two planes which visited Aguadulce on Friday. With a favoring wind the planes made the outward trip in just an hour, the distance being about one hundred and fifteen miles and on the return trip at a higher altitude to escape the high surface winds, the plane made the trip in one hour and seventeen minutes. The inhabitants of Aguadulce were unaware that the planes were coming to the town but the two ships were hardly on the ground before a crowd of people were on their way to the field. An inspection of the field revealed that it is in fully as good condition as it was during the last dry season and it is likely that this field will again be used as a refilling station for planes operating beyond this region. One sign of progress was noted in a big sugar mill under process of erection about three miles from Aguadulce and hundreds of acres of growing cane.

The first DH4B plane to be set up at this field was tested during the week and after a few minor changes will be turned over to the flying department. Two more of these planes are practically ready to be tested and it is expected that all three will be in commission before the end of another week. These planes will be used to replace several DH4's which have deteriorated to such an extent that they will be entirely overhauled before further use.

The France Field baseball team lost both its games this week in the Army and Navy League, being defeated 12 to 9 by the Submarine Base on Wednesday at France Field and losing a hard fought game to the 42nd Infantry at Camp Galliard on Saturday by a 3 to 1 score.

Selfridge Field, Mt. Clemens, Mich., Jan. 24

Mr. Homer R. Scoville of the Real Estate Branch, War Department, is on temporary duty at this station in connection with negotiations to secure a right of way for the railroad leading to Selfridge Field. It is expected he will be here for several days.

A surveyor has been working for several days at this field checking the boundary lines. This is a matter which had to be settled satisfactorily in order that the purchase negotiations might be concluded.

8th Airship Company, Camp Bierne, Fort Bliss, Texas, Jan. 8.

In spite of the fact that the 8th Airship Company has recently been busily engaged in making repairs and improvements on its mess hall and kitchen with a view to keeping some of the sand out of its food, it has continued to fly its C type airship. The company undoubtedly realizes that from continuous activity comes progress. A flight was recently made in liaison with the 7th Cavalry, Fort Bliss. The airship hovered close over the 7th and 8th Cavalry, so that moving pictures might be taken of the troops in review.

24th Balloon Company, Fort Baker, Calif., Jan. 9.

Even a balloon company as active in training activities as the 24th Balloon Company finds it necessary at times to greatly curtail its flying. At this time of year rain, fog, and haze over the bay at Fort Baker, California, make conditions unsatisfactory for balloon work. This company has been spending its time in recruit instruction, drill and inspections while the conditions were unsatisfactory for flying. The officers are kept busy in the afternoons attending various Unit Schools in the Coast Defenses. Lieuts. Durrschmidt and Neely are working on a method of locating targets by balloons without maps. The analysis of the last twelve inch mortar problem fired by balloon data at long range showed one direct hit. This is the first ever obtained by balloon control and is considered very satisfactory.

Brooks Field, San Antonio, Tex. Jan. 15

Brooks Field reports a busy week in observation balloon activities. Smoke bomb observation was carried out on the new Southton range, and the heliograph was used for the transmission of messages to the balloon with great success. The 4th Balloon Company's mascot, "Missouri" qualified last week as a parachute jumper. Missouri is a little fox terrier which enlisted with the 4th Company while they were on duty at Fort Leavenworth, Kansas. Following a terrific rain storm, Missouri suddenly appeared riding on a door in the middle of the flooded Missouri River. One of the boys swam out and rescued him and since that time he has remained with the company. The Fabric and Cordage School constructed a small parachute and harness for Missouri's use. He was taken up to an altitude of 2,000 feet recently and dropped from the basket. He seemed to enjoy the thrill very much and is now on flying status and on the pay-roll at one bone per week.

Brooks Field, Jan. 22

On account of the inclement weather during the past week very little flying has been done. Observation Balloon - four hours. No Free Balloon flights.

The final work on the concrete foundation of the new steel hangar will be finished during the coming week. Within a very short time the steel work will be under way.

Airdrome, Nogales, Arizona, Jan. 22

Group Commander, Major Heffernan, paid a visit to this Airdrome on Tuesday of this week for the purpose of locating a suitable range for Bombing and Aerial Gunnery. The range will be in the vicinity of Ft. Huachuca, as it will then be available for use by Flight A, at Douglas, Arizona as well as this one.

Captain David Meyers, Group Flight Surgeon, accompanied by Lt. Gaffney of El Paso, remained over night at this station in order to administer the Psycho Analysis examination to all officers of this Flight.

Barron Field, Ft. Worth, Tex., Jan. 22

The shipment of property incident to the abandonment of Barron Field is being pushed to completion as rapidly as possible, as is evidenced by the number of carloads shipped the first three weeks of January. Twenty-two carloads were shipped the first week; twenty-nine carloads the second week, and in the past week, seventy-seven carloads were shipped. In one day the past week, twenty-two cars were loaded. It was necessary to keep a train crew on the field constantly the past week, so as to switch and spot cars, thereby eliminating the usual delays incident to loading out car load shipments in quantities. When it is considered that the entire personnel of the field consists of two officers, two enlisted men, and fifty-five civilian employees, it is readily seen that there has not been much loafing, but that everybody has been on the job.

Aviation General Supply Depot, Fairfield, O., Jan. 22

Due to the efforts put forth by our Recruiting Representatives stationed in the following Ohio cities; Cincinnati, Columbus, Toledo, and in Louisville, Ky. and Huntington, W. Va., Supply Detachment No. 1, this Depot, has reached its authorized strength of 160 men. Supply Detachment No. 2 is fast filling up, as there are now 260 men carried on its Roster and has an authorized strength of 320.

A.G.S.D., Fairfield, O. - Continued

The ranks of the Stock-keepers' School Detachment are badly depleted, as this organization recently lost a third of its men by transfer, which leaves about 100 vacancies in this Detachment. However, according to the number of Recruits being sent in by our representatives, it will be but a short time before this Depot is closed for enlistments.

The music class under the direction of the Educational and Recreation Department is fast progressing, and as an example of the interest taken by the members of this organization, a letter was received by the Commanding Officer recently, from the parents of one of the members, asking that their son be given more time to practice on his clarinet. Thirty-four men are now carried on the Roster of the class which is training for the band and orchestra.

Carlstrom Field, Arcadia, Fla., Jan. 26.

During the past week fifteen recruits have reported at this station for duty.

Flying training has been progressing during the week with regularity. The Staff Officers have consumed some 30 hours in formation flying and also in acrobatic formation flying, in preparation for our Field Day Exhibition Friday Jan. 28. The total instruction flying time the past week 222 hours, 0 minutes with 307 flights, miscellaneous flying 69 hours 55 minutes with 125 flights, making a total of 291 hours, 55 minutes, with a total number of flights 432. Total number of planes in flying commission, 50.

2nd Lieut. Wendell McCoy, A.S., has been detailed as Assistant to the Personnel Adjutant.

2nd Lieut. Warren G. Hurst, Q.M.C., pursuant to telegraphic instructions, has left this field for temporary duty in Paris with the American Graves Registration Service Q.M.C. in Europe.

Kelly Field, San Antonio, Tex., Jan. 22.

Radio School for enlisted men on this Field has been showing very satisfactory results. A large number of soldiers enrolled in the school and in a short while will have competent and efficient wireless operators and Radio mechanics from the enlisted personnel of this Field.

There have been several changes made in the first day Bombardment Group Lieutenant Wallis A. Frederick is now Group Adjutant, Commanding Officer and Supply Officer, Headquarters Detachment; Lieut. Leon E. Sharon, Group Operations Officer; Lieut. Benton A. Doyle is in charge of Flight "A", 11th Aero Squadron, and is directly responsible to the Air Officer, Eighth Corps Area; Lieut. Harry L. Speck has been transferred from the 20th Aero Squadron and assigned to the 11th Aero Squadron.

The following named officers of the United States Navy have reported at this station and have been attached to the First Pursuit Group for advanced Pursuit Training, following orders to that effect: Lieutenants Frank C. Fechtler, William S. Hacter, Frank W. Wead, Fred T. Estabrook; Ensigns Lawrence W. Brown, Steve W. Callaway, G.R. Groh, Schuyler Adams. These officers seem very enthusiastic and interested.

The officers of the Post gave a dance on Friday, January 21, 1921, in honor of the officers of the Air Service Mechanics School who will soon leave Kelly Field for permanent duty at Chanute Field, Rantoul, Illinois.

During the past week the personnel of the First Pursuit Group has undergone many changes; one of the Cadets of the January class has already been discharged to accept a commission in the Reserve, and several of the remaining cadets expect to be discharged within the next few days. Cadet Brown of the 95th Aero Squadron is now a Reserve Officer and it is noticed that he is wearing boots and bars now.

Lieut. Solomon L. Van Meter, Air Service, has been ordered to proceed by airplane to Beaumont, Texas for temporary duty for the purpose of conferring with the Miller Welding Works with reference to the use of the Automatic Acetylene Generator by the Air Service.

Mather Field, Sacramento, Calif., Jan. 22.

Fifteen Forest Service men are now located at Mather Field, receiving training in Radio, Aerial Photography, Reconnaissance and other subjects which will fit them to become efficient Forest Service Liaison Officers, in which capacity they will act during the coming season of Forest Patrol. The past week has been occupied with Radio work, under the direction of Lieut. A.G. Liggett, Radio Officer at this Post, while next week actual flying will take place.

Sunday, Jan. 16, Cadet Keadle and Sgt. Robins, 9th Aero Squadron pilots flew their planes to Red Bluff, and after battling a severe storm all the way, finally effected a landing. They were not able to return until Thursday, due to the condition of the Field, which was very soft after the rains, making it impossible to take off. They returned safe and sound on Thursday, Jan. 20, none the worse for their experience. Taking off the same day as the other two, Cadet Neher and Lieut. D.E. Jones, left Mather Field bound for Fresno, but they met with the same difficulty, and it was only after a heroic fight with the elements that they finally reached their destination. They were luckier than the other two, however, in that they were able to return Tuesday, instead of having to lay over until Thursday. While the storms were very hard ones, yet the big D.H.4's came through as good as new, shining in their fresh coats of varnish as if they had never seen a storm.

91st Aero Squadron Border Patrol Detachment returned to Mather Field on Tuesday, Jan. 18. They have been on duty at Rockwell Field, San Diego, Calif., engaged in Border Patrol work between San Diego and Border Monument No. 189, seventy-five miles south of Yuma, Arizona.

With the return of "A" Flight Aero Squadron from Crissy Field, Presidio of San Francisco, Calif., and the Border Patrol Detachment from San Diego, the entire enlisted and commissioned personnel of the 91st Aero Squadron are together for the first time since February, 1920.

Cadets Thomas J. Fowler, Cecil B. Guile and Carl D. Heyer will leave this week for Crissy Field, Presidio of San Francisco, where they will be engaged in observation of Coast Artillery fire and night target practice, using Parachute flares to illuminate the moving target.

U. S. Flying Station, Weissenhurm, Germany, Dec. 25, 1920.

The wedding of Lieutenant Dogan R. Arthur of this organization and Miss Mary Eileen Farrell of Columbia, S.C., was solemnized last Thursday evening by Senior Chaplain Edmund P. Easterbrook, at the home of Major and Mrs. Frank M. Andrews on Rhine Anlagen in Coblenz.

Lieutenant Arthur served brilliantly with the 12th Aero Squadron during the war, and was cited several times for extraordinary bravery in action. He was awarded the distinguished Service Cross with Oak Leaf. After being promoted to the rank of Captain he commanded the 12th Squadron while it was with the Army of Occupation and also for several months while it was on the Mexican border prior to the time he received his orders for his second trip overseas. His home is at Progress Union, South Carolina.

Miss Farrell served in the capacity of a war worker in the offices of the State Highway Commission during the war. She is a popular South Carolina Society woman. The Commanding General gave the bride away. The Commanding Officer, Major H. S. Burwell was best man and Mrs. Frank M. Andrews was bride's maid. All of the American Forces in Germany with their wives were present at the ceremony.

Lieutenant and Mrs. Dogan H. Arthur are now in Paris where they are stopping a few days while enroute to Nice, at which place they will visit friends for a fortnight.

Lieut. Thomas M. Jervey, our Armament Officer, will leave next week for Berlin on official business in connection with some German inventions he has been testing.

Staff Sergeant Rawlins and Sergeant O'Connor have returned from a two weeks trip through France and Italy. They report they had a wonderful time.

Lieut. Chester P. Dorland arrived from the States on the last transport and joined this command in time to spend Christmas. He has been appointed Detachment Commander by the Commanding Officer.

U. S. Army Balloon School, Ft. Omaha, Nebr., Jan. 24

Recruiting has abated somewhat during the past week, twelve recruits having enlisted, all for the Air Service, three for the Lighter-than-Air, and nine for the Heavier-than-Air branch.

The Fort Omaha Basket Ball team has been leaving no stones unturned toward gaining the honor of being the fastest team in Omaha and if they continue as they have during the present season they will, beyond doubt, gain that honor, as they have won five out of the eight games played. Five more games are scheduled for the next three weeks.

1st Surveillance Group, Ft. Bliss, Texas, Jan. 22

There were three flights from this station this week, the first being by Capt. Myers, the Group Flight Surgeon, and Lt. Gaffney of the 104th Aero Squadron. This trip was from El Paso to Douglas, then to Nogales and return. When nearing Columbus on the return trip, Lt. Gaffney's generator burnt out and he was forced to descend at that point. Lt. Liebhauser and M.E. Wiseman came to the rescue with a new generator, and repairs being made the two planes returned home that night. Major Heffernan, Commanding Officer of the 1st Surveillance Group, made an inspection trip to Douglas and Nogales, accompanied by Lt. Leo F. Post as far as Douglas, which city was photographed by the latter, and the return trip made the same day. Major Heffernan's motor was giving him trouble so upon reaching Nogales he obtained another plane and returned to El Paso the following day.

Rich Field, Waco, Texas, Jan. 28.

Airplane S.E.-5, A.S.No. 8130 en route from Dallas, Texas, to San Antonio, Texas, piloted by Lt. George P. Tourtellot, arrived at Rich Field, 1:15 P.M. and departed at 2:00 P.M., January 27, 1921. Plane inspected by Civilian Mechanic, Cottrell. No repairs. 25 gallons Aero gas and 4 quarts Aero oil issued. Reason for visit: To get gas and oil.

Airplane S.E.5, A.S.No.8116, en route from Dallas, Texas to San Antonio, Texas piloted by Lt. L.C.Blackburn. Plane arrived at Rich Field at 1:15 P.M. and departed at 2:00, January 27, 1921. Plane inspected by Civilian Mechanic, Cottrell. No repairs. 25 gallons gas and 4 quarts Aero oil issued. Reason for visit: To get gas and oil.

Selfridge Field, Mt. Clemens, Mich., Jan. 29.

Mr. J. V. Swanson, Secretary of the Seventh Civil Service District, with headquarters in Chicago, Illinois, was a visitor at the Field on January 28, 1921. Mr. Swanson's visit was a timely one, as several vexatious Civil Service matters were cleared up during his stay.

Major N. J. Boots, A.S., formerly Commanding Officer of Selfridge Field, but now stationed at McCook Field, Ohio, arrived here in a DH-4B on Friday afternoon January 28, 1921. The flight was made from Dayton, Ohio, in the fast time of one hour and forty-five minutes. Major Boots trip was for the purpose of attending to certain important business transactions in Detroit, Michigan.

Bolling Field, Anacostia, D.C., Jan. 27.

All the officers and men at Bolling Field were shocked to learn of the fatal accident to Lieutenant Spalding, who, although not a member of this command had made many friends in his frequent visits to the field.

During the funeral ceremonies of Lieutenant Spalding a formation of three De Haviland planes, piloted by Lieutenants Ames, Bettis and Amis flew over Arlington Cemetery. While flying in the formation over Arlington, Lieutenant Amis' plane was seen to smoke in an alarming manner. He immediately cut his switches and gasoline and looked around for a place to land. His low altitude forced him to attempt a landing in an apple orchard on the experimental farm of the Department of Agriculture.

Bolling Field - Cont'd.

Coming into a small open space in the orchard he was forced to lift one wing over a large tree. After his wheels had hit the ground, his left wing was caught by several of the small trees, slewing the fuselage around with such violence that it was snapped completely off immediately aft the rear cockpit. Neither Lieutenant Amis nor his passenger, Sergeant Gilbert, were injured, due in a large measure to the presence of mind and good judgment of Lieutenant Amis.

A Naval plane taking off up the eastern branch of the Potomac River Wednesday afternoon, January 26th, appeared to be having motor trouble which prevented climbing. After rounding the turn by the navy yard it was seen to nose down and disappear behind the bank of the river. Staff Sergeant Vernon G. Leary, in charge of the speed boats, immediately started out after the plane. When the Speed Boat approached the plane assistance was not needed, the plane taxiing back to the air station under its own power.

Major Martin F. Scanlon, Commanding Officer, Bolling Field, was the host at luncheon Thursday morning, January 27th, to the Honorable William R. Williams, the Assistant Secretary of War, and Brigadier General William Mitchell. The Honorable Mr. Williams left via air with Captain Ocker as a pilot for Richmond, Va., immediately after lunch. The Assistant Secretary of War was escorted a short distance by the Assistant Chief of Air Service, Brigadier General William Mitchell in his S.E.5.

Lt. Charles H. Mills

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE FEBRUARY 22, 1921.

REPORT ON RESERVE OFFICERS' TRAINING CORPS

Feb. 1, 1921.

1. The Reserve Officers' Training Corps was first organized in 1916 and since then the various Arms of the Service have established units at important colleges and universities throughout the country. The Air Service, being the newest combatant Arm, was last to become established for it was not until November of 1920 that the Air Service R.O.T.C. Units were organized.

2. A large number of leading colleges and universities of the country made application for the Air Service Units and the final recommendations were made with the following considerations in view:

- (a) Success of other R.O.T.C. Units already established at these universities.
- (b) General attitude of the institution.
- (c) Experience with Schools of Military Aeronautics during the World War.
- (d) Technical qualifications of institutions with particular reference to Aeronautical Engineering.

3. Six units are now established and operating successfully with an Air Service officer in charge of the unit.

Texas Agricultural and Mechanical College, College Station, Texas	Major C. W. Russell.
Massachusetts Institute of Technology, Cambridge, Mass.	Captain Wm. B. Wright.
Georgia School of Technology, Atlanta, Ga.	Captain L.E. Goodier, Jr.
University of Illinois, Urbana, Ill.	Capt. John G. Whitesides.
University of California, Berkeley, Cal.	Major W. A. Robertson
University of Washington, Seattle, Wash.	Major H.C.K. Muhlenberg.

These are the pioneer units to make the way for more units which will be established during the course of the next few years.

4. A brief summary of War Department requirements for R.O.T.C. is as follows:

Students enrolling in an R.O.T.C. Unit when they enter an institution where a unit is established, enroll for two years' basic course which comprises three hours per week for two years. At the end of this time, they having successfully completed this two years' basic instruction, they may attend a basic training camp of six weeks' duration which, in the case of the Air Service, is with an Infantry Unit. Students who have completed the first two years' basic course may enroll for two years' advanced instruction. At the end of the first years' advanced instruction a compulsory training camp of six weeks' duration is conducted. In the case of the Air Service this camp will usually be conducted at the Air Service Observation School, Post Field, Fort Sill, Okla., where students will receive practical instruction in the air and on the ground in Aerial Observation and general military subjects. At the end of the Senior year students who have successfully completed the advanced

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Course may be commissioned as second lieutenants in the Reserve Corps; and in the Air Service, provided the necessary appropriations are available, these Reserve Officers are immediately called to active duty for a period of six months. During this six months they receive three months' Advanced Training at an Air Service Special Service School and with a Service Squadron. This procedure will turn out an excellent quality of Reserve Officers for the Air Service and will give some material for regular commissions.

5. An estimate of the present total enrollments in Air Service R.O.T.C. units is approximately 546, based on incomplete reports. It is expected that less than 100 will attend the Basic Camp and that approximately 30 will attend the Advanced Camp during this summer.

J. E. Fechet,
Lt. Colonel, A.S.,
Chief, Training & Operations Group.

AIR RACE FROM LOS ANGELES TO SACRAMENTO ON WASHINGTON'S BIRTHDAY

The Commanding Officer at March Field sends the following:

"Secretary Geo. Harrison of the Aero Club of Southern California, who was a visitor at the field during the past week, announces an air race from Los Angeles to Sacramento, 400 miles on Washington's Birthday, Feb. 22. Cash prizes amounting to \$1,000 will be offered in addition to the Albert H. Hayes trophy. The race will be a free-for-all event open to both civilian and service pilots."

THE A. S. BORDER PATROL

Out along the Rio Grande where it cuts its way through barren mountain ranges and runs in deep canyons, where nothing but rocks and sand greet the eye for miles and miles and man seldom sets his feet, the "Border Patrol" watches over the vast and lonely territory of the Border Line, to prevent any infringement upon the laws of the United States.

The patrol is composed of officers of the Air Service who fly along the border twice a week watching the international boundary for hostile bandits, the wary bootlegger or the wily ammunition runner. Over the unending mass of rocks and steep mountain sides the aviator sails, knowing that if ever his motor fails or his fuel runs out, somewhere on the sharp rocks below he must pilot the plane, only to go crashing into canyon or mountain side. The Air Service has every reason to be proud of these intrepid airmen.

CHIEF OF AIR SERVICE INSPECTS KELLY FIELD

Major General Charles T. Mencher, in his tour of inspection through Air Service activities of the Eighth Corps Area arrived at Kelly Field on Jan. 27, 1921, at 2:30 P.M. All planes in commission were lined up in review formation, parallel to and facing the hangars at a distance of 135 feet from the south wall. The crew of each plane was three paces in front of the center of the plane.

A flight formation was arranged by the Pursuit and Bombardment Groups which presented a spectacular exhibition in the air; acrobatics were performed by the Pursuit planes and all the fliers on this occasion showed a great deal of ability and efficiency.

General Mencher proceeded to El Paso after his inspection at this field.

FLYING AT KELLY FIELD

Captain Byrne V. Baucom, Lieutenants George P. Tourtellet and Lloyd C. Clackburn, Air Service, went by rail to the Aviation General Repair Depot, Dallas, V-3115, A.S.

Texas, and returned by airplane for the purpose of ferrying three SE5's to Kelly Field, Texas.

Major Henry C. Pratt, Air Service, Air Officer, Eighth Corps Area, accompanied by 2nd Lieutenant Harold W. Beaton, Air Service, went by airplane to the A & M College, College Station, Texas, and to Ellington Field, Texas, for the purpose of conferring with the Commanding Officer at that station.

Captain W. F. LeBarren, Reserve Officer, is attached to the First Day Bombardment Group for flying. Lieutenant Paul O. Sergeant, A.S.S.C.R.C., reported on January 24, 1921 for flying practice with the Bombardment Group.

Lieutenant F. E. White, Air Service, as pilot and Lieutenant Commander N. H. White, U.S.N., as observer, left for Ellington Field, Texas, by airplane on Friday, January 28, 1921, returning on Monday, January 31, 1921.

BOMBING TRAINING COURSE AT KELLY FIELD

January 21, 1921, was the date that was set for the beginning of the Bombing Course for cadets assigned to the Bombardment Group. Teams composed of officers and cadets have been arranged for the performance of bombing practice flights. The Bombardment Group issues Operations orders daily as to what teams are to report in this daily training practice. Cadets are to fly from 8:30 A.M. to 9:45 A.M. and from 10:15 A.M. to 11:30 A.M. Officers fly from 8:30 A.M. to 10:00 A.M.

FIRE AT ABERDEEN PROVING GROUND, MD.

As a result of firing shrapnel on the Main Range at Aberdeen Proving Ground, the grass took fire and assumed dangerous proportions. The fire was swept by a strong west wind towards the Aviation Field. All available personnel was turned out to fight the flames and only conquered them as they had reached the Bomb Storage and the Fuse shed. Needless to say if these buildings had been fired they would have destroyed the complete lower end of the Post. As the grass burned away, many rabbits jumped from their cover to safer places, and from the number observed there promised to be good hunting next season.

Following the fire on the Main Range by only one day, the quarters of the enlisted men of the 258th Aero Squadron burned and destroyed all the personal equipment of the men. The fire was due to defective wiring near the roof and was discovered by the First Sergeant, about 8:30 A.M. at a time when all of the personnel was on duty at the flying field, one mile away. Upon their arrival the building was practically gutted and all that could be accomplished was to confine the flames to the one barracks. Immediate arrangements were made for messing and quarters.

FLYING TIME AT CARLSTROM FIELD FOR WEEK ENDING JANUARY 28, 1921.

	(Total -- 123:45	Total Flights--219
"A" Flight.	(Instruction -- 109:15	" " --195
	(Misc. -- 14:30	" " -- 23
	(Total -- 166:45	" " --243
"B" Flight	(Instruction -- 129:55	" " --207
	(Misc. -- 36:50	" " -- 36
Hdqs.	Total 92:15	" " --134

Total time for field 382:45 Grand Total 596.

Average planes in commission 47.

Approximate miles flown 30,300.

FIELD DAY AT CARLSTROM FIELD

Friday, Jan. 28 was Field Day at Carlstrom Field, when the following were the events:

- Event 1. 3.00 P.M. Formation Flying----All planes on field
- Event 2. 3.30 P.M. Acrobatic Formation Flying----5 planes
- Event 3. 4.00 P.M. Parachute Jumping----From D.H.4-A.
- Event 4. 4.20 P.M. Aerial Gunnery Demonstration.
- Event 5. 5.00 P.M. Hurdle Jumping----5 planes.

After the meet the annual costume ball was held in the Officers' Club with about a hundred couples present. The Club decorations were unique. The ceiling was masked in oak boughs interspersed with trailing Spanish moss; the side walls were hidden with banks of palms, ferns, and moss. Guests were present from Jacksonville, Daytona, Orlando, and other points in the state and all reported having an excellent morning as well as an enjoyable evening.

PURSUIT AIRPLANES IN PRODUCTION

The first airplanes to be delivered under the production orders for pursuit types have been received at McCook Field and assembled for test. The Thomas-Morse MB-3, powered with 300 H.P. Wright engine, of which fifty (50) have been ordered, is being flown to insure that the construction and operation is entirely satisfactory before proceeding with the delivery of the remaining forty-nine (49) airplanes.

The first production model of the Orendo "D", of which fifty (50) are being built by the Curtiss Company, has also been received and is being assembled to undergo acceptance tests.

FIRST TEST ON NEW AIR SERVICE ENGINE

The initial run of the new Engineering Division 700 H.P. Model "W" engine was made on January 10th, with very satisfactory results. This engine was completely designed by the staff of the Engineering Division at McCook Field. This engine is of the W type, having eighteen cylinders arranged in three banks of six, and develops more horse power than any engine which has been built in the United States. The actual figures on the test have not been divulged, but are said to exceed the designers expectations.

LARGE TENT HANGAR

The largest tent hangar in the world has recently been erected at McCook Field for test. This hangar is 130 ft. by 30 ft. with a clear opening across the front. It is large enough to accommodate three Martin Bombers and should prove very valuable in service use if it withstands the weathering test satisfactorily.

LEASE ON LANDING FIELD AT MOUNDVILLE, WEST VIRGINIA.

As a link in the chain of landing fields that must accompany the marking and charting of the airways of the United States, a lease has been arranged by which the U.S. Army Air Service gets possession of 19½ acres at Moundville, West Virginia, where a landing field will be established on the recently opened Washington-Dayton air route. The tract, which extends north and south 2,125 feet and east and west 400 feet, is Ohio River bottom land at present in cultivation. Its conversion into a model landing field will begin at once.

PURSUIT TRAINING AT KELLY FIELD

The entire class of Student Naval Officers assigned to the Pursuit Group for advanced training have been assigned to SE5's. It is expected that these officers, who have had a great deal of time in sea planes, will be very proficient in handling the pursuit type plane. During the past week cross country formations and echelon formations have been the order of the day. A little target practice has been done and it is expected that this type of training will take up a large amount of time in the future. The 147th Aero Squadron is still safely in the lead as regards flying time, having piled up a total of 250 hours this month. On Thursday, Jan. 27, Major General Mencher, Chief of the Air Service, visited the Field on an inspection tour and the group put on an impressive exhibition in his honor. A large 20 ship echelon formation was executed and made several circuits of the airdrome. This was then formed into a gigantic Lufberry circle and upon the breaking up of this, some picked pilots formed a flying circus and executed loops, rolls, half rolls, etc. for the benefit of the General. Lieutenant Sheridan of the 147th Squadron made a remarkably long flight with the ship inverted so that it was upon its back. This is a difficult maneuver and was executed perfectly by Lieut. Sheridan.

EXPEDITION FROM 3rd AERO SQUADRON HOLDS GUNNERY AND BOMBING PRACTICE AT LINGAYEN, P. I.

Under date of Dec. 18, 1920, the following interesting report comes from the Commanding Officer at Clark Field, Pampanga, P. I., of the expedition to Lingayen, province of Pangasinan, where a twelve day period of gunnery and bombing practice was held by a detachment from the 3rd Aero Squadron:

"A detachment of 59 enlisted men and all officers of the Third Aero Squadron have returned from a twelve day expedition to Lingayen, province of Pangasinan, where gunnery and bombing practice were held, an account of this trip might be made to fill a book. The site of the camp was a cocoanut grove along the beach of the Lingayen Gulf. The beach of the Lingayen Gulf is unheralded in song and story, but it puts to shame Honolulu's famed Waikiki. Even Atlantic City Beach is not in the same class.

Breezes from China Sea came through the high cocoanut palms to lull one to sleep, and but for the tent to stop it breakfast would literally fall in one's hand. State prisoners were pressed into service for some of the police work about the camp, and men and officers generally noted that the trip was not hard to take.

The detachment arrived by rail on December 5th and pitched camp, the airplanes arriving the following day and landing on the wide beach, which made an excellent airdrome.

Many of the natives of Pangasinan and adjoining provinces had never seen an airplane and they flocked from miles around to inspect the D.H.'s and their equipment, and everything else about the camp. In fact the generator which furnished lights for the camp; the cooks or the cooks' police; or an officer taking a dip in the surf, all drew crowds like the side show of a circus. Ropes had to be stretched around the entire camp, and the assistance of the native police asked to keep sight-seeing natives from blocking progress. Two guards brought a number of State prisoners by to see the sights, and a sergeant, with much authority in his voice, told the guards to put the prisoners to work at police duty.

"I am sorry", said the guard, "but these prisoners can only be put to work authorized by the Governor General." The sergeant answered - "Why, this work was ordered by Major Brown."

"Oh, that's all right, then," said the native guard, to whom the Commanding Officer in charge of the wonderful planes seemed the biggest man in the world; and prisoners went to work, while the sergeant took his detail down for a dip in the surf.

It seemed that all work in the province was called off during the stay of the detachment, for hundreds were still looking on when camp was broken on December 16th.

The more intelligent natives were greatly impressed by the target practice. After watching one of the pilots spray a trench silhouette with the bullets from his forward guns, a Major of Constabulary remarked, "I was an insurrecto myself in '99, but never again, and if the people of the provinces could see this practice there would never be another insurrection in these islands."

During the twelve days' work 33,317 rounds of ammunition were fired from the air, both double and single Lewis guns, and the two synchronized Marlins being used. The observers dropped 56 Mark II Fragmentation Bombs at a target towed two miles out in the Gulf.

Over one hundred flights were made from the beach without so much as a smashed wheel. There was only one day when the tide did not recede far enough to make it safe for flying.

During the stay of the detachment at Lingayen, it was twice inspected by the Department Air Service Officer, Major E.L. Canady, and on December 14th, Brigadier General Charles G. Treat, Commander of Camp Stotsenburg, came up to watch the target practice and bombing. He returned to Stotsenburg by air, Major Roy S. Brown being his pilot.

The practice at Lingayen marks the conclusion of three months' course of instruction given student observers under authority of Special Orders No. 203, Headquarters Philippine Department, August 30, 1920.

The following is a list of the commissioned personnel on the trip: Major Roy S. Brown, Air Service, Pilot; Major Francis H. Poole, Medical Corps, Flight Surgeon; Major William B. Duty, Philippine Scouts, student observer; Major Chester C. Staples, Infantry, Photographic Officer; Captain Charles T. Phillips, Air Service, Pilot; Captain Robert C. Candee, Cavalry, D.O.L., Student Observer; First Lieutenant Walter A. Ball, 31st Infantry, Student Observer; First Lieutenant Raymond S. Jett, 9th Cavalry, Student Observer; First Lieutenant Fidel V. Segundo, Philippine Scouts, Student Observer; Second Lieutenant Charles L. Webber, Air Service, Pilot; Second Lieutenant Newton Longfellow, Air Service, Pilot; Second Lieutenant John Blaney, Air Service, Pilot.

AMERICA'S FIRST AIRWAY EXERCISES HELD AT THE OPENING AT BOLLING FIELD, FEB. 12, 1921.

Appropriate exercises in connection with the opening of the first American airway were held at Bolling Field, Saturday, Feb. 12.

This event will mark an epoch in the development of aeronautics since it is the initial step in establishing the system of airways which will eventually extend all over the United States.

Following the plan to secure the co-operation of the Boy Scouts of America in the marking and charting of the landing fields as outlined in the report of Capt. H. E. Hartney, the Chief of Civil Affairs Division of the Training and Operations Group of the Air Service, Mr. Shaw, Scout Executive of the District of Columbia, and the boys of the local organization, participated in the opening exercises.

The first American Airway extends from Washington, D.C. to Dayton, Ohio passing through Moundsville, West Virginia and Columbus, Ohio and its establishment will prove a vital mile stone in the progress and development of both commercial and military aeronautics. Well organized air routes throughout the country are an absolute necessity in the system of national defense and is as important as the developmental work on the aircraft itself. The ways of the air must be charted and marked just as the oceans have been, so that navigators may pilot their craft in safety and comfort at high rates of speed across the country in either peace or war. This first route from Washington, D.C. to Dayton, Ohio will provide a model upon which the development and expansion of other routes throughout the United States can be based and it will entail the location of landing fields with all their accessories such as radio direction finding apparatus, radio communication, aerial light houses, hangars and such like. With proper established airways, trans-continental flying by day or night in good or bad weather will undoubtedly be safer than auto touring by road and, with the improvement in aircraft aerial transportation will surpass in speed, comfort and safety most of the modern methods of transportation. Units of the National Guard of the organized reserve will be placed at strategic points along these

air ways which will be open under proper federal restriction to the commercial aviators who will thereby receive all the benefits and conveniences of such organized work.

This airway is the first unit of thousands of airways that will be developed throughout the United States, and, as chosen, it is extremely well suited because of the many variable conditions of both atmosphere and topography encountered in its course. Incidentally it connects Washington, D.C. with the Air Service Engineering Division, headquarters at Dayton, Ohio.

The Army Air Service is gladly giving such information and cooperation as is possible to all who are interesting themselves in the development of this route, such as Chambers of Commerce, Clubs and civic or fraternal organizations.

Boy Scouts of America who are within the limits of the generation which will be first cognizant of the "age of the air" are receiving the fundamental training in the assistance which they are giving to this great national project. The establishment of this airway also puts into operation for the first time the new system of marking landing fields for purposes of identification in aerial navigation. As the first trail of the west, the first steamship, the first locomotive, the other similar events are historical high water marks, just so will this start in the creation of America's first airway go down in history, and the reflected glory of the event will be the heritage of each and every individual who assists manually, financially or otherwise in this installation or who was even present at the ceremony, thereby lending approval and moral support.

AIRPLANE REPORT FORMS

The Army Service has compiled a most complete and practical airplane report form, consisting of six pages of the standard market size, 8½ x 11" punched for the usual three ring binder, which may be obtained at any stationery store. The first page is devoted to a summary of the general characteristics of any airplane. The second page gives detailed description and characteristics of the airplane itself. The next two pages go into the details of the power plant, the tanks and controls. The fifth page carries an analysis of the weights, with remarks on the flying qualities of the craft. The sixth page is the chart for the climb, speed and r.p.m. curves.

These forms were prepared after study of all those prepared or in use in the Air Service, with such suggestions as were apparent from the forms used by allied countries.

It is believed that the standardization of a report form for airplanes will be of great value to the industry. It will definitely enable all airplanes to be described along the same lines and will make simple the comparison of different machines of the same type.

"AND I LEARNED ABOUT FLYING FROM THAT" ✓

HOW THE "DEUCE" LEARNED TO TAKE CARE OF HIS "INJIN". 4

While this is not strictly a personal experience, I am sure it will be interesting under the head of the newly established department of the News Letter, "I learned about flying from that", and feel certain that Mac, whose experience it relates, will be too bashful to tell it himself, wherefore I take the liberty of doing so.

It was while in the First Pursuit Group, during the Argonne offensive in October, 1918, one of the pilots in my outfit named Mac was noted for the short life he got out of a motor. Another characteristic of Mac's was his inability to say engine correctly. He was always referring to his "injin" and the term, "the Deuce and his injin" became a byword in the outfit.

Mac had been given a new plane just before we were to leave for an important mission over the lines in the region of Montfaucon. He was very proud of his new plane, and boasted of the long life he would get out of his "injin". He had bets amounting to about 2500 francs with his brother officers and the mechanics that he would get 10 hours out of it. The mechanics were unanimous in believing that it couldn't be done.

We took off, seven of us, in a vee formation, with Mac somewhere in the rear, flying, as he always did, with full gun, and, as a result, chasing all over the sky. As we were returning over the lines after having accomplished our mission, I sighted what I thought to be a lone enemy plane far to the left of us. Signalling for a quick turn, we took out after this plane, and, in the maneuver, we lost Mac.

As we afterwards learned, he picked up a squadron of seven German Fokkers in the evening haze and did not learn of his mistake until he was close enough for them to recognize him. They shot at him unmercifully but he succeeded in getting away.

Just as he was about to make his escape good, his "injin" stopped and he was forced to land. He was headed straight for a barbed wire entanglement and figured on bouncing his wheels on the ground just before the wire and hopping over it. He did not see a shell hole in front of him and instead of bouncing over the wire, his wheels struck the hole and smashed his plane, throwing him headlong into the barbed wire.

"The Deuce" returned some three days later with his face heavily bandaged but minus his "injin". He admitted that after that experience he had learned to take better care of his motor.

TO ATTEMPT TRANS-AMERICAN FLIGHT IN TWENTY-FOUR HOURS

Washington's Birthday has been chosen for the staging of the next aeronautical event of importance to be undertaken in America. Early in January the Chief of the Army Air Service announced that on February 22, an attempt would be made to cross the United States by airplane in a period of twenty-four hours, thus establishing a new trans-continental speed record.

Second Lieutenant William D. Coney of the 91st Aero Squadron will attempt the flight and expects to start from Rockwell Field, San Diego, California, making the flight of 2079 miles to Pablo Beach, Jacksonville, Florida in two hops; from Rockwell Field to Ellington Field, Houston, Texas, 1275 miles, and from Houston to Jacksonville, 804 miles.

The necessary travel orders have been issued by the Adjutant General, maps of the route have been prepared, the work of remodelling and equipping the plane has been completed, co-operation of the Weather Bureau in forwarding the necessary reports of the upper air has been assured, time checkers have been arranged for at each stop, so that all preliminaries are in readiness for the event which promises to produce records of performance that will be of extreme value to the development of both commercial and military aeronautics.

Lt. Coney's plane, which has been made ready for him at Mather Field, has the front seat removed, and in its place have been installed spare gasoline and oil tanks. Space has thus been made for 260 gallons of high grade gasoline, sufficient, Lt. Coney thinks, to make the first hop of the journey, enough, in fact, for 14 hours flying. It will be equipped with copper-tipped Eagle propellers and two sets of B.G. plugs.

According to schedule as now arranged Lt. Coney will take off from Rockwell Field at sundown of February 21, expecting to be in the air for eleven and a half hours, arriving at Ellington Field in time for breakfast. Thence he plans to make the hop to Jacksonville in nine and one-half hours.

Both in design and in mode of execution this flight will present several strikingly unique features. Not only will it be the first attempt to traverse the United States in so short a period of time, but it will be the first in which the attempt will be made to cover such a long distance with only one stop, and the first in which the plane will be specially remodeled and equipped for hops of such long distance. The records established, therefore, will present many angles of interest.

It will be remembered that the earth's circumference at the 30th parallel is, approximately 18,911. Should the flight of 2079 miles be accomplished in a day, then it may be estimated, by way of pure speculation, that at the same rate, the circumnavigation of the globe could be made, around the 30th parallel in 9 days and 2 hours.

Lt. Coney's effort to cover 1275 miles in a non-stop night flight is without precedent.

For purposes of comparison the following may be recalled: the non-stop flight of 1200 miles made on June 27, 1920 by the all-metal "J-L" in a flight from Omaha, Nebraska to Pine Valley, N.J., pilot, Bert Acosta, passenger, John M. Larsen, mechanic, W. Bugh; the unsuccessful but dashing exploit of Harry Hawker and Commander K. Mackenzie Grieve in their trans-Atlantic attempt in a Sopwith with Rolls-Royce engine: Lieutenant Charles B. Austin's thrilling experience of 10 hrs. and 25 minutes of sustained flying over the Caribbean Sea in a remodelled DH-4 B, covering 1000 miles, battling wind and storm which broke down his propeller, though not his courage, and forced him to turn back and abandon his attempt to fly from France Field, Canal Zone to Washington, D.C., a distance of 2439 miles, 1350 of which was over-seas in hops of 650, 450 and 250 miles each: and the brilliant performance of Captain Sir John Alcock and Sir Arthur Whitten Brown whose achievement in covering 1680 nautical miles in 15 hours in a Vickers-Vimy in a coast to coast flight, is still in a class by itself.

✓
LT. W. D. CONEY
TRANS-AMERICA FLYER

Second Lieutenant William D. Coney, Air Service, was born in Atlanta, Georgia, on November 20, 1893. His education was received at the Georgia Institute of Technology.

The month after the United States engaged in the war - in May, 1917 - Lieutenant Coney entered the first Officers' Training Camp at Fort McPherson, Georgia, from which camp he was transferred to the Aviation Ground School at the Georgia Institute of Technology on July 10, 1917. On September 8th of the same year he was sent to Essington, Pennsylvania, where he received flying training. During the latter part of October, 1917, he was sent to Kelly Field, San Antonio, Texas, where after graduating on January 8, 1918, he received a commission as Second Lieutenant in the Air Service of the United States Army. At Kelly Field he acted as flying instructor from the date of his graduation until October 1918, when he received orders to proceed to a port of embarkation in New York preparatory to going over seas for active military duty. Due to the signing of the armistice, however, orders covering his sailing were revoked, and he was sent to Carlstrom Field, Arcadia, Florida, on December 22, 1918. Here he again acted as flying instructor, and was also a member of the Testing and Engineering Department at this field.

Ordered to Washington on May 15, 1919, Lieutenant Coney served as a member of the Information Group in the office of the Chief of Air Service until February 8, 1920. At this time he was sent to Mather Field, Sacramento, Calif. where he was assigned to the Ninety-first Aero Squadron, of which he has been a valuable officer up to the present time.

Lieutenant Coney has rendered efficient service on duty with a detachment of the Ninety-first Squadron in the southern part of the state in connection with the aerial border patrol operating between United States and Mexico. He further proved his value to the Air Service by accomplishing exceptionally fine work during the past season as an aerial forest fire patrol pilot operating out of Medford, Oregon. He will undertake the transcontinental flight from San Diego, California, to Jacksonville, Florida, on the 22nd, with a flying experience of approximately 1200 hours in various types of pursuit and bombing planes to his credit.

OPENING EXERCISES OF AMERICA'S FIRST AIRWAY

The inauguration exercises in connection with the preparation of the model American Airway which is to extend from Washington, D.C. to Dayton, Ohio via Moundsville, West Virginia and Columbus, Ohio took place at Bolling Field, Anacostia, D.C. on Feb. 12, 1921.

There were approximately one thousand Boy Scouts there. The Boy Scout organization is to assist the U.S. Army Air Service in the preparation of this route by clearing the landing fields selected and establishing proper identification markers on them. There were a number of very distinguished people present, prominent among them were Brig. General William Mitchell, Mr. Huston Thompson, Mr. Isaac Gans, Mr. Edward D. Shaw, Mr. A.G. Batchelder and others.

After the huge marker "D.C. 1" had been laid and white-washed by the Boy Scouts a talk on what air transportation means now and in the future and how the airways of the United States serve the airplane just as the road ways serve the automobile was given by Brig. General William Mitchell. At this occasion the new Army Air Service "Messenger" airplane made its first public appearance being flown in from New York by Mr. Lawrence Sperry of the Lawrence Sperry Aircraft Company in a little under three hours despite poor flying weather. Also the "Moraine Sauinier" monoplane known as the "Moraine Parasol" was flown in from Baltimore, Maryland where this type of plane is about to be put in production, by Captain Temple N. Joyce carrying with him one of the scout leaders of Baltimore.

Later Mrs. Williams, wife of the Assistant Secretary of War, took a long flight in the Moraine piloted by Captain W. C. Ocker. Demonstration flights were given by many of the pilots at Bolling Field flying S.E.5's which were followed by demonstration flights of both the Messenger and the Moraine Parasol. Both exhibited unique ability in quickly getting off the ground and in landing in a small area, besides their remarkable flying performance. These two planes undoubtedly exhibit characteristics essential to the first purely commercial type of airplane that will come into common use within the next few years. Towards the end of the ceremony General Mitchell was presented with a copy of one of the first air route maps made by the Rand McNally Company through their representatives Mr. Newmaker and Mr. Tufts. This ceremony was eminently successful in spite of rather disagreeable weather conditions and the proper inauguration of this immense work which will be formally dedicated early in March thereby creating the first physical airway in the United States which will serve as a model for the expansion of hundreds of other airways throughout the United States.

SQUADRON NEWS

Headquarters, Kelly Field, San Antonio, Tex., Jan. 29.

The January class of Pursuit Cadets have all been discharged and with one exception have returned to civil life. The exception is Cadet Tracy Johnson who has reenlisted as a staff sergeant and has been assigned to the 94th Aero Squadron.

Lieutenant Evers Abbey, Air Service, and Sergeant Hugh J. O'Boyle, 2nd Photo Section, went by airplane to Del Rio, Texas on temporary duty for the purpose of carrying out confidential instructions of the Commanding General, Eighth Corps Area.

Lieutenant Commander Newton H. White, Lieutenants E.P. McKeller, L. H. Lovelace, J. J. Ballentine, C. W. Wieber, F. B. Connell, Ralph Davison, Edward L. Ericsson, Andrew C. McFall, Robert M. Farrar, V.F. Grant, and Ensign R.K. Madson, Jr., United States Navy, have reported to this field and are attached to the First Pursuit Group for flying and advanced training.

Lieutenant Charles W. Getchell, Air Service, has reported at this station from Sanderson, Texas and has been assigned to the First Pursuit Group.

Captain Frederick H. Thorne, Medical Corps, is relieved from further duty at Kelly Field, San Antonio, Texas and will proceed to Carlstrom Field, Arcadia, Florida not later than March 1, 1921.

Lieutenant George E. Hodge, Air Service, has been transferred to Headquarters, Eighth Corps Area for duty in the office of the Air Officer.

The Basket Ball Team put in a week of hard practice, getting into shape for the next game with Camp Normoyle.

Bouts are being arranged by Lieutenant Guidera, Athletic Officer, for the near future and many interesting events are in store for the men of this Field. Private Reynolds of this command, looms up as one of the most promising light-heavy weights that has been seen in this Area for some time.

The Polo Team indulges in three practices each week. When the new tournament opens it is expected that Kelly will again come out on top of the heap.

Several of the best moving picture films on the circuit were witnessed at this Field the past week, "Male and Female" and "39 East", leading in popularity.

Volley ball and basket ball are still the favorite sports of the Pursuit Group, although some base ball has been played. The Kelly No. 2 basket ball team which has among its players a number of pursuit men, met and defeated the crack team of the A.S.M.A. during the week, which shows this team to be of championship caliber.

France Field, C.Z., Jan. 22.

The arrival of the Atlantic and Pacific Fleets in the Canal Zone was the main item of interest at this field during the week. Special interest was attached because of the arrival of the F5L flying boats of the two fleets, this being the first time that planes have flown from the States to the Canal Zone. The twelve flying boats of the Pacific Fleet were the first to arrive early in the week and were anchored in Panama Bay and then two days later the Atlantic contingent of seven flying boats arrived at Colon and at once based at the Naval Air Station at Coco Solo. Cameras were very busy during the week taking photographs of both the warships and the flying boats. Some excellent photographs were secured of the Pacific Fleet the morning after its arrival but later in the week when attempts were made to photograph the combined Fleets in Panama Bay, the results were poor. Plates which had deteriorated were the cause of most of the unsuccessful exposures, while faulty magazines accounted for the remainder. The Fleets sailed for South America on Saturday thus affording no chance for better results but it is expected that these can be easily obtained when the Fleets return in February.

The monthly transport from the United States arrived on Saturday and brought many additions for France Field. 2nd Lieut. John D. Barker returned from a month's leave at his home in Vermont and Master Sergeant Joe Grant returned from an extended furlough to the United States and Belgium. The transport also brought a welcome addition of forty-one enlisted men for the field, practically all being new recruits who enlisted for service in Panama. There are a large number of men among them who served with various organizations during the World War and who are returned for another try at Army life. Their arrival is very welcome as a large number of men at this Post are due to return to the United States because of having completed their tour of foreign service in this department.

1st Lieut. Harlan W. Holden, who has charge of the Post baseball team, is eagerly awaiting a chance to look these men over for possible material for his team. The France Field team needs strengthening badly and four or five good ball players are sure of a warm welcome if they can deliver the goods. The team lost two more games in the Army and Navy League during the week, being beaten by Fort Randolph on Wednesday by a 3 to 0 score and then being snowed under in an 8 to 1 count by Fort Amador on Saturday.

1st Lieut. Rowland C.W. Blessley was relieved from all duties on the 20th as he is scheduled to return to the United States on the next transport. He is to be married during his visit to the States to Miss Mabel Jackson of Chicago. Miss Jackson is a sister-in-law of 1st Lieut. Charles B. Austin of this field.

The Officers of the Club gave a dinner at the Strangers' Club on Wednesday night in honor of Major Millard F. Harmon's birthday and this dinner also served as Lieut. Blessley's bachelor party. The dinner was a huge success in every way and served to bring out the high feeling of cooperation which exists among the officers of this post. After the dinner the ladies of the post came to the club, and there was dancing until a late hour.

The France Field Polo team is about ready to take on all comers. Under the leadership of Major Harman the officers have been practicing regularly and faithfully for about two months and their progress has been very rapid. Practice games are scheduled three or four times a week between picked teams from the post and now the officers feel confident of being able to make a good showing against some of the other teams in the Zone. A shortage of good horses had greatly handicapped the team thus far but the players feel like trying out their play against some other team and a practice game will probably take place soon.

Word has been received at Post Headquarters that 2nd Lieut. O. Moon, who has been ordered to this station for duty, has been granted a thirty day leave of absence, and therefore he is not expected to report before the latter part of next month. His arrival will be a welcome one as there is a big shortage of officers for the amount of work that has to be done. It is expected that several other officers may also arrive on the next transport as replacements for officers having finished their tour of duty at this station should be arriving soon. Practically every officer on the post is desirous of returning to this station again before he ends his army career, because of the excellent weather and living conditions which exist in the Canal Zone. Many of them believe that this is the most desirable station of the entire Air Service and it is a safe bet that many of them will apply for duty at France Field when they are again available for foreign service.

March Field, Riverside, Calif., Jan. 29.

Major H. H. Arnold, corps area Air Service Officer, was a visitor at this school during the past week. Landing in a La Pere on Wednesday the plane was found to be in need of repairs. The Major proceeded to Ross Field in another plane returning the latter part of the week for the La Pere. This is the same plane in which Lieut. Batten won the 100 mile air race at Long Beach on Christmas day.

Post Chaplain E.L. Spaulding has received orders to proceed to Honolulu, Lieut. Thomas A. Harkins, chaplain, will assume his duties at this field.

First Lieutenants John E. Lynch and Russell L. Williamson have reported during the past week for flying training.

Major Fitzgerald, commanding officer of the supply base at Rockwell Field, San Diego, was the luncheon guest of Major Yount on Tuesday.

Dr. Ford A. Carpenter, meteorologist, gave an illustrated lecture before commissioned officers and flying cadets of the Post, at the service club, on Wednesday.

March Field now has drum corps organized under the leadership of Corporal McDonald, post bugler. The corps will be used for parade duty. McDonald has also organized a "jazz" orchestra which provides music for the Saturday evening dances at the community service club in Riverside.

Aberdeen Proving Ground, Md., Feb. 2.

Last week test work was completed on the Mark 1A bomb sight. All teams have qualified at the various altitudes and are now nearing completion on the Navy sight. It is the intention of this command to start experiments with the Michele Sight as soon as the present work is completed.

During the past week one and one-half tons of bombs were dropped on the silhouette of the battleship Massachusetts. The object of this was to test the fuse action of the bombs and the sights. Several direct hits were scored from 3000 feet.

Airdrome, Ft. Bliss, Tex., Jan. 29.

A trip was made this week by Lieutenants DeShields and Liebhauser from this station to Douglas, Nogales and return. The trip was perfect with one exception, that being the breaking of the vertical shaft on the motor upon landing at Douglas.

Major Simons from the office of the Chief of Air Service paid a short visit, inspected the camp, finding everything to his satisfaction. He gave the officers a talk of a general nature regarding the Air Service activities. The same day he flew to Douglas, Ariz.

Airdrome, McAllen, Texas, Jan. 29.

During the past two weeks a change has taken place at the Airdrome. Newly constructed roads and landscape work have completely transformed the new camp. The huge circle and star opposite headquarters has already established itself as an aerial landmark and the once dusty lots are now covered in checkerboard fashion with sods transplanted from the old camp site. Fortunately all the grass, oleanders, cannas, maguey plants and palms survived the transplanting stage.

The construction end has also progressed rapidly and all of the ten buildings comprising the old camp are now on their foundations in the new location. Within a few weeks this camp will openly claim the distinction of being the best equipped Airdrome on the border.

The arrival of two JN6H's here last week insures the four officers at this station of an opportunity to once again kick a plane out of control and to touch up some on acrobatics. Sunburnt mouths should be prevalent among the citizens of McAllen ere long.

Lieutenant and Mrs. C. A. Pursley are spending their honeymoon in New Orleans, Miami, Palm Beach and Cuba.

On his recent inspection of all border airdromes, Major Heffernan was very complimentary and seemed quite pleased with what had been accomplished at this station. All extra jobs have had no effect on routine schedules as the flying totaled nineteen hours and twenty minutes for the week, including two 3-plane formations, four patrols, one cross country and eight test flights.

Headquarters "B" Flight 104th Aero Squadron, Marfa, Tex., Jan. 29.

The work in the new Airdrome has reached the stage where a few finishing touches will make possible the long anticipated and much desired change from temporary to permanent quarters. Water and lights are promised within the next three days and the maintenance detail is busy getting the buildings ready for occupancy as soon as these two items are complete.

During the past week the Flight lost one of its most efficient officers. Lieut. E.W. Raley, who has been in command of this organization since its arrival on the border in 1919, November, and previously in command of the 11th Aero Squadron, this station, has been ordered to Kelly Field for duty.

Lieut. Raley is one of the most efficient and experienced border officers. He brought this organization to its present high standing in point of efficiency and morale and it is with deep regret that the station loses him. It is predicted that a successful tour of duty will be his in any detail which may be assigned him.

Headquarters Flight A, 90th Aero Squadron Airdrome, Del Rio, Texas, Jan. 29.

On Wednesday, Jan. 26th, Colonel Sedgwick Rice, Commanding the 12th Cavalry, Del Rio, Texas with Major Joseph King, 12th Cav., Lieuts. E.V. Harbeck and L.A. Dayton, Air Service, were the guests at a dinner party of Senor Corilla, Senor Montemayor and Capt. Nava at Villa Acuna, Mexico. The hosts had the pleasure of seeing the U.S. Army officers do justice to a typical Mexican meal.

Gen. Menoher, Chief of Air Service, recently left San Antonio for El Paso and points west. At Del Rio he was discovered when his train was held up due to a wreck ahead. A formation immediately took to the air and escorted the train as far as Devil's River. Needless to say, it was escorted in the manner due our Chief.

Plans are being made by Senor Corilla, Chief of Customs, Villa Acuna, Mex., and Capt. Nava of the Mexican Army to entertain the pilots of this flight at a barbecue. A point on the San Diego River, Mexico, has been selected as the scene of the activities. The Pow-Wow is certain to be a success.

Headquarters Detachment, 1st Obs. Group, Manila, P.I., Dec. 11, 1920.

Major Earl L. Canady, Department Air Officer, and Lieut. Ira C. Baker, Executive Officer, made an aerial trip Thursday to Lingayen Bay to observe the operations of the 3rd Aero Squadron. The 3rd is stationed temporarily at Lingayen for practice in aerial gunnery, bombing and observation. The beach is being utilized as a landing field and has proven very satisfactory. The natives have not so far been inveigled into taking a close study of the planes, but in the shade of a palm grove at a safe distance they observe the ascent and descent of each roaring bird with plenty of chatter and rolling of eyes.

The Transport Thomas docked December 3rd, and after a careful study of the passenger list, cold storage invoice and cargo manifest there were discovered the following matters of interest:

Some 2nd Lieutenant nurses, good looking, of course; location, port rail almost over, well forward: The Christmas shipment of candy, fruit and mail; ranking with and after a few cases of cheese: Twelve Spads, old and worn, but true and faithful; location, forward-deck, well exposed.

The search through the coal bunkers, chain lockers and cargo holds brought nothing to light in the way of Spads, but later they were found sitting with dignity on the forward deck. On inquiry the head checker said he thought they were marked "Spades" so put them as near the coal locker as possible. He also hoped the rain hadn't hurt them - it didn't; you can't ruin an odd dozen of cast off shoes. But just the same it is hoped that Camels, Sop Pups and Jennies are not sent over, because it means a ride for them on a mule boat.

Headquarters 2nd Aero Squadron, Fort Mills, P.I., Dec. 11.

Co-operation with the Coast Artillery target practices have taken up most of the time of the organization during the week, all other activities were confined to a minimum due to shortage of gasoline at this station.

Great interest is shown at this station in the arrival at Manila of FSL's spare parts. Keen speculation is rife as to when the boats themselves are to arrive.

Three new N 9 H Burgess Seaplanes are expected in the near future.

An endurance and speed test was made recently of the Air Service launch "Baxter" during the target practice of Fort Wint on Grande Island by a race between the Gig #3 of the U.S.S., "Huron" and the Baxter, both of which are identically the same make and type of boat. The course laid was from Fort Wint, Grande Island to Olongapo, a distance of five miles. The navy boat had a handicap of three minutes start and was passed by the Baxter slightly over half way to its destination. A speed of nineteen knots was obtained.

Lieutenant Lea has been appointed Engineering Officer during the absence of Lieutenant Franklin.

Lieutenant B. R. Dallas has been appointed Photographic Officer in addition to his other duties, vice Lieutenant Lea, relieved.

Lieutenant and Mrs. Franklin, left on Tuesday for an extended tour in the Southern Islands.

Major Earl C. Canady, Dept. Air Service Officer, Manila, visited this station Saturday by seaplane on official business.

Staff Sergeant Archie Taylor, flew over to Manila Thursday on business for the Squadron.

Sergeant V.H. Jones visited Manila Tuesday on Squadron duty.

Private Christy, former heavyweight champion and base-ball star, is confined in the Post Hospital with pleuro pneumonia.

Major Mereno, M.C., and Lieutenants Richter, Patrick, Gray, and Mayer, have moved to their new quarters at the tail of the Island.

The squadron base-ball team is still winning all bets and playing from one to three games daily. This station was fortunate enough recently to obtain a high class pitcher in Private A. Finch, who arrived on the last transport from the States for duty with the squadron, and who has proved after a thorough test to be a star.

Headquarters 2nd Aero Squadron, Ft. Mills, P.I., December 18, 1920.

An altitude test was made Tuesday by Lieutenants Dallas and Richter in an H.S.2 L flying boat with full equipment and one passenger. After spiraling for over an hour an altitude of six thousand eight hundred feet was obtained which is the record in this Department for seaplanes. A radio test was also made during this flight which proved very successful from a distance of sixty miles; further attempts are scheduled in the near future to ascertain the maximum height that can be reached.

The weather conditions as a whole have been exceedingly good during the week. A shortage of gasoline, which still exists, has reduced flying considerably.

One thousand hours flying time has been made by the officers at this station since the seaplanes were put in operation on September 24, 1919. Most of this time was obtained by Radio and Motor tests, Coast Artillery observation flights, and Transportation flights.

The last day of the Coast Artillery target practices were successfully completed Friday with several planes and the balloon making observations.

A local bombing expedition is being arranged by the armament officer to try out the skill and accuracy of the observers in a dummy target practice with small concrete bombs made in the Armament Department and patterned from the regular prescribed bombs that are in stock at this post.

The Radio Department has built a new receiving set out of an old compass set. This set has been tested by two local radio men and has proved a success, the operators having tuned in with Guam on two different nights. This department will soon be able to get news for the Squadron considerably in advance of the local press.

Private Martin has installed an airplane transmitting and receiving set at the Steel Hangars. This set is the same type as the N9's are equipped with and proved a success on its trial test.

A number of C.A.C. enlisted men who had attended the radio and panel classes and who have shown exceptional ability in these classes have been assigned temporarily to the Radio Department for further instruction.

Major Canady, Department Air Officer, and Lieutenant Eaker, Executive Officer, made an official visit to the Island Friday by seaplane to witness the final Coast Artillery target practices, in which the Air Service has played an important part.

Lieutenant and Mrs. Wood left last week for an extended tour of the Southern Islands.

Lieutenant Ellicott spent Tuesday and Wednesday in Manila on official business.

Selfridge Field, Mt. Clemens, Mich. Feb. 5.

The annual ice supply for the Field was harvested and stored during the past week. Despite the unusually mild weather experienced so far this winter the ice yield averaged eight inches in thickness, a size best suited for handling.

The survey of the boundaries of the field disclosed only a few discrepancies from the original figures. The new description has been forwarded to the proper authorities and it is believed that the last hitch in the purchase negotiations of the field has been removed.

A.S. Flying School, Mather Field, Sacramento, Cal. Jan. 29, 1921.

The Forestry Service class being carried on at this station is progressing nicely with sixteen Foresters and twelve enlisted men attending. This week's program has included actual flying and it is remarkable what little "kick" the Foresters have got out of the newness of flying, most of them having felt entirely at home in the plane after a few minutes off the ground. Their enthusiasm for the work is very great.

During the week a thorough test was made of the Magnavox Telemegaphone using one and two megaphones, amplified, pointed to the rear and down. The megaphones were located on the trailing edge of the right and left lower wings of a De Haviland 4B. It is understood that the test was thoroughly satisfactory, but that added amplification will have to be made in the set.

The Fokker D-7 motored with a Hall-Scott Liberty Six motor at this field, was flown through thirty six loops in six minutes by one of the pilots of the 91st Aero Squadron.

Lieut. William D. Coney of the 91st Aero Squadron is busy preparing for his flight from San Diego, California, to Jacksonville, Florida. The plane will be flown about February 1, 1921. It has a fuel capacity for fourteen hours continuous flying.

Airdrome, McAllen, Texas, Feb. 5.

Within the next few weeks this station is to have a new ten thousand gallon tank and pump installed. This will not only be a decided advantage over the storage in drums but save considerable gas lost thru leakage and sweating of the small fifty gallon containers.

On February 4, 1921, the new camp was formally accepted. The delay in fulfilling the supplementary contract to lay cable across the flying field has been holding up the acceptance of the camp by the government. The work was completed last Tuesday and two days later all the necessary papers relative to the camp were accomplished. All that is now needed is some beaver board to put in the quarters and barracks.

A set of "non-com" quarters was completed this week and is now being occupied by Staff Sergeant and Mrs. D.T. Leitch.

Over the past week end seven visiting planes from Kelly Field visited the airdrome. Major Reynolds was of the number and was apparently pleased. Other officers visiting the station were Lieut. Mollison, Getchall, Plumb, Roland, Heffly, Beaton, McDermott and Sheridan.

A.S. Observation School, Post Field, Fort Sill, Okla., Feb. 5.

Cadet Shumacher, who crashed at this field on January 21st, 1921 is convalescing rapidly. He is in the Fort Sill Hospital suffering from severe fractures of both legs. Cadet Bloomquist who was observer in the wrecked plane sustained only slight bruises and has been returned to duty. The plane, a DH-4B, was a complete washout.

Lieutenants Rupert Julian and Benjamin F. Griffin soloed on DH-4B's this week after about two hours transition instruction.

The Cadet basket ball team met and defeated the 9th Field Artillery at the Post field "gym." on February 1st, to a score of 17-15. This game decided the right of Post Field to the cup given by the Fort Sill Athletic Association. One more game remains to decide the championship title between the Cadets and the 135th Observation Squadron.

First Lieutenant Louis C. Simon has been relieved from duty as Officer in Charge of Flying, Officer in Charge of Training and Operations Officer and detailed as a student officer at the Air Service Communications School at this station.

A.S. Observation School, Post Field, Ft Sill (Cont'd.)

First Lieutenant Fred Austin, who reported to this station on January 20th, 1921, has been appointed Officer in Charge of Training, Officer in Charge of Flying and Operations Officer.

First Surveillance Group, A.S. El Paso, Texas, Feb. 5

This week's border patrol was made by Lieut. Leo F. Post, piloting and Sergeant Joe A. Turner, observer. The trip was made in three hours from El Paso to Douglas, in the face of a forty mile wind. The return trip was made the same afternoon, the trip being made in one hour and twenty-two minutes. At Columbus a sand storm was encountered, the dust reaching the altitude of four thousand feet. Nothing could be seen to either side or ahead and the railroad had to be closely followed. The landing was made with but a blow-out of one tire, and was accomplished without the sight of the ground, the sand dust being so thick. The trip from Columbus to El Paso was made in twenty-seven minutes, average speed for the last seventy miles being one hundred and fifty-four miles per hour.

About three thousand dollars worth of gymnasium equipment was located at Fort Bliss by the ever vigilant enlisted observers of this station resulting in it shortly finding its way to the Airdrome and it is now being installed in a room which is soon to be converted into a gymnasium.

The basket-ball team made a "flying win" over the Seventh Cavalry crack team by a score of thirty to nine.

A. S. Flying Station, A.F.G., Weissenthurm, Germany, Jan. 1

The past week was declared a holiday for the American Forces in Germany by the Commanding General, and all duties except the necessary guard and fatigue were suspended. Taking advantage of this vacation the majority of the men of this organization made short excursions to points of interest in the Rhineland. Many visited the City of Cologne where they saw the great Cathedral, on which work was started in 1248 and finished in 1880. This cathedral is one of the most magnificent structures in Europe and contains many beautiful and valuable works of art. Several of the men made the return trip by boat, thus getting their first view of the many historical and picturesque castles and villages which are located along the banks of the Rhine. From the tourist's point of view, this is the most interesting part of the Rhine river valley. The Seven Mountains are just below Cologne and though there are several more mountains in the vicinity, this name for the range has been chosen because it is said that only seven can be seen at any one time from any one point. A few kilometers below the Seven Mountains is the University of Bonn, the birthplace of Beethoven, at which point there is an imposing bridge across the Rhine, also the castle Drachenfels, which is 1050 feet above the town, and which was erected in the early part of the twelfth century by Arnold, Archbishop of Cologne, on one of the Seven Mountains which bears the same name. The castle was destroyed during the thirty years war, and has never been restored.

Lieutenant Thomas M. Jervey has returned from Berlin, where he went on official business. He made the trip in a Cadillac car and was absent from this station for a period of five days. He reported that all the roads were of permanent construction and in excellent condition.

The New Year was ushered in by an overcast sky with intermittent rainfall, thus shattering hopes that the German weather man would turn over a new leaf and give the Air Service in the Rhineland a little weather suitable for flying. It has rained practically every day for the past three weeks and the airdrome is covered with water. This condition has practically stopped flying and despite the fact that about 100 truck loads of cinders, lava and gravel have been distributed on the roads and in front of the hangars, the vicinity of the buildings is covered with mud. There are now being employed 51 German laborers and six Liberty trucks in hauling lava from an old crater situated about 12 miles from here, and it is hoped to have this disagreeable feature eliminated in a short time.

A.S. Flying Station, A.F.G., Weissenthurm, Germany, Jan. 1 (Cont'd)

Lieutenant W. S. Hamlin has returned from a two days visit to Cologne. While there he inspected the Fabrik Frederick Boyer, at the invitation of the Board of Directors. This is a huge plant employing 18,000 men, and manufactures a large variety of articles. Lieut. Hamlin made a special study of their system of coloring photographs by re-developing of both still and motion picture films. Lieut. Hamlin reports that he considers this process a valuable addition to Aerial Photography, as it brings out the shadows and adds depth to the photograph. He was especially impressed by the employees of the plant. The factory not only provides model homes but also a large Club and Recreation Center containing bowling alleys, swimming pools, etc.

On New Years Day Lieutenant and Mrs. W. S. Hamlin were the guests of Major and Mrs. Dibble for dinner at their quarters in Andernach.

Major and Mrs. H. S. Burwell held open house at their quarters in Weissenthurm on New Years Day for the officers of this organization and their wives.

Lieutenant and Mrs. Frederick M. Hopkins entertained at dinner on Wednesday evening at their quarters in Weissenthurm for several of the officers and their wives.

Lieutenant and Mrs. Dogan H. Arthur have written from Nice where they are spending their honeymoon. They will return to Germany via Italy and Switzerland.

Major F. M. Andrews, Chief of Air Service, A.F.G. accompanied by Mrs. Andrews spent the week end visiting points of interest in Switzerland. They made their trip there in an automobile and returned by train. Major Andrews made the trip in order to place his little daughter, Josephine, in school.

Lieutenant and Mrs. Ployer P. Hill have returned after spending the last four days of the Holidays in Metz and Strassburg, France.

A.S. Flying Station, A.F.G. Weissenthurm, Germany, Jan. 8

Major H. Benjamin D. Foulois, A.S. of the American Military Commission at Berlin, was a visitor in Coblenz during the week. He spent Thursday afternoon in conference with Major F.M. Andrews, Air Officer, A.F.G., and our Commanding Officer, Major H.S. Burwell.

The first of the week found members of this organization all back on the job after having had an enjoyable time while on vacation, which extended over the Holidays. During this period practically all points of interest in Germany, France, Switzerland and Italy were visited by at least one member of this Command. Every evening is spent together comparing notes upon the different cities visited.

The weather has been cloudy the entire week with light showers three or four times a day, thus ruining hopes for a big week so far as flying was concerned.

However the men of the Engineering Department used this enforced idleness to good advantage in setting up and putting in commission two new planes and the Airdrome dried up sufficiently to test out two planes which the Radio Section had equipped during the week. They were found to function properly and are now all set to co-operate in the maneuvers which will start as soon as the weather clears up.

Lieut. Victor E. Bertrandias accompanied by Mrs. Bertrandias sailed this week for the United States. Upon arrival Lieut. Bertrandias will report to Carlstrom Field for the purpose of receiving flying instruction. He served with the First and 94th Aero Squadrons during the war and was discharged shortly after the Armistice. He then returned to France and made his residence in Paris until he was commissioned in the Regular Army after taking the August examinations.

Lieut. Thomas M. Jervey, Armament Officer, who is under orders to return to the States, has left for a week's visit to points in Italy, France, Switzerland and England.

The Armament Section has moved into a temporary building pending the completion of its permanent quarters and has finished equipping all the planes in commission, with both fixed and movable guns, also sights and bomb racks.

Last Sunday, Operations Officer, Lieut. Walter Bender, made a tour of the country in the vicinity of Kirchdorf, Niederhoten, and Dierdorf for the purpose of inspecting landing fields which had been previously located from the air by Lieut. C.M. Cutler and Lieut. Ployer P. Hill.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE FEBRUARY 28, 1921.

MEMORANDUM ON THE EXECUTION OF ITALIAN SEMI-

RIGID AIRSHIPS OBSERVED AT

THE FRONT

The following story, written by Mr. Arthur Halsted, Associate Electrical Engineer in the Bureau of Standards, Washington, D.C., and, during the war, an officer in American Air Service, serving with the Italian forces in the Po Valley, is of unusual interest since it sets forth the advantages of the semi-rigid airship especially in night-bombing:

Between the dates of October 23 and November 15, 1918 inclusive, I was at the Italian Front attached to the 202 Squadron of Italian marines.

The field at which this squadron was stationed was under the Comando Aviazione a disposizione (The Italian Independent Air Force) and was headquarters for two squadrons of Caproni triplanes piloted by Italians. Within 10 kilometers of this field was located a semi-rigid airship field under the Italian Navy. I understand that there were four dirigibles about 100 meters long in the vicinity although I personally saw only two.

Location and Climate Conditions. These fields were in the Po Valley within 30 kilometers of Ferrara. The land was low lying with a tendency to be marshy although covered by a highly developed drainage system. Because of the prevalence of air currents drifting down the valley from the Alps, fogs and ground mists were frequent. In fact during my stay there, every afternoon between four and six P.M. the ground was blanketed in fog which did not disperse until the next morning after sunrise, often persisting until ten or eleven A.M. This nightly fog served effectively to protect the aviation field and dirigible hangars from enemy night raids.

Operations. On the days when weather conditions permitted, from six to ten bombing airplanes left the field at about midday to return here before four in the afternoon, each carrying from 1000 to 1500 kilograms of bombs.

Every evening regardless of weather conditions or fog, these dirigibles started out for a trip into enemy territory carrying much greater loads of bombs and returned successfully with the morning. In every instance, the dirigibles, without a serious hitch in the schedule, started on and returned from their mission in 100% of force. In comparison with this record, in practically no raid participated in by six or more airplanes did all the planes return to their base the same day. Usually one or more was delayed for days or weeks, due to forced landings, at fields nearer to the front lines. I am not aware, however, of any airplane from this base being brought down or captured by the enemy.

In my training I did many hours of flying under almost all flying conditions at night and may say with some authority that on not one of the nights during my stay at this field could an airplane have carried through successfully a night mission.

Bomb Dropping. For accurate bomb dropping from an airplane it is necessary to fly level at a known altitude, and to maintain a uniform velocity, with reference to the ground previously measured by a trial bomb sight. I understand from my companions, officers in the Italian Army, that the dirigibles, with their reversible pitch propellers and covered by the night and the almost complete silence of their engines and operations, established a position practically at rest vertically above the target before releasing the bombs. Before bombs reached the ground and exploded or any evidence of the presence of the dirigibles was

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suspected by the enemy, all engines were opened up and the airships were under full headway for home. Their speed was about 100 kilometers per hour.

It was understood from conversations with Italian officers that the execution of these dirigibles was more destructive than could be accomplished even by formations of airplanes.

Visibility at Night. From experience in flying over cities in the raid areas at night, I may safely say that there is no way of hiding a city or railway yards even in the darkest nights with no moon and a sky covered with clouds. The cities observed were lighted with the minimum number of blue lights, having the lighting units so covered by opaque shades so as to hide every source from above. The outlines of the cities, parks and railway yards were nevertheless distinguishable, especially the railway yards by the lines of light reflected from the top surfaces of the rails.

Method of Returning to Base. The dirigibles observed in operation returned to their base in spite of weather conditions with unerring regularity. Observations and conversations seemed to establish about the following procedure.

The base was located easily and practically within a radius of say twenty miles or less by dead reckoning. The dirigibles then hovered about this location until the mists should rise with day or the hangar was otherwise definitely located. If wireless was used for direction finding I did not discover it nor was I informed of it.

Towards morning at the hangars a large fire of gasoline and petroleum poured into a pit was lighted. The clouds of black smoke rising for a continued period through the still foggy air seemed to penetrate eventually the fog which was impervious to the beam from a search light. During darkness the red glow from the burning pit seemed to be distinguishable from the airship and during hours of light probably a black spot in the fog caused by the column of smoke. At any rate, before the fog had completely lifted with the day these dirigibles had all made a safe return to their hangars. The security and unerring regularity of their missions of destruction were almost uncanny to a pilot-aviator familiar with the mishaps and delays then inevitable in the operations of airplanes.

USE OF RADIO IN LOCATION OF ESCAPED BALLOON

Wednesday morning February 2nd, 1921, a Radio message was received from the Radio station at the Air Service Balloon School at Lee Hall, Virginia, stating that a captive balloon had just broken away from its winch and was being carried away in a north-easterly direction at a rapid rate. Request was made for the Langley Field Radio station to notify all vessels and Radio stations to report as soon as possible the sighting of the balloon. The request was made by Lee Hall with a small powered set which was not capable of transmitting on a commercial wave length of 600 meters. The Langley Field Radio station immediately broadcasted this message on 600 meters requesting all vessels and Radio stations to look out for the balloon and in addition forwarded a Radio message to Washington which was delivered to the Arlington Naval Radio station who broadcasted it with their high-powered apparatus which has a range of over 3000 miles. The Naval Radio station at Norfolk also co-operated and broadcasted this message.

Within 45 minutes after the original message from Lee Hall, a telephone message was received from the Naval Radio Station at Norfolk stating that their direction finding station at Cape Henry had received the broadcasted message and had sighted the balloon ten miles northeast of the Cape about to settle on the water. The Engineering Department of the Langley Field immediately started the Air Service boat "Langley" to the point indicated but before they ever arrived there the balloon had drifted ashore and was deflated and packed up by the Coast Artillery at Fort Story, located at Cape Henry. A radio message was received from the Naval station to this effect.

STANDARDIZATION OF INSULATED WIRES AND CABLES

A conference on the standardization of insulated wires and cables was held in New York, February 2nd. The conference, which was called by the American Engineering Standards Committee at the instance of the American Railway Engineering Association, was attended by representatives of fourteen national organizations.

After a thorough discussion of the many considerations involved, it was unanimously decided that "The unification of specifications for wires and cables for other than telephone and telegraph use should be undertaken under one general plan, covering substantially all the more important uses". It was agreed that work on the following should be included:

Conductor, quality, stranding, sizes: Rubber insulation: Varnished cloth insulation: Impregnated paper insulation: Magnet Wire: (including enamel, cotton and silk insulation): Fibrous coverings (including asbestos): Sheaths: Armor: Standard Make-ups:

Nearly a dozen organizations now have important publications on the subject, and it was agreed that the proposed work should be a unification of the specifications and standards already in existence, rather than an attempt to formulate entirely new standards, except in fields not already covered.

It was the consensus of opinion that, in order to promote export trade, it would be desirable to have all the American wire and cable standards assembled in a single book. This form of publication, while giving due credit to the participating organizations would appear to foreign wire and cable purchasers as a complete book of American Standards, rather than as the standards of societies comparatively unknown abroad. This has been done in a very thorough way by the Germans and to a considerable extent by the British, thus placing Americans at a decided disadvantage in foreign trade. It was agreed that if such a book were prepared and given proper publicity in foreign countries, it would remove one of the greatest difficulties under which American manufacturers are now laboring in developing export trade.

The proposed work will be carried out under the auspices and rules of procedure of the American Engineering Standard Committee.

RADIO ACTIVITIES AT KELLY FIELD

The Wing Communications Officer of Kelly Field is erecting a vertical fan-shaped antenna, the highest part of which will extend 65 feet above the ground. The antenna will be suspended from two masts, each of which will be painted alternately black and white, and will be plainly marked with a large black ball at its upper extremity. These masts will be mounted, one on Building No. 45 and the other on Building No. 51. Flags will be suspended from the cross wire at several points throughout its length, to warn all pilots and students from running across the wires while attempting to land.

PURSUIT TRAINING AT KELLY FIELD

The Pursuit Group has been very active in training officers and cadets on machine gun operations. The 94th and 95th Squadrons are assigned to this practice one day, pilots of the 27th and 147th Squadrons are assigned one day alternately. Reports are submitted to the Group Operations Officer on the number of rounds of ammunition fired and the number of hits made on the target, as well as, any remarks pertaining to the efficiency of the students. The target is located on the west end of the flying field, opposite to hangar 24 at a distance of half a mile. Two enlisted men are detailed for the upkeep of the target. These men are instructed to give the proper signals to the airplanes while practicing. The targets are made of a medium grade of canvas, colored white, 7 yards square. The pilots undergoing this practice are gaining a great deal of efficiency and experience.

FLYING TIME FIRST PURSUIT GROUP AT KELLY FIELD

The flying time of the First Pursuit Group has advanced by leaps and bounds; until, for the past month, the 147th Aero Squadron has rolled up to the grand total of 312 hours, consisting of 418 flights, which is a most extraordinary achievement, considering the fact that the 147th Squadron has only three available officers. They are training six naval officers and eight cadets, besides several other student officers, who are undergoing a pursuit course of instruction to qualify for pursuit rating. The other Squadrons in the Group are close behind the 147th, in the race for honors, the 94th Squadron rolling up 406 flights, totaling 265 hours; the 95th having 365 flights, totaling 185 hours; and last, but

not least, the 27th showing a total of 495 flights, with a total of 175 hours. The above work is noteworthy, in view of the small percentage of skilled mechanics available and the vast amount of work accomplished by each crew chief and the hangar crew, in keeping available machines to hang up the above amount of flying time.

The total time for the First Pursuit Group, for the month of January, ran up to the grand total of 1756 flights, with total time of 944 hours and 15 minutes.

The first class of pursuit cadets has been graduated and the second class is now entering into the final act of their training.

A tactical bombing road has been laid out, in the southwest portion of the airdrome, and a lookout will be stationed on top of Hangar 17, to note the percentage of hits scored by each pilot, using both dummy, fragmentation and high explosive bombs. Tactical formations have been engaged in by the various squadrons of the Group, and at least twice a week, Group echelon formations have been flown about the vicinity of the airdrome, while both offensive and defensive patrols have been flown over the delineated battle sector designated from this office; and special missions have been assigned to the various pilots of the Group, at different times to observe their ability to bring in strategic information of a certain area, which is specified in orders to be observed.

65 PLANES MAKE 461 FLIGHTS AT MARCH FIELD

Sixty-five planes made a total of 461 flights at this school during the past week. Total hours flown - 245 hrs. 30 min. Preliminary instruction required 194 hrs. 40 min.; advance instruction, 14 hrs. 40 min.; test flights 2 hrs. 45 min.; miscellaneous flights, 33 hrs. 25 min., approximate mileage 17,060.

MAJOR SIMONS VISITS MARCH FIELD

Major John W. Simons, assistant administrative executive of the Air Service, was a visitor at March Field Wednesday. He returned to San Diego where he joined Major General Mencher, Chief of Air Service, who is expected here the first of next week. Major H. H. Arnold, corps area Air Service officer, accompanied General Mencher on his inspection tour of Air Service stations on the Pacific coast.

FLYING TIME AT CARLSTROM FIELD FOR WEEK ENDING FEBRUARY 3.

	Total-	141:00	Total Flights	218
"A" Flight.	Instruction-	108:45	" "	178
	Misc.-	32:15	" "	40
	Total-	157:30	" "	246
"B" Flight.	Instruction-	109:00	" "	184
	Misc.-	48:30	" "	62
"Hdqs."		88:35	" "	132
				596
Total time for field 387:05				
Average ships in commission 52.				
Approximate miles flown 28,200.				

MESSAGE SENT OUT BY CARRIER PIGEON RETURNED AFTER THREE YEARS

From the Commanding Officer at Selfridge Field comes the following interesting story of a message sent out from that station by carrier pigeon in 1918 which has just been returned from Ogden, Utah, where it was, perhaps, lost by the bird in its flight.

"It is a far cry from the 1918 war-time activities of this Field and the city of Ogden, Utah, but the two were linked up in a strange manner recently by means of a carrier pigeon. During 1918 carrier pigeons were trained at this

station for the purpose of carrying messages from airplanes, and it occasionally happened that a pigeon failed to return to its loft after being released from a plane. The other day the Chief of Police, Ogden, Utah, forwarded to this station a metal message container, with the original training message inside, stating that the container had been picked up in the business section of that town. The only plausible explanation that can be offered is that a pigeon, upon being released from a plane in training, decided to go A.W.O.L. and set out for parts unknown, finally losing the message container while over the distant Western city. The vicissitudes and incidents of this modern Odyssey are a sealed book, but though the feathered messenger failed to come home to roost, its message did, even if three year's time and a journey of several thousand miles were required for the final deliverance."

FOREIGN AERONAUTICAL NOTES

South America

AIR ROUTE RECONNAISSANCE FROM THE PACIFIC TO THE AMAZON

One reads with interest, but, nevertheless, not altogether without qualms of conscience, that the United States is not leading the world in aeronautics, of the report of G.M. Dyott, late Squadron Commander, R.N.A.S., presented at a meeting of the Royal Geographic Society in London describing a reconnaissance mission undertaken by him for the purpose of making preliminary survey of an air route from the Pacific Ocean to the Amazon River.

The mission required many months of toil and effort, journeying on foot, on mule back and in canoe; it necessitated climbing mountains, penetrating jungles, traversing unexplored regions and negotiating with hostile Indian tribes in the interior of South America, and the report presents, in minute detail, the difficulties that were encountered in this hazardous and adventurous undertaking.

"My journeyings in Northern Peru," Mr. Dyott is quoted as having said in the Geographical Journal of October, 1920, "were not undertaken primarily with a view to acquiring geographical knowledge, although I must admit that it was lack of such information that made it necessary for me to travel as extensively as I did. The chief motive was to see if it was not possible to establish an aerial route that would connect the Pacific coast with the town of Iquitos, the inland port of Peru, situated some 2147 miles up the Amazon. The net result of my observation was that no particular technical difficulties lay in the way of carrying out such a scheme; in fact, of all the world routes which are being discussed at the present time, I think few offer less difficulties or greater advantages. Even if private capital could not be induced to inaugurate an air service through the wilds of the country, the Government of Peru itself could well afford to carry out the project simply as an insurance against loss of valuable territory, quite apart from any of the obvious commercial advantages which would be derived from it.

For many years the question of a trans-continental highway of some kind through the region traversed by Mr. Dyott has been under discussion, but the initial cost of a railway has been, so far, prohibitive, and a mountain trail would be wholly inadequate. The latest estimate submitted to the Peruvian Government for a railway over the Païta-Maranon route was £9,000,000, and it was stated that as no return on the investment could be expected for at least twenty years, a guarantee of 7 per cent interest would have to be made by the state for that period of time. In comparison with the above figures, Mr. Dyott asserts that a rough estimate of outlay for an air service capable of making three trips every fortnight in either direction would be £150,000. While this is, no doubt, a conservative figure, were it increased to £500,000 it would still leave a wide range of speculation between this and the estimated cost of the building of the railway, in which calculations should be taken into consideration the suggestion that once the country is explored for the air route, and as a consequence to a certain extent opened up and settled, a railway could follow with some assurance of finding a sufficient volume of traffic at the commencement to justify the expenditure of large capital.

The topographical configuration of Peru is peculiarly suitable for aerial transportation, not because distances are great, as in the Argentine, but because the obstacles encountered in traversing the relatively short distances are

colossal. Range after range of mountains intervenes between the coast and the Amazon with its many tributaries, and even when the flat land of the river valley is reached after weeks of mountain climbing, the traveler finds his way blocked by weary miles of almost impenetrable forest. He is forced to travel by rivers whose periodic whirlpools and rapids make progress slow and dangerous, and even when these are left behind, submerged logs are a continual menace to the frail canoes, and the meanderings and windings of the shallow streams stretch the journey almost interminably.

Four routes in all were surveyed by Mr. Dyott from the Peruvian Coast to Iquitos, which may be traced on any map as follows:

- 1.- The Pichis trail from Lima via Uroya - Puerto Bermudes, and thence by the rivers Pachitea and Ucayali to Iquitos.
- 2.- Trujillo via Seledad, Parcoy, la Sata, Jucusbamba, Crug Ramos, and Valle; thence by the Huallaga river to Iquitos.
- 3.- Pecosmayo, Cajamarca, Balsas, Chachapayas, Moyabamba, Balza Puerto, Yurimaguans, and the Huallaga river to Iquitos.
- 4.- Paita or Chiclayo to Bellavista and thence by the Marañon river to Iquitos.

Summing up the relative advantages and disadvantages of the routes, which Mr. Dyott goes into very fully in his report, it seems clear that No. 4 would be preferable from the point of commercial air transportation and for the following reasons:

- (1) - The Andes are crossed at the lowest possible elevation.
- (2) - Only one ridge of mountains has to be traversed and not a series of parallel ridges.
- (3) - It necessitates the least amount of bad overland flying.
- (4) - While not requiring the least amount of river flying, it necessitates only a small amount of bad water flying.
- (5) - The country passed over has great possibilities for future development.
- (6) - Climatic conditions are more suitable for aeronautical work.
- (7) - Bellavista is bound to be a big center of great importance in years to come.
- (8) - The upper Marañon Valley, Chicapayas, and Moyobamba can be reached by air more advantageously from Bellavista than from the coast direct.
- (9) - Besides having strategical value, an aerial route in the north would enable Peru to establish her control over territory now in dispute with Ecuador.

In introducing Mr. Dyott, the president of the Royal Geographic Society said, "The lecturer this evening was originally a mechanical engineer who always took a very keen interest in aeronautics and, finding that aeronautics interfered with business, very wisely gave up business and took to aeronautics. He served in France for three years during the war, when he was invalided and sent back to America. He knows the coasts of both South and North America equally well".

England—Egypt Route.

AERODROME AT MALTA ON ENGLAND-EGYPT ROUTE

The Air Ministry of Great Britain has secured, on the England-Egypt Commercial route, a site at Malta for a new aerodrome, and steps have been taken to ensure wireless communications along the line between England, Malta, Egypt, Mesopotamia and India. Arrangements have been made whereby the maintenance of the aerodromes on the Cairo-Cape Town route will be borne by local governments, thus relieving the British Government of financial responsibility of these matters in future.

"AND I LEARNED ABOUT FLYING FROM THAT." ✓ 4

An American "Ace" with a long foreign service record tells the following interesting story:

"A great many of the younger pilots who served in France did not take very kindly to the idea of formation flying, but, like the 'Knights of Old', wanted to go out and conquer the world alone. The following experience might be of sufficient interest to publish in the News Letter under the heading, 'I Learned About Flying From That.'"

While at the 3rd A.I.C. at Issoudun, France, when ordered to fly formation I had a habit of quitting the formation immediately after we left the airdrome and amuse myself by diving on sheep and cattle in the fields and then flying to the Prison Camp where a great many German prisoners were working and diving at them and pulling up a few feet over their heads almost frightening them to death. This practice lasted about ten days when I received orders to proceed to the front. About a week later I received a letter from a friend at Issoudun informing me that an investigation had been ordered, owing to the number of complaints that had been made, but the Investigating Board were unable to discover the guilty pilot. Had they done so I would have been court-martialed and sent back to the U.S.

For about a week after my arrival at the front I was very conscientious about "sticking" close to my formation, but as soon as I was familiar with the sector, I thought I would repeat my performance at Issoudun. One evening while on a patrol which left the aerodrome about 5 o'clock in the afternoon I immediately broke away from the formation as soon as we had reached the lines.

I climbed to about 10,000 feet and started to patrol the lines alone. I looked about a few times and there was not a "Boche" machine in the sky. Then I dropped down to 5000 feet and started to look at the battle that was going on. It was just about sundown; the French "Seventy-fives" - cannon - were lined up almost hub to hub and looked like fire-flies flitting to and fro. Across the "Hun" lines two or three towns were burning and then to the west the sun was setting. While admiring the wonderful beauty of the scene, I suddenly heard the "putt, putt, putt" of machine guns and looking up I discovered that a formation of four "Fokkers" were on my tail. I was so frightened that I forgot I had guns. I did a "half spin" turn and dove blindly in a "zig-zag" fashion. At that time I did not know in what direction I was diving, but fortunately it was to the South, and I soon crossed our lines. When I reached the lines the Boche gave up the chase and went home. I practically "limped" into our aerodrome, landed and took an "inventory" of what was left of the plane and discovered that about six inches of the leading edge of the upper right wing was missing, a strut was shot through and approximately fifty bullet holes were in the tail plane and fuselage.

After that experience I was completely cured of leaving my formation and did not have to be "bawled out" by the C.O. for this "grave sin" again."

SQUADRON NEWS

France Field, C.Z., Jan. 29.

All the energies of the Engineering Department of this field are being used in getting the new D.H.4 B's assembled for some active flying operations which are planned for next month. The old D.H.4 B's which have nearly all been in commission for more than a year and some of them for eighteen months, are to be withdrawn from the line and completely overhauled. The effect of the atmospheric conditions on these planes is uncertain and every once in a while a plane will be found to be in very poor condition because of rust and corrosion on parts not exposed to view. This is especially true of the interior structure of the wings and all these old planes will be entirely gone over to locate any weak spots which might be dangerous to flying. The new planes are expected to be ready for extensive work in about two weeks. Three of these planes have been turned over to the flying department and three more are rapidly being assembled.

One of the items of work that is to be performed with these new planes is the training of the carrier pigeons at this post. While most of these birds have been trained for flights all over the Canal Zone and some of the nearer points in the Republic of Panama, they have not flown the longer distances to the emergency fields which have been used for the past year on the long cross country and reconnaissance flights. The pigeons have been divided into four groups and each group will be trained in the sector to which it has been allotted. One group will carry messages on the Atlantic side of Panama and toward Colombia, while the second group will be operated to the westward as far as Costa Rica. One flight has already been made to this district this year with pigeons and while the birds did not make fast time on their return flights the results were excellent for the first attempt.

Bombing practice, using a camera obscura, is on the program for the near future. 1st Lieut. Charles B. Austin, who has charge of the gunnery and bombing, has repaired a camera obscura which arrived recently in a damaged condition and now has it ready to be set up and put to use. Pilots will fly a course of training with this apparatus and after qualifying successfully will have practice using live bombs.

Greetings from the god "Momo" were distributed to the people of Panama City on Friday from two airplanes. "Momo" is the god of the big carnival which will be held next week, and there was great excitement among the people when the printed messages were received from the sky. 2nd Lieut. Homer B. Chandler A.S., and Major R.D. Prescott, S.O.R.C. in a DeHaviland and 2nd Lieut. D.D. Watson A.S., and Col. Josinski in a J.N.4 H., dropped the messages, which were printed in Spanish, and which promised a wonderful and successful carnival.

The first work with the 42nd Infantry was carried out on Friday when 1st Lieut. Heater of that regiment was given a reconnaissance flight by 2nd Lieut. John D. Barker. The flight was over territory around Camp Caillard, the home of the 42nd Infantry, and was made for the purpose of giving Lieut. Heater an idea of the region in which the regiment will carry out minor maneuvers.

Revenge is sweet but none could be sweeter than that tasted by the France Field baseball team and its rabid rooters on Saturday when the baseball team of the 33rd Infantry was downed in a close and exciting game by a 6 to 5 score.

Another batch of fourteen replacement troops arrived during the week on a transport and word has been received that fifteen more men scheduled for this field will follow on the transport next month. The arrival of these men has practically filled every available space in the barracks but this condition will gradually get better as men who have completed their time in the Canal Zone are returned to duty in the United States.

1st Lieut. Rowland C.W. Blessley sailed for the United States on Tuesday aboard the Transport Somme and will probably be gone about two months. He will be married while on leave and it is expected he will be given a warm welcome upon his return.

March Field, Riverside, Calif., Feb. 5.

About a half-dozen times a year March Field is visited by what is termed a "norther", or in other words, a wind storm sweeping down off the mountains. Such a storm swept the field on Tuesday of the past week. All planes were hurried into hangars, and no property damage was sustained. That it was a freak storm is indicated by the wind-loft report compiled by Signal Corps men in charge of the local meteorological station. Within ten minutes time the velocity of the wind jumped from 17 to 50 miles an hour on the surface. It was estimated that at

March Field, Calif., Feb. 5 Contd.

2,000 feet the velocity was easily 60 miles an hour. A half hour later, instruments recorded a change of direction and a speed of but 14 miles an hour on the surface.

Major Walter W. Vautsmeier is officer in charge of the cadet board appointed to examine new arrivals for cadet status. Preliminary preparations are being made for the new class, which is expected to number about 200 men. Many of them will come from civilian life; others from the ranks of the various arms of the service.

March Field men who are members of the American Legion, were among Legionnaires to greet state commander Buron Fitts, who was the guest of Riverside Post 79, at a banquet held Tuesday evening. Commander Fitts made a strong appeal for 100 per cent Americanism. Congressman-elect Phil D. Swing of Imperial Valley was also a speaker on the program.

Kelly Field, San Antonio, Texas, Feb. 5.

Naval officers have been flying very steadily with exception of the time when the weather does not permit them. The "Naviators" have adapted themselves to circumstances and are thoroughly at home, professing great admiration for the flying ability of the SE5.

The Air Service has been very active in securing enlisted men for Kelly Field, 139 recruits arrived at Kelly Field during the past week; all these men show a very aggressive spirit and their morale seems to be of a high standard.

Recruiting throughout the country still seems to be brisk, judging by the number of recruits appearing at the Post. However, they are first assigned to the rookie squads, where they undergo a course of "sprouts", consisting of squads east and west, etc. The Group is also due to be augmented by the return of several members absent at the various schools, soon to complete courses of instruction.

An extended schedule of formation flying will be carried out at this station during the present month.

Lieutenant O. E. Spruance, Air Service, was married to Miss Genevieve Kerr of San Antonio, Texas, the wedding having taken place at the Laurel Heights Methodist Church. After the wedding a reception followed in the home of the bride's parents, Mr. and Mrs. L.A. Kerr, with about 150 guests present. Lieutenant Spruance is at present on duty with the A.S.M.S. and he and his wife left Kelly Field a few days ago for their new home at Chanute Field, near Chicago.

Lieutenant Gordon B. Wooley, U.S.N., has reported at this station and has been attached to the First Pursuit Group for flying and advanced pursuit training.

Lieutenant Edward W. Raley, Air Service, has reported at this station from Marfa, Texas and is assigned to the First Day Bombardment Group.

Due to motor trouble of a serious nature, Major Henry C. Pratt, Air Officer, at Fort Sam Houston, with Lieutenant Harold W. Beaton, Air Service, as Pilot, had a forced landing at Breslau, Texas while en route on a cross-country flight from Schulenberg, Texas to Kelly Field. There were no injuries to pilot and passenger and no damage to ship.

First Lieutenant Clifford C. Nutt, Air Service, has reported at this station from Mitchel Field, Long Island, New York, and is assigned to the First Day Bombardment Group.

Captain William B. Williams, Dental Reserve Corps, is furloughed to reserve, having been relieved from his duties at Kelly Field.

Lieutenant R. Baez with a mechanic as passenger made a cross country trip by airplane to Laredo, Texas on February 4, 1921 and returned the same day.

Headquarters, Airdrome, Flight "B", 104th Aero Squadron, Marfa, Tex., Feb. 6.

With the pleasant weather of the past few days athletics is beginning to boom. The crack of the bat and the smack of the ball into gloves and padded mits are pleasant and familiar sounds and bring the realization that wintry weather is on the wane. This organization has the possibilities of a fine team and is expected to give a good account of itself during the spring season. It is to be hoped that a Flight League will be organized among the organizations on the border

and Flight "B" 104th can be relied upon to finish somewhere near the top.

During the past week, Joe Devlin from Fort Stockton was a visitor at this station. Mr. Devlin, recently a member of the Canadian Flying Corps, and one of its best instructors during the war, was flying a "Canuck" and gave several thrills during his demonstrations of the most approved methods in making it eat out of his hand. The local altitude of four thousand feet is not at all conducive to the best motor performance of the "Canuck" type, but she sang along at thirteen hundred revs. and handled the plane nicely in the most intricate maneuvers.

Mr. Devlin is engaged in the ranching business at Fort Stockton, and has promised to make other visits from time to time.

Instruction work is being carried out, as near as possible, to conform to the schedule provided by the Air Office, 8th Corps Area. Arrangements are being made for silhouettes and other targets to make the instruction more effective during the period allotted for that work. All enlisted men, on flying status, are required to take part and are showing commendable interest as well as marked ability.

Carlstrom Field, Arcadia, Fla., Feb. 2

During the past week 5 Curtiss training planes equipped with "Wright" engines under the command of Capt. C.W. Ford; and Lt. O.C. Niegarth, Lt. F. A. Johnson, Lt. G.C. Salisbury, Lt. B.J. Tocher as pilots were ferried from Montgomery, Alabama, to Carlstrom Field. They were delayed two days in making minor repairs on the trip.

Major Ralph Royce, the Commanding Officer, on Sunday, January 30th, flew cross country to Daytona Beach in a D.H.4-A. to get Capt. Wright, at which place the latter was injured three weeks ago cranking a propeller, when the engine was pre-ignited. They returned Sunday evening, Capt. Wright standing the trip in good shape.

On Monday last a Garrison School of Law was started with Lt. Ennis as instructor, for all officers of this command as well as the Student Officers...

Last Wednesday evening was "FITE NITE". It consisted of one wrestling bout and three boxing bouts.

Carlstrom Field, Arcadia, Florida, Feb. 9.

Captain Clay Platt (retired), Assistant Finance Officer and Auditor in the Zone Finance Department at Atlanta, Ga. spent several days at this station the past week.

Major H. B. Claggett, Air Service Officer of the 4th Corps Area is now visiting this station. He made the trip to this station in his DeHaviland 4-B "Ardmont Pride".

Last Wednesday evening the boys of Carlstrom Field favored Arcadia with a "Fite Nite" for the benefit of the Baptist Orphanage. There were two wrestling bouts and three boxing bouts. Music was furnished by the "All-American Trio" composed of ex-soldiers. Lieut. Booker acted as referee and Lieut. Dunlap as time-keeper.

The sudden departure Sunday of Lieut. Harold H. Carr, due to the death of his mother in St. Johnsbury, Vt., was keenly felt by the Commandant's Staff and the enlisted personnel of the field. Lieut. Carr will proceed from St. Johnsbury to Chanute Field, Ill., to which station he is transferred.

U.S. Army Balloon School, Ft. Omaha, Neb., Feb. 10.

The officers at the Headquarters, Seventh Corps Area have challenged the officers at Ft. Omaha to a bowling tournament to be held in the near future. The alleys at Fort Omaha have accordingly been worked over and specially prepared for some intensive practice work in an elimination contest. Keen interest is being taken by the officers in anticipation of the event.

A "B" type Dirigible Air Ship with a gas capacity of 190,000 cu. ft., an overall length of 198 feet and an overall width of 51 feet is being sent to this Post for experimental purposes.

Selfridge Field, Mt. Clemens, Mich.

First Lieutenant James T. Hutchison, A.S., reported for duty at this station from Mitchel Field, N.Y., on February 6. His arrival is welcomed by the other two officers of the Field, as it will serve to relieve them of some of their many duties. Among Lieutenant Hutchison's details are those of Aero Supply Officer, Engineer Officer, Personnel Adjutant and Officer in Charge of Flying.



The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE MARCH 4, 1921.

LT. CONEY COMPLETES TRANSCONTINENTAL FLIGHT

According to the unofficial report as announced in the press, Lieut. William D. Coney made the transcontinental flight from Rockwell Field, San Diego, California to Pablo Beach, Jacksonville, Florida, the distance as flown being 2180 miles, in 22 hours and 27 minutes actual flying time.

As originally scheduled, Lieutenant Coney was to attempt the flight in two hops, the first of which was to be a stretch of 1275 miles to Ellington Field, Houston, Texas, thence to Jacksonville, a distance of 804 miles. This program was not carried out, however, owing to the fact that severe storms of wind and snow encountered in New Mexico caused him to change his course and steer northward.

Leaving Rockwell Field at 7:03 P.M. on the 21st, and after circling the storm the greater part of the night, Lt. Coney was forced to land by reason of slight engine trouble in his remodeled DH-4B plane, coming down early Tuesday morning at Bronte, Texas, 220 miles southwest of Dallas. Making the proper adjustment to his engine, so as to correct the trouble which is said to have been caused by a feed-pipe insufficient to take care of the extra supply of gasoline in his specially equipped plane, he flew into Love Field, Dallas, arriving at 12:50 on the afternoon of the 23rd. At 10:14 that night he took up the last leg of his journey, making the flight to Jacksonville, a distance of 940 miles in 8 hours and 17 minutes.

The undertaking was a hazardous one and its completion adds to Lt. Coney's already enviable record as it does to the list of achievements by the Air Service.

The attempt was made to cross the United States in 24 hours. The feat has been accomplished in less than that number of hours of actual flying time, and the distance flown exceeds that scheduled to be flown by 101 miles.

In the absence of full data, the following points may be noted; total distance flown, 2180 miles; longest single flight, 1020 miles; total distance flown at night, 1960 miles; total elapsed time, 37 hours and 24 minutes; total flying time, not yet officially reported, but announced by the press as 22 hours and 27 minutes.

WAR DEPARTMENT
AIR SERVICE
WASHINGTON, D. C.

February 24, 1921.

Office of the Chief of Air Service.

1. As a result of recent publicity to the effect that this office was in a position to train about 500 civilians as flying cadets, hundreds of communications have been received requesting application blanks and other data pertaining to this training.

2. The legislation passed by Congress on February 7, 1921, prohibiting further enlistments in the Army until the enlisted strength is reduced to 175,000 has also been construed to stop the further enlistment of flying cadets. This office is now sending replies to these inquiries to the effect that it will not be possible to enlist civilians for this training until the Army is reduced to the above strength. It is estimated that no further enlistments can therefore be made until about the close of this calendar year.

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3. In order to offset the publicity given to the enlistment of these civilian applicants for flying training, and in order to reduce the correspondence on this subject at this time, it is recommended that publicity be given to the fact that it will not now be possible to make any further enlistments of civilian candidates for this training until the Army is reduced to a strength of 175,000, and it is estimated that this reduced strength will probably not be reached before the end of the present calendar year.

Rush B. Lincoln,
Major, Air Service,
Chief, Personnel Division.

LT. PEARSON'S STORY OF TRYING EXPERIENCE ✓
AFTER FORCED LANDING IN MEXICAN CANYON

The idea of a transcontinental flight in 24 hours originated with Lieutenant Alexander Pearson, Jr., at present Squadron Adjutant with 12th Aero Squadron at Douglas, Arizona. It will be recalled that, as one of the participants in the New York to San Francisco trans-continental flight which took place in 1919, Lieutenant Pearson established the record for the lowest actual flying time. The official report gives his time from San Francisco to New York and return as 48 hours, 37 minutes and 16 seconds for the round trip.

As originally planned, the trans-America-in-a-day flight scheduled for Feb. 22, was to have been attempted by both Lieutenants Coney and Pearson; the intention being for the former to start from Rockwell Field, San Diego, California and make the flight to Pablo Beach, Jacksonville, Florida in two hops; while the latter was to start at Jacksonville and make the trip to San Diego in three hops.

As it eventuated, however, Lieutenant Pearson did not participate in the trans-America flight on Feb. 22 for the reason that has received wide publicity in the press, namely: that he was lost for three days and his plane which had been specially equipped was wrecked in attempting a flight from El Paso to San Antonio, Texas on the 10th of February, when he was compelled to make a forced landing, coming down in a canyon south of the Rio Grande River in Mexico.

After trying in vain to start his motor, Lt. Pearson abandoned his effort to resuscitate his engine and began to look for other means of making his way to civilization. Walking up and down the banks of the Rio Grande, late Thursday afternoon he found a frail raft which had been abandoned, no doubt by fishermen. Piecing together the logs which formed the raft, and cutting a pole with which to guide his craft, Lt. Pearson made his way down stream until about nightfall he sighted an old shack on a hillside to which he made his way. Though the shack was uninhabited, he found in it sufficient food to stay his hunger. Making frequent explorations to find other evidences of civilization but all without avail, Lt. Pearson remained at the shack until Sunday when the sheep herders who made use of it returned and informed him of his location, which was 70 miles southeast of Sanderson, and directed him to the nearest ranch house, which he had to travel many miles on foot to reach.

On reaching the house Lt. Pearson found no one at home, but remained until Tuesday when the ranchmen returned, horses were obtained and he made his way to Sanderson accompanied by one of the ranchers. The Arkansas Gazette of Feb. 19 contains the following account of the incident as related by Lt. Pearson himself:

"On account of engine trouble I did not follow the air line to San Antonio but kept as close to the field as possible. I was flying at about 8,000 feet when my engine stopped, and I was directly over the river.

"I landed in a deep canyon and I don't know yet how I was able to do it without wrecking the plane. The wings were not disabled, and the plane could be flown I believe, after clearance had been made in front of it, if it were possible to get a new engine to it.

"At the time I landed I thought I was on the American side somewhere north of the river, and started immediately to walk south, thinking to reach the Rio Grande and make my way to some place of habitation. But as at that spot the river runs north and south, I paralleled it for two days, and must have walked about 30 miles.

"At the end of the second day I came to the river and saw that I had been getting as far away from the place I wanted to go as it was possible to get on foot, so I rigged up a raft and started back the way I had come. It took me one day on the raft to cover the distance I had come on foot in two.

"I got pretty hungry during the latter part of my day on the raft, and the nights in the Big Bend country are just a bit chilly.

"The worst thing is that I lost my chance to try for the trans-continental. I believe that if I had my engine in good shape I could have made the flight in less than 24 hours as I had expected to. There isn't a chance in the world to get the plane out of Mexico and continue the flight."

GUIDE FOR FLIERS WHO MAKE FORCED LANDINGS.
TIMELY ADVICE THAT SHOULD HELP LOST AIRMEN.

The following letter from Mr. W. P. Bullock of Salt Lake City, which has been forwarded from the Air Mail Service of the Post Office Department to the Chief of the Army Air Service, is called to the attention of all aviators. The suggestion made by Mr. Bullock is not only timely but is characterized by simplicity and excellent common sense, which makes the information he offers available to all. He who flies should read:

W. P. BULLOCK, CONSULTING ENGINEER
625 Judge Building,
Salt Lake City, Utah,

February 19th, '21.

Chief of Airplane Mail Service,
Post Office Department,
Washington, D.C.

Dear Sir:- From time to time I have noted in the papers very graphic accounts of Aviators who, through the misfortune of having to make forced landings, have wandered aimlessly around in search of natural and known objects, and only yesterday the press gave an account of Lieut. Pearson who was lost for three days, after alighting in a gulch or ravine in Mexico.

Having followed Engineering for many years I might be able to impart to your Department a rule that has served me well at various times when I was lost and when a pocket compass or a given direction was of no value.

My rule has been to follow the dry creek or the natural downward slope, regardless of direction, and this will always lead to a larger stream and that to a river or known water course. There are few places where the water slope cannot be traced; possibly in the Staked Plains of New Mexico and Western Texas it would be hard to do so, but in the case of Pearson, he says he landed in a ravine, and thinking the Rio Grande River ran East and West at that point, he traveled North and South in an effort to intercept it. But after three days of aimless effort he discovered he was moving parallel with the River as it ran North and South at that place. Now this was the same experience of the Balloonists who alighted in Canada. They depended upon a compass, and traveled several days parallel with the Moose River. This would have been impossible if they had followed my rule, of moving always downward first with the very faintest trace of a draw or gully until that directs the wanderer to a larger stream and that in turn to the River, which is always skirted on each bank with roadways leading to settlements, I am

Yours very truly,

(sgd) W. P. Bullock.

DEVELOPMENT OF AERONAUTICAL ENGINES BY THE ARMY AND NAVY

Development of certain types of engines by the Army and Navy Air Services has been recently approved by the Secretary of War and the Secretary of the Navy upon recommendation of the Aeronautical Board.

These engines have been arranged into three groups, namely:

- (a) Engines, the development and use of which are of mutual interest to the Army Air Service and to the Navy Air Service.
- (b) Engines, the development and use of which are primarily of interest to the Army Air Service.
- (c) Engines, the development and use of which are of interest primarily to the Navy Air Service.

In thus dividing these engines into three classes, it should be noted that class (b) and class (c) will, by the process of elimination in a great many cases, be merged with class (a). It is believed that engines now placed in class (b) will never be entirely without interest and value to the Navy Air Service, nor will engines for the present placed in class (c) be entirely without interest and value to the Army Air Service. The list of engines by class is as follows:

Class (a) Of mutual interest to the Army and Navy Air Services.

50-60 H.P.

An engine of this power is available but further development of this type of engine has been assigned to the Navy Department.

350 H.P. air cooled radial engine:

This engine is placed in this class on account of the maneuverability that can be given to an aircraft equipped with it, reduction in area of vulnerable parts, and a wide range of atmospheric temperature in which it will probably be capable of operating. The development of this engine is now in hand under Army cognizance.

550 H.P. water-cooled engine:

For medium weight heavier-than-air craft. An engine of this type is in process of development in commercial hands. Tests are being conducted under Army Cognizance and modifications are being recommended by the Army Air Service.

700 H.P. "W" type Water-cooled engine:

For heavier-than-air craft of large size. This type of engine is in process of development under Army cognizance.

1000 H.P. "W" Type water-cooled engine:

For aircraft of heavier-than-air type of extremely great size, now in process of design by the Army Air Service.

Engine to operate on heavy oil fuel, probably about 500 H.P.

The development of this engine is of mutual interest, in view of the existing fuel situation and in view of the desirability of eliminating, to as great an extent as possible, fire hazards existing in the use of present type aviation (airplane) engine fuels. The development of an engine of this type has been undertaken under Navy cognizance.

160 H.P. 6-cylinder water cooled engine:

This engine is being developed under Army cognizance as an engine for installation in aircraft used in training. The development of this engine and of the engine noted under class (b) of approximately the same H.P. but of radically different type is being carried on with a view to determining which of the two types is the more suitable for a standard engine for this purpose.

300 H.P. cannon engine.

This engine is being developed under Army cognizance, for installation in an aircraft where it is desirable to have a gun of greater than small arms calibre capable of firing directly ahead through the propeller hub.

350 H.P. to 375 H.P. water cooled engine:

This engine is to be developed and has been a subject of study by the Air Service of the Army for use in installation in pursuit airplanes. The engine contemplated is primarily of the highest performance type, will be highly stressed, of very light weight, and probably of only moderate durability, since the nature of the service to be performed has to justify a design of these characteristics.

300 - 400 H.P. 6-cylinder water-cooled engine.

Engines of this type are being developed under Navy cognizance for installation in rigid airships, or in large non-rigid airships.

Class (b) Engines primarily of interest to the Army Air Service.

140 to 160 H.P. air-cooled engine.

This engine is being developed under Army cognizance as an engine for installation in aircraft used in training.

Class (c) Engines of primary interest to the Navy Air Service.

200 to 230 H.P. radial air-cooled engine.

This engine is being developed under Navy cognizance as a step towards the development of a durable, relatively cheap engine for training purposes, or for small shipboard aircraft. It should be noted that this engine is of a greater power than either of the engines being developed under class (a) for training purposes and of less power than the 350 H.P. air cooled engine being developed under class (a). Its development is desirable for training purposes since the requirements of the Naval Air Service are such that greater powers are needed in aircraft for training than are required by the Army Air Service. Likewise, it is desirable to have available an engine of domestic manufacture of about this power corresponding with certain well-known engines of foreign manufacture, for use in small shipboard and other type aircraft.

250 to 275 H.P. engine.

This engine is to be developed for use in a twin-engined airplane or seaplane designed as a torpedo carrier, bomber, or spotting machine. It should be noted that the total power of these engines, as contemplated for a twin-engined installation, is approximately equal to that of the 550 H.P. engine noted under class (a), but the development of the smaller engine appears to be desirable from considerations of maneuverability and ease of installation in Naval aircraft designed as torpedo carriers.

650 to 750 H.P. water cooled engine

The development of a larger type engine for rigid airships appears to be desirable, in view of the increase in size of this type of aircraft, with a view to reducing complication of power plant to the greatest extent practicable without undue concentration of weights, and at present, it appears that 650 to 750 H.P. represents the maximum power and weight that was practicable to concentrate in a single unit for this purpose. To be developed by the Navy Department.

Steam engines.

The development of the steam engine is to be continued at once, and worked to a definite conclusion as rapidly as possible.

Geared engines.

The Navy is now engaged in the development of the geared engine for use in its aircraft.

It is probable that the development of both air-cooled and water-cooled engines of the power noted will be desirable. It will be seen the continuance of existing development work and the inception of other projects covering an extremely wide field of engines, both as to power and as to type, has been determined upon. Such wide and detailed development is extremely necessary at this time in order that the availability, or lack of engines of a given type, may not prevent the development of types of aircraft of the greatest utility.

The importance and possible value of the development of an internal combustion engine of turbine type is being followed by the War and Navy Departments and there are some indications that increased progress in aeronautics will warrant its development in the near future.

NEWSPAPER CORRESPONDENT POSTED IN
NEW YORK AND DELIVERED IN
SAN FRANCISCO BY AIR MAIL

Newspaper correspondent, John Goldstrom, has recently been delivered by air mail from New York to San Francisco. He is the first human missive to be carried from coast to coast by the mail planes. The Omaha Daily News mailed him so he could study first hand the practical workings, the perils and the prospects of the air mail service.

Of the hundreds of thousands who have sent letters by air mail in the past year, perhaps every one has mentally asked the questions: "How much quicker will it be delivered?" "Will it be delivered at all?"

Some interesting details bearing on the speed and safety of the air mail service will be found in Mr. Goldstrom's account of his journey, along with the 16,000 letters, which appeared in the Omaha Daily Mail of Jan. 23. Mr. Goldstrom says that he purposely selected the season when flying conditions are worst in order that his test might be more effective, and his story recounts experiences with sky sickness, below zero cold, forced landings, being lost in a desert sandstorm and spending seventeen hours without a drop of water, ending at last with a hop, which is without incident, from Reno to San Francisco, when, as he says "the Golden Gate never looked more golden than after 13 days, 6 hours and 35 minutes of transcontinental endeavor".

According to the log of the flight, the airline distance was 2,536 miles, total flying distance, 2,629 miles, total elapsed time, 13 days, 6 hours, 35 minutes: total flying time, 33 hours, 59 minutes.

It goes without saying that this was not a record trip as far as speed goes, the record just established by Mail Pilot Allison being 33 hours and 20 minutes from coast to coast, but it is an interesting illustration of the difficulties that are being overcome by those intrepid "pilots of the purple twilight" who are, day by day, braving the hazards of the air in our transcontinental Air Mail Service.

NATIONAL SOUTHERN AIR TOURNAMENT, BELLEAIR, FLORIDA

"Participation by the Army Air Service, The Aero Club of America and the Aircraft Industry in the National Southern Air Tournament which is to be held at Belleair Heights, Fla., March 26-27-28, was announced today. Cooperation by the Army was in response to request from flying interests throughout Florida. The event will be the first of the sort in the South. This will be featured by one hundred mile race over a 20 mile course. Major Ralph Royce, Commanding Officer of Carlstrom Field has entered 16 planes in the tournament. One-half dozen seaplanes will participate in a race over the water. The Board of Trade at Clearwater and Aviation Parties at Belleair are cooperating with the management of the event."

INTO THE DAWN

Out of the night he flies,
Into the dawn.
For him the starry skies,
Far distant suns arise,
For him the morn.
Stars crowd his shining Plane,
Crowd and then fade again,
Dim and die out again,
Into the dawn.

Out of the night he soars,
Into the dawn.
Out of the murk he draws
Victor of nature's laws,
Challenging scorn.
Winging, his Plane a-gleam
Soaring through ways a-gleam,
Pierced by sun's rays a-gleam,
Into the dawn.

Out of the night he flew,
Into the dawn.
Into the gath'ring blue,
Upward and on and through,
Streaming with morn.
Flying on beams of light,
Flooded in pools of light,
Shining in seas of light,
Into the dawn.

HAROLD A. DANNE
In New York Times-

ACCOUNT OF LIEUT. CUTLER'S DEATH IN AIRPLANE ACCIDENT IN GERMANY

The following account of the airplane accident which occurred near Weissenthurm, Germany, in which Lieutenant Clarence M. Cutler lost his life and Lieut. Chester P. Dorland was seriously injured, is taken from the Jan. 29, 1921 issue of the "Amaroc News", the daily newspaper of the 20,000 Americans stationed in Germany, and which is published in Coblenz:

"Lieutenant Clarence M. Cutler, one of the best flyers in the Air Service, was instantly killed yesterday morning at 10:45 o'clock, and Lieutenant Chester P. Dorland was seriously injured when the plane in which they were flying fell 400 feet and crashed into a newly plowed field near Irlich, across the Rhine from Weissenthurm.

The cause of the crash has not been ascertained thus far and Air Service officers are at a loss to explain it. Lieutenant Cutler was considered the best and most experienced pilot in these forces by Major Frank M. Andrews, Chief of Air Service for the A.F.G., and the airplane, a DeHaviland 4-B, was entirely new, having been in the air but four and one-half hours previous to the accident. Lieutenant E. W. Hill, tested the plane and found it entirely perfect just before the other officers took off.

Major H.B.S. Burwell, Commanding Officer of the Air Service detachment and Lieutenant Dogan Arthur were flying in two other planes at the time Lieutenant Cutler's machine crashed, and witnessed the fall from the air. Lieutenant Arthur's machine was almost directly over the ill-fated craft when it crashed.

The airplane was apparently sailing smoothly when suddenly it went into a tail spin at an altitude of 400 feet. It struck twisting through the air with the right wing and nose into a newly furrowed field. Lieutenant Cutler was in the forward cockpit and Lieutenant Dorland in the rear.

Lieutenant Arthur tried to make a landing near by but failed because of the absence of a landing place. He then flew to the flying field at Weissen-thurm and reported the crash. Officers at the field then rushed to the scene of the accident in automobiles, Lieutenant Arthur circling over the mangled plane to guide them to the wreck.

Lieutenant Cutler was born in Medfield, Mass., November 16, 1891. He was a graduate of the University of Maine. At the outbreak of the war he was employed in Boston, Mass., and enlisted in the 8th Mass. Infantry. On November 24, 1917 he was transferred from the National Guard to the ground school at the Massachusetts Institute of Technology. From there he was sent as a Cadet to Scott Field where he earned his wings as a pilot.

He was commissioned as a Second Lieutenant of Air Service on June 23, 1918, and shortly thereafter sent to Kelly Field, where he was rated as an Instructor. He remained there during the war as a member of the 166th Bombardment Group. He was a member of that organization at Godman Field, Camp Knox, Ky., for airplane service at the Artillery School when ordered for duty with the A.F.G.

Lieutenant Cutler left Camp Knox during the early part of August last year. Before his departure he assisted in the preparation of Air Service property to be shipped overseas. He left Hoboken on the U.S.A.T. Antigone, August 23, and arrived here September 5. Since that time he had been Supply Officer of the Air Service detachment at Weissen-thurm.

Records disclose that Lieutenant Cutler had flown approximately 3,000 hours. During his service he had allotted to him the perilous task of training other pilots. Many of the brilliant flyers who served on the Western Front during the war owe their experience and knowledge to Lieutenant Cutler.

His only previous accident was when a smash-up was caused by a student pilot. Following his accident Lieutenant Cutler was in the hospital for 4 months.

When his plane crashed yesterday morning he was training Lieut. Dorland in the intricacies of flying a D.H.4. Lieut. Cutler was the best and most experienced pilot I had", said Major Andrews last evening. "The plane was in splendid condition. The wreck was one of those accidents that cannot be explained".

Lieutenant Cutler's nearest surviving relative is given as a sister, Mrs. C. Bryant, of Medfield, Mass.

Lieut. Dorland's home is at 310 Brant Street, San Diego, California. He was commissioned as First Lieutenant on June 6, 1918 and arrived overseas on the U.S.A.T., Cantigny, January 1 of this year."

FOREIGN NOTES ON AERONAUTICS

Germany

HISTORY AND DEVELOPMENT OF EVERY GERMAN-BUILT Z AND SL AIRSHIP

A report, of German origin, of course, on the history and development of every German-built Z and SL airship appears in "Die Flugwelt" No.24. An introduction to the report reads:

"While nearly all civilized nations have contributed to the development of the aeroplane, the dirigible is entirely the production of German genius, Count Zeppelin being the first promoter. Although an airship was constructed by David Schwarz in 1897, the idea of the Zeppelin dates back to the 70's, while the plan for the construction of the Schutte-Lanz airship developed only after the disaster of a forced landing and the consequent destruction of an airship by fire which occurred at Echterdingen in 1903."

"Stimulated by German success, the construction of rigid airships was also taken up abroad. The Spiess airship in France, and the Vickers in England were completed shortly before the war. Their inefficiency, especially their insignificant carrying-power, did not encourage further construction. During the war, however, England succeeded in building serviceable airships by means of the practical experience gained by Entente spies working as laborers in German yards during the war, and by means of Zeppelins which were forced to land at times intact within the enemy lines."

"Germany can claim the credit for the success of the English airship, and especially of the R-34 type without conceit. Achievements in the way of ocean trips were carried out during the war under more unfavorable conditions by Zeppelin airships. The public heard little of this, and, consequently, vague and contradictory opinions as to the developments and efficiency of German airships arose."

These quotations from "Die Flugwelt" are interesting, but must be understood as expressing the German point of view solely. The report on the history and development of every Z and SL airship constructed in Germany presents several items of interest.

The list, which comprises 121 airships, reports in detail, on the construction number, the number of cells, the length, diameter, carrying-power, number of motors, H.P., velocity, date of first trip, date put out of commission, and brief history of each ship.

Of the number reported on, several were never commissioned owing to the prohibition imposed by the terms of the Treaty of Versailles: 5 were turned over to the Allies in accordance with the terms of the Treaty: 40 were either shot down while making raids in France, Belgium or England, or were destroyed by the Allies in raids upon German bases: 17 were dismantled by reason of having become obsolete or for other causes: while the remainder were destroyed by storm, fire or forced landing.

While the data is not particularly encouraging as to the length of service of the airship, the period of existence of those ships not destroyed in actual warfare was, as recorded in the report, about two years.

Great Britain.

BRITISH AIR SERVICE DOES \$5,000,000 BUSINESS

According to statistics issued by the British Air Ministry a foreign trade amounting to over £1,000,000 has been transacted by British Commercial aeroplane service since its beginning in August, 1919. The report covers a period of 15 months, having been presented at the end of November, 1920.

The trade is with the continent entirely, and the bulk of the imports from France, the following being the details: exports by air route, £344,876, while the imports totaled £685,054.

SIR F.H. SYKES' REPORT ON CIVIL AVIATION

According to "Engineering and Iron Trades", the third report on the progress of civil aeronautics, covering a six months period which ended September 30, 1920, and which has recently been issued as a White Paper signed by Sir F.H. Sykes, Controller General of Civil Aviation, shows that the air organization of Great Britain has been greatly improved to meet the steady increase in commercial air traffic, and that the period has been one of consolidation rather than of radical change or innovation. On the regular routes now established from London to Paris, to Brussels and to Amsterdam, passenger, mail and goods traffic have increased substantially during the six months' period.

It is interesting to note that the aggregate machine mileage since May, 1919 is well over a million miles. Other details noted show that 32,345 passengers were carried, the amount of freight was increased from 25 $\frac{3}{4}$ to 86 $\frac{1}{2}$ tons, while the value of imports had risen from £131,615 to £376,606 and of exports from £63,743 to £168,300. The number of letters carried since the inauguration of the mail service shows a steady increase, especially on the London-Amsterdam route, and an efficiency of 76 per cent, 94 per cent, and 84 per cent each has been obtained on the Paris, Brussels and Amsterdam services respectively.

Simultaneously with the advance in the commercial service, progress has been made in developing the ground organization in order to provide for the expansion of service in the future. An experimental lighthouse will be installed at Renfrew when the volume of night traffic renders this desirable. The installation of wireless stations for telephone and telegraph service has been extended and such stations are now open at Croyden, Lympne, Castle Bromwich, Manchester and Renfrew. The Research Department is carrying out investigations in technical

details affecting the possible operation of airships in a dry climate - as in Egypt for instance - while an improved mooring mast is to be erected in order to carry out further tests in mooring airships. Efforts are also being directed toward discovering means to minimize the effects of mist and fog by mechanical dispersal, to secure the efficient illumination of landing grounds, and to produce an apparatus which will enable machines to flatten out automatically just before touching the ground, as well as to the invention of instruments by which the pilot may accurately determine his position with relation to the aerodrome as well as his height above the ground. Other problems relating to the all-metal machines, helicopter, amphibian, and various instruments for night flying, are also being dealt with.

SQUADRON NEWS

Luke Field, Ford's Island, Pearl Harbor, H.T., Jan. 29.

Under the efficient management of Captain F.W. Wright, Group Engineering Officer, the overseas practice of giving each pilot his own plane has been made possible at this field. This applies to DeH4 planes and not to the seaplanes Curtiss H's or Fokkers which remain for general use. A great deal of interest and enthusiasm has been shown by the officers with the result that individual insignias and other marks of distinction are rapidly appearing on all DeHaviland's.

The Luke Field basket-ball team has finally struck its stride, and under the leadership of Lieut. Ivan Moorman decisively defeated the Honolulu Service Club team on January 26th, by the score of 32 to 12.

An aerial machine gun school for enlisted men of this Group has been established under the direction of Lieut. D. Johnston, Group Armament Officer. This course will consist of class room, range and aerial work, extending over a period of twelve weeks.

Scott Field, Belleville, Ill.

Captain J.H. Houghton, Commanding Officer, who has been absent, sick at Fitzsimons General Hospital, Denver, Colorado, since October, returned to duty February 7, 1921.

Major Van Nostrand visited this station Saturday, February 12th, for the purpose of obtaining data in connection with the future prospects of Scott Field.

An Aerial Mail Plane has been landing at Scott Field daily for the past week, due to the unsatisfactory condition of landing field at St. Louis. Mail is brought over from St. Louis each day in mail truck.

Major Richards, Commanding Officer Love Field, and Captain Putman flew up from Love Field on business for the service.

Flight "A" 90th Aero Squadron, Del Rio, Texas, Feb. 12.

On Friday, Feb. 11, a wire was received from the Air Officer, 8th Corps Area, notifying this station that Lt. Alexander Pearson was lost, having attempted a flight from El Paso to San Antonio. Immediately orders were issued by the Commanding Officer sending pilots out in pairs to comb the hills in Edwards, Val Verde and Crockett Counties. Saturday two pilots arrived from Laredo to cooperate with those from this station, the searchers each working from 6 to 7 hours in the effort to locate Lt. Pearson.

February 10th the C.O. was advised that General Holbrook, Chief of Cavalry, was at Fort Clark, Texas, and wished to be flown from there to Camp Michie at Del Rio. A plane was dispatched and brought the General to the Air-drome where he was met by Colonel Sedgwick Rice, Commanding 12th U.S. Cavalry at Camp Michie and by the Air Officers of this Flight.

On Saturday, Feb. 12, 1921 the 'Drome was given the Double O by Major Mills, Inspector General of the 8th Corps Area.

Work has begun on pitching the Bessoneaux Hangar, which will be used as a shelter for the Motor Transportation at this Post.

March Field, Riverside, Calif., Feb. 12.

Thirty-five planes made a total of 524 flights from this field during the past week. Flying time totaled 316 hrs. 40 min. Preliminary instruction required 240 hrs. 30 min.; advanced instruction 15 hrs. 15 min.; test flights 8 hrs.; and miscellaneous flights 42 hrs. 50 min. Approximate aerial mileage 19,250 miles.

Major General Charles T. Mencher, Chief of Air Service, was a visitor at March Field, Sunday, February 6. He was accompanied by Major John W. Simons, assistant administrative officer, and Major H.H. Arnold, Ninth Corps Area Air Service Officer. All planes were on the line and the General devoted much of his time in the inspection of the various flights. Commissioned officers, cadets and enlisted men alike were retained on duty until noon Sunday. Following a brief reception and luncheon at the Officers Club, the General and his party left for Ross Field and Los Angeles by motor car.

March Field, Riverside, Calif., Feb. 12. (Cont'd.)

Lieut. Harold Brand, flying instructor at this school, was married February 8 to Miss Laura Greenwood of Los Angeles. Lieut. and Mrs. Brand will make their home in Riverside upon their return from an extended honeymoon.

Major John C.P. Bartholf, former commanding officer of this school, is now stationed at Camp Dix, N.J. with the 18th Infantry.

Despite cessation of recruiting, preparations are continuing for the next class of cadets. About 40 men in the present class are nearing completion of their preliminary course, and will be graduated by the end of March, according to Major Peabody, officer in charge of training.

Both airplane and automobile races will be staged at the Los Angeles speedway Tuesday, February 22, Washington's birthday. Several amateur aerial enthusiasts have entered their pet craft in various events the finish of which will take place over the motor speedway.

Cadets London, James and Dolph, will be furloughed to the reserve as second lieutenants, Air Service, during the coming week. London and Dolph contemplate signing up for air mail service. James will doubtless seek aerial employment with one of the several transportation companies near Los Angeles.

First Lieut. Geo. S. Little has reported at this station for pilot instruction.

Master Sergt. John H. McCabe has reported for duty at this school from Bolling Field, Anacostia, D.C.

Captains A.W. Smith and Eugene G. Reinartz M.C., have been relieved of duties requiring aerial flights.

March Field's Dramatic Club journeyed to the Arrowhead Public Service Hospital Saturday evening where they presented a little skit entitled "The Case Against Casy" for the entertainment of disabled world war veterans.

A feature of the Service Men's Club activities each month is a birthday party planned and carried out by the Camp Hostess. All men having a birthday within the month are invited as honored guests. There is also an entertainment program usually provided by young women from the Riverside Y.W.C.A.

Enlisted men of the command are taking up golf. Post Sergt. Major Farrell has a class of several students. "Every man his own caddy" seems to be the policy of this new club. Incidentally they take turns carrying the driver and putter. Eventually they hope to have a full bag of sticks and will build their own barriers about the Post and on the greens o'er which to romp of a Sunday morning.

A.S. Flying Station, A.F.G., Weissenthurm, Germany, Jan. 15.

Regular and frequent rains which have interfered with flying for the last sixty days continued during the past week. However, a slight freeze on Saturday hardened the surface of the Airdrome so that an effort was made to obtain photographs of the landing fields in the vicinity of Coblenz. But on account of the low ceiling and heavy mists which hung in the valleys the films turned out to be of little practical value.

On January 13th this station made its debut in European athletic society the occasion being the first round of the boxing tournament for the championship of the A.F. in G., held in the Liberty Hut in Coblenz.

January 22.

On Monday the airdrome was frozen and it was possible to keep planes in the air for a total of nine hours. This flying time was utilized in trying out two new planes and also in testing the radio and armament equipment on four planes which are held in readiness for liaison with ground troops. The following pilots made these tests: Major Burwell, Lieut. Cutler, Lieut. Hill and Lieut. Arthur. Tuesday was ushered in by a heavy rainfall which prevented flying until Saturday. On this day tests were made on the planes equipped with wireless telephones. For this test a receiving set was installed in the office of the Air Officer, A.F.G., which is located in the Headquarters Building in Coblenz, and another in the Radio building in this airdrome. Both sets functioned excellently and Lieut. Bender, who acted as observer during the test carried on a lengthy conversation

A.S. Flying Station, A.F.G., Weisenthurm, Germany, Jan. 22, Cont'd.

with Major F.M. Andrews and transmitted messages from the airdrome to him. Lieut. Arthur and Lieut. Hill piloted the planes which were used for this test. This completed the work of installing and testing part of the equipment necessary for participation in the spring maneuvers which will start in the near future.

On Friday afternoon this organization stole a march on the remainder of the A.F.G., by staging the first base ball game of 1921. This was made possible despite the practically continuous rainfall during the past sixty days by means of laying out the diamond on the athletic grounds which had been constructed out of lava and cinders, packing this material in the ground with a five ton gasoline roller. Both officers and men totalling thirty-two answered Lieutenant Hamlin's call for candidates for the post team. Two teams were chosen from these enthusiasts and a strenuous seven inning game was played.

On Thursday the spirits of the entire command rose. The reason for this marked improvement in morale was the starting of actual construction on a model Y.M.C.A. Hut. This Hut will be of swemstone construction and will conform in design with the other buildings on this field. This Hut was obtained only after a strenuous and lengthy campaign conducted by Major F.M. Andrews, Air Officer; A.F.G.

Second Aero Squadron, Ft. Mills, P.I., Dec. 25.

Several Radio and motor tests were made during the week, and an average of four planes were operated in connection with the final Coast Artillery practices. The Air Service Radio Station received all communications from the planes very clearly and a subsequent check proved their authenticity. Most of the Artillery Officers that were actively engaged in the practices were well satisfied and expressed their appreciation for the cooperation and effective work of the Air Service.

After the holidays work will be concentrated on Machine Gun Tests. All the H.S. 2 L. flying boats are equipped with machine guns and two N 9 H. Seaplanes are available, one of the latter planes has recently received a general overhauling and a gun mounting similar to that on the D.H. type has been installed.

Carlstrom Field, Arcadia, Florida, Feb. 16.

Major Ralph Royce, the Commanding Officer, and Capt. C.W. Ford, Officer in Charge of Training and Flying, made an official trip to Bellair, Florida, over the week-end to make preliminary preparations for the Southern Air Tournament which is to take place at that place sometime in March.

Major A.H. Gilkeson, A.S. and Lieut. W.S. Clark, A.S. have departed on temporary duty to the A.A.I. Depot, Americus, Georgia, for the purpose of ferrying two "Ardmont" type D.H. 4 B airplanes to this station.

The total flying time of the 37 student officers, including total solo and dual time for the month of January is 526 hours and 45 minutes.

The total flying time of the 31 cadets, including solo and dual time for the month of January is 290 hours and 55 minutes.

The total flying time for the 4 South American Officers under instruction at this field during January is 101 hours and 30 min.

The following named Student Officers satisfactorily finished the Primary Training Course at this field during the month of January.

Major Robert E.M. Goolrich, A.S.; Capt. Vincent B. Dixon, A.S.; 1st Lieut. James E. Parker, A.S.; 1st Lieut. Frank H. Pritchard, A.S.

Also the following named cadets have qualified:

Harold G. McLaughlin, Samuel H. Turner, Leslie Park.

The total flying time for commissioned personnel and instructors for the month of January is 1011 hours and 15 minutes, with an average of 52 planes in commission.

The Carlstrom Field basketball team on their home floor defeated the Wauchula basketball team 20 to 12. Smith of Carlstrom was the individual star of the game.

Carlstrom Field, Arcadia, Florida, Feb. 16. (Cont'd)

Flying for week ending Feb. 11:
"A" Flight - 177 flights, 111:20 flying time
"B" Flight - 212 " 134:35 " "
Hdqrs. " - 115 " 83:20 " "
Total time for field, 329:15

U.S. Army Balloon School, Ft. Omaha, Nebr., Feb. 18.

A free balloon flight was made from this station starting at 1:53 P.M. Saturday, February 12th, a 35,000 cu. ft. balloon being used. First Lieutenant Richard E. Thompson, A.S. piloted, and Major T.H. Bane, A.S., Captain A.P. McFarland A.S., Master Sergeant C.M. Maricle, A.S., and Mr. T.L. Blakemore went as passengers. Owing to Major Bane's having to leave Omaha a few hours later, the balloon was landed two miles west of Council Bluffs, Iowa, the flight duration being 26 minutes. This was Major Bane's first free balloon flight. He was very much enthused over it and expressed a desire to make a long flight at some future date. After the landing Major Bane and Lieutenant Thompson disembarked. Captain McFarland then took the helm and piloted the craft for three more hours, going 62 miles east and landing at Carbon, Iowa. Maximum altitude reached, 7,000 feet. As Carbon, Iowa is an inland town the balloon and passengers had to be hauled through 7 miles of deep, black gumbo mud. Teams had to be changed twice before reaching their destination at Corning, Iowa.

Major T.S. Bane spent the entire week at Fort Omaha inspecting the experimental department.

Major General Mencher arrived in Omaha, Friday, February 11, 1921, and on Saturday he made a very thorough inspection of Fort Omaha, including the experimental station.

France Field, C.Z., Feb. 5.

The loading and unloading of bombs and other freight has been one of the main items of work at this post for nearly a month and promises to continue for another two weeks. Besides bombs there have been large shipments received of airplanes and structural steel for hangars. Nearly 50 per cent of the men have been at work on these unloading details and while this number will be cut somewhat during the coming week, there will still be a large percentage on the cars which are waiting to be unloaded.

The extra fatigue work of the last three weeks has seriously interfered with the flying operations and practically no regular schedule of work has been carried out. The assembling of the new D.H.4 B's has been interfered with and it will still be another ten days or two weeks before all the pilots will have their new planes in flying commission. Planes of this type have been assigned to 2nd Lieutenants S.N. Connell, H.B. Chandler and Kenneth Garrett, and other pilots will get their new planes as fast as they are assembled and tested.

In order that all the officers may understand thoroughly the handling of pigeons, classes in training the birds have been conducted during the past week by 1st Lieut. Perry Wainer, Group Communications Officer, and Sgt. Black, who has charge of the pigeon loft. In these classes all phases of the work have been covered and all the officers now feel qualified to give the birds the best care possible when on trips.

2nd Lieut. H.B. Chandler, pilot, and 1st Lieut. A.C. George, observer and Master Sgts. Joe Grant, pilot, and Fred Carducci, photographer, made photographic flights during the week with fairly good results. On three of the flights, seventy exposures were made and fifty-four were successful. On one of the flights Master Sgt. Carducci's camera jumped on the first exposure and he had to return to remedy the trouble.

2nd Lieut. D.D. Watson, pilot and observer, made several transition flights in a DeH-4 during the week. His previous flying as a pilot has all been in a JN-4H and he is now changing to DeHvilands.

France Field, C.Z., Feb. 5. (Cont'd)

1st Lieut. Charles B. Austin gave his remodeled DeHaviland a good try-out during the week. This is the plane that he attempted to fly to the States several months ago, but was forced back by storms after ten and one-half hours in the air. The plane is now in excellent condition and can be used for any exceptional long flights.

1st Lieut. Perry Wainer, Radio Officer, is changing several radio sets from planes that are to be withdrawn from flying to newer planes. He tests out one set during the week with 2nd Lieut. J.F. Whitely as pilot.

2nd Lieut. S.M. Conneli made a special duty flight to Fort Amador on official business and on his return trip he brought back a supply of polo sticks and balls for use of the France Field team.

The France Field baseball team only played one game during the week and lost to the Naval Air Station by a 3 to 0 count.

Kelly Field, San Antonio, Texas. Feb. 12.

Kelly Field has been very active in arranging flying training on some of the courses offered by the Air Service to the Reserve Officers' Corps, such as, bombing and pursuit. Twenty-three Reserve Officers reported at this Field for such courses during the year 1920.

On Monday, January 31, the 1st Battalion of the 20th Infantry started on their march to Camp Bullis, Texas, which was accomplished in two days. "A" Flight of the 11th Squadron kept contact with them. Their position was reported hourly to Division Headquarters by radio and dropped messages. On Wednesday and Thursday Infantry Contact was practiced with them while they were doing field maneuvers. Each Infantryman was equipped with the 18" by 30" individual panel. They were prompt in the display of them upon signal from the observer. All means of communication used were successful.

On Monday the flight practices located surprise targets with the Headquarters Detachment of the 2nd Field Artillery Brigade. The method used is quite novel and is designed for use in open warfare over unmapped country. Upon sighting a surprise target the observer asks the Battery by radio code if they are ready to "lay on him". They then signal him "understood". The plane then flies the line, Battery Target, sending his altitude, in yards. When directly over the target the plane is put in a vertical bank. At this instant the artillery clamp the instrument on the plane, and read the vertical angle, the plane being directly over the target gives one angle, plane - target - battery, this angle being of course 90°. Thus the artillery has two known angles and the base and the range is easily computed. Tried out at ranges around 5000 yards the maximum error was 75 yards.

On Friday the experiment was made in reading "lines" panels, formed by two squads of Infantrymen. These panels were easily read and acknowledged by Very Pistol from 5000 feet.

The training schedule carried out by the First Pursuit Group was as follows:

January 31; Practice Group Echelon Formation from 9:00 to 10:00 A.M. for the 27th, 94th, 95th and 147th Aero Squadrons, five ships each at an altitude of 1000 - 1500 - 2000 - and 2500 feet within the vicinity of the airdrome. 1:00 P.M. to 3:00 P.M., practice target shooting by the 95th and 147th Aero Squadrons.

February 1: Patrols over the delineated battle sector from Lytle to Moore at an altitude of 5000 and 5500 feet for the 27th, 94th, 95th and 147th Aero Squadrons, five ships each. 1:00 P.M. to 3:00 P.M. Radio formation, one ship each 27th, 94th, 95th and 147th Aero Squadrons.

February 2: Cross-country formations 27th to Bandera, Texas, 94th to Christine, Texas, 95th to Koscuisko, Texas; 147th to Hondo, Texas, three ships each. 1:00 P.M. to 3:00 P.M. practice target shooting by 95th and 147th Aero Squadrons.

February 3: Group Echelon Formation, 27th, 94th, 95th and 147th Aero Squadrons, five ships each. 1:00 P.M. to 3:00 P.M., practice target shooting by 95th and 147th Aero Squadrons.

February 4: Balloon attack formation by 94th and 95th Aero Squadrons balloon protective patrol by 27th and 147th Aero Squadrons, five planes each. 1:00 to 3:00 P.M., practice target shooting by 95th and 147th Aero Squadrons.

Kelly Field, San Antonio, Texas, Feb. 12, (Cont'd)

Great activity was displayed by the First Day Bombardment Group during the past week which is shown by the following flights: 6 cross-country, 36 Reconnaissance, 76 Formation, 55 Instruction, 9 Photographic, 12 Practice, 4 Artillery Reglage, 10 Infantry Contact, 15 Reading Line Panels, and 1 R.M.A. Test.

The Camera Obscura stage started on Tuesday, February 8. The 20th, 96th and 166th have two planes each completely equipped with radio and used only for the stage.

Mather Field, Sacramento, Calif., Feb. 7.

A plane carrying two hundred and eighty-six (286) gasoline and twenty-four (24) gallons of oil, has been completed and put on the line for test. This plane will be piloted by Lieut. William D. Coney, on a flight from San Diego, Calif. to Jacksonville, Fla. The trip is to be made in two hops and within a period of twenty-four (24) hours.

Lieutenant Warren A. Maxwell made a trip to La Manda Park, California, and returned on investigation for a board of officers.

Two parachutes were tested preparatory to a record breaking jump which will take place at Mather Field, California, sometime within the next few weeks.

On Sunday, January 30th, the San Joaquin Light and Power Company visited the field, about three hundred members being on hand. They watched a performance of the Fokker piloted by an officer of the 91st Aero Squadron.

Major Muhlenberg who is on duty with the University of Washington spent several days at this field during the past week and participated in quite a little DH-4B flying just to "keep his hand in".

Captain R.L. Walsh, Air Service, Post Operations Officer and Commanding Officer of the 9th Aero Squadron, who has been in the hospital during the last part of the week, is now able to assume his numerous duties again. Orders have been received by Captain Walsh directing him to report to San Francisco for examination for promotion.

Preparations are being made for the redeption of the Chief of Air Service at this field who is expected to arrive here sometime during the latter part of the week on a tour of inspection.

Luke Field, Ford's Island, Pearl Harbor, H.T.

The yearly inspection of this station by the Department Inspector is being held at the present time. All troops and field equipment were inspected on Thursday, February 3rd. Tents were pitched and full field equipment was displayed. Following this inspection all organizations and departments have been visited by Colonel Elmore, the Inspecting Officer.

Voluntary contributions by the enlisted men of the two squadrons on the field, amounting to over one hundred dollars were made toward the establishment of a chapter of the Army Relief Society. This chapter will be known as Branch Nine, Section Seven.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE MARCH 16, 1921.

AIR SERVICE ENGINEERING SCHOOL
DAYTON, OHIO

MINIMUM REQUIREMENTS FOR ADMISSION

In order to make efficient use of the time which the regular course in the Air Service Engineering School is allotted, the following are the minimum requirements of previous training:

1. Rating as Airplane Pilot.
2. Technical and educational requirements. One of the following:
 - a. Graduate of Military or Naval Academy.
 - b. Graduate of recognized technical college.
 - c. A thoro High School education and well versed in the fundamental sciences to the degree outlined below and exceptional experience along lines of special importance to the Air Service.

Subjects and typical texts, with the equivalent of which the candidate should be familiar.

THE CALCULUS (Any text.)

CHEMISTRY Elementary college chemistry.
College Chemistry by Alexander Smith.

PHYSICS Duff.
All topics having a bearing on present-day engineering in physics are included, for instance thermodynamics, electricity etc.

THEORETICAL MECHANICS Theory and Practice of Mechanics by Slocum.
The candidate need only be able to read any part of this text and understand it.

DESCRIPTION OF COURSE OF INSTRUCTION
TO BE PURSUED AT ENGINEERING SCHOOL
AND
REQUIREMENTS

The applicatory method of instruction in the Air Service Engineering School is used wherever time permits in order to emphasize the fact that engineering knowledge is available in all branches to all of average ability who care to work for it, and that practically all fundamental information may be found written in existing books or documents. Facilities for instruction are unusually complete. In general, the specialists of the Engineering Division are

available to carry out the immediate consultation work in conjunction with any particular subject. In each course, the student is provided at the start with a set of instructions, a list of references and a number of problems with methods explained wherever necessary. It is impossible to make experts out of students in any one subject; but the aim is to, at least, arouse the students' interest in engineering reports and data, to point out the extent of each subject and also where the best and most reliable information on these subjects can be found, to effect an appreciation of the engineering problems in aeronautics. It is hoped in this course to develop any latent ability in a student officer for some phase of engineering with a view to a possible specialization along that line in the future with a resultant all-round advantage to the Service. The operation of the School has been mutually beneficial to both the Engineering Division and the student officers themselves thru the exchange of ideas, and it affords a means to a common understanding between the technical and the service organizations.

It is desired to develop personal initiative and mental confidence in this School to such a point that practically no instruction will be required. This is based on the assumption that any problem, the solution of which is dug out by individual effort is much more valuable to the student than a solution in which he is assisted by an instructor. On the first hand, the method of solving the problem is more thoroly learned by the fact that it has had to be accomplished without assistance; on the second hand and by far of the greater advantage, confidence is developed in a student that will go a great way toward rounding out and improving his education. There certainly is nothing more valuable than the realization on the part of the student that practically all knowledge has been laid down in written books and that this can be obtained by the student by a little personal application. In other words, it is hoped to develop a studious frame of mind so that the student officer after completing the course, will not assume that he has learned all that is to be learned but will continue getting all books, reports, etc., published on aviation and the sciences involved in aviation.

It is hoped that the student officers will get a point of view and a sufficient knowledge to allow them to speak the language of engineering and that a deep interest in mechanical matters will be instilled in them which will result in their returning to their stations with an educational foundation and an interest in technical matters which will cause them to continue reading, studying and constantly improving themselves as Air Service officers. There is nothing more essential and fundamental to an organization such as the Air Service as a studious, ambitious, hardworking personnel that is constantly striving to learn more thoroly the game in which they are engaged. One hour a day devoted to study by every officer in the Air Service would do more than anything else to place the Air Service in a position to make the rapid advances which it should make. It cannot be hoped that the proper development will take place, if all the thinking is done by a small Engineering Division which has no opportunity of getting out into the field and using the equipment which it develops.

The course is not a competitive course. A conscientious application and a good honest effort on the part of a student to get all he can out of the course is the requirement. There is no intention to force any information on any student.

It should be remembered that the course is designed to be of general use to Air officers and not for officers who desire to specialize in engineering, only. It is believed any Air officer will be a better squadron commander, maintenance officer, radio officer, photograph officer or commanding officer of an Air station for having had the course. There is no obligation to continue in Engineering work.

SYNOPSIS OF COURSE OF INSTRUCTION

A. MECHANICS

The school work opens with a brief review of the Calculus and Differential Equations followed by a considerable number of problems in

Mechanics. The importance of this course cannot be overestimated. In it, it is intended to bring out to the student officer among other things, the usefulness of preliminary theoretical considerations and to prepare him for courses following, in order to complete which properly it is necessary to depend on the student's familiarity with certain fundamentals at the start. It is also a means to put the student's mind on "the active list" and to enable him to think of his varied experiences since being at school, in terms of the basic principles of all exact science and to refresh himself by problems in the methods of mathematical reasoning. This subject is intended to progressively brush up the student's previous training and to enable the student to get back into the process of careful analysis of all subjects brought before him. The fundamentals of physics are reviewed and the problems are variously very practical on one hand or a means to stimulating thought on the other. The one hundred odd problems lead up to the mathematics involved in airplane stability. Slide rules and handbooks become necessary instruments. Practically all airplane problems in dynamics can in a measure be reduced to the theorems involved herein.

Reference: Slocum, Theory and Practice of Mechanics
Poorman, Applied Mechanics
Fuller and Johnston, Applied Mechanics, Vol. I.

B. SHOP WORK

Shop Work takes up afternoons in parallel with Mechanics in the mornings and is thus distributed; Machine Tool Work comes in the first three weeks; the second three weeks cover Wood Shop Work; the third three weeks, Metal Construction; and the fourth three weeks (equivalent), General Airplane Construction and Inspection. The set up and method of operation and the limitations of machines and tools used are stressed rather than the completion of any particular piece of work.

(a) Machine Tool.

This commences with bench work in roughing out fittings and incidentals. The following are typical jobs: on the lathe, tapered plug; the shaper, dove-tailed bearing; the milling machine, spiral gear. The uses of other ordinary machine tools are also brought out, such as drill presses, grinders, gear cutters, and so on.

(b) Wood Work.

Actual construction in the wood shop of the main component parts of a standard airplane is undertaken, such as a propeller, a fin, a complete center section, parts of fuselage, chassis struts, making of veneer, varnishing and painting. The storage of wood and the operation of dry kilns are studied. Pattern work is also taken up and rounded out by visits to foundries. The operation of all types of wood machines and jigs for making airplane production parts completes the course.

(c) Metal Construction.

The shop practice on the following subjects is analyzed and the student actually makes such metal parts as are mentioned:

Heat treatment for strength, annealing and hardening.

Welding, general instructions, different types.

Problem: iron box, exhaust header, metal empennage including tube bending.

Fitting, sheet metal and bench work, jig spot weld and rivet, brazing and complete for inspection.

Fuselage, steel tubing, layout of stock on jig and welding.

Sheet metal work, cowling, metal spinning, tanks, tube bending and soldering

Fabrication of one complete DH-4 Booster radiator.

(d) Plane Construction and Maintenance.

Internal wiring and bonding, cable splicing, wrapping and soldering are practiced. The center section or wing made in the wood shop is covered with fabric by the student and finally doped. This is similarly done for metal control surfaces made. Leather work and upholstering for cowling is undertaken. The final rigging and assembling of a complete machine of each type, (single bay, double bay, twin-engined,) is the next problem.

(e) Inspection.

This brief course is commenced by requiring the student to check up gages, jigs and fixtures with the finished product. Problems are then assigned covering inspection work on each of the shop jobs had above, and where possible, work done by the student officers is compared with that of the regular mechanics or shop men. The problem of the aircraft inspector is analyzed.

C. BUSINESS ADMINISTRATION

It is intended in this subject to give the student as much information as possible on the subject so that he will be in a better position to operate any organization brought under his control, to advise inventors who come to him with suggestions, as well as to be better posted on a more common ground with the manufacturer of aircraft. Applications of the systems of factory management considered are made in forms of problems similar to those that would come up on installing such systems at a flying field. It is intended that this information would also be very valuable, for example in case the student were to assume work later as district aircraft production supervisor. Visits to local manufacturing plants are calculated to bring out vital points.

(a) Scientific Factory Management. (Shop Engineering)

Lectures on shop management will be given from time to time in addition to the work laid out as above in problems during a period of shop work, so as to enable the student to work more with his eyes open to the system in vogue at this station. At the end of shop work, full attention is given to the study of a number of problems covering general features of factory organization, application of Taylor's system and methods of handling personnel, etc.

Reference: Diemer, Factory Management.
Kimball, Principles of Industrial Management.
Taylor, Shop Management.
Principles of Scientific Management,
Jones, Administration of Industrial Enterprises.

(b) Cost Accounting.

General schemes of cost finding are studied from notes, and problems are answered in conjunction therewith.

(c) Business Law.

A brief summary of the fundamentals of business law, corporations, etc., is studied with a view to pointing out the more obvious legal rights of business men.

Reference: Conyngton and Bergh, Business Law.

(d) Patents.

The fundamentals of Patent Law are studied and among other things students are required to draw up a sample application and specification for a patent.

(e) Contracts.

A synopsis of the history of contracts in aircraft production during the war is studied, as well as the present schemes in operation between the Air Service and the manufacturers. The details of sample contracts are studied.

Reference: Shealey, Governmental Contracts. (1919)

(f) Civil Service.

The rights and privileges of Civil Service employees are studied briefly, and sources of information on this subject are pointed out.

D. ARMAMENT

All phases of aircraft armament as developed up to the present time are considered including installation in aircraft.

(a) Machine Guns and Synchronizers.

Lewis, Marlin and Browning machine guns are taken up and all parts studied in detail. Different types of synchronizers are studied, and actual synchronization of a machine gun is carried out.

(b) Bombs and Flares.

The latest types of these are studied in detail.

(c) Cannon.

37 m.m. is completely dismantled and studied. Types of ammunition used are studied as well as fired.

E. STRENGTH OF MATERIALS

This subject is preliminary to work in the Materials Laboratory in considering the physical properties of materials, and analysis of stress. Problems as applied to the airplane are taken up more in detail, as continuous beams, eccentric loading of struts, design of springs and shafts and finally the principle of least work as employed for determining stress in the more complex cases. This is the most important subject for the prospective specialist in engineering.

Reference: Fuller and Johnston, Applied Mechanics, Vol. II.
Morley, Strength of Materials.
Boyd, Strength of Materials.

F. MATERIALS LABORATORY

Sufficient work in this subject is taken up so as to enable the student to grasp the problems confronting the designer, the limitations of the various materials going into aircraft, its treatment and how to make samples from failures in the service.

(a) Chemistry.

Chemistry of materials is taken up very much as in the text-book by Leighou. Gasoline and lubrication oil is tested according to specifications. A study is made of the analysis of coal and sundry materials. The chemistry of dopes and storage batteries, the principle of electrolysis and the subject of corrosion and its prevention are also studied.

Reference: Leighou, Chemistry of Materials.
Smith, Inorganic Chemistry.

(b) Metallurgy.

Foundry methods and practical processes are analyzed from the scientific viewpoint. Equilibrium diagrams of iron and steel and of non-ferrous alloys are studied. Sample specimens are prepared and examined under the microscope. Problems are given out in the form of microscopic photographs and the student required to estimate composition of the metal.

(c) Physical Testing.

Complete tests are run in the testing machines on a large representative lot of ferrous and non-ferrous alloys and a comparative study is made of their strengths, yield points, hardness, etc. Emphasis is laid on the subject of impact and fatigue tests.

(d) Wood.

Methods of distinguishing between different kinds of wood as well as grades, are studied from a scientific point of view. Effect of moisture content on strength is taken up among other things and the strengths of glue and in short the limitations of wood through the processes of making it up into complete airplane parts are analyzed thoroly.

(e) Fabrics.

Airplane, balloon and parachute fabrics are studied and tested.

(f) Rubber.

This is probably the first course on rubber as applied to the airplane ever run. A systematic study is made of the effect of various ingredients in rubber upon its physical properties. The characteristic behavior of certain rubber is investigated by testing. Under this subject is included a study of airplane tires, wheels, shock absorber cords and so on.

G. ELECTRICITY.

This course requires a thoro study of the fundamentals or electrical engineering in order to begin to understand the principles involved in airplane electrical problems as well as those of power and lighting at a field. The plan is to give a rapid summary of electricity in its elements by problems and experiments, the instructor assisting. On completion of this, the student is required to undertake several practical problems, unaided.

Reference: Timbie, Elements of Electricity.
Hudson, Engineering Electricity.

(a) Direct Current.

Ohm's Law and the fundamentals of direct current electricity, instruments and various generating machinery and motors are analyzed.

(b) Alternating Current.

The fundamental effects of inductance and capacity in series and in parallel in an electrical circuit are studied as well as the application to alternating current machinery. Induction motors, alternators and problems likely to cause trouble at a station are considered.

(c) Miscellaneous Airplane Electrical Problems.

Various electrical equipment, storage batteries, electrically heated clothing, generators, etc., are studied.

(d) Radio.

Measurement of wave lengths and the composition of simple radio circuits are studied and the latest radio sets and schemes of communication are investigated. The repair and upkeep of service equipment is touched upon.

Reference: S.C. Pamphlet #40.

H. THERMODYNAMICS AND ENGINE DESIGN.

From the fundamentals involved in the operation of steam power plants thru the various thermodynamic cycles of heat engines, the following sub-topics are considered, keeping always in view the practical goal with either the steam power plant or airplane power plant.

(a) Heat Engineering.

A representative number of problems are given out. Only such as will enable the student to understand the work following are used.

Reference: Hirshfeld and Barnard, Heat Power Engineering.

(b) Steam Power Plants.

A complete study of the various steam equipment that goes into a complete flying field, including boilers, feed water heaters, pumps, steam engines, steam rollers, etc. Flue gas analysis is made; the type of boiler is studied and the complete efficiency test of a small steam engine is run, including determination of the quality of steam, the electrical output of the engine, indicated horse power and weight of condensate during the test.

(c) Radiators.

Such problems encountered in the design of radiators are considered. The method employed here for determining the cause and location of trouble in radiators is taken up in detail. This is emphasized particularly so that such officers as are posted on it would be in a position to make proper recommendations for changes of design in radiators not operating well under service conditions in peculiar climates. A flow test on a typical radiator is included.

(d) Engine Design.

The fundamental characteristics of different types of engines are brought out and a complete analysis of the 'whys' and 'wherefores' of the sundry parts that go to make up a complete engine. The dynamics of rotation of four, six, eight, twelve, etc., cylinder engines are studied. The design of crank shafts, connecting rods, valves, cams, lubrication and water systems integral with the engine are all taken up in detail study. It is intended that the student should complete this with clear enough conception of present day design that he could very well begin to be in a fair position to judge of new designs, that for example might come in from any locality to his post at a flying field.

Reference: Wallace, Aeroplane Engine Design, etc.

I. GASOLINE ENGINE LABORATORY

The student officers are divided into convenient groups and assigned to a standard service engine (Liberty 400 or Hispano 300.) The engine assigned to each group must be dismantled, inspected and overhauled for repairs, including grinding of valves and bearings, etc. Then the engine is assembled and put thru tests as noted below.

(a) The various types of carburetion and complete details of the present day carburetors are studied. Problems encountered due to various types of gasoline are taken up.

(b) Ignition.

Practical phases of ignition systems as applied to present day engines; both battery generator and magneto types, are taken up thoroly.

(c) Power Tests.

Friction, propeller, full load and fuel runs are made in the Dynamometer Laboratory on the engines assembled. After tests on said engines have been run, the groups of students interchange types of engines and make a complete inspection report followed by a brief analysis of dimensions and weights of the different parts of the engine.

(d) General Engine Data and Repair and Up-keep.

A Liberty-12 or a 300 H.P. Hispano-Suiza engine is dismantled by each group of students, examined for overhauling, assembled and timed, and finally run on a test stand. All data on hand along this line is made available to the student officers. Characteristics of each of the engines in the collection had at this Field are taken up.

(e) Accessories and Power Plant Installation Inspection.

Airplane power plant accessories consisting of gasoline pumps, valves, hose connections, strainers, etc., are studied and a schematic drawing made of each with the direction of flow and method of operation to be indicated thereon. A Power Plant Installation Inspection is made on a typical airplane and the regulation Engineering Division report similar to the procedure for all new airplanes received.

J. THEORETICAL AVIATION

Under this heading it is intended to include purely aeronautical problems, dipping into the theory only so far as found necessary to give the student an idea of the numerous branches involved and the extent of progress made up to date.

(a) Aerodynamics.

The fundamentals of flight are taken up in their various phases touching upon fluid dynamics with applications to wind tunnel tests and other valuable data. The fundamentals of airplane stability including the effect of dihedral, sizes of fin, etc., are studied both to show what has been done in the past mathematically or otherwise, as well as to bring out its value in analyzing the behavior of certain types of airplanes.

Reference: Thomson, Applied Aerodynamics.
Wilson, Aeronautics.
Hunsaker, Smithsonian Papers.
Bairstow, Applied Aerodynamics.
Cowley and Levy, Aeronautics.
N.A.C.A. Reports.

(b) Airplane Design.

A rough outline of a simple airplane is to be made in this course and as complete an analysis as possible of the stress of various parts and methods of design thereof is to be carried out. This will include a weight schedule, a fuselage stress analysis and a design of the proper wing and chassis for the airplane under consideration. The purpose of this is to bring out the reasons for the employment of various component parts in the airplane structure. The design of one fitting is

required. The present design problems of the Air Service will be finally reviewed from the viewpoints of the various designers.

Reference: Pippard and Pritchard, Airplane Structures.
U.S., A.S., Eng. Div., Structural Analysis etc.
N.A.C.A. Reports, Stress Analysis.

(c) Propeller Design.

The rudimentary principles of propeller design, including calculations for a sample propeller and drawing up same is the main problem. Experimental tests of destruction will be explained as will be the reversible pitch propeller.

Reference: A.S. Propeller Manual.

(d) Performance Tests.

A sample performance test is to be run on an ordinary service machine and a comparison later made of the data obtained with standard tests. Altitude flying, supercharger, etc., also are to come under this head.

(e) Airship Theory.

In as brief form as possible the underlying principles employed in lighter-than-air craft are to be taken up and a brief resume made of method of design of a simple non-rigid airship. This is to include a rough layout to determine center of buoyancy, distribution of weights and so on.

(f) Meteorology.

A study of the valuable data on hand on this subject is taken up, particularly as affects navigation work. It is intended to determine wind velocities at altitudes by sounding.

Reference: Humphreys, Physics of the Air.

(g) Navigation.

All the valuable methods of navigation are taken up in brief summary, and navigation instruments including air sextants are employed. Swinging of a ship for corrections is undertaken and a sample cruise made.

(h) Airplane Accessories - Equipment, Photography and Instruments.

Equipment: Types of fire extinguishers, oxygen apparatus, float bags, types of hangars and so on, are taken up under equipment.

Photography: Principles of airplane photography, particularly as brought out in the book by Ives, "Airplane Photography", the types of cameras and mounting now employed and current practice in printing, developing, and so on, are studied.

Airplane Instruments: All types of instruments used on the airplane not purely for the engine or for ignition and lighting - such as tachometers, airspeed meters, turn indicators, statoscopes, rate of climb indicators, etc., are studied and tested.

(i) Camouflage.

A study of valuable information on camouflage for airplanes as well as hangars is considered and a suggested scheme for a service machine required.

WEEKS	MORNINGS	AFTERNOONS.
1	<p>PROBLEMS</p> <p>IN</p> <p>MECHANICS.</p>	Bench work " " Lathes " "
2		Milling Mach. " " MACHINE " " TOOLS. Shapers. " "
3		Shapers Drill presses Grinders Gear cutting " "
4		Sheet metal Cowling & Radiators Tanks SHEET METAL. Spinning Tube bending Wood working mach.
5		Propellers " "
6		Wings and empennage " " " " Fuselage and WOOD chassis " "
7		" " SHOP " Dry kilns and conditioning Veneering and gluing " " Varnishing and painting " "
8		Visit to foundries- pattern shops " " " " Checking patterns. General assemblies
9		Heat treat. for strength Annealing Hardening HEAT TREAT AND Brazing Welding. WELDING.
10		Internal wiring - bonding Splicing - wrapping - soldering Sewing PLANE CONSTRUCTION Covering & Doping
11		Doping Leather work - upholstering Rigging - assembling MAINTENANCE " " " "
12		Gauges Jigs & Metal fittings Wood & Propellers INSPECTION. Covering Final Assemblies
13		Text- (Text - Diemer-Fact. Manag Slocum- Th & Prac of Mechs) Taylor - Sci. Manag). Poorman- Applied Mechs. SCIENTIFIC MANAG. Fuller & Johnston- Vol. 1

Lectures on Scientific Management in Mornings from time to time

SHOP WORK

14	Cost accounting Business Law Lewis M.G. Marlin & Browning M.G.	BUSINESS ADMINISTRATION	Contracts Patents Civil Service
15	Synchron. Bombs & Flares Cannon	ARMAMENT	
16	Physical Properties & Analysis of stress		Ferrous Metals Non ferrous metals Dopes
17	Beams. CHEMISTRY		Paints and varnishes. Gasolines & Fuels Lubricating oils.
18	STRENGTH. Continuous (Text- OF & Leighou Chem. of		Protective coatings for metal parts Sampling, materials)
19	Wing spar Problems		Foundry, Furnace, Pyrometry Case Hardening Prep. Specimens for Metall. Ex
20	MATERIALS. Eccentric Loadings Least work		Ferrous Metallography METALLURGY. Impurities in iron and steel. Non-ferrous metallography
21	Spec. airplane probs. Shafts. (Text- Fuller & Johnston Vol. 11 springs		Problems
22	Tension tests. Hardness Tests. Torsion Tests. PHYSICAL TESTING.		Compression tests Shear Tests Transverse Test.
23	Impact Tests. Moisture content Specific gravity Shrinkage		Spiral grain and defects
24	Bending test Shear - impact tests Compressing. WOOD Identification Tensile, tear and bursting tests.		Strut tests Wing beams Ash and Gluing. Shock absorber cord.
25	Mercerization Tape thread and lacing tests. FABRICS AND RUBBER.		Tires Hose and tubing Rubber- Gen.

Materials

Laboratory

26	ELECTRICITY	D.C.	Electricity
27	PRAC. OPERATION	D.C. MACHINES	
28	ELECTRICITY	A.C.	
29	PRAC. OPERATION	A.C. MACHINES.	
	RADIO		
30			
31.	HEAT ENGINEERING		
32	STEAM PLANTS.	Types of engines. Disassembling Overhauling. Timing valves.	
33		Timing ignition-carburetors Trouble shooting. Method of testing	
34	RADIATORS.	Fuel; oil, GAS ENGINE Consump. runs Mixture cont. Water & oil pump cont	
	(Aero power plant) ACCESSORIES :Gas. :Lab. :	Dynamometer operation Power curves & friction HP runs Propeller load curves	
35	(Aero power plant) INSTALLATION : Reports	Tests of pumps Torque L A B. stand test	
	Design characteristics	Engine inspection Dimension and weight analysis Carburetion Ignition Lubrication Basis for judg. eng. perf. Rotary, Radial and foreign engines.	
36	Types of engines. Thermodynamics		
37	Mechanics. Crankshaft Connecting rod Cylinder		
38	Piston	ENGINE DESIGN	
	Crankcase Cam Valve mechanics Review		
39	AIRPLANE ACCESS. Instruments & Photography Camouflage General Equip.	Calibration. Camera installation Parachutes & miscellaneous.	Power Plants

40	AERODYNAMICS	WIND TUNNEL	(Texts Birstow: App. Aero. Thomson " " Wilson, Aeronaut Cowley & Levy " Hunsaker, Texts COMPUTATIONS N.A. Reports
41	THEORY		
42			(Texts - Pippard & Pritchard Aerop. Structure GEN. LAYOUTS Judge; Aerop. Design WT. Schedule & C.G.
43			
AIRPLANE DESIGN.			
44	Theory A.M. Fundamental Data	Practice P.M. Fuselage stresses	
45	Notes, discussions & problems	Chassis stresses Wing stresses	
PROPELLER DESIGN			
46			
47	Calcs. & Dwg.		
METEOROLOGY & NAVIGATION			
48			
49	PERFORMANCE	AIRSHIP	
50	Comp. tests & etc. ALTITUDE EQUIPMENT	Theory & Practice.	

Theoretical Aviation

AIR SERVICE ENGINEERING SCHOOL

DAYTON OHIO

MEMORANDUM OF INFORMATION CONCERNING APPOINTMENTS IN THE ARMY

There are more than 4,000 vacancies in the commissioned personnel of the Army. When promotions under the reorganization law are completed about 1200 of these vacancies will be in the grade of first lieutenant, the remainder being in the grade of second lieutenant. While it is not proposed to fill all vacancies at present, the necessity for more officers for the Army requires that a portion of the vacancies be filled without delay. An examination will be competitive for 2,585 vacancies; the appointments to be distributed among the branches of the Army as follows:

Infantry	812
Cavalry	35
Field Artillery	600
Coast Artillery	268
Engineers	118
Air Service	400
Signal Corps	114
Quartermaster Corps	35
Ordnance Department	86
Chemical Warfare Service.	32
Philippine Scouts	85

As a result of this examination no appointments are to be made in branches of the service other than those named above.

The date announced is that of the final examination. Prior to that date applications must be submitted and applicants must undergo a preliminary examination. All applications are to be received and acted upon by corps area commanders who are also charged with conducting the preliminary and final examinations. Details of information concerning examinations for appointment are contained in regulations now being distributed, and application blanks may be obtained at any military post or station. Applications should be submitted by the applicant at the military post or station nearest the place of residence. Writing to the Adjutant General for information or for blanks will only cause delay.

It is contemplated that successful candidates will be announced and appointed, or nominated for appointment, about two months after the examination. Candidates attending schools or colleges, will, therefore, have an opportunity to complete the present school year before being appointed.

All successful candidates will be arranged in their order of merit as determined by the final examination and will be appointed in the Army in such order. They will also be placed on the promotion list in such order without regard to the branch of the Army in which appointed. Those candidates who attain the highest marks on examination will, therefore, have priority in advancement to the vacancies existing as first lieutenant. To be informed as to the full details concerning examinations and appointment, it is necessary that candidates consult the regulations which are being sent to all military posts and stations. However, the prospective candidate's attention is directed to the following important points:

1. Eligibility for appointment is fixed by law and requests for exceptions cannot, therefore, receive consideration by the War Department. The age at the time of appointment must be between 21 and 30 years. At the time of the final examination each candidate must be in one of the following classes:
 - (a) A warrant officer or enlisted man of the Regular Army having had not less than two years' service as such.
 - (b) A member of the Officers' Reserve Corps or the enlisted Reserve Corps.
 - (c) A member of the National Guard.
 - (d) A graduate of a technical institution approved by the Secretary of War.

Any civilian of the required age who passes the preliminary examination may readily become eligible to take the final examination and to be appointed by entering either class (b) or (c) above.

2. The preliminary examination consists merely of an inquiry into the physical, moral and mental qualifications of an applicant to determine whether or not he has the requisite qualifications to justify his proceeding with the final examination. Such a preliminary examination will avoid inconveniences and unnecessary expenses to both the applicant and the government in many cases.
3. The final examination is the same for all candidates and to insure strict justice to all, the examination papers will be marked by central boards convened in the War Department. The scope of the mental examination is such as to insure the Army getting men of the required educational foundation to satisfactorily follow a career as an Army officer. The elementary part of this examination embraces the subjects of history, grammar, geography, arithmetic, algebra, geometry, trigonometry and physics. The advanced part of the examination consist of a large number of subjects including mathematics, languages, literature, electricity, chemistry, law and minor tactics. Examination is required in but three of the subjects of the advanced group to be selected by the candidate.
4. Candidates for appointment in the Air Service, Engineers, Signal Corps and Ordnance Department are required to satisfy certain technical requirements, either by examination or by having graduated from technical schools.
5. The regulations provide liberal exemptions from examination in various subjects according to the education, training and experience that the candidate has had. The granting of exemptions has been placed entirely in the hands of the examining boards and requests for exemption cannot, therefore, be considered by the War Department.
6. Each candidate is permitted to express one or two choices of the branch of the service in which he desires to be appointed. In making appointments, however, while the preferences of candidates will be given due consideration the War Department reserves the right to assign them to such branches of the service as may be necessary.

In consideration of all of the facts it is apparent that the present offers an exceptional opportunity for appointment in the Army and it is anticipated that no difficulty will be experienced in securing the number of good officers for which the examination is held. Should a number of candidates, in excess of those for which the examination is held, receive a passing mark on examination, those making the lowest mark will not be selected for appointment nor will they be placed on an eligible list for future appointment, as the experience of the War Department has been that such eligible lists are unsatisfactory both to the Government and to the individual.

COORDINATION OF ARMY AND NAVY PRACTICES IN
REGARD TO EXPERIMENTAL CONTRACTS FOR AIRCRAFT

The Secretary of War and the Secretary of the Navy recently approved the recommendations of the Aeronautical Board with regard to the arrangement of a form of development contract suitable for the purchase of new designs of planes and engines of an experimental nature. Consideration has been given to the necessity for stimulating the proposal of original designs to meet military and naval requirements, and to the possibilities of obtaining competition; what guarantees as to weight and performance should be made by the contractor, and what penalty and bonus features, if any. The status of patent rights and royalties on subsequent production orders has also been considered, and particular attention has been given to procedure which will insure that development contracts are awarded only to competent firms with no show of improper favoritism.

An "experimental contract" as understood by the two services means a contract calling for the development of design and construction of generally three airplanes of new or modified type- Government to supply engines and special equipment. An analogous definition could be drawn for engine contracts.

Methods of procedure followed by the Army and Navy are different in many particulars. On account of differences in organization, it is not possible to reconcile the two completely, nor is this considered necessary. One fundamental difference appears to be that the Navy method calls for more minute inspection of, and closer supervision over the work of a contractor during the life of his contract. Guarantees of weight and performance are included and a short series of acceptance tests required from the contractor on the first machine built. The Army method calls for less inspection during construction, and less supervision over the contractor. No definite guarantees of weight or performance are included and a longer time is devoted to tests conducted by Army personnel at Army expense on each of three machines. The Army method calls for construction of a mock up and then three machines in sequence with an appreciable interval elapsing between the first and second, and second and third machines. The Navy method permits the simultaneous fabrication of three machines so that after the first is completed the second and third may follow within short intervals. These different procedures each have merit and are not believed to be a handicap to any aircraft manufacturer with proper facilities and organization.

The business features of aircraft contracts, such as bond requirements, method of advertisement, form of contract, differ in various particulars. On account of administrative policies, organization, etc., it is not possible or necessary to reconcile these differences or to suggest a type form of contract. Such differences as exist are not of enough importance to warrant attempts to change well established procedure.

Prices considered reasonable for certain types of airplanes and for designs have been discussed. Very little cost data of value is available, and it is desired that reliable data be accumulated as rapidly as possible. To this end the assistance and cooperation of various aircraft manufacturers is desirable. Meanwhile, intimate exchange of data on contracts between interested branches of the two services as later recommended is the best method of reconciling prices.

Considering particularly the technical features included in a contract, the following are recommended:

That the data to be submitted by a bidder be essentially the same for Army and Navy bidding and consist of approximately the following:

An accurate scale three-view drawing of the design.

An itemized weight schedule.

A balance diagram and schedule.

Proposed structural strength of various component parts of the airplane with calculations.

Calculated performance of the airplane with all calculations.

Drawings showing installation of all armament, equipment, instruments and accessories.

Drawing or drawings showing engine installation including fuel, oil, and cooling systems.

A statement of materials to be used.

Typical cross section of the fuselage showing method of construction, typical fittings, etc.

Typical cross section of a wing showing ribs, spars, methods of construction, typical fittings, etc.

Lines pontoon, boat hull or flotation system with buoyancy calculations.

Typical cross section of pontoons or boat hull showing method of construction.

Where a bidder's design is to be paid for, as later recommended, the above should be minimum requirements with additional data to be required to suit special problems. In addition, there may be required to be submitted with a bid a small model to suitable scale showing the general features of the design.

This is not to be a wind tunnel model.

That the two services adopt the policy of paying a sum stated in proposal for each design submitted (not to exceed a specified number, usually three for each type, selected by the Government as the best, the Government's decision to be final) that shows sufficient completeness and merit to justify such payment; the amount to be sufficient to cover the estimated cost of preparation of such design with a reasonable profit. Award of construction contract not to preclude payment for design. Payment for any design to convey to Government, without further consideration, the nonexclusive ownership of that design, together with the right to use the same, or any portion or feature thereof, and all information and data furnished, in any manner deemed advisable by the Government. Once a design is submitted to and paid for by either service, it may be submitted in that form, or slightly modified, to the same or other service, but no additional payments therefor will be made.

Where static testing is required the methods used by the two services should be coordinated.

That definite and reasonable weight and performance guarantees be required from contractors.

That each service continue the use of its own detail specifications defining workmanship, finish, etc. The differences that exist are of minor character and are justified by service conditions.

That each service continue its present practice of awarding contracts only to firms that are considered competent.

That the Technical Sections of the Army and Navy Air Services have complete cognizance of the details of the work being carried on by these Sections, and that in this connection each service be kept informed of proposals for bids upon contracts, and all matters dealing with prices, features of design, installation and operation of aeronautical material in order that duplication may be avoided and progress best assured in the development of design, and in the operation of aeronautical mechanisms.

The above comments apply more particularly to airplanes without engines, but parallel recommendations should apply to engine experimental contracts.

The discussion and exchange of ideas on this subject has been of mutual benefit and value. The degree of coordination above recommended, it is believed will be helpful to all concerned and prove of assistance to aircraft manufacturers during the present uncertain period in the industry.

SALE OF BRASS CARTRIDGE CASES

On February 24 the War Department authorized publication of the following statement from the office of the Director of Sales:

The Office of the Director of Sales announces that the recent offering of the War Department of approximately 48,000,000 pounds of brass cartridge cases, resulted in the receipt of four bids which were opened on February 15, 1921.

One bid was found to be not in accordance with the "Proposal to Bidders", and could not be considered.

The list of bidders whose bids were considered is as follows: Hess Briggs Corporation, New York City; International Minerals and Metals Corporation, New York City; Standard Iron and Steel Company, New Haven, Connecticut.

The high bidder, the Hess Briggs Corporation, withdrew its bid before an award was made, and the other two bids have been rejected as being too low in price.

The question of the manner of the future offering of this material for sale has not yet been determined.

JUNKER ALL METAL MONOPLANE

Recent changes in the fuel feed line and carburetor air intake in the Junker Monoplane are said to have eliminated the fire hazard, for which these machines have received considerable adverse criticism. In the changes referred to, made by the Engineering Division at McCook Field, are included flexible gasoline line connections instead of rigid and the carrying of the air intake outside the cowling, where there is no danger of oil and gasoline around the engine being ignited by "backfiring".

Performance tests have been made by the Engineering Division, with this airplane equipped with the 185 H.P. B.M.W. engine, with the following results:
111.2 m.p.h. climb to 10,000 ft. 27.3 min., service ceiling 13,200 ft.
absolute ceiling 15,900 ft., endurance (including climb) at 10,000 ft., 7 hrs.
35 min. minimum speed at sea level 52.1 m.p.h.

The weight of this machine is as follows: Empty 2317 lbs., crew 655 lbs.,
Fuel 560 lbs., Oil 64 lbs. Total weight 3605 lbs. wt/sq.ft. 8.64 lb., wt/HP
14.8 lb.

SQUADRON NEWS

Kelly Field, San Antonio, Texas, Feb. 19.

Effective February 18, 1921, Major John N. Reynolds, Air Service, took command of Kelly Field; Major Carl Spatz being relieved.

February 19th and 23rd, 1921, have been scheduled by the Commanding Officer of the Air Service Mechanics School as the dates for the final transfer of the personnel and equipment of the School from this Field to Chanute Field, Rantoul, Illinois, the new home of the A.S.M.S.

The second class of the First Pursuit Group have finally finished the twelve weeks course of service squadron training and will incidentally receive training in army paper work, the duties of an Adjutant, and will be tried out as assistant squadron operations officer, armament officer, radio officer, engineering officer, mess and supply officer, and the various other duties of the squadron. The First Pursuit Group is training 21 Naval Officers who have mastered the mysteries of formation flying and will soon be engaged in patrol work over the delineated battle sector to be later specified from this office. Special reconnaissance flights to nearby towns and villages along the railroads have been made, submitting complete reconnaissance reports, giving accurate estimation of both aerial and ground activities by various pilots engaged in such rapid reconnaissance missions.

The following is the training schedule for the week ending February 12:

Monday; Group Echelon Formation, 27th, 94th, 95th and 147th Aero Squadrons, five planes each, from 9:00 to 10:30 A.M.; in the afternoon practice target shooting by three pilots of the 27th and three pilots of the 94th.

Tuesday; Cross-country, 27th, 94th, 95th and 147th Aero Squadrons, three planes each, 27th to Dewville, 94th to Belmont, 95th to Leesville, 147th to Riddleville; in the afternoon practice target shooting by three pilots of the 147th and three pilots of the 95th, bombing by 94th from 2:00 to 3:00 P.M.

Wednesday; Bombing by 147th from 2:00 to 3:00 P.M.; Protection patrol by 27th, 94th, 95th and 147th; 27th and 94th patrolled I&GN from Kelly Field to New Braunfels, the 95th and 147 to Hondo over GH&SA; in the afternoon practice target shooting by three pilots of the 27th and by three pilots of the 94th.

Thursday; Five plane tactical formation by 94th, echelon formation by 27th, 95th and 147th, five planes each. In the afternoon officers attached and assigned to the Group for flying engaged in formation flying.

Friday; Group Echelon Formation, 27th, 94th, 95th and 147th, five planes each, from 9:00 to 9:30 A.M.

The tactical training for the week ending February 12, 1921 is as follows: 11 Formation flights, 59 Formation flights by Naval Officers, and 56 Formation flights by cadets; 270 practice flights, 44 by Naval Officers, 46 by cadets; 2 practice cross-country flights, 5 by Naval Officers, 2 by cadets; 2 exercise in aerial combat, 14 by Naval Officers, 5 by cadets; 1 exercise in aerial acrobacy, 3 by cadets; 4 practice target shooting flights, 7 by Naval Officers, 6 by cadets; 3 practice bomb dropping flights, 8 by cadets; 10 test flights, 2 by Naval Officers, 3 by cadets; 2 patrol flights by cadets. Total flights, 565 and a total time of 275 hours and 34 minutes.

All Groups received orders from Eighth Corps Area through channels to reduce flying to the greatest minimum, five hours time for all officers not actually engaged in training cadets, Naval Officers, Student Officers, etc., the amount of flying time in all Groups is again to take a sharp decline, however the restrictions upon flying time will enable the overworked mechanics and crew chiefs, to again gain control over the situation and begin to put the different planes of the Field in good trim.

On account of the bad weather conditions, no flying was carried out on Thursday and Friday, February 17 and 18.

Training of First Day Bombardment Group was carried out on Feb. 14, 15 and 16, the Camera Obscura stage not operating.

Lieutenant Evers Abbey, Air Service, and Sergeant J. O'Boyle, 2nd Photo Section, proceeded by airplane to Fort Bliss, Texas and Douglas, Arizona, for the purpose of carrying out certain photographic missions in the vicinity of the stations named, and upon completion of this temporary duty will return to their proper station.

Kelly Field - (Cont'd)

Lieutenant Clarence R. MacIver, Air Service, accompanied by Cadets Edward J. Snyder, Edward J. Lorenz, Elmer M. Rutz, Julius C. Danielson, Gene G. Willard, went by airplane to Airdrome, Laredo, Texas, for the purpose of ferrying airplanes to this field.

Lieutenant Edward Jenkins, Air Service, is relieved from his present assignment and duties at Kelly Field, Texas, is attached to the 20th Infantry and has been assigned for duty at Camp Travis, Texas.

Lieutenant Harold A. McGinnis, Air Service, has reported at this station from Headquarters, Eighth Corps Area and is assigned to the First Pursuit Group.

Lieutenant W.A. Frederick, Air Service, made a cross-country trip to McAllen, Texas on Sunday, February 13, and returned same date, for training purposes.

Lieutenant Marl J. Plumb, Air Service, accompanied by cadets A.J. Tillery, Earl F. Haight, C. Spradlin, proceeded by airplane to Nogales, Arizona, for the purpose of ferrying airplanes from San Antonio Intermediate Depot, to that station. Upon completion of this duty they will return to this Field.

Lieutenant S.F. Landers, Air Service, accompanied by Cadets H.H. Gallup, S.J. Davis and P. Carrier proceeded by airplane to Marfa, Texas for the purpose of ferrying airplanes from San Antonio Intermediate Depot to that station, and upon the completion of this duty they will return to this Field.

Lieutenant C.C. Nutt, Air Service, made a cross-country flight to Ellington Field, Texas on February 12, and returned February 13.

According to telegraphic orders from Washington, Lieutenant Commander Newton H. White, U.S.N., temporarily attached to Kelly Field, Texas for Pursuit training, proceeded to Washington, D.C. with instructions to report to the Chief Naval Operations Department for duty in office of Naval Intelligence.

Lieutenant J.R. Drumm, Air Service, and Cadets S.S. Flemming, and V.W. Beech ferried three planes from the A.R.D., Dallas to Kelly Field. The three planes stopped at Rich Field, Waco, for the purpose of obtaining gasoline and oil. The planes were inspected at this Field and found in perfect condition.

Lieutenants Harold L. Clark, Levi L. Beery, and John H. Wilson, Air Service, have returned to Kelly Field, having been relieved from temporary recruiting duty in Dallas, St. Louis and Denver.

Headquarters Air Intermediate Depot, Fairfield, Ohio, Feb. 21.

Supply Activities. A new system of handling the inventories of property at Supply Depots has been authorized by the Chief of Air Service and is being installed at this Station. Under the old system of annual or semi-annual inventories a greatly increased volume of work was thrown on the personnel of the Depot at the time of taking the inventory. Under the new system this congestion of work is avoided by eliminating the process of taking inventory for the entire year. The property at the Depot is divided approximately into fifty-two classes, and the inventory of one of these classes of property is submitted each week throughout the year. It is hoped that this system will result in considerable economy in the operation of the Depot and in accounting for the property.

Second Lieutenant Charles W. Steinmetz has relieved Second Lieutenant Merrill D. Mann as Commanding Officer of Supply Detachment Number Two, and Stock-keepers' School Detachment, this station.

A complete modern Cafeteria has been installed in the Mess Hall opposite the main Warehouse for the accommodation of the personnel of the Post. The cafeteria is operated by the Quartermaster, First Lieutenant Charles O. Thrasher, and furnishes a variety of very well prepared food at a moderate cost.

A Barber Shop is being equipped by the Post Exchange and will be open for use in the near future.

The Engineering and Repair Department is now operating at full capacity. Operations having been somewhat reduced during the establishment of the Repair Department at this Station after its move from Indianapolis; this department was formerly the Aviation General Repair Depot, Speedway, Indianapolis, Indiana.

Work is in progress on the overhaul of a number of planes principally LePere's and DH-4's. Two DH's are being rebuilt as ambulance planes with a capacity of one pilot and two patients. The other DH-4's are being remodeled as messenger planes for the use of the office of the Chief of Air Service. These planes will have an unusually large cruising radius and will be equipped with magneto ignition in-

Headquarters Air Intermediate Depot, (Cont'd)

stead of the Delco system. Among other planes being overhauled in the Repair Department is a Breguet Bomber.

Civilian employees Geo. W. Rogers, Charles S. Cain and Wright Vermilya are leaving February 21, 1921, for Aberdeen Proving Grounds where they are to take charge of necessary repairs on a Handley-Page and a Martin Bomber. They will return to this station upon completion of this duty.

Flying and Testing. In spite of the unfavorable weather conditions of the past week, flights have been made by practically all officers at this Station. The Flying and Testing Department have ships on the line warmed up and ready to fly whenever the weather is suitable. DH-4's - SE-5's and Curtiss-Wright planes are being used.

Master Sergeant Samiran is conducting a school for instruction of the personnel of the Flying and Testing Department. Each enlisted man assigned to this department is given elementary instruction in the principles of rigging and motor overhauling, thus enabling him to perform his duty in the Flying Hangar in a more efficient manner.

Stockkeeper's School. The Stockkeeper's School has completed the installation of a model machine shop for use in connection with the school work. About twenty-five men will graduate from this school during the following week.

Miscellaneous. A very successful dance was held by the Officer's Club on Friday, February 11th. Another dancing party is planned for Friday, Feb. 25th.

The ladies of the post have organized a Social Club which meets at Side Slip Inn on alternate Fridays. The ladies are planning to give a dinner in honor of the officers in the near future.

On Monday evening, February 14th, Major and Mrs. Reinburg entertained the officers and ladies of the post at Side-Slip Inn. Features of the entertainment were a concert by the Post Band and Motion Pictures of special interest to the Air Service, after which a lunch was served and the remainder of the evening was spent at cards.

Arrangements are being perfected to organize a branch of the Army and Navy Air Service Association at this Post. It is believed that one hundred per cent of the Air Service personnel of the station will be members of this association in the near future.

First Lieut Charles M. Leonard arrived here from Chanute Field, Rantoul, Illinois, on February 12th, and has been assigned to duty in the office of the Depot Adjutant.

Lieutenant Caleb V. Haynes, Finance Officer, who has been absent at Columbus Barracks, Ohio, is now on the road to recovery and is expected to return to this station in the near future.

Master Sergeant Herbert G. Knight of Supply Detachment Number Two, has received notice of his appointment as Captain, Air Service Reserve Corps.

Mather Field, Sacramento, California, Feb. 12.

On Wednesday, Feb. 9th, the Post was inspected by Major General Charles T. Menoher, Chief of Air Service. Over six hundred men are now stationed at this Field, and they made a wonderful showing as they all stood the inspection on the field. The personal inspection was followed by flying demonstrations, in which one flight from each Squadron participated. After the formation flying a test was made with a ship equipped with Magnavox apparatus, by which it was demonstrated as high as 5000 feet, ^{one} could talk to the ground and be distinctly understood. The inspection was a huge success in every way.

Cadet Heyer, of the 91st Aero Squadron, and Lieut. Klutz of the Photographic Section, who is stationed at Crissy Field, arrived at this Field by plane, Thursday, Feb. 10th, to take photographs of the special DH-4 plane which Lieut. Coney will use in his attempted flight across the country in a single day. The plane has been redesigned to carry 290 gallons of gasoline, and has been tuned to maximum pitch in every way. Lieut. Coney left for San Francisco the following day, and flew to San Diego, where he will start his transcontinental flight the evening of Feb. 21st.

Mather Field, Sacramento, California, Feb. 12. (Cont'd)

The baseball season was informally opened here on Wednesday, Feb. 9th, when the 91st Squadron defeated the 9th by a score of four to three. On Thursday, the 91st Officers played the Foresters stationed at this Field, and won by a large margin. A complete baseball schedule has been drawn up, and much enthusiasm is being shown by both officers and enlisted men.

The Field was visited this morning, Feb. 12th, by a civilian plane, owned by the Walter T. Varney Company of San Francisco. The plane, piloted by C.P. Clevenger, was enroute from the Marina, San Francisco, to Reno, Nevada.

A plane equipped with two Magnavox sets has been recently tested, and has been found to be a decided improvement over the single set type. The observer was easily able to talk to the ground, even from an altitude of 5000 feet. The experiments as being conducted have aroused considerable interest. It is a decided novelty to listen to a man in a plane nearly a mile high talk to people on the ground.

Selfridge Field, Mt. Clemens, Mich., Feb. 19.

An effort is being made by the Detroit Automobile Association to secure for exhibition purposes at the coming Detroit Automobile Show the Verville-Packard airplane, winner of the last Pulitzer Trophy race. The aviation and automotive industries are closely allied to Detroit, and since the Detroit Aviation Country Club has been awarded the next Pulitzer Trophy race, general public interest in things aviation is soaring.

Exceptionally good flying weather was experienced during the past week, and the three flying officers, taking advantage of it, got in considerable flying time.

Flight "B", 104th Aero Squadron, Marfa, Tex., Feb. 19.

It is an ill wind that blows no good. Although everyone was working at high tension during daylight hours and spending the greater part of each night in planning the next day's schedule, during the past week's search for Lieut. Pearson, there was time for many short visits between members of the Flight and those from Kelly Field and the border stations. During the time the search was concentrated in this area, a great many old familiar faces were seen about the Airdrome, old experiences recalled and a careful accounting of the doings of each demanded and given since last together. "Barracks Flying" was probably more in evidence than at any time since cadet days. A spirit of good-fellowship prevailed as is evidenced by the fact that, although some of the experiences related sounded like a page from the works of our old friend, Jules Verne, not a challenge was heard from even the most skeptical.

Coming at a time when it was planned to abandon flying and concentrate training about the Airdrome and little prospect of seeing more than an occasional visitor, the influx of visitors was doubly appreciated and leaves a better spirit for the hibernation that is already begun.

While inspecting the Cavalry camp, Major General Holbrook, Chief of Cavalry, visited this station. Arrangements had been made to fly him to Presidio and any other river outpost that he might desire to visit. However, the General was in a hurry and only spent a part of the day here, leaving in the afternoon for El Paso, via train.

A.S. Pilots School, March Field, Riverside, California, Feb. 19.

Four hundred sixty-one flights were made from this field during the past week. Fifty-one planes were in commission; Approximate mileage covered 16,280. Preliminary instruction of student pilots required 236 hrs. 35 min.; advance instruction, 30 hrs. 40 min.; test flights, 4 hrs.; miscellaneous flights 9 hrs. 20 min.; total flying time 280 hrs. 35 min.

One hundred to 150 cadets are expected at this school to begin training on or about April 1. Already many civilian applicants have requested admission to this class. Enlisted men of the command, who can qualify, have likewise applied for cadet status. An examining board has been appointed by the Commanding Officer to give educational tests to all applicants.

About 40 cadets are nearing completion of their preliminary course. Many of these are expected to be ordered elsewhere to duty with service squadrons.

A.S. Pilots School, March Field, Riverside, California, Feb. 19. (Cont'd)

Some few may be retained here for forest fire patrol duty during the coming summer months.

Two additional "blimps" will soon be in commission at the naval air station San Diego. They are the B-3, similar in type to the B-18, and the C-4, single and twin motored respectively.

Major Walter Weaver departed during the week for bombing instruction at Kelly Field.

Lieutenant E. C. Whitehead, Lieut. John W. Benton and Lieut. C. W. Graybeal have been ordered to report to the First Pursuit Group, Kelly Field, for duty. Lieut. Orlo H. Quinn has been ordered to Wright Field, Dayton, Ohio.

Preliminary plans are being made for the organization of a Post Track Team. Last season March Field officers and enlisted men won the Ninth Corps Area honors in several track and field events. They expect to again compete in civic and service meets during the coming summer.

Airdrome McAllen, Texas, Feb. 21.

During the past week it has been possible to add considerably to the appearance of this Camp, due to the fact that all the officers but one were on temporary duty at Sanderson, Texas, which made it possible to practically close up shop and turn all the men into landscape gardeners.

Through the kindness of the city authorities, thirty-five native trees were planted along the officers row, the main road to camp and along both entrances. The ditch along the Hidalgo road was banked and terraced and in a few weeks should be completely covered with grass.

A large circle, 70 feet in diameter, has been put in front of the officers mess. In this circle has been placed a huge propeller and wings made of crushed red brick. The adobe bricks forming the outline have been whitewashed making the insignia clearly visible from the air.

The sod planted in the quadrangle, in front of Headquarters and in front of the officers quarters, has come into its own and from now on will not have to be nursed along so carefully. The native plants being very hardy need very little care and will bloom probably early in March.

The enlisted men's baseball team is slowly coming to life. After letting the 4th Cavalry whip them in a double header on Wednesday, they turned the tables Saturday and whipped the horse soldiers. Lack of team work and practice accounts for their mediocre showing this far.

Sometime within the next few days this station will have opportunity to test skill on a Chinese puzzle. This has come in the guise of a Besseneaux Hangar which planned to utilize as a Transportation hangar.

Lieut. and Mrs. Charles A. Pursley have returned after an extended honeymoon of thirty days.

Headquarters "B" Flight 8th Aero Squadron, Pope Field,
Camp Bragg, North Carolina, Feb. 21.

The past week was a very favorable one for flying at this station. All planes were placed in first class condition and tested out. Two reconnaissance missions and two formation flights were carried out successfully.

Thursday of this week 2nd Lieut. Harrison J. Hartman left by Airplane for Pablo Beach, Fla., where he was ordered for temporary duty as supervisor of arrangements for the flight of 2nd Lieut. Alex. Pearson, Jr. from Pablo Beach to San Diego, Calif.

All the officers of this field attended an informal dance given at Brigade Headquarters, Camp Bragg, Saturday evening.

Intermediate Depot, Fairfield, Ohio, Feb. 26.

Flying and Testing Department: There has been considerable amount of activity in the Flying Department during the past week in spite of cold and cloudy weather.

A "J.M.A." course has been laid out on the Flying Field in order that pilots at the station may practice and keep themselves familiar with the requirements of "J.M.A." flying, and also for the purpose of permitting tests to be made for the requalification of officers who have lost their flying rates through separation from the Service.

Intermediate Depot, Fairfield, Ohio, Feb. 26. (Cont'd)

Night flying has been in progress at the field during the past week by personnel from McCook Field and has aroused considerable interest among the personnel at this station.

The officer in charge of flying has installed a number of improvements in the buildings and grounds at the flying stage in anticipation of increasing activities during the coming summer. A new Tee in the form of a flying monoplane white on a red background, has been constructed. The wind vane on the flying hangar has been connected with a compass dial in the Flying Commander's office in such a manner as to instantly indicate to persons in the office any change in the direction of the wind. Benches have been installed outside the hangar for the convenience of spectators, and the "Line" has been protected by railing to prevent unauthorized persons from entering the danger zone.

Miscellaneous: The Post Band gave a concert at the Home Productions Exposition in the Shawnee Hotel in Springfield, Ohio, during the past week. The Band Concert of sixty pieces, in charge of Mr. H. E. Heffner, Band Instructor, was taken to Springfield on a special car. Many compliments were received as a result of the excellent showing made at this concert. The Depot Band has shown wonderful development in the last six months and is rapidly becoming one of the best organizations of its kind in this vicinity. Several concerts are scheduled for the coming month. The members of this band show remarkable interest in their work and the organization has a spirit and military bearing which will reflect credit upon the Air Service wherever it is seen.

At a meeting of the Officers' Club a branch of the Army and Navy Air Service Association was organized, consisting of the entire Air Service personnel of the station and having the same officers as are now functioning for the Officers' Club. It was decided at this meeting to take necessary steps to organize a Polo Team, improve the Tennis Courts and put the Golf Course in condition for the summer season.

All officers who are members of National Collegiate Fraternities, have been invited to join the Dayton ^{Pan}Hellenic Association and attend the annual banquet of that organization which will be given in Dayton April 1st.

A.S. Pilot School, Carlstrom Field, Arcadia, Florida, Feb. 23.

Air Commodore Charlton, British Air Attache, arrived here by air from Miami, Florida on Monday February 21st, and spent the day inspecting the field and equipment.

The following named officers will leave this week for the purpose of ferrying Curtiss Hispano type training planes from Montgomery, Ala. to this station:

Lt. Col. P.W. Beck, Capt. V. B. Dixon, Maj. A.H. Gilkeson, Lt. R.T. Croneau, Lt. J.E. Parker, Lt. S.C. Eaton, Lt. H.R. Yeager, Lt. S.M. Umpstead.

Major A.H. Gilkeson and 2nd Lieut. W.S. Clark flew two Ardmont type DeHaviland 4-B planes from the A.A.I Depot, Americus, Ga. on Wednesday on an uneventful trip.

A military christening and review was held Saturday morning, February 19th, the baby daughter of Lieut. and Mrs. Arthur G. Watson being named Margery Virginia Watson. The Commanding Officer, Major Ralph Royce, and his wife, acted as godfather and godmother.

Lieut. C.O. Niergarth was married on Sunday February 20th to Miss Edith Howard, of Bradentown, Florida.

Lieut. John G. Williams and Miss Gertrude Stacholz of Brooklyn, N.Y. were married Sunday February 20th at Jacksonville, Florida.

Lieut. Russell C. MacDonald, piloting a DeHaviland 4-B Ardmont from Daytona, Fla., arrived at this Field after dark, February 22nd, and in landing the plane caught fire and burned. Capt. Shumaker, passenger, pulled Lieut. MacDonald from the cockpit in an unconscious condition just as the fire gained headway. Neither officer suffered more than a few scratches.

Scott Field, Belleville, Illinois, Feb. 26.

Mr. George J. Leibold, Managing Supervisor of Kansas City Booking Office, War Department Theaters, visited this post Friday for the purpose of inspecting motion picture affairs in general.

Hdqs. Mather Field, Sacramento, California, Feb. 19.

The field is one of great activity at the present time as every one is preparing for the Flying Circus that is to be held here on February 22, 1921 in honor of Washington's Birthday the proceeds of which will go to the Army Relief Fund for the mothers, sisters, daughters and orphans of World War Veterans who gave their "all" for their country. Hangar No. 1. has been thoroughly cleaned and the rough cement floor is being put in shape for dancing. The program contains Formation flying, Aeroplane races, Flying combats, Parachute jumping, Acrobatics, Motorcycle races, Boxing bouts by "Headliners" and concessions for a Fairway over one quarter of a mile in length. A special train from the Southern Pacific Depot in Sacramento to the field is to be put on and a large attendance is expected.

Of the seven Flying Cadets attached to the 91st Aero Squadron, only one remains, one accepting his Reserve commission and honorable discharge while the other five have returned to their former status as enlisted men and are attached to that organization. Of the eight attached to the 9th Aero Squadron, one has reverted to his former status of Master Sergeant, two have been discharged and five are awaiting Reserve commissions and discharge.

Second Lieutenant Eugene C. Batten, A.S., has been testing parachute during the past week in preparation for the World Altitude Record Jump to be attempted at this Field on Washington's Birthday.

Baseball enthusiasm is increasing every day, the 91st Aero Squadron having won its second game by defeating the Air Service Supply Detachment, this field, on Wednesday afternoon, February 16th, with a score of 8 to 7.

Lieutenant Arthur G. Liggett, A.S., and Cadet James M. Larsen, of the 9th Aero Squadron, have been busy testing and experimenting with the Magnavox Telemegaphone for amplifying the human voice which so far has proved to be a success. It was used yesterday, February 18th, from a specially equipped DeHavilland Four over Sacramento and nearby towns in publicity work in connection with the Flying Circus. Four other planes were used in formation flying in this work.

The 9th Aero Squadron is getting its two racing planes ready for the race on the 22nd. These planes were used in the Winter Tournament Races at Long Beach, California, last December, one of them making an exceptionally good record in this event.

Colonel Latrobe, E. & R. Officer of the 9th Corps Area, was on the field yesterday in connection with Education and Recreational work being carried on at this post, returning by plane to San Francisco in the afternoon.

Colonel Lawton, Quartermaster of the 9th Corps Area, was on the field yesterday inspecting Quartermaster and Motor Transportation property, returning to San Francisco by automobile in the afternoon.

Selfridge Field, Mt. Clemens, Michigan, Feb. 26.

An inspection of Selfridge Field was made on February 24, 1921, by the District Plant Protection Agent, Detroit, Michigan, for the purpose of ascertaining possible fire hazards. After a thorough inspection of all buildings and fire-fighting equipment, a favorable report from a fire prevention standpoint was given.

This section of the country was visited by the severest snowstorm of the season on Friday night, February 25, 1921. A fall of nine inches was experienced, but since it was not accompanied by the usually prevailing high winds, the roads are not drifted, and activities will not be hindered to any appreciable extent.

Brooks Field, San Antonio, Texas.

During a recent visit of General Mencher and Major Simons to Brooks Field a free balloon flight was made in which there were three solo flights of an hours duration each. In the first flight, Corporal Sylvester Zowada of the 4th Balloon Company descended after a seven mile trip. Master Sergeant Edward Ward, the second man to take the balloon tied it to a railroad track for about ten minutes and then cut loose. After an hours flight he made a landing and turned the balloon over to a third man, Staff Sergeant Francis D. Rustwayte. In landing on this final flight a ground wind caught the balloon and carried it into a mesquite where it became necessary to rip it owing to the drag rope getting caught

Brooks Field, San Antonio, Texas. (Cont'd)

in a tree. During its flight the balloon was followed by a truck which carried the fliers. At each landing this truck was given a start of from ten to fifteen minutes before the balloon left the ground. It was during one of these starting periods that Sergeant Ward tied himself to the railroad track, there being no one to hold him down while the truck got its start. These flights qualified each of the three men for pilot's license.

A series of similar flights was made on Feb. 12, in a 12,000 foot balloon by Master Sergeant Guy McIntyre, Staff Sergeant William A. Jackson, and Staff Sergeant Jesse L. Hodgson. By this flight Master Sergeant McIntyre was qualified for a pilot's license.

In the midst of active flying Brooks Field personnel manages to give dances which are howling successes and to stage "Fite-nites" in which Brooks Field men can show of what good stuff balloon men are made. The Field reports that in a recent match the seconds had to throw in the sponge to save Chick Wright of San Antonio from a good beating from Jack Adams of Brooks Field. In the same evening Buck of Brooks Field knocked out Wilson of Camp Travis in a match for the championship of the 8th Corps Area. Two other fights that night were not so interesting. Lefty Helms, Brooks Field, did not have a show in a fight with Pat Caynor. Bobby Mason and Frank McFarland were evenly matched in a fast eight rounds.

Early in February Brooks Field celebrated one of its greatest social days, a day of basket ball, barbecue, and dance. About forty officers and five hundred enlisted men from Camp Travis and the entire command of Brooks Field turned out for the big barbecue supper and the basket ball game which followed it at eight o'clock. Then the men of the Field and their guests enjoyed three or four hours of dancing.

U.S. Army Balloon School, Ft. Omaha, Nebraska.

Fort Omaha uses free balloons not primarily for occasional training flights but for experimental purposes in connection with free and captive balloon development. Incidentally free balloon flights at Fort Omaha are helping to keep reserve officers and civilians interested in the balloon service, its possibilities and development. A free balloon flight is reported from this post in which First Lieutenant Richard E. Thompson, A.S., acted as pilot and Second Lieutenants James B. Jordan and John R. Hall; Captain George B. Thummel, S.O.R.C.; and Master Sergeants Glenn H. Benn and Herbert J. Bertram were passengers. The start was made from the Fort at 6:30 in the morning. Various landings were made, the final one at Macedonia, Iowa, about 30 miles from the Fort, at 11:45. A height of 5000 feet was reached. In making landings at some places, the balloon was maneuvered over wires and obstacles into the very heart of small towns. The basket was then brought to the ground and was quickly surrounded by a crowd of interested spectators.

24th Balloon Company, Mather Field, Sacramento, California.

Rain has prevented much flying on the part of the Twenty-fourth Balloon Company and has softened the balloon bed of the organization to such an extent that it had to be abandoned. A new bed is being made on a good hillside location which is well drained. It is reported that material for a new balloon hangar has been shipped and it is expected that the Twenty-fourth Company will soon be well housed. Because of the bad weather in early February there was not much flying, but the Company finished its new balloon bed, laid new field telephone lines, and carried out drills and recruit instruction. Later in the month the Twenty-fourth Company worked with the coast defenses of San Francisco. Twenty-three shots were fired by Camp Guthrie, 6" rifles, at a pyramidal target towed by steamer, at an approximate range of 10,000 yards. The balloons spotted the shots and sent down the errors in deflection and range, but undertook no tracking. After drill of the men in tracking, the actual balloon problems will be fired in which all data will be supplied by the balloons from the air.

Aberdeen Proving Ground, Maryland.

Four pilots from Mitchell, Long Island, New York have been ordered to this station for a brief course of instruction in aerial bombing in anticipation of the battleship test which is awaiting authorization. The officers are Second Lieutenants W.S. Fitzgerald, G.C. McDonald, H.F. Rouse and W.B. Sousa. They are expected to arrive the early part of next week.

Aberdeen Proving Ground, Maryland. (Cont'd)

1st Lt. Rene R. Studler, Operations Officer of the 258th Heavy Bombardment Squadron for the major part of the period from June 1919 to July 1920 has returned from seven month's Detached Service at Camp Perry, Ohio and in the Office of the Chief of Air Service and has been assigned to his former duties.

2nd Lt. Wendell K. Phillips who has been attached to the General Recruiting Service in the Baltimore District is expected to return to this station in the near future.

One Handley Page and one Martin Bomber are now in commission, completely equipped. Another Martin Bomber will be ready for test in a few days. Every effort is being concentrated on the rebuilding of a second Handley Page and a third Martin Bomber. The Handley Page is being practically built up at this station. Parts have been received from various stations but a great amount of actual building of parts is necessary in order to assemble the plane. Three (3) civilian mechanics arrived this week from Wilbur Wright Field to assist in this work. Authority for ten civilian cabinet makers has been received and an effort is being made to secure capable men to fill these positions. This will make a total of two Handley Page airplanes and three Martin Airplanes available for battleship bombing.

It is anticipated that Flight B will be ordered to Langley Field as soon as the project of bombing the airship has been definitely authorized.

It is conservatively estimated that more than one and one-half times as many live bombs have been dropped by the personnel at this station than were dropped by the entire American Expeditionary Forces overseas during the World War. The 258th Heavy Bombardment Squadron while at this station has experimented with twelve types of bomb sights, including French, English and American. All have been tested in the air with actual bombs. This work has been carried out in connection with the testing of bombs, bomb traps, bomb releases, flares, machine guns, etc. Recently a number of pilot directing devices have been developed and tested by the personnel of this command. These devices have aided considerably in bomb and bomb sight tests. Flight B therefore prides itself that it is admirably fitted to lead in the work of battleship bombing.

Wednesday, February 23rd, ten mark II A bombs were dropped on the Main Range as a test of the Cordeau Bickford Fuse. As this letter is being written Captain Norbert Carolin with Lt. S.R. Stribling as Bomber is preparing to take off in the altitude of 9000 feet. The bombing of the silhouette target of the battleship "Massachusetts" continues. This battleship is smaller than the "Ostfriesland", which is 546 feet long with a 93 foot beam and three inch deck armor. It is believed that a direct hit on an armored battleship with a 1100 pound armor piercing bomb dropped from 9000 feet would sink the ship. It is also considered that a 1100 pound Demolition bomb (Mark VI) dropped from a low altitude within 50 feet of the battleship would result in spreading the seams of buckling the plates with the result that the plane would sink.

The Press has recently stressed the matter of the anti-aircraft defense of a battleship. This argument is believed to be without adequate foundation. The results of the World War indicate a very low percentage of hits by anti-aircraft guns, and such hits as were made came from guns with a fixed mounting on land. With the unstable mounting of a battleship the percentage of hits will no doubt be further decreased.

France Field, C. Z., Feb. 12.

Just to show that his remodeled D.H. 4 plane, in which he made a 10½ hour flight in unsuccessfully trying to reach United States, is still in excellent condition and can be flown over long distances, 1st Lieut. Charles B. Austin made about a 450 mile non-stop flight during the past week. Had it not been for the fact that five other planes were awaiting to accompany him over the final 110 miles of the return flight, Lieut. Austin would have completed about 560 miles on this flight without a stop. This was in connection with a flight of six planes to Aguadulce, Lieut. Austin leading the planes to that town and then continuing to David, R.P., the last big city before reaching the Costa Rican border. After flying around David for about five minutes, Lieut. Austin started on his return trip and landed at Aguadulce, after having been in the air for just four hours. After a short wait the planes returned to France Field in the face of the stiff wind, making the trip in an hour and twenty minutes. All available space in the cockpits of the planes was filled with the purchases made from the natives around

France Field, C. Z., Feb. 12 (Cont'd)

Aguadulce. Every plane had its quota of chickens and native fruit and 2nd Lieut. Homer D. Chandler was lucky enough to buy a fat turkey which will grace his dinner table soon. Eggs, a few native curios, and hearty appetites were the other things which were brought back. As the planes landed at France Field the post baseball team was getting its daily workout and two of its members, Corp. Louis G. Moraes and Pvt. First Class Johnny Eisel, who had made the trip with the planes, showered the hard working players with native oranges. The oranges tasted good to those thirsty ball players even tho' their cost was only about 40 cents per hundred. Besides Lieut. Austin and Lieut. Chandler, the pilots of this flight were: 2nd Lts. Samuel M. Connell, John D. Barker, Kenneth Garrett, and Master Sergeant Joe Grant, while those in the rear seats were Capt. Lloyd Ballantyne, M.C., 1st Lieut. A.C. George, 1st Lieut. Perry Wainer and the two mechanics.

The France Field baseball team received a welcome addition last week in Warrant Officer Cecil Hewitt, who has been placed in charge of training the team by 1st Lieut. Harlan W. Holden, officer in charge of baseball. Under his direction the play of the team is being polished up and many of the existing errors corrected and it is expected that it will make a better showing the remainder of the season. One game was played during the week, the engineers from Corozal invading France Field and walking off with a 5 to 2 game. Lieut. Holden was in the box and while he allowed only six hits, three of them were bunched for two runs in the first inning and the home team was never able to overcome this lead.

The Saturday game with the Submarine Base was postponed owing to the absence of that team on a cruise. This game will be played later in the schedule. The postponed game with Fort Sherman will be played next Monday while Camp Gailard and Fort Randolph will be the opposing teams in the two regular games. Besides coaching the team, Mr. Hewitt will probably play first base after he has become acclimated and gets into condition.

Fishing is once more a sport of the first order and some excellent catches were made in the Chagres River. One party which has had great sport over the last week end was composed of 1st Lieut. Charles B. Austin, Staff Sergt. John Bluhm, Sergt. Karl Johnson, and Pvt. Frank Enick. The party made the trip in the motor boat belonging to Sergts. Bluhm and Johnson and returned with the boat loaded with seven kinds of fish. The prize of the catch was a big tarpon, but Lieut. Austin landed the best eating fish when he hooked a 20 pound Red-snapper, which he gaffed after a big fight. Spanish Mackerel and Jack composed the largest part of the remainder of the catch. The fine success attained on this trip has caused several more parties to be planned for the near future, and more fish dinners will be in order soon.

Orders for the return to United States have been received for Major Millard F. Harmon, Jr. Commanding officer of the post, and 2nd Lieut. John F. Whiteley who is assistant Engineer Officer and Salvage Officer. Major Harmon is going to Washington and Lieut. Whiteley to Langley Field, both of the officers expecting to leave on the March transport. It will be a sad day for every officer and enlisted man at this post when Major Harmon sails, all agreeing that he is the best commanding officer they have ever served under. Major Walsh, who has been on duty in the office of the Chief of Air Service, is expected to be the new commanding officer.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE MARCH 18, 1921.

WHY CIVILIAN AIR PILOTS SHOULD BE LICENSED BY THE FEDERAL GOVERNMENT

by

Major L.H. Bauer, Medical Corps, U. S. A.

Officer in Charge, Medical Research Laboratory of the Air Service.

The increasing prevalence of the aeroplane, and the attention paid to aeroplane accidents by the newspapers, bring to the fore the question of proper licensing of the pilots.

Aeroplanes are now used, not only by the Army and Navy, for war purposes, but for photography, mapping, coast patrol, forest fire patrol and by the Post Office Department for the carrying of mail, and by various civilian concerns for carrying passengers and freight. The future developments and uses of aircraft are almost endless.

No pilot is licensed to pilot boats or ships in rivers, harbors or the ocean without thorough training and a demonstration of his ability. This is not only because of the danger to the passengers and freight on his own ship but because of the danger to other shipping.

There are also requirements that must be met by automobilists, (inadequate though they are) before they can be licensed.

The aviator can not only wreck his plane and kill its occupants, but also may damage property and kill bystanders if he crashes.

It may be stated that it goes without saying that a flier should hold some sort of certificate of training, but what about his being physically fit to fly in the first place? Physical fitness plays a greater part in Aviation than in any other occupation.

The aviator has to meet unusual conditions in the air. Take the question of the eyes, for example. The ordinary individual is concerned chiefly with straight ahead vision. If his vision is defective he can wear correcting glasses. The aviator should not wear glasses. Glasses blur the edge of his visual field and may become broken, lost or fogged. The automobilist can keep his eyes fixed on the road straight ahead. He needs to see a short distance on either side of the road also. The aviator, however, must be able to see in all directions and at all levels. To do this he must turn his head as far as possible and then turn his eyes to an extreme angle. His visual fields must be normal in size so he may pick up images at the periphery of his fields. There are six muscles which control the movements of each eye. These muscles normally function together in such a way that the image received in one eye falls on a corresponding spot in the other eye, with the result that we see but one object. If any one of these muscles is defective to an important degree, the image may fall in different places in the two eyes when the eyes are turned in a certain direction, with the result that two images of one object are seen and the man cannot tell which is the correct one. Weak eye muscles are very common. The ordinary person is unaware of it because he looks straight ahead most of the time. If he looks to the side he turns his head to do so.

Now the aviator, as stated above, has to look in all directions and if he has any defect in his eye muscles he will see double at some time or other. Slight weakness or overaction may be compensated for but the strain of flying eventually will break down the compensation. The flier, then, needs eyes that have normal muscles. He also must have normal color vision for the same reason that a driver of an automobile or an engineer of a train needs it. In addition the accommodation of the eyes - the ability to focus the eyes on both near and far

objects rapidly, the ability to judge distance of objects, a very important fact in landing a ship - is all-important. Of course there must be no disease of the eyes nor anything the matter with them that can in any way interfere with the stringent demands made on them.

The flier must also have healthy nose, throat and ears. Diseases and defects of the nose and throat, interfere with breathing, render a liability to frequent illness, and cause blocking of the passage to the middle ears. Deafness is also a serious defect. Further, the flier should have a delicate sense of balance and motion. This is dependent on four factors, the most important being the semicircular canals in the internal ears, and vision. Vision is eliminated at night or in the clouds so that the flier must depend chiefly on his ears. The condition of these canals and the governing brain centers can be tested very accurately.

A general physical soundness is required. Particular attention should be given to the heart, the lungs and the kidneys.

Last, but by no means least, is the condition of the nervous system. With this is included the personality of the flier. Not every type of individual makes a good flier. The qualities that go to make up a successful aviator are known and should be demanded. This examination might be called a survey of the mental and nervous potential abilities.

The Air Service of the U.S. Army now requires a very careful physical examination of its fliers at least twice a year and keeps them constantly under trained medical observation. This examination covers all the points mentioned above.

A consideration of flying, however, cannot be made without a consideration of the effects of altitude. At sea level there is approximately 21% oxygen in the air. This is the life sustaining quality of the atmosphere. The higher we go the less oxygen there is. The body has certain ways of compensating for this increasing deficiency in oxygen. Different types of persons react in different ways. They can be classified according to their ability to withstand the effects of altitude. All fliers require oxygen above a certain altitude but that altitude is not the same for all. Further, there are effects even before that altitude is reached. The lack of oxygen works insidiously on the body, and the flier himself is totally unable to realize when he is feeling the effects of it. Examination under low oxygen show repeatedly that the flier thinks he is absolutely normal, when, as a matter of fact, he is hopelessly inefficient. So, besides this examination for selection, there is another given by the U.S. Air Service. This is a classification examination which is too technical to describe in an article of this sort, and consists briefly in an observation of the fliers reaction both mental and physical, under conditions simulating those of higher altitudes.

All this trouble in selecting and classifying our flier is a waste of time unless we can be assured that he can be kept in as good condition as he was at the time of his selection. This is accomplished in the Army Air Service by keeping the fliers under constant observation of medical officers, specially trained for such work at the Medical Research Laboratory of the Air Service. One of the most frequent conditions met is a "staleness" in the flier. This is due to too constant application to flying without proper rest and exercise, or sometimes due to dissipation. The condition is not confined to aviators but may be found in any walk of life. It is simply more common in aviators. It is a condition that calls for a simple remedy at the start, but if allowed to go too far causes permanent unfitness for flying. Herein lies the value of frequent examination particularly of the nervous system.

By means of careful selection, classification and maintenance of the fliers in the Army, the fatalities are kept at a minimum.

The British were the first to recognize the importance of these points. By establishing a separate care of the fliers service, at the end of the first year of the war, the fatalities due to the physical conditions of the pilots were reduced from 90% to 12% in two years.

The Army Air Service by means of its Medical Research Laboratory investigates all Medical problems of Aviation. As a result of these investigations, tests are devised, applied and the care of the flier is aided. A school of instruction is maintained there for medical officers attached to the Air Service.

Not long ago there was a fatal accident, in which the pilot and his passenger were killed, the machine wrecked and the lives of hundreds of spectators endangered. This pilot had received the Army Examination and was found disqualified

on four different counts, but he was not an army pilot and the army had no control over him. Had he been in the Army he would have been prohibited from flying.

We read constantly of the reckless automobilist, and we have speed laws and requirements for license to curb him. What of the reckless aviator? Disregarding all factors but the physical, an aviator is reckless if he flies when he is not physically fit. Are civilians to be allowed to endanger their own lives and the lives and property of others? Public safety demands that they be subjected to as rigid examinations as army fliers.

If you are going to take a trip in an aeroplane you want to be sure that your pilot will not judge himself to be 100 feet from the ground when he is only 30 feet from it; that he will not see double at a crucial moment; that he is in sound physical condition; and that he has a nervous system that will not suddenly go to pieces in the air and cause him to crash. Even though you are not going to take a trip yourself, you want to be reasonably sure that the man who is flying over your house is not going to crash through it.

The Allied Conference on Aviation adopted rules which it considered the minimum requirements for fliers of all countries, and urged their adoption. These requirements cover substantially the points mentioned in this article. It was also pointed out that all pilots should not only be examined physically, before license, but kept under medical observation throughout their career as pilots.

A law should be passed requiring all pilots to pass a physical examination in accordance with the rules of International Conference before licensure; this examination to be made only by those qualified to make it; and licenses granted only by the Federal Government.

This probably will not be done until public opinion demands it.

SERGEANT CHAMBERS MAKES RECORD PARACHUTE JUMP

In a DeHaviland 4B airplane, piloted by Lieutenant Paul T. Wagner, the World's altitude record for parachute jumping was broken by Sergeant Ensel Chambers at Post Field on Washington's Birthday. At 1:45 the plane carrying Sergeant Chambers as passenger, took off and gained an altitude of 22,200 feet above sea level at 2:45 P.M. Lieutenant Wagner was beginning to feel the effects of the rarity of the atmosphere and lack of oxygen at that altitude and turned to Sergt. Chambers and suggested that the jump had better be made. The Sergeant was rather weak and had difficulty in climbing from the cockpit with the two 'chutes on his back, but after several attempts finally succeeded in getting in position to jump. When he was ready he nodded to Lieutenant Wagner to stall the plane and Sergeant Chambers dropped off into space. Due to extreme cold and weakness from lack of oxygen, Sergeant Chambers could not function his arms properly and had great difficulty in opening the 'chutes. It is believed that he fell at least 1500 feet before he finally succeeded in pulling the wire so that the 'chute could be released. A stiff wind from the north was blowing and carried him 15 miles southeast of the point from which he left the plane. The landing made was especially fortunate in that there were no obstacles nor barbed wire fences for within a half mile as the wind dragged Sergeant Chambers at least a half mile before he finally succeeded in cutting the 'chutes loose from his harness. Neither Sergt. Chambers nor Lieutenant Wagner felt any ill effects from the trip.

A.S. OFFICER KILLED IN AUTOMOBILE ACCIDENT

Telegram from McAllen, Texas announces the death at that station of Second Lieutenant Pittman W. Mills, the result of an automobile accident. Lt. Mills leaves a mother, Mrs. M. M. Mills, who resides at #2 Elizabeth St., Atlanta, Georgia.

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AIR SERVICE MECHANICS SCHOOL MOVED FROM
KELLY FIELD TO CHANUTE FIELD, RANTOUL, ILLINOIS

Special order #3, Paragraph 2, Headquarters 8th Corps Area, dated January 4, 1921, directed Air Service Mechanics School to proceed from its present station at Kelly Field to Chanute Field, Rantoul, Illinois, on or about January 15, 1921.

Instruction was carried on until January 14th when packing commenced. It took 90 cars, a train just one mile long, which was divided into four sections, to haul the equipment of this school. Not one of these cars was left "spotted" at either Chanute Field or Kelly Field more than 36 hours for the entire process of loading or unloading. Not one piece of freight of any kind was damaged en route. There was no sickness, no cases of disciplinary action of any kind during the entire move.

The personnel was moved in three sections, the first troop train leaving January 27th, the second February 19th, and the third February 23rd. The personnel of the Air Service Mechanics School now consists of 27 officers, 1 Warrant Officer, 659 enlisted men (permanent personnel and students) and 120 civilian employees, 76 of whom were transferred from San Antonio, Texas.

The move was commenced January 27th and ended February 25th, with the arrival of Major Stratemeyer, the Commandant, at Chanute Field.

The equipment for instruction will all be installed; every necessary alteration made, and instruction in every department functioning at capacity by April 15th.

A favorable sentiment toward conditions of this field is universal throughout the command, with the exception of the wives of some of the officers, who have battles of their own learning the cooking combinations of the coal stoves of this field. Even along this line, however, matters are progressing favorably, and the morale throughout the school promises to be much higher than heretofore.

Up to February 25th Chanute Field was commanded by First Lieutenant Langhorne W. Motley. On his arrival from Kelly Field, Major Geo. E. Stratemeyer officially took command of the station. Lieutenant Motley will now be Executive Officer.

Flying has been carried on since the first of February at this field, conditions in this locality being very favorable for any class of flying.

The activities of the Trade Test Department should secure its recognition as an important function of the Air Service.

Of the 552 men placed in school from Dec. 1, 1919 to July 1, 1920 the following were dropped and for the reasons mentioned:

<u>Why</u> <u>Dropped</u>	<u>Number</u> <u>Dropped</u>	<u>Per cent</u> <u>Dropped</u>
Cadet School	4	.72
Deceased	1	.18
Desertion	1	.18
Discharged	11	2.00
Guard House	2	.36
Hospital	2	.36
Inaptitude	28	5.00
Physical Cond.	1	.18
Radio School	1	.18
Ret. to Org.	6	1.08
S.C.D.	1	.18
Special Duty	36	6.5
Transferred	1	.18
W.P.P.S.	3	.54
TOTAL DROPPED FROM SCHOOL	98	17.65%

Number of "inaptitudes" under 70% 18 or 3.2%
 " " " " 70% 5 or
 (Placed in school in courses
 (of instruction specified on
 (travel orders issued at
 (other fields.

It will be noted the number of men enrolled in school for the period December 1, 1919 to July 1, 1920 was 552 students, and that approximately 17% of the total number were dropped from the various courses of instruction. This is not to be construed to mean that the total 17% were placed in courses of instruction for which they were not qualified. Attention is invited to the above table showing the number of men dropped and the reason for this action. It has been found that a large number of men who were making excellent marks in their studies were dropped because it was considered they possessed the necessary qualifications to perform some special duty which has come up at this station from time to time. A total of only 2.3% of the men actually entered in school were dropped for not possessing initiative, education, or not being mechanically inclined.

Considering the fact that a large number of illiterates or near illiterates were sent to this school for instruction and the fact that there were no preparatory schools in existence at that time, it is believed that this percentage is as close to a perfect average as it is possible to obtain. Then again, there is that percentage of men who today feel that they would like to take up a certain course of instruction and really have the education and ability to make good, but who change their minds later because the work is a little new to them, and they become disinterested. This, of course, will always happen wherever there is a school, and it is unavoidable.

Every enlisted man reporting to this station passes through this Department. He is not only tested with a view of placing him in a course of instruction but he is tested and rated as to his intelligence and ability to learn, and whether or not he has the education, which he claims upon his entrance into the service. He is then carefully trade tested in any trade or line of work which he claims experience. This insures an accurate record of just what each and every enlisted man in the Air Service is capable of performing. Should any emergency arise it will be but a very simple matter to order men from one station to another by simply referring to the C.C.P.1 Trade Test cards.

POST-WAR AVIATION PROGRESS

A meeting of the newly organized Dayton Section of the Society of Automotive Engineers will be held on March 22 at the Engineer's Club in Dayton.

The progress which has been made in aeronautics since the war will be the topic which will be treated by four specialists.

G. M. Williams, General Manager of the Dayton-Wright Airplane Company will talk on Commercial Aviation. His talk is to cover the actual accomplishments in commercial aviation since the armistice and will include the discussion of the progress made and conditions affecting aviation both in this country and in Europe, during which he inspected many of the commercial airplane lines in operation.

C.F. Taylor, the Engineer in charge of the Power Plant Laboratory at McCook Field, will disclose the developments in power plants and in fuels which have made possible flights at high altitudes, increase in compression ratios, and increase in engine size efficiency.

Propeller Construction will be treated by F.W. Caldwell, Chief of the Propeller Branch at McCook Field. Reversible propellers and the use of steel in the manufacture of propellers will be among the items covered by his talk.

Lieut. C.N. Monteith, Chief of the Airplane Section at McCook Field, will speak on Aircraft Design and Performance, paying particular attention to the newer phases of airplane construction, such as all-metal planes, internally braced planes, and aircraft design for high speed.

LIST OF OFFICERS FROM FOREIGN COUNTRIES TAKING FLYING TRAINING at U. S. Air Service Schools.

Below is a list of officers from foreign countries who are taking training at U. S. Army Air Service schools:

	<u>From</u>	<u>At</u>	<u>Approx. date of arrival</u>
Gilardi, Carlos, Lt.	Peru	Carlstrom Field	Sept. 17
Cooper, H. Zuniga, Lt.	Chili	" "	" "
Garrasco, J. Arvalor, Lt.	"	" "	" "
Granados, Miguel G.	Guatemala	" "	Oct. 16
Arozarena, M. Capt.	Cuba	March Field	Sept. 16
Laborde, Eddie, 2nd Lt.	"	Carlstrom	" "
Teran, Humberto, Lt.	Ecuador	" "	" "
Freile, Guillimo, Lt.	"	" "	" "

Lt. Guillimo Freile has recently been transferred to A.S. Mechanics School.

Request has been made for transfer of Lt. Humberto Teran to Photographic School at Langley Field, Hampton, Va.

Request made for Ensign Victor M. Padula and Silvio Leporace of the Argentine Navy, to be given flying training at Carlstrom Field and for Leriére Bastos of the Portuguese Army to be given one month's training at Engineering School, Dayton, Ohio.

SQUADRON NEWS

Kelly Field, San Antonio, Texas.

The activities of the First Pursuit Group go merrily along, despite the fact that gasoline consumption is reduced frequently. Soon, the SE's, like some Fords in the Group, will be running on their reputation, which in some cases is rather erratic. The student officers have been assigned to various squadrons, in the Group, and are undergoing an intensive course in pursuit training, specified in the approved schedule, issued from this office. The second cadet class is fast approaching the time when they will be ordered for examination, before the Board appointed at Kelly Field, to determine their fitness for an emergency commission.

An intensive course in rapid reconnaissance will soon be indulged in by the pilots of the First Pursuit Group, to develop their ability to memorize objects of tactical importance, which they may observe during their flights over any designated territories, specified from this office. It is a recognized fact that "green" and inexperienced pilots can fly over battle sectors and bring back very little information of a tactical military value, due to the air blindness experienced by most "green" pilots. The ability to memorize a sector and draw a map of some military value, upon return, can only be accomplished through practice.

Cross-country flying is just as important to the Pursuit pilots, as it is to any other branch of the Air Service, and cross-country trips to designated points will be indulged in to perfect pilots in aerial navigation.

Practice target shooting and bomb dropping will, also, be engaged in by the Group, to determine the accuracy and efficiency of each individual pilot engaged therein. Comparative scores will be noted and a tabulated sheet will be kept in the Operations Office. The present system of spotting for bombing, while not entirely satisfactory, seems to be giving fair results; but the time of starting the "sheets" and bomb dropping practices will again be changed to 1:00 P.M., Mondays, Tuesdays, Wednesdays and Thursdays, as it is found that with from seventeen to twenty pilots flying from individual squadrons, it is not possible to complete the scheduled shooting or bombing by individual squadrons unless the above schedule is enforced.

The tactical training of the First Pursuit Group, for the week ending February 19, amounted to the following flights: 101 Practice Flights, 14 practice flights by Naval Officers, 34 practice flights by cadets; 9 formation flights, 34 by Naval Officers, 45 by cadets; 1 target practice flight, 5 by cadets; 6 search patrol flights, 4 by Naval Officers, 11 by cadets; 8 dummy bomb dropping flights, 7 by cadets; 4 test flights; 7 target shooting flights by Naval Officers; 4 practice patrol flights by Naval Officers, 2 by cadets. Total flights, 296 and 142 hours and 10 minutes total time.

The DH4 piloted by cadet Virgil W. Beech and with Cadet Earl E. Allen as observer had a forced landing at Penn Field, near Austin, Texas on account of motor trouble on February 23. They fixed up the plane and took off toward the south, and made a turn to the left and reached approximately 1000 feet altitude, by the time he had half circled the field, the plane stalled on the turn and fell off into a spin, falling in the yard of the St. Andrews College, located just north of Penn Field. The plane immediately caught on fire, and as there was no chance for the men to get out of the wreck, they were burned to death.

Training of the First Day Bombardment Group for the week ending February 19, amounted to the following flights: 9 Photographic, 31 Formations, 5 Artillery Liaison, 12 Reconnaissance, 10 Infantry Contact, 2 Infantry Terrain Maneuvers, 56 Cross-country and Ferry, 415 Test and Practice, making a total of 540 flights with a total time of 284 hours and 5 minutes.

The following officers and cadets made cross-country flights to the following named towns in DH4B's: Lieutenant Nutt to Ellington Field, Barksdale, Montel, Texas and a ranch; Lieutenant Plumb to Sanderson, Del Rio, Texas; Lieutenant Speck Sanderson, Texas; Lieutenant Berry to Barksdale, Montel, Texas and a ranch; Lieutenant Davidson to Kelly Field, Texas with Lieutenant Grant as passenger; Lieutenant Clark with Sergeant Gast to Kelly Field, Texas; Lieutenant Drumm with Sergeant Weidekamp as passenger to Sanderson, Texas; Cadet Hall to Sanderson, Texas; Cadet Breeldlove to Sanderson, Texas; Cadet Danielson to Laredo, Texas; Cadet Lorenz to Laredo, Texas; Cadet Rutz to Laredo, Texas; Cadet Snyder with Cadet Danielson as passenger to Kelly Field, Texas.

Kelly Field - Cont'd.

Cadet Albert E. Jett of the First Pursuit Group, undergoing flying instruction, crashed in the afternoon of February 24, from an altitude of about 500 feet. The accident occurred on the landing field, 300 yards west of Hangar 6. As soon as the plane hit ground, the gas tank exploded and the airplane caught fire before the pilot could leave. After a few seconds, he jumped through the flames and rolled on the grass, in that way extinguishing the flames and saving himself. The plane was completely consumed.

The enlisted strength of the First Pursuit Group is still being augmented daily, by the arrival of recruits. The group will soon reach the authorized strength if the present number continues to arrive as in the past few weeks.

Lieutenant R. B. Mosher has just returned from Chicago where he has been engaged in recruiting for the Air Service. He reports plenty of good material available, including quite a number of college graduates, who desire to enter the Air Service. In fact such a vast number applied for enlistment that recruiting officers had to start to work at 7:00 A.M. to meet the emergency.

Lieutenant McFall, one of the Pursuit "Naviators", had a forced landing at Brooks Field a few days ago, making a perfect three-point landing, and with the exception of tearing down the fence, breaking a prop, smashing the radiator, bouncing along on his nose, and finally flipping over on his back, landed safely.

First Lieutenant Ennis C. Whitehead, Air Service, reported to the First Pursuit Group in company with Second Lieutenants John W. Benton, Carlyle W. Graybeal and James A. Mollison. The addition of these officers is a welcome help indeed to the First Pursuit Group.

Major Spatz, formerly commanding officer of Kelly Field, has assumed charge of the First Pursuit Group and Lieutenant Armor S. Heffley has taken over the Adjutant's position, relieving Lieutenant Ellis, who assumes command of the 147th Squadron. Captain Brooks assumes the duties of Operations and Informations officer, relieving Lieutenant C. W. McDermott, who has been assigned as Assistant Operations Officer.

Lieutenant Commander White, formerly the senior naval officer present, has departed for the British Isles. Lieutenant Farrar is now the senior naval officer present with the Naval Training Detachment, assigned to the First Pursuit Group.

Major Walter R. Weaver, Air Service, has reported at this station from Fort Sam Houston, Texas and is assigned to the First Day Bombardment Group for completion of his pilot training.

2nd Lieutenant James A. Mollison, Air Service, has been appointed as Post Adjutant of Kelly Field No. 2, Texas vice 2nd Lieutenant A. S. Heffley, Air Service.

2nd Lieutenant Orion I. Bingaman, Reserve Military Aviator, reported to the First Pursuit Group for flying practice.

Lieutenant Levi L. Beery, Air Service, accompanied the remains of the late Cadet Virgil W. Beach to Nashville, Tennessee and will return to his proper station, Kelly Field, upon completion of his duty. Lieutenant Harold L. George, Air Service, accompanied the remains of the late Cadet Earl E. Allen to Columbus, Georgia and upon completion of this duty will return to Kelly Field.

Lieutenant Harry L. Speck piloted Lieutenant Dorris A. Hanes, Quartermaster Corps, 8th Corps Area, to Taliaferro Field, Texas for temporary duty to act as Government representative at the sale of that field on February 23, 1921.

The officers of this command and ladies were invited to attend a Barn Dance held at the Officer's Club, Brooks Field, Thursday, February 24.

Lieutenants George O. Roberson and John R. Drumm, Air Service, and Cadets Gilbert Pitts, Edward J. Snyder, R. E. Fisher; and M. A. Nieninen, went by airplane to Aviation Repair Depot, Dallas, Texas for the purpose of ferrying airplanes to Kelly Field.

Lieutenant M. J. Plumb, Air Service, and Cadets Allen J. Tillery, Earl F. Height, and Carl Spradlin went by airplane to Nogales, Arizona for the purpose of ferrying airplanes from A.G.S.D.

Kelly Field, Cont'd.

Baseball is again in the ascendancy and a complete try-out of all possible talent of the First Pursuit Group will be held, in an endeavor to place the strongest possible team in the field.

Baseball practice is being held Mondays, Wednesdays and Fridays. Coach Monahan has begun to weed out some of the material.

Volley ball also furnishes sufficient exercise to keep the enlisted personnel in the pink of condition, not to say anything of the exercise experienced in pushing the SE's, Fokkers, Spads, "Jennies", DH's, etc., hither and yon.

Kelly Field Basketball Team defeated Fort Sam Houston by a score of 27 to 20 at Fort Sam Houston. Kelly also defeated San Marcos Military Academy by a score of 39 to 25. The team will battle with Camp Travis Monday night. A lively game is expected.

A civilian Polo Team from San Antonio defeated Kelly Field in Polo last week by a score of 15 to 10.

Tuesday night, four interesting boxing bouts were staged at the Service Club #3. The winners were Kid Lemmus, Young Reynolds and Young Maynard. The scheduled round bout between Clow and Reynolds lasted three rounds. Clow forfeited the bout at the end of the third round.

A very charming dance was given in Service Club #4 on Washington's birthday; the largest crowd of the season attended. The club was artistically decorated by Mrs. Shand and two members of the Board of Governors. Refreshments were served and every one went home with a smile.

March Field, Riverside, California.

Fifty-nine planes made a total of 539 flights from this field during the past week. Approximately 24,350 aerial miles were flown in 375 hrs. 40 min. Preliminary instruction of student pilots required 321 hrs.; advance instruction 33 hours; test flights 3 hrs. 50 min.; and miscellaneous flights 17 hrs. 50 min. Several student officers have taken their final tests while a class of about 50 cadets will have completed their training within the next two or three weeks, according to Major Geo. H. Peabody, officer in charge of training.

Ex-flying instructor John G. Montijo, formerly on duty at this school, has been carrying passengers during the past week from a field adjoining the National Orange Show at San Bernardino. A brisk "norther" on Tuesday night carried one of his planes into a cluster of trees and temporarily disabled it. Approximately 200,000 people have attended the show during the past eight days and Montijo has been busy from morning to night gathering in the sheekles at \$5 for a ten minute flight.

Lieut. R. N. Ott is the new commander of "A" Flight, vice Lieutenant E. C. Whitehead, transferred to the First Pursuit Group at Kelly Field.

Major Walter W. Vautsmeier has been appointed president of the board to examine candidates for pilot instruction vice First Lieutenant Fred B. Weiners.

Flying Cadet Sivian E. Caukins having completed his prescribed pilot training course has been commissioned a Second Lieutenant in the Reserve and honorably discharged.

Tentative plans are being made for an "anniversary show" at March Field early in May. Receipts from same will go toward maintenance of the enlisted men's Service Club. It is planned to devote an entire day in "carnival fashion" and to give same wide publicity inviting the public to attend.

Under the coaching of Lieut. William C. Morris, ex-Three-I Leaguer, March Field plans to place a baseball team in the field early this spring. With temperature ranging around 80 the past few days at least 30 men have turned out for early training. There seems to be a wealth of material among both the commissioned officers and enlisted men and it is believed a championship service team for Coast Area can be developed.

Lieut. Chas. Melin has taken charge of the wrestlers and boxers on the field and Lieut. Harold D. Smith is coaching the track and field men. Should

March Field, Cont'd.

the corps area stage a track and field meet this summer March Field will have an aggregation of athletes ready for entry in the various events.

Enlisted men in charge of the Service Men's Club plan to hold a St. Patrick's Day Dance at the Club House Friday evening March 18. Music will be provided by the Post Jazz Orchestra.

Headquarters Airdrome, Del Rio, Texas, Feb. 19.

February 11th, as per telegraphic instructions, planes from this station started the search for Lieut. Pearson. On the 12th Pilots of Flight "B" of the 8th arrived to assist. On the 14th, "A" of the 8th oozed in. Occasionally a Kelly plane would drift in, gas and oil, and drift on.

It was more than a relief to pilots at this station to learn that their lost brother was safe. Motors couldn't have held up much longer. Approximately 160 hours were flown in six days. There was one forced landing. This was due to a turtleback coming loose and wrapping itself around the fuselage. It happened out over the Pecos country. The Pilot thought that the Observer had wedged his feet against the elevator controls, but on looking around he saw what he was up against. There was only one very small level spot; the pilot cut both switches, landed in it without "crashing up". Another pilot went out, landed on a "dime" in some other county, as it appeared to him, walked to the spot where the disabled plane rested and helped clear a space large enough from which to take off. Again hard luck hit the disabled plane in the form of a leaking gas lead. He landed again; this time near Devil's River. The relief plane found him and landed a second time. The leak wasn't so very bad but just bad enough to cause an occasional flame. Both planes took off again. At each appearance of flame the pilot would cut his gas and release his air. It was dark by this time and he couldn't do a thing but try to reach home. Too dark to land in rough country. Flares were lighted at the Airdrome as soon as the planes were heard. Both landed safely, one with a leaking gas lead and no turtleback. These border pilots are too modest to care for newspaper notoriety, and the writer knows better than to mention names when any of the pilots "do things".

Lieut. L. S. Andrews, who has been at this station for two years has been ordered to Kelly Field to the 1st Pursuit Group.

Headquarters Flight "A" Ninetieth Aero Squadron, Airdrome, Del Rio, Texas, Feb. 27.

On Wednesday, February 23, the Pilots of "A" Flight, 90th Aero Squadron were honor guests at a barbecue. Seners Corella and Diego, of the Mexican Customs Service and Captain Nava of the 2nd Escuadron, 79th Mexican Cavalry were hosts. A very delightful spot on the San Diego River, Mexico, was the scene of the "Eat Fest" and it was one of the most delightful and enjoyable events of its kind ever participated in by any group of Flying Aviators in the Service. It was very evident that every detail was carefully gone over beforehand in order that the party might be a success. It was nothing else. A strong friendship has sprung up between the Pilots and the Mexican authorities, both Military and Civil.

After the strenuous "6" days of searching the surrounding hills and all the Mesquite in the world in the hope of finding Lieut. Pearson, the planes and motors of this station have received their much needed going over. Motors have been cleaned, planes cleaned, painted and varnished.

Corporal George Horowitz, radio operator, bought himself a couple of strange looking boxes all adorned with contact points, etc. They resembled a Christmas Tree. With these boxes hitched up to his receiving set he can get Hawaii, Nova Scotia, New York City and San Francisco. The other evening he took down a message and by looking up the signature found it belonging to a station in Norway. One of the cooks is a Norwegian by birth and after reading the message he exclaimed "Ya, dat bane from my hoome country".

Post Field, Fort Sill, Oklahoma, February 26.

The parachute jump made by Sergeant Chambers was the feature event of an aerial circus held at Post Field to commemorate Washington's birthday, Feb. 22nd. The Chamber of Commerce of Lawton was especially interested in the Flying Circus, and did considerable advertising for the event throughout Oklahoma, extending the invitation to everyone to be present. Although the day was very cold and a forty mile north wind was blowing, a crowd of not less than 2000 persons were spectators, coming from Oklahoma City, Tulsa, Oklahoma, Wichita Falls, Texas, and towns surrounding Post Field.

The opening event was a parade of DeHaviland planes which taxied past the spectators and then took off in single file, making a turn of the field and landing. Following this, Lieutenant Wagner and Sergeant Chambers took off to break the altitude record for parachute jumping. An excellent five plane formation was flown by five cadets who are here from March Field taking the Observation Pilots' Course. These cadets flew at an interval of about 25 feet and kept this formation in all turns without one falling out. The next event was to have been an exhibition of aerial combat by Lieutenant F.O.D. Hunter, formerly with the 103rd Pursuit Squadron, 3rd Pursuit Group overseas and accredited with eight German planes, and Lieutenant Harold A. Bartron. Unfortunately only one Fokker could be started, owing to weather conditions, and Lieutenant Bartron took this plane up and gave an exhibition of acrobatics. Lieutenant Samuel M. Lunt demonstrated parachute flares, dropping them from an altitude of about 4000 feet so that they would drift over the field in full view of all spectators. Lieutenant Lunt was the leading bombing observer in the overseas forces and was attached to the 91st Day Bombardment Group. A short race of two trips to Signal Mountain and return afforded a number of thrills for the spectators as the course was plainly in view of the crowd at all times. The planes flew at an average altitude of 75 feet and they were traveling at least 160 miles per hour when returning to the field with the wind on their tail on the last lap of the course. DeHaviland planes were flown and piloted by Major Follett Bradley, A.S., Assistant Commandant, Post Field, Captain Alexander Mileau, M.C., and Lieutenants Givens, Schulze and Prime. The hose connection on Captain Mileau's plane came loose and he was forced to land in very rough country but without mishap. The race was won by Lieutenant Givens with Major Bradley a close second. An excellent demonstration of radio telephones was given under the direction of Lieutenant Joseph T. Morris, Officer in Charge of Training, Air Service Communications School. An Edison phonograph was carried in the lap of the observer and records were played while at about 2000 feet in the air. The selections could be very distinctly heard by the spectators who were fortunate in getting close to the "magnavox" which amplified the sounds from the receiving apparatus. As a closing event, Lieutenant J.D. Givens, Engineer Officer and Lieutenant K. N. Walker, Adjutant, gave an interesting 30 minute demonstration of aerial acrobatics with DeHaviland planes, demonstrating the usual features, such as barrel rolls, loops, Emmelman's, falling leaf, spins, etc.

Due to weather conditions, a number of events were called off but on the whole the afternoon proved to be a very interesting and eventful one.

Second Lieutenant Max Schneider, A.S. reported on February 22nd to take the course in Air Service Communications School given at this field.

The first class of flying cadets to complete the course as Air Service Observation Pilots has been graduated and the following named cadets of this class appointed as Second Lieutenants in the Officers' Reserve Corps: James E. Sinnott, Otto Grafe, Chester F. Colby and Jesse C. Richardson.

2nd Aero Squadron, Ft. Mills, P.I., January 22.

The largest part of the week has been spent in repairing and painting all the H.S.2 L seaplanes and assembling a new one, which will be ready to launch about February 1st.

Two transportation flights to Manila and several local test flights were made on Friday and Saturday.

Most of the modern machinery has been installed in the various departments and as soon as the necessary electrical equipment can be attached and put into operation, this station will have one of the best and most modern aerial repair and machine shops in the Air Service.

2nd Aero Squadron, Ft. Mills, P.I., January 22nd.

Lieutenant Lea spent a few hours in Manila, Thursday of this week on official business.

Captain Ervin and Lieutenants Patrick and Wood flew to Olongapo Friday on official business.

Major Canady, Department Air Officer and Lieutenant Holcombe U.S. Navy, made a short visit here by seaplane last Sunday.

The Air Service Base Ball Team is holding second place for the Manila Bay League pennant. The Manila Bay League consists of six of the strongest base ball teams in the Orient and are classified in the following order: The Meralco Team is composed of native street car employees of Manila; the Colomba Team is composed of native sugar refinery employees; the 15th Infantry Team is composed of American soldiers of China; The Cavite Team is composed of American sailors and marines; The Manila Team is composed of Americans which includes some very popular and well known base ball stars.

The remarkable success of the Air Service Team is attributed largely to the excellent and skilled leadership of the President of the team, Captain R. Gilpin Ervin, A.S., who has carefully selected the best type of men from the three Air Service organizations stationed at this post, and personally supervises the requirements of the team, such as good equipment, good food, good accommodations and transportation facilities while playing away from home. This has won the friendship and admiration of all the men on the team as well as those of the various other teams in the League.

A baseball game was played recently between the non-Commissioned Officer and the Privates, which resulted in the score being tied, at the conclusion of the ninth inning when the game was called on account of darkness. The tie will be played off sometime during the coming week.

Clark Field, Pampanga, P.I., Jan. 23.

Airplanes of the Third Aero Squadron flew daily over the noted rice paddies of Luzon for over a year and a half without a single pilot having to try them out as a landing field until January 17th. Then Lieutenant John Blaney tried them out. He lives, so everybody is greatly encouraged.

Rice paddies cover Luzon. A grain field or any sort of an open stretch is hard to find, but rice paddies are always just under or ahead of you; that is, if mountains are not occupying both of those positions.

On January 17th, Lieutenant Blaney was carrying mail for the staff ride at Cuaypo, about one hundred kilometers from here, and had just dropped the sack when his motor cut out. His altitude was not over three hundred feet, and dead ahead were a series of paddies. For the benefit of the uninitiated, rice paddies are, in the Philippine Islands, little squares, about fifty feet both ways, with dykes varying in altitude from one to two feet, not ideal for landing, as any pilot will comprehend.

But Lieutenant Blaney managed to pancake into one paddy, jump into another and break his wheel and stop on the third. But he did not nose over. So now all the pilots are hoping that if the worst comes to the worst they can do as well. For up to this time everybody held the theory that a forced landing in this country was pretty serious.

17th Balloon Company, Kindley Field, Ft. Mills, P.I., Jan. 22.

Members of the 17th and 27th Balloon Companies have improvised a telephone exchange, and converted field telephones, local battery type, to common battery type, the same being now used on the Fort Mills Telephone System.

These converted telephones are installed at various points in Kindley Field, and the system is working satisfactorily.

Headquarters Detachment 1st Observation Group, Manila, P.I., January 22.

A formation of D.H.4's flew from Stotzenberg to Manila yesterday for the purpose of transporting the missing equipment of the forty-seven field Artillery men stationed at Fort McKinley on temporary duty with the military Athletic Tournament. The equipment of this detachment was composed of blankets, mosquito bars and mess kits, the total weight being over eight hundred pounds. Major Roy C. Brown Commanding Officer of Clark Field, lead the aerial drays assisted by Captain Chas. R. Phillips, Lieutenant John Blaney and Lieut. Chas. L. Webber.

Headquarters Detachment 1st Observation Group, Manila, P.I., January 22. (Cont'd)

More candidates are coming to be initiated into the "Grand Lodge of Philippine Sunshine". The following named officers are due to arrive on the February Transport: 1st Lieut. Martin S. Lindgrave; 1st Lieut. Clarence L. Midcap, 2nd Lieut. Edwin Johnson, 2nd Lieut. Henry I. Riley.

Its a safe bet that they didn't want to come and probably wont want to stay, for the first few days, but after the sunshine strikes them, there will be a sudden change of attitude, and soon will be heard the oft-repeated remark: "Oh, boy! If the old gang were only here!"

The Filipino student pilots now undergoing instruction at the Curtiss Airplane Company's Hangar are making regular cross-country flights to Stotsenberg and return. On completion of the course, six graduates will be chosen for regular pilots on the Philippine Aerial Mail Route. Only one crash has occurred during the entire course and that not serious. The Curtiss instructors, Mr. A. Croft and Mr. C. Stein, ex-Army fliers, are to be congratulated on their wonderful success.

H. Q. Det. First Observation Group, Manila, P.I., January 15.

Major J.Y. Chisum of Kelly Field arrived in Manila on the U.S.A.T. Madawaska for a few days visit in the Islands, and will leave on his return trip to the States about January 18th, via Japan. His visit has been a great pleasure, and it is hoped that he will drop in again soon for a longer visit.

At last the pilots of this post may have the pleasure of watching the stevedores and crew struggle to unload the long expected D.H.4 B's. The arrival of these planes has brought joy to the hearts of the pilots, for now all they have to worry about in a crash is the expectation of the observers jumping in their ribs.

A portable canvas hangar is being erected by the Air Service in the Philippine Carnival grounds for the purpose of sheltering the Aerial exhibit. The exhibit will consist of a D.H.4 and a SPAD mounting stationary and flexible machine guns, cameras, bomb racks and bombs, and wireless telephone. A collection of aerial photographs taken about Manila, together with several mosaic maps will also be displayed.

Major E. L. Canady, Air Service, and Lieutenant B.T. Halcombe, U.S.N., received a forceful ducking and a good shaking up when their plane crashed near Search Light Point on Corregidor Island. Due to heavy China seas and an unusual strong wind the surf near the landing beach was very high. The plane while only a few feet from the water dropped unexpectedly into the heavy whitecaps, due to the strong cross wind caused by the peculiar contour of the Island and the pilot was unable to hold it off enough to prevent crashing. Both officers made a beautiful dive into the water but came up to find themselves all together and were picked up in a few minutes by the 2nd Aero Squadron speed boat.

Major Canady, pilot, made this trip for the purpose of inspecting the Air Service troops at Corregidor. The ducking did not cause the Major to miss the inspection, nor did the crash stop him, for he flew the return trip through a heavy wind and sea.

Clark Field, Jampanga, P.I., Jan. 18.

The six officers of the Third Aero Squadron have had their hands full during the past two weeks through a cooperation with the annual Staff ride and tactical maneuvers. The Squadron has maintained a daily mail service to the headquarters of the staff ride, located at various points in northern Luzon, and has cooperated in two problems. On the days of the problems, due to the distance of the airdromes, it was necessary to utilize four airplanes to keep one in constant observation.

Very pistol signals and radio were both used in communication with the ground forces. All arms were represented in the maneuvers. The maneuvers will continue for approximately two more weeks, and the Squadron will continue its reconnaissance and liaison work.

2nd Aero Squadron, Fort Mills, P.I., January 15.

Three Photographic missions were made during the week, pictures were taken of Manila Port Area, Camp Stotsenberg and vicinity, Corregidor Island and several other Subic Bay Ports. A Mosaic Map was made of the Port Area shore and

2nd Aero Squadron, Fort Mills, P.I., January 15. (Cont'd)

up the Pasig River to the first bridge, about forty exposures being made of which thirty-nine were successful. This remarkable success is partially due to a new device of the Photographic officer which was arranged on the "L" type Cameras to enable the observer to focus the camera in the air.

Two altitude record test flights of a HS2L flying boat were made during the week; an altitude of eight thousand six hundred (8,600) feet was obtained on both flights. After five thousand (5,000) feet had been reached with a R.P.M. of fifteen hundred (1500) it was necessary to advance the throttle to sixteen hundred (1600) in order to reach the height obtained and get through the heavy layer of air that seems to exist at an altitude of approximately four thousand five hundred (4500) in this locality. These test flights were made with a capacity service load including pilot, assistant pilot and observer with camera.

One navigation practice flight was made from Fort Mills to Olongapo, Manila and return.

Staff Sergeant Roy M. Medcalf arrived on the last transport, and reported to Squadron Commander for duty after several months absence on sick leave in the States.

Sergeant Thomas A. O'Brien is spending the week end with friends in Manila.

Sergeant Jack Keating spent a few days in Manila during the week visiting old friends.

17th Balloon Company, Kindley Field, Fort Mills, P.I., January 15th.

No unusual maneuvering has taken place during the past week.

Ten enlisted men of the 15th Infantry Baseball Team have been the guests of this organization for the past few days. There was a total of six officers and twenty enlisted men of the 15th Infantry Baseball Team as guests of the Air Service Garrison. During their stay at Kindley Field, all members of this team were given balloon rides.

H.Q., 2nd Aero Squadron, Ft. Mills, P.I., January 10.

Several Photographs and motor test flights were made during the week. Approximate mileage covered 500.

The Engineering Department reports that the "Liberty Twelve" motor in the H.S.2 L. seaplane's are giving remarkably good performance under the extreme weather conditions that exist in this tropical country. Most of the motors have been in the air from fifty to seventy hours, and during that time have made several altitude tests of record height for seaplanes and apparently are good for at least ninety more.

This remarkable success is attributed to care used by the well trained and experienced officers who are handling the planes, the ability of the mechanics and crew chiefs on the line, and the skilled work and co-operation of the men in the shops.

Very rapid strides have been made in the Photographic Department in the past few months, but progress has been retarded slightly on account of being unable to use the "L" type cameras on the H.S.2 L. planes for mapping due to inadequate means of fastening the camera to the plane. However, the Photographic Officer has overcome the situation by designing a holder which takes the place of the bomb sight clamp on the nose of the plane, and is detachable. The device was tested recently and proved to be very successful and serves its purpose excellently. The department expects to begin aerial mapping in the immediate future.

Lieutenants Hine and Cole spent the Christmas Holidays hunting deer and wild hogs on the Island of Luzon.

Sergeant and Mrs. Wallace C. Cotton entertained several of the non-Commissioned Officers and their families on a sixty mile boating excursion and picnic on Manila Bay last Monday. Many points of interest were visited during the trip.

Private First Class Reed has been detailed on special duty at Baguio for a few weeks.

H. Q. Det. First Observation Group, Manila, P.I., January 8.

Things have been rather quiet around Air Headquarters since Christmas. Seems as if everyone has expended all of their pep during the Holidays. But the Philippine Carnival due to explode on the 27th will without a doubt put the kick back in life again, for the Air Service is to be at the front in exhibitions, exhibits, and general excitement of all kinds.

The Staff Ride which is held at Northern Luzon is being kept in touch with civilization by the daily mail delivered from Manila to the site of maneuvers for that day. Officers from the Department Air Office take the mail to Stotsenber where it is changed to a waiting 3rd Aero Ship and a few minutes later dropped to the waiting Staff miles away.

Captain Charles R. Phillips, Air Service, spent the week-end in Manila where he was entertained by friends.

H. Q. Mather Field, Sacramento, Calif., February 26.

The Aerial Circus held at this Post on the 22nd was a winner. Every detail was carried out to perfection. Airplane and motorcycle races, parachute jumping, formation and combat flying, baseball games and boxing by "headliners" was on the program and some good features were presented.

The "Mack Sennet Cops" made a good showing and by so doing kept every one on the move and out of mischief.

The dance, which was held in Hangar No. 1, attracted most of the young people, as well as some of the older ones. The music for this dance was furnished by the Post Orchestra.

The attendance was much in excess of that expected, there being about fifteen thousand spectators. A special train was run from Sacramento to the Post by the Southern Pacific. Every available space was used for the parking of automobiles. Sufficient civilian busses were put on to maintain a ten minute schedule between Sacramento and the Field. The event netted over six thousand dollars which goes to the Army Relief Fund.

First honors were taken in the competitive events (25 mile airplane race, 25 mile solo motorcycle race and a 10 mile motorcycle with sidecar race) by the 9th Aero Squadron. Lieutenant Delbert E. Jones, 9th Squadron, won the airplane race, while Private Clinton D. Webster, 9th Squadron, won both the solo and side-car motor-cycle races.

Baseball enthusiasm is rapidly increasing, and with the arrival of new suits and other equipment, the players will be ready for some outside games.

Staff Sergeant Thomas Fowler and Privates Wignall and Wilkerson of the 91st Aero Squadron Detachment at Crissy Field were Squadron visitors on Washington's Birthday.

Lieutenant William D. Coney of the 91st Aero Squadron, who successfully completed the trans-continental flight from San Diego, California, to Jacksonville, Florida, and it is believed that he has established a new record as his flying time is considerable less than any previous time made over the same route, is contemplating a return flight at an early date.

Captain R. L. Walsh of the 9th Aero Squadron left the Post by airplane on the 23d for San Diego, California, by way of Bakersfield and March Field, for the purpose of adjusting property accounts of that Squadron. He will probably return about March 2d.

The weather has been exceptionally fine for this week, one hundred per cent daylight being suitable for flying and it looks as though this locality is to be favored with an early spring.

Selfridge Field, Mt. Clemens, Michigan, March 5.

The weather man has again presented this Post with its weekly snowstorm, a fall of two inches coming on the night of Friday, March 4. The only drawback to these weekly visitations - coming as they have so late in the season - is a tendency to leave the flying field soggy and wet. However, with the robins flitting about and with the wild geese honking northwards, good weather can be expected shortly.

A Thomas-Morse scout, equipped with a La Rhone motor, was set up by the hangar crew during the past week. This plane will afford the flying officers of the Field a little variation from the usual JN4HG and DeHaviland flying.

Selfridge Field, Mt. Clemens, Michigan, March 5. (Cont'd)

The warehouse personnel is busily engaged in taking the inventory called for by the War Department. While the force available for this work is small, it is expected that the inventory will be completed by the designated date, March 31.

Airdrome, Nogales, Arizona, Feb. 26.

Lt. J. Plumb, accompanied by Cadets Pates, Tillery and Spradlin, ferried two new D.H.4B planes to this Airdrome Friday from Kelly Field, Texas. According to their reports the trip was uneventful as the weather conditions were ideal.

On the evening of February 22nd Lt. H.W. Prosser, engineering officer of this flight, made the first night flight ever attempted at this station. Six flood-lights were used in lighting the field, which answered the purpose in a very satisfactory manner. Lt. Prosser remained in the air thirty minutes and used a D.H.4B. plane for the flight.

90th Aero Squadron Aerodrome, Sanderson, Texas, Feb. 26.

Little flying has been engaged in by this command for the last week, although the weather has been 100 per cent suitable, the reason being that all of the officers at this station put in their five hours monthly allotment on any one of the six days search for Lieutenant Pearson. The only mission for the week was one by Lieutenant Stenseth to El Paso, for the purpose of ferrying one of the Squadron's planes back to this station.

Flight "B" of the Ninetieth was seen at its best during the six days search for Lieutenant Pearson, from the eleventh to the seventeenth of this month. All hands worked with the best interest of the service at heart and showed the visiting and attached pilots that this was a flight that could take care of triple its allotment of planes despite the fact that it is just above half of its authorized strength, and with gasoline facilities taxed to the utmost. Though the search from the air availed nothing, all were morally certain that no plane could have escaped detection in the wide area covered. The happy outcome of the affair was as welcome as it was unexpected. The flight is now making preparation for an expedition into Mexico for the purpose of securing the plane if possible. The expedition, to consist of thirteen mules, an escort wagon for forage, and two cavalymen from Marfa, will leave during the coming week under the leadership of Lieutenant Woodruff, who is seriously thinking of applying for his "mule-skinner's" rating before starting.

An Enlisted Men's Club has been organized by men of the flight and plane to make its local debut in society with a flourish. A large scale "Inauguration Ball" has been arranged for the evening of March the Fourth, with music to be furnished by the Fifth Cavalry Orchestra from Marfa. The Club is acting under the guidance of the E & R Officer, Lieutenant Smith, and from present indications is going to be a very successful project.

One of the most popular officers of this Post, Lieutenant Mollison, has recently been transferred to Kelly Field for duty with the Pursuit Group.

Ft. Omaha, Nebraska, March 2.

A bowling tournament was held at Fort Omaha on the night of February 21, between the officers of Fort Crook, Nebraska and Fort Omaha, Nebraska. The team from Fort Omaha won the tournament by 184 pins, the scores being: 2327 and 2143. Three games were played, Fort Omaha winning all three. Another tournament is scheduled between the two posts for the ensuing week at Fort Crook.

Flying time for the past week amounted to 12 flights and 575 minutes for observation balloons. Unusually calm and clear weather for this time of the year was experienced.

Air Intermediate Depot, Montgomery, Ala., March 3.

On February 26th, 2nd Lieut. Clements McMullen A.S. and 2nd Lieut. Wm. K. Moran, A.S. made a non-stop flight in DH4B plane, built at this depot, to Carlstrom Field, Fla., a distance of 480 miles by air, in four hours forty-five minutes.

The return trip from Carlstrom Field to Montgomery on Tuesday, March 1st, was made in four hours thirty minutes.

March Field, Riverside, Calif.

Sixty-one planes made a total of 535 flights from this field during the past week covering an approximate aerial mileage of 23,020. Total hours flying time - 354:20. Preliminary instruction required 283 hrs. 30 min.; advance instruction 45 hrs. 15 min.; test flights 8 hrs. 35 min.; and miscellaneous flights 16 hrs. 20 min.

Preparations are being made for the examination of applicants for commissions as second lieutenants. These examinations will be held in April. Already several applicants have reported at headquarters in search of information as to requirements for the Air Service.

First Lieutenant A. L. Foster, flying instructor at this station since early in June, 1918, has been ordered to France Field, Panama Canal Zone. He will sail from New York April 10.

First Lieutenant Chas. R. Melin has been placed in command of the Pilots School Detachment, vice Major Clarence L. Tinker.

A picked team of March Field Officers have been matched to play the Riverside Polo Club team at Chemawa Park. The Riverside team recently defeated the Midwick Club team of Pasadena, reputed to be one of the best polo organizations on the Pacific Coast.

Next week at this time will find the greater number of the present cadet class through with their preliminary course. Some few may fail to qualify and will revert to enlisted status. Others who make the grade are scheduled to report at other stations for advance training. They will be classified for pursuit, bombing and observation work. The next cadet class will start training about Apr. 1.

Col. William Thaw, American Ace, ex-commander of one section of the famous Lafayette escadrille, was married last Wednesday in San Diego to Mrs. Marjorie Everts Priest, who recently came to the coast from St. Louis.

March Field's Dramatic Club composed of enlisted men, many of whom have engaged in professional theatricals, is gaining a wide reputation. The Club will provide entertainment for the Riverside Post of the American Legion at its next meeting, Wednesday, March 9.

Capt. Thomas H. Miller has been transferred to Mather Field as flight surgeon. Capt. John P. Beeson, M.C., a recent arrival, is now flight surgeon at this station.

1st Surveillance Group, Airdrome, El Paso, Texas, March 5th.

No flights of any importance were made this week, with the exception of a few test flights. The second new "H" is now ready for test.

Ten men were transferred to Laredo, Texas, to make up the new flights being organized there.

Considerable remodeling and repair work has been taking place here. The new Transportation shed has been completed, capable of housing the entire transportation department, and work has just started on the new Canteen which will be completed shortly. An addition has been made to the camp tailor shop, also two tailors added to make ready for the spring rush in khaki. New furniture and pictures have just been purchased for the Service Club, which makes the place have a real home-like appearance.

Staff Sergeant A.C. Granger, Sergeant in charge of Radio, has his new radio tractor in ship shape, which gives him two more outfits. He expects to make several long range tests the coming week.

Last but not least, the athletic activities, are still going at top speed, Joe Garrett, the undefeated boxer of this station, was awarded a draw at the Fort Bliss Arena, Friday night with Tommy Murphy, of the 8th Cavalry, for the lightweight championship of the district. Baseball manager Jack Rohn, is busy getting his sluggers in shape for the diamond Saturday, having secured a practice game for that date with the 8th Cavalry.

Carlstrom Field, Arcadia, Florida, March 3.

The various flights on the field are all training in their spare moments for the Athletic Field Meet on the 23rd of March.

Captain Frederick H. Thorne, M.C. reported to this station Feb. 23d for duty and pilot training in compliance with Par. 8, S.O. 12-0, W.D., Jan. 15, 1921.

Carlstrom Field, Arcadia, Florida, March 3. (Cont'd)

Forty-seven Air Service officers have been relieved from farther duty at their respective stations and ordered to report to Carlstrom Field, Arcadia, Florida not later than March 28, 1921, for duty and pilot training per S.O. #46-O, W.D. Par. 20.

The following named student officers have completed their course in training at this station during the month of February: 1st Lieut. Hobart R. Yeager, Capt. Wm. F. Donnelly, Lieut. Col. Paul W. Beck, Lt. Henry E. Sessions, Lt. Leland R. Hewitt, Major Junius W. Jones, Capt. Floyd N. Shumaker, Lt. Frederick W. Lynch, Lt. Arthur G. Watson, Lt. John W. Signer, Lt. Col. Charles H. Danforth, Maj. Fred'k L. Martin.

The following named student officers have completed their training with the exception of Formation Flying: 1st Lt. Arnaldo Carrasco of Chili, 1st Lieut. Enrique Zuniga of Chili, Capt. Calvin E. Giffin, 1st Lt. Merrick C. Estabrook, Capt. William B. Wynn, Capt. Charles B. Oldfield.

France Field, C.Z., February 19.

Although the present time is supposed to be the dry season there is only one indication of it and that is the steady Northeast Trade Wind. The usual dry season has practically no rain but during the two and a half months the present season has been in force there has been rain nearly every day. The rain doesn't amount to much but heavy clouds are present nearly every morning and then about noon it usually clears up. This variety of weather has interfered continually with flying at this field because it is not deemed advisable to make long cross-country flights except in good weather. The photographic work has also suffered because of the poor light and several important missions are still waiting days when good results can be obtained. Everybody talks about the peculiarities of the present season but there are few complaints for the coolness of the weather is being widely enjoyed.

Congressman P.J. Mills of Des Moines, Iowa, and G. H. Batrick of Battle Creek, Michigan, were visitors at the field on Thursday and each was given the famous France Field "ocean to ocean" non-stop flight over the Canal Zone. To say that they were pleased with the experience does not give any idea of the appreciation they showed. The flights lasted for an hour and a quarter but it seemed to the passengers as if they had been in the air a small fraction of that time. Capt. Boland and 2nd Lieut. John F. Whiteley were the pilots on these flights.

The first emergency landing field for use of planes from this field on flights across the Zone was completed early in the week and 1st Lieut. Charles B. Austin made a successful landing there on Thursday. The field is located near Camp Clayton, the home of the 33rd Infantry, about two miles from Corozal, and will be used for any landings which have to be made in connection with missions in that part of the Zone. Lieut. Austin made the flight to that field for the purpose of delivering some finished mosaics to the Engineer Corps at Corozal.

Another successful fishing party went to the Chagres River over the last week end and came back loaded with fish. A big majority of the catch were "Jack". Rough weather caused one party composed of Capt. Lloyd Ballantyne, M.C., 2nd Lieut. Kenneth Garrett, Staff Sergt. John Bluhm, and Sergt. Karl Johnson to remain over until Monday morning and Lieut. Austin and 1st Lieut. Harlan W. Holden made a reconnaissance flight to locate them. Their small motor boat was nearly home when the flight started and they reached the field soon after the plane had returned from an unsuccessful search.

The baseball team made a disastrous start of the week by visiting Fort Sherman on Monday and getting an 11 to 4 beating, but the defeat seemed to do them good for they won the other two games of the week. The team played its poorest baseball of the season against Fort Sherman, and as Johnny Eisel was hit fairly hard and the breaks of the game went to the home team France Field was never in the running. The Camp Gaillard team visited France Field on Wednesday expecting a cleanup but the mopping was done by the aviation players.

It was a good game for seven innings with the score 7 all, but then every thing happened at once. The first man up for France Field in the 8th was put out but the next 13 men all reached the bases safely and 12 of them had crossed the plate when the visitors conceded defeat and left the diamond in disgust. Corp. Ted Sandford, captain of the team, contributed the feature hit, a three-bagger with the bases full.

France Field, (Cont'd)

On Saturday France Field secured more revenge by walloping Fort Randolph 13 to 5 on the latter's grounds. The Randolph pitcher, who shut out France Field in the previous game between these teams, was driven to cover in the third and his successor fared little better. Corp. Ted Sanford and Lieut. Holden each contributed home runs.

The transport "St. Mihiel" was due in on Friday but was delayed and did not reach the harbor until late Saturday night. 2nd Lieut. Odas Moon, A.S., and ten new recruits are reported on board as the contingent for this field.

Reports of the marriage of Lieut. Rowland C. W. Blessley of Minneapolis, Minn., to Miss Mabel Jackson of Chicago on February 5th reached the field during the week. The transport on which Lieut. Blessley sailed for the States was delayed and he barely reached Chicago in time for the ceremony. Mrs. Blessley is the sister-in-law of Lieut. Austin of this field. The newly married couple are expected back about March 20th and are sure to get a joyous welcome.

Air Intermediate Depot, Fairfield, Ohio, March 5.

Activities of the Supply Depot at this station have consisted of a large volume of shipments in and out during the past week, together with a classification of the supplies on hand and a number of changes and improvements in methods of storage.

Captain F. F. Christine, Assistant Chief of the Property Division, visited this station during the past week on business in connection with the storage and handling of photographic supplies.

Two classes consisting of twenty-seven will graduate from the Stock-keeper's School during the coming week. These men are thoroughly versed in the classification, storage and methods of accounting for of all classes of Air Service property. They will undoubtedly be assigned to duty in connection with the handling of supplies at various Air Service Stations.

No planes were completed during the past week but rapid progress is being made, a number of special types are now being rebuilt. A Martin Bomber which has been at this station for overhauling was sent to the assembly section this week.

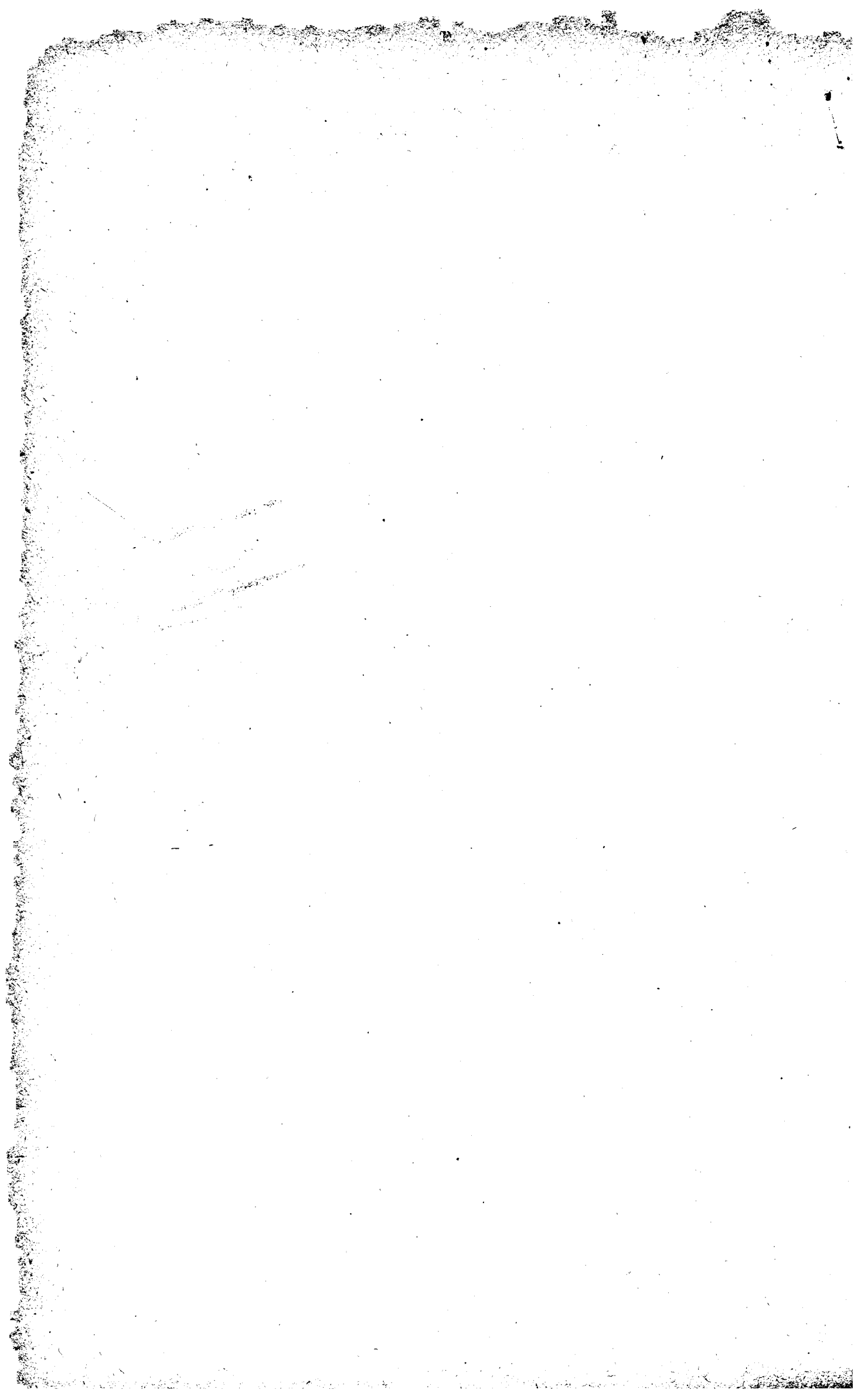
First Lieutenant Orlo H. Quinn, Air Service, reported on February 27, 1921 from March Field, Riverside, California. Lieutenant Quinn was accompanied by Mrs. Quinn and his mother. He has been assigned to duty as Commanding Officer of Supply Detachment Number One.

Second Lieutenant Caleb V. Haynes, Air Service, Post Finance, returned this week from Columbus Barracks where he has been sick in hospital.

Everyone has been much pleased that Chaplain Cornelius A. Corcoran is to remain at this station, the orders which directed him to proceed to Panama having been revoked.

On March 1st a dinner dance was given the officers of the Post by the ladies. An orchestra composed of members of the band in charge of Director Heffner furnished the music.

On March 11th the Post Band will give a concert at the Y.M.C.A. in Dayton in connection with a dramatic program by the O'Brien Players of Dayton.



was thrown about considerably. During the night in trying to avoid storms, etc. he flew about a great deal and estimated that he lost at least an hour by so doing. On one occasion, he had planned going over a mountain, and before reaching there, ran into a downward current of air and, although being set for his best climb, he was forced down some 700 feet in a very few minutes and had to go around this mountain. Another occasion, while flying in a snow storm, in trying to avoid a denser part of the cloud he banked to the left and was then able to see flush under him a mountain peak only 50 feet below.

At 4:30 San Diego time (6:30 Dallas time) he stated that he first saw a streak of light in the east and it was half an hour before full daylight.

At this time he was flying over west Texas or S.E. New Mexico. The day in that part of the country was bright and the sky clear and he had a moderate wind on his tail. His engine was running beautifully and everything indicated a successful trip.

Just as he reached Bronte, his engine began to sputter and cut out. He tried to switch on to the reserve tank under his seat which worked with a hand pump, but was unable to get his air pressure up in time and after circling the town once, he was forced to land. The field selected was smooth and fairly large and he experienced no difficulty in getting down and used only two-thirds of his field in doing so. He then made an attempt to start his plane again without success and, at about noon Dallas time, telephoned to Dallas for help.

Ignition Carburetion Expert E.C. Economy from the Repair Depot made a careful inspection of his carburetor, but found no trouble there. He then traced the gas through the various gas leads in search of the trouble. It finally became necessary to take off the rubber connections of several of the gas leads and blow them out. This was completed about dark; however, a few things had to be completed before he was actually ready to take to the air. The entire job was completed and at 9:40 A.M., February 23rd, Lieutenant Coney took to the air and the undersigned followed a few minutes later; Lieutenant Coney landing at Love Field at 12:35 P.M.

Immediately upon arrival mechanics of the Repair Depot proceeded carefully to inspect every part of his plane and made adjustments found necessary.

By this time it was too late to proceed on his journey with any hope of reaching Jacksonville before dark, so that Lieutenant Coney went to bed and the plane was carefully tested in every particular to see that it was in first class condition for continuing the trip. In order to avoid any possibility of recurrence of trouble in the gas line, all the gasoline which he had left on reaching this station was drained and the tanks, gasoline and carburetor thoroughly washed out and the plane was then serviced with new gas. All the oil in the crank case was drained, crank case thoroughly washed and new oil put in.

The trip from Bronte to Dallas was uneventful. Machine was picked up at Eastland, Texas by telegraph operator at that point and was reported by each telegraph operator in turn to the International News Service in Dallas, which kept Love Field notified.

Immediately after the arrival of Lieutenant Coney and the undersigned, it was necessary for the latter to proceed to Fort Sill, Oklahoma, under orders, and all reports subsequent thereto were based on such information as could be gained after his return to this station.

During the course of the evening, about 6:15, a telegram was received from the Air Officer, Ninth Corps Area, substantially as follows:

"Telegram this date from the Chief of Air Service
you will discontinue transcontinental flight and
return by airplane proper station period travel
directed necessary military service."

(Signed) Chapralear

However, about 7:15 that evening telegram was received from the Chief of Air Service which read as follows:

"Two naught period Lieutenant Coney authorized
proceed tonight ARNOLD NOTIFIED"

(signed) Mencher

In compliance therewith Lieutenant Coney took off at 10:13 P.M. and landed at Jacksonville, Florida about 7:30 in the morning of February 24th.

The night of the 23rd, 24th, February was clear, the moon was bright and every weather report indicated that this condition would continue throughout the trip to Jacksonville. Weather reports indicated light, variable, local winds.

There is no way of stating just exactly how much gasoline remained in Lieutenant Coney's plane when he landed at Bronte, Texas. The front tank standard 110 gallon tank, was practically untouched and there also remained the central section emergency tank and 20 gallon auxiliary tank under the pilot's seat.

In clearing the plane at Bronte 104 gallons were drained from the front tank, so it is safe to assume that there were at least 140 gallons left in the plane upon landing at Bronte, after having been in the air twelve hours and twenty-five minutes.

A short resume of the trip follows:

	Arrived	Left
San Diego		7:05 P.M. 21st <i>PT</i>
Bronte	9:30 A.M. 22nd (San Diego time) 7:30 A.M.	9:40 P.M. 23rd
Love Field	12:45 P.M.	10:13 P.M. 23rd
Camp Johnston (Jacksonville time)	7:40 A.M.	

The Aviation Repair Depot is preparing a detailed technical report on the flight and same will be forwarded as soon as completed.

H.H.C. Richards,
Major, A.S.
Commanding.

REPORT OF AIR SERVICE ACTIVITIES, PHILIPPINE DEPARTMENT, MANILA, P.I.,
FOR THE PERIOD JANUARY 1st to 15th, 1921.

CLARK FIELD, CAMP STOTSENEURG, PAMPANGA, P. I.

3rd Aero Squadron,
6th Aerial Photo Section.

FLYING: Total number of flights 102
Total flying time 56 hr. 23 min.
Total number test flights 0

These flights were made for the following purposes; Observation with Infantry, Cavalry and Artillery on the Annual Staff Rides, 1921, four flights; in carrying mail to Brigade Headquarters, Staff Rides 1921, six flights; remaining flights were for local observation, practice for pilots, and making trips to and from Manila.

TRAINING: Pilots, Observers, and enlisted assistants in all departments have spent much time in reviewing and studying all information available which will facilitate the cooperation of the Air Service in the Annual Staff Rides and Tactical Exercises for the Philippines Department, 1921. Meetings were held daily for the purpose of explaining problems, outlining the situations, and studying the maps in connection with the exercises.

Eleven of the command are in daily attendance at the Post Vocational School.

Thirty minutes calisthenics is given all troops daily.

OPERATIONS: On January 5, 1921, the Staff Rides and Tactical exercises for the Department began. Clark Field was assigned the duty of carrying out the Air Service program in these maneuvers. This consisted of operating a daily mail system from Manila to Brigade Headquarters, and the Infantry, Cavalry, Artillery, and Scout Regiments participating; and in the cooperation of general problems on each of the four days of the represented encounter with the enemy. On January 12, the first of these problems occurred. On this date four planes were called for and reported. They received messages by radio and panel from Brigade Post of Command and delivered them by drop message to the Infantry, Cavalry and Artillery Post Commanders. Maps were also dropped outlining the enemy positions.

Maps and messages were in turn dropped at Brigade Post of Command showing the location of each of the Sub Posts of Command.

After each of these problems, a critique is held for discussion of the days of activities and giving directions for the next.

The Engineering Department has been rebuilding the SPAD planes recently received at the field, with the result that three are now assembled, one has been tested, and two are awaiting test.

PERSONNEL: The officers of this field are assigned to duties as follows:

Major Roy S. Brown, A.S., C.O., Camp Field
Major C. C. Staples, Inf., C.O., 6th Aerial Photo Sec.,
Photographic Officer.

Major Francis H. Poole, M.C. Flight Surgeon
Captain C. T. Phillips, A.S. C.C. 3rd Aero Squadron.
Captain Robert C. Candee, Cav. D.O.L. Student Observer, Survey and Radio
Officer.
1st Lieut. Richard H. Ballard, 9th Cav. Student Observer and Athletic Off'r
2nd Lieut. William R. Sweeley, A.S., Assistant Radio Officer
2nd Lieut. John Blaney, A.S. A.S. Supply Officer.
2nd Lieut. Newton Longfellow, A.S. Transportation Officer.
2nd Lieut. C. L. Webber, A.S. Assistant Engineering Officer and
Gunnery Officer.

Enlisted Men:

6th Photographic Section 14
3rd Aero Squadron 123
Air Service Unassigned..... 66

KINDLEY FIELD, CORREGIDOR, P. I.

2nd Aero Squadron,
17th Balloon Company
27th Balloon Company

LIGHTER-THAN-AIR: 27th Balloon Company.

FLYING: Total number of flights 1.
Total flying time 1 hr. and 22 m.

TRAINING: Calisthenics 4 1/2 hrs.
Infantry Drill, Close Order 5 hrs.
Instructions in Small Arms Firing Manual - 4 hrs.
Practical instruction in balloon nomenclature, accessories, func-
tions, and construction.

The company is now undergoing instruction and being prepared for the season's target practice.

INSPECTIONS: The Company Commander made daily inspections of the barracks, kitchen, mess hall, food shops, etc. The Air Service Officer Philippine Department, made an inspection of the command on Saturday, January 15, 1921.

PERSONNEL: Officers 2 - - Enlisted Men 164.
1st Lt. W. A. Gray, A.S., Commanding.
2nd Lt. E. J. Bowling, A.S., Balloon Operations Officer.

17th Balloon Company.

FLYING: Total number of flights 13
Total time flown 4 hr. 23 m.
Number of trial flights 0.

No. 856, type "R", Observation Balloon made these flights.

TRAINING: Ten men are on flying status and receiving instruction in balloon observation. Selected detachments of men are receiving instruction in drafting, map reading, manufacture of hydrogen gas, rigging, fabric working, radio, radio telephony, Browning machine guns and the Small Arms Firing Manual. The entire company was given $1\frac{1}{2}$ hours Infantry Drill daily, except Saturdays and Sundays. Preliminary practice, exercise, and study has been started in preparation for the target practice which starts soon. The whole company has been trade tested and given the literary test. Ninety-eight per cent have expressed their intention of taking one or more courses at the Post Vocational Training School.

INSPECTIONS: The company was inspected at 9:00 A.M., Saturday, January 15th, by the Department Air Service Officer. The company commander made the inspections required by Paragraph 283 Army Regulations, 1913.

PERSONNEL: Officers 1 -- Enlisted men 164. 1st Lt. William B. Mayer, A.S., Commanding.

HEAVIER-THAN-AIR.

2nd Aero Squadron

FLYING: Total flights made 31.
Total flying time 21 hr. 35 m.

These flights were made for the following purpose: The photographic experimental flights; one navigation flight, Corregidor, Olongapo, Manila, and return; one transportation flight to Olongapo; the remainder were local observation flights and for the purpose of taking officers to and from Manila.

OPERATIONS: The Engineering Department was engaged during this period in moving the shops, tools, and equipment from the old site to the new recently constructed hangar on the tail of the island. Two motors were overhauled and one drawn for overhaul. Five HS2L flying boats were kept in flying condition. Twelve hours were spent in photographic flights, using the type "L" camera, as the new "K" type has not yet been adjusted to the HS2L boat. A mosaic was made of the water front at Manila at the request of the Air Service Officer, Philippine Department. Forty exposures were taken, thirty-nine of which proved successful.

PHOTOGRAPHS: Enclosed with this report are photographs showing Camp Stotsenburg and Clark Field, as well as the nature of the surrounding country. These photographs were made by the 6th Photographic Section, Clark Field. A mosaic map was made of Camp Stotsenburg and Clark Field as well as the water front at Manila. Each of these mosaics was satisfactory; these are being transferred to cloth so that they can be folded and forwarded with the next activities report.

INSPECTION OF BALLOON COMPANIES AT CORREGIDOR: On Saturday, January 15, 1921, inspection was made at Fort Mills, at which time the troops of the two balloon companies were put through exercises in which they are now being instructed, and a very thorough inspection made of the Air Service site. The barracks, kitchens, amusement rooms, etc., were all in excellent condition. The drill of the men would have done credit to an old Infantry outfit, and their equipment passed inspection with but very few comments. When the fact is considered that the balloon companies have been in the department for so short a time, that they have been continually short of officers, for the most part in tents and living under rather adverse circumstances, it is believed that the result of this inspection showed remarkable advance on the part of these companies which could only have been attained by the close concentration in duty on the part of the officers and the excellent morale of the command.

E. L. CANADY,
Air Service Officer.

CHANGES OF STATION OF OFFICERS

Report is made of the following permanent changes of station of officers for week ending March 8, 1921:

On March 5, 1921, Major John H. Pirie, C.A.C., detailed to Air Service, relieved from duty at Ft. Monroe, Virginia, and ordered to Carlstrom Field, Arcadia, Fla., to report not later than March 28, for pilot training.

Second Lieut. Bernard T. Castor, A.S., ordered from Carlstrom Field, Arcadia, Fla., to Chanute Field, Rantoul, Illinois, for course of instruction at Air Service Mechanics School. March 5, 1921.

Order previously issued sending First Lieut. Joseph E. Hall from Aberdeen Proving Ground, Aberdeen, Md., to Carlstrom Field, Arcadia, Florida, for pilot training, revoked March 5, 1921.

March 3, 1921- Major Harold Geiger, A.S., ordered from Ross Field, Arcadia, California to Washington, D.C., for temporary duty in the office of the Director of Military Intelligence, thence to proceed to The Hague, Netherlands, for duty with the Military Attache, American Legation.

March 7, 1921 - Capt. Roscoe A. Fawcett, A.S., ordered from March Field, Riverside, California to Rockwell Air Intermediate Depot, Coronado, California.

March 5- 1921 - Following Medical Corps Officers ordered from stations indicated to Mitchel Field, Long Island, N.Y., for course of instruction at the Medical Research Laboratory:

Major Herbert C. Neblett
Capt. Robert K. Simpson
Capt. William M. White
First Lieut. Fabian L. Pratt.

Carlstrom Field, Fla.
Camp Dix, New Jersey.
Brooks Field, Texas.
Walter Reed General Hospital,
Washington, D.C.

Changes for week ending March 15.

March 9, 1921 - Order previously issued sending First Lieutenant Raymond E. Vaughan from McCook Field, Dayton, Ohio, to Carlstrom Field, Arcadia, Florida, for pilot training revoked.

March 10, 1921 - Order previously issued sending First Lieutenant Winant P. Johnston from Langley Field, Hampton, Virginia to Carlstrom Field, Arcadia, Florida, for pilot training revoked.

March 11, 1921 - Lieutenant Colonel Alvin S. Perkins relieved from detail in Air Service and from duty at Carlstrom Field, Arcadia, Florida, and ordered to join 5th Cavalry at Marfa, Texas.

March 12, 1921 - First Lieutenant Idwal H. Edwards, Air Service, ordered to proceed from Love Field, Dallas, Texas, to Philippine Islands, to sail on May 5, 1921, to replace 2nd Lieutenant Wendell H. Brookley who is returning to the United States.

March 12, 1921 - Orders previously issued sending following observers from Post Field, Ft. Sill, Oklahoma to Carlstrom Field, Arcadia, Florida, for pilot training, revoked.

1st Lieut. William E. Lynd, 2nd Lieut. Joseph H. Davidson
1st Lieut. Donald Wilson, 2nd Lieut. Benjamin F. Giles.

LT. MOSELEY MAKES A FLIGHT IN "MESSENGER"

Lieutenant Corliss O. Moseley, defender of the Pulitzer trophy, gives the following interesting account of a recent flight from Washington City to Langley Field in the little "Messenger", one of the smallest airplanes in the world, which was designed by the Engineering Division of the Air Service, to take the place of the motor cycle in performing certain messenger service. The "Messenger" which was manufactured by the Lawrence Sperry Company of New York City,

stand 7 ft. high, is 17 ft. 9 inches in length, with wing span of 20 ft. and is capable of carrying a total weight of 240 pounds including the pilot, and of flying at a speed of 90 miles an hour.

Of his flight in this miniature plane, so entirely different from the Verville-Packard in which he won the Pulitzer race, Lt. Moseley writes: "To attend the opening of the new Officers' Club at Langley Field, I flew down from Washington in the 3 cylinder, 60 h.p., air-cooled Lawrence motored "Messenger", traveling at an altitude of, approximately, 600 ft. The little plane carries ten gallons of gasoline only, and not knowing the fuel consumption, I took along a 5 gallon can of gasoline in the rear seat."

"When about half way to Langley, I landed in a field and poured the extra gasoline into the tank. Some negro laborers were very much interested in the machine, and in my sudden appearance from the sky, but it took me more than a half hour to persuade them that the plane would neither kick nor fly away with them. After many questions and much laughter on their part, I finally induced some of them to hold the wings and tail of the machine while the motor was started. After that preliminary, it was only a matter of a few moments before a take-off was accomplished, as the propeller turns much more easily than a Ford is cranked."

"Had two forced landings after this due to cracked spark plug, but the size of the plane permits landing in even the very smallest fields. On the first of these I borrowed a monkey wrench from a negro workman, remedied the trouble and cleaned the spark plug. Then came a repetition of the performance of the first take-off with the new negroes that had gathered. Finally, however, I convinced them of their safety, and took off again with their assistance."

"The second forced landing came shortly after. I was flying over the Rappahannock River when the same cylinder cut out again; so I headed for shore, spending an anxious moment or two in so doing, as I had only about 500 ft. altitude, but safely made a little field on the bank of the River. Just as the wheels settled down, the dead cylinder coughed a couple of times throwing out a little black smoke, and then began hitting regularly, so that I took off and landed at Langley without any further experiences."

"I made the return from Langley a sort of exploration trip, flying at approximately 500 ft., and making several landings in good fields, and examining at close range the fishing smacks in the Potomac."

"The return from Langley to Washington, a distance of 138 miles, was made in 1 hr. and 45 min., using a fraction less than 7 gals. of gasoline and only 1 qt. of oil - which means about 25 miles to the gallon of gasoline - with all three of the cylinders 'put-putting' merrily and never a single miss."

Full specifications of the "Messenger" are as follows:

Span	20 ft.
Length	17 ft. 9 in.
Height	7 ft.
Chord	48 in.
Gap	45 in.
Stagger	18 in.
Wing Curve	U.S.A. - 15
Area of main planes	152 sq. ft.
Area of stabilizer	12.3 sq. ft.
Area of fin	1.8 sq. ft.
Area of rudder	5.3 sq. ft.
Area of elevator	4.7 sq. ft.
Horse Power	50
Weight, empty	581 lb.
Useful load	239 lb.
Weight loaded	820 lb.
Loading per sq. ft.	5.4 lb.
Loading per h.p.	13.5 lb.
High speed	95 m.p.h.
Low speed	35 m.p.h.
Climb in 10 minutes	10,000 ft.

ADVANCE NOTICE MANUFACTURERS AIRCRAFT
ASSOCIATION YEAR BOOK FOR 1921

The Aircraft Year Book for 1921, just issued by the Manufacturers Aircraft Association, 501 Fifth Avenue, New York, accords to the Army Air Service the credit of instituting 80 per cent of all governmental aeronautical activity. The fourteen chapters of the book outline in detail the operations of the Air Service last year and the appendix contains a complete record of aeronautical events and statistics.

The various branches and divisions of the Air Service are clearly defined, the personnel is listed and the duties of officers outlined. Care has been taken to secure authentic information for the report of the twelve schools for specialized instruction which the Air Service maintains and the various activities of the enlisted personnel furnishes material for one of the most interesting sections of the book. The chapters on radio, landing fields, military photography, technical design, supply service, and technical review for the year have been prepared with equal care and are of particular interest.

In the comprehensive account of the work which the Air Service has accomplished for commercial aeronautics the following statements appear: "The Air Service was particularly active in 1920. In addition to the flying which occurred as daily routine at the various fields, thousands of miles between stations were covered by air. The Air Service has maintained a policy of aiding commercial aeronautics wherever possible and lent much assistance to such projects as the air mail, forest fire patrol, map making, etc. It has stimulated commercial enterprise by laying out routes and urging municipalities to establish air ports along specifications prepared by the Air Service. In the absence of suitable aerial regulations, it has devised rules which have formed the basis for such commercial activity in various parts of the United States. The manufacture of aircraft is a specialized art which calls into activity seventy-two distinct trades, and the personnel of the Air Service must have a grasp of the art sufficient for the problems of maintenance and operation."

Nearly an entire chapter is devoted to the operations of the airplane forest fire patrol, the introductory paragraph to which reads as follows: "Through the operation in 1920 of a few airplanes lent to the Forest Service by the Army there was saved from destruction by fire standing timber valued at approximately \$35,000,000, more than the total Air Service appropriation for the fiscal year 1920-1921. Between 900 and 1,000 fires were reported by the Army Air Service pilots and observers."

A chronological table of important events in aeronautics in 1920 lists all important Air Service flights and aerial expeditions, the names, numbers and descriptions of the 23 aviation fields are given together with the 271 air ports in the United States. The official list of a thousand emergency landing fields is included in the appendix.

REPORT OF TARGET SEASON OF 27TH BALLOON COMPANY

The recent target season for the coast defenses of Manila and Subic Bays, for which balloon observation was furnished, began November 23, 1920, and was completed December 22. During this time observation and regulation of artillery fire by the lighter than air units at this station were as follows:

- 6 regulations of fire for 3" rapid fire batteries,
- 8 regulations of fire for 6" rapid fire batteries,
- 2 regulations of fire for 10" gun batteries,
- 1 regulation of fire for 14" gun battery
- 1 observation of fire for 12" long range gun
- 7 regulations of fire for 12" mortar batteries.

During this firing all shots were observed with the exception of the last three in the case of a six inch battery (rapid fire) when a cloud passed between the balloon and target, entirely obscuring it. In another case a ten inch battery was assigned balloon observation which could not be furnished, due to the low hanging clouds at an elevation of five hundred feet.

In all the firing, the targets were wire screen covered with canvas, about eight feet square, and towed by tugs. During the practice of the 12" long range gun seven shots were fired at a target approximately at a range of 25,000 yards. The battery commander sighted on a tug stationed 15,000 yards away. In this shoot the tug which towed the targets, and which was at least 30,000 yards away from the balloon could very easily be distinguished, and also all of the splashes of the shells of this gun were easily observed from the balloon, but could not be reported with reference to the target which was so small that it could not be distinguished. If in this case the target had been the tug of a very small gunboat, even at 30,000 yards range, the balloon observer would not have experienced the least trouble in regulating the fire of this long range gun.

On the final day of the regular artillery practice, two balloons were flown each observing for three inch, six inch, and twelve inch mortars. As each rapid fire battery was brought on its target, it was dropped and observation shifted to the mortar battery. An example of the rapidity of fire for the artillery problem on this day was that in the eight batteries taking part in the shoot all completed their work within twenty minutes after the first shot was fired.

Communication during the target season between the balloon and batteries was over a field line to the balloon chartroom switchboard, thence to the Post switchboard and telephone system. In spite of the fact that no specially trained men were used in this shoot, excellent results were obtained in reporting data in time for the battery commander to make use of it. An example of good telephone service was that during the firing of a 14" gun battery, located on an outpost about nine miles away, and firing at a range of 11,000 and 15,000 yards away, the result of the balloon observation was given to the battery commanders before their own land observers near the batteries reported.

At the beginning of the target season the batteries were assigned balloon observation by the Coast Defense Headquarters, but as the practice progressed battery commanders made their own individual requests for this service. Although practically none of the commanders had ever worked with balloons before, the results given them in nearly every problem were satisfactory. Both battery and fire commanders cooperated in every way possible in order to obtain good results from the balloons.

As all the firing was into an open bay, the only help the balloon observer had in estimating distance was the length of the tow line from the tug to the target and the use of the mil scale in the field glasses, (i.e., the formula W or D equal $R \times M$ divided by 1,000). All the observations were unilateral and given on the battery target line, and in some cases the angle between the balloon and battery was from forty to fifty degrees. Due to the shortage of balloon officers only one balloon and unilateral observation could be used during this practice instead of two balloons and bilateral observation. For future target practice at these defenses, in order to obtain the best results with balloons for ten inch or larger calibre guns bilateral observation should be used.

SQUADRON NEWS

Headquarters American Forces in Germany, Feb. 6.

On Tuesday the funeral of Lieut. Cutler was held in the Palace Chapel in Coblenz. Senior Chaplain Easterbrook, himself the father of an American Ace, conducted the services, which were short but very impressive. The altar and chancel were banked with beautiful floral offerings sent by many friends. After the ceremony the procession, headed by the Headquarters Band, followed closely by the French Escort, wound its solemn way up to the Karthause where the final rites were paid the departed officer. The Palace Chapel, where the funeral services were held, is in itself a rather interesting and historic spot. It was the place where the ex-Kaiser worshiped during the times he occupied his palace here in Coblenz. The exalted seat where he sat during the hours of worship still bears his official emblems of power, but it is all topped by a huge American flag that hangs from the gilded ceiling. The drive just outside the door is the spot where the Kaiser decorated the first wounded officers and soldiers after the invasion of Belgium was consummated.

A new organization has gone into effect on this post, and splendid results are anticipated from the ~~valorous~~ officers in their new capacities. Lieutenant Greenblade as Detachment Commander has already done much to raise the morale as well as increase the efficiency of the unit. Lieut. Hopkins has taken over the part of Supply Officer and promises to be an able successor to Lieut. Cutler. Lieut. Murphy, formerly in the office of the Air Service Officer, A.F.G., has been sent to the field to take personal charge of the Radio activities which are rapidly expanding as opportunity for maneuvering with the two brigades becomes possible.

Work on the construction of permanent quarters on the field is progressing rapidly and within another month all will be installed in the new buildings. The enlisted men especially are looking forward to this day, for their billets in Weisenthurm are not the most convenient in the world, however, once located at the flying field they can boast of having the best barracks in the A.F.G.

The weather cleared a little toward the end of the week and we were able to fly several missions with the 2nd Brigade; with the coming of Spring and better weather, operations will begin in earnest and the pilot will get plenty of flying. The existing dearth in the number of observers makes necessary the use of pilots in some instances as observers, this is however valuable training and everyone is taking his turn with a good will.

Lieut. Dorland, who was injured in the crash with Lieut. Cutler, is improving rapidly and it is hoped to have him with the organization very soon again. Fortunately no bones were broken and the nervous shock and concussion are the only things he has to deal with. Reports from the hospital give every reason to believe that his recovery will be rapid and complete.

Fairfield Air Intermediate Depot, Fairfield, Ohio, March 12.

Fair weather during the past week resulted in a large amount of flying activities with all types of planes at the Station.

One officer has been taking the "J.M.A." test for the purpose of regaining his flying rating which was lost through separation from the Service.

The band section of the Education and Recreation class in music rendered a number of selections at the Y.M.C.A. in Dayton in connection with a program given by the O'Brien School of Dramatic Art. The band selections were received with enthusiasm by the audience. Many compliments were received by the Director, Mr. Hefner, on the excellent showing made by the students and many people expressed surprise at the remarkable results obtained through the Education and Recreation program of the Army.

Captain Robert W. Horton, Medical Corps reported this week from Camp Sherman, Ohio, for duty at the Post Hospital. Captain Horton was accompanied by Mrs. Horton and their two children.

Mrs. Georgia Watts, assistant hostess from Camp Jackson, South Carolina, is expected to arrive within the next few days and reopen the Hostess House which has been closed for over a year.

Headquarters American Forces in Germany, February 21.

Monday of this week dawned clear and cold and there was every promise of a period of good flying weather. At once the Operations Officer, Lieut. Bender got busy and planned a series of cross-country trips, most of which were accomplished. Lieut. Arthur with Lieut. Bender as observer, flew down the Rhine to Cologne and landed at the English Airdrome there. An effort is being made to locate and inspect all emergency landing fields in our area as well as the adjoining territory. For that reason trips are being planned to visit various other flying fields and glean what information we can from them. A trip was also made up the river to Mayence where the French have a field. A birds-eye view as well as a number of good pictures were obtained of Weisbaden, the famous resort and bathing place that lies back from the river a few kilometers.

On Wednesday evening Lieut. and Mrs. Bender entertained the Air Service officers and their wives at dinner in the Officers' Club at Coblenz. All the officers save the poor Officer of the Day were on hand to join in the festivities. The table was beautifully decorated in red tulips and asparagus fern, while each place was designated by a lovely carved and dressed wooden manikin.

Major Andrews left on Sunday with General Allen's party for Gibrolle, Cote d'Or, France, where they went to be present at the marriage of Lieut. Henry Allen to Mlle. Juliette Du Souzy. On the return trip Major and Mrs. Andrews stopped at Adelboden, Switzerland to see their daughter Josephine, who is up there for her health. They report a very wonderful trip.

On Saturday a test was made of a German parachute which proved to be very successful. A sand bag was used, attached to the chute and it was thrown overboard from the rear seat of a D.H. The chute opened so quickly that it almost caught the tail surfaces of the ship. This parachute differs somewhat from our service pack. The chute is packed in a hemispherical shaped aluminum container and carried on the back of the pilot. A small cup shaped chute, hooked to the outside of the container functions immediately upon being inflated and this releases the large chute. The light metal container seems to act somewhat in the capacity of the pilot chute in our own parachute. The chief advantages claimed for the chute are that it opens independently of any action on the part of the operator and that it cannot open and pull the occupant unexpectedly from his seat. The Swiss have made a number of live jumps with the parachute and are considering its adoption for military use.

Three Bessonneau hangars have arrived and are being erected here on the field. This additional hangar space will enable this station to set up the remainder of the planes and at the same time equip one hangar as a repair shop. The new garage will soon be ready for occupancy and that will release another hangar for snip storage.

The board appointed to investigate into the cause of Lieut. Cutler's crash and resulting death report in their findings that the accident was due to some object jamming the controls. No blame can be attached to any one for the wreck.

Lieut. Dorland has been released from the hospital and has gone on thirty days sick leave. He departed for Cherbourg where he anticipated meeting his mother who is just coming from the States, and he then goes to Southern France and Italy for rest and relaxation.

France Field, C.Z., February 26.

For at least the remainder of the fiscal year flying will have to be restricted at this field to about 50% of what has been done in the past. Due to the retrenchment policy in this department because of the shortage of funds, the consumption of all gasoline has been ordered cut in half and this will seriously effect the flights for the next four months. Some of the more extensive flights for various training projects will have to be curtailed or omitted altogether and the training confined mostly to flights of a short duration.

Some excitement was created during the past week by the outbreak of trouble between Panama and Costa Rica over disputed territory along the border. When it was learned the Costa Rican troops had occupied a town in Panama, many people expected serious trouble right away and the Canal Zone forces expected to be called upon to keep the peace. The territory where the trouble occurred is familiar to the flyers from this field as reconnaissance flights were made over this region about a year ago when a flight of planes was sent to David, R.P. for a four day stay. David is about forty miles from the base of the trouble and as there are few landing fields in that region, a base for operations in the air would have to be made at David in case planes were sent to help out in solving the dispute.

France Field, C.Z.- Cont'd.

1st Lieut. Alfred C. George, 2nd Lieut. John F. Whiteley and 2nd Lieut. John D. Barker left the post early in the week for a hunting trip on the upper Chagres River and they returned on Sunday with considerably less than when they started. There may have been game in the region where they hunted, in fact it is well known that there is considerable in that region, but what was there is still alive and healthy and is not likely to suffer another attack from these three hunters. When the hunters arrived in camp with a big bag it was thought they had some choice game with them, but when the bag was opened it proved to be nothing but several dozen native oranges, which can be purchased very cheaply almost anywhere in the interior.

Two more new D.H.4 B.-planes have been turned over to the flying department for use and have been assigned to Capt. Thomas Boland and 2nd Lieut. Kenneth Garrett. One of the planes previously turned over by the Engineering Department was turned back to them to be re-rigged and this plane is expected back in commission the coming week.

2nd Lieut. Odas Moon, A.S., and ten enlisted men arrived at the post early Sunday morning having been passengers on the St. Mihiel which had arrived in the harbor late the night before. Lieut. Moon has been assigned to duty with the 7th Aero Squadron and will relieve 2nd Lieut. John F. Whiteley as Post Salvage Officer.

Among the new recruits arriving on the transport was a first class piano player and his playing has added considerable life to the Service Club. Plans were at once started among the enlisted men to begin practice for an orchestra and also for some sort of an entertainment. There is considerable talent among the men for both these projects, and with the assistance of the Department supervisor of music it is expected that interest in this line will be greatly improved.

The France Field baseball team continued its winning streak this weekend made an advance in the league standing. Fort Amador visited this post on Wednesday and was sent back to the Pacific side with a 10 to 3 defeat attached to their bat bag. Saturday the team went to Gatun for its second game with the fast 14th Infantry team and added still more laurels by winning 5 to 4 after a hard uphill fight. With these two wins the team drew away from Corozal and Fort Sherman; passed Fort Randolph and is now closely behind Fort Amador and the 14th Infantry and a continuation of this brand of playing will surely land the team in the first division very soon.

Headquarters Godman Field, Camp Knox, Ky., March 11.

The double funeral of Lt. Lawson and Private Reade was conducted from the camp Chapel at 3:45 P.M., Tuesday and as the caissons slowly carried their remains to the train, a formation of planes flew back and forth over the procession dropping flowers in a last farewell.

The following is believed to be an accurate statement of the accident which resulted in the death of Lt. Lawson and Private Reade. The plane looped several times at approximately 3000 feet and then dived as if gaining speed to loop again, but continued in a long steep glide for about a thousand feet, where it was seen to slightly flatten out and then continue in its steep glide until within 500 feet of the ground, where it slowly turned over on its back, crashing in that position. It is the belief of the officer of the detachment that Lt. Lawson's stick control had broken loose, and he was unable to control the plane, but due to the complete destruction of the plane, no definite statement can be made.

2nd Lieut. Thomson Burtis accompanied the remains of Lieut. Lawson to Hartford, Conn., and Private 1st Class J. C. Allen, the remains of Pvt. Reade to Garwood, N. J.

1st Lieut. William S. Gravely and 2nd Lieut. Oliver W. Broberg will be sorely missed, when they comply with SO 45-0, pp20, WD, and leave for Carlstrom Field for pilots training.

Lieut. Oliver Gothlin is back at this station from special duty and is a valuable asset to the detachment.

A very close liaison has been formed with the artillery regiments at this station, and many excellent results are expected this spring and summer, though the commissioned personnel, especially observers, is very short. On the departure of Lieuts. Gravely and Broberg, Lieut. Beam will be the only trained observer at this station.

Headquarters Mather Field, Sacramento, Calif., March 7

The 91st Aero Squadron has been very active in parachute work during the past week. On March 1st Lieut. W.C. Goldsborough made a 3000 foot jump from the cockpit of a DeHaviland; on March 3rd Lieut. Harry A. Halverson, Air Adjutant, 9th Corps Area, made a 3000 cockpit jump which was successful in spite of the fact that he forgot how to pull the rip cord of the second parachute. On March 4th Corporal Conner and Private Woodgerd with Lieut. E. C. Kiel as pilot, made a double lift-off jump from the top wing of a DeHaviland at about 4000 feet altitude.

On Friday, February 25th, Cadet Arndt, 91st Aero Squadron, made a flying trip to Gridley, California, with Field Clerk Lindeman to distribute a package of Victory Medals to the American Legion Post of that city. The trip was made necessary by the fact that a big meeting was planned and at the last minute the medals could not be delivered as planned and were delivered by air from San Francisco to Gridley to prevent disappointment to the members who attended. Everything went well, the party landed at Friesley Field in Gridley after making the trip in 1:55 minutes in a Hiss and report a rousing reception and a good time. They returned to the field next day.

Captain R. L. Walsh, 9th Aero Squadron, returned from Rockwell Field, California, on March 1st after an absence of seven days.

All departments at the post are quite busy with the usual routine work and preparations for the coming forest patrol season. The large number of recruits now at this field are receiving daily instruction in the making of Air Service soldiers and are progressing very nicely.

Selfridge Field, Mt. Clemens, Mich., March 12.

It has been announced by the Detroit Aviation Country Club, under whose auspices the Pulitzer Trophy race will be held next September, that rules governing the race will be issued shortly by the Aero Club of America. It was also stated that over one hundred and fifty airplanes will be entered in the preliminary events, and that the Pulitzer race itself will have in the neighborhood of sixty entrants.

Carlstrom Field, Arcadia, California, March 9.

It is believed that without a doubt Carlstrom Field has hung up another record for the other fields to strive to equal, and here it is:

Wright Motor, Type "I", #48558, has just been withdrawn from service on the line with a record of four hundred and three hours and forty-five minutes (403 hrs., 45 min.) flying time, without an overhaul or even undergoing minor repairs such as having valves ground. This motor is still O.K. in every way--no bearing knocks, leaky valves or noisy gears--pistons leaking oil only slightly, still turning the propeller 1450 R.P.M. under full throttle. The only reason for withdrawing this motor was that the crankshaft and gears might be tested for crystallization at McCook Field, Dayton, Ohio. The remarkable thing about this record is that this motor has not been flown by one man only, who understood how to handle a motor, but by many different cadets and student officers who have been undergoing instruction at this field. The following is a short history of this motor:

Motor #48558 transferred from "C" to Headquarters Flight, August 26, 1920 with 34 flying hours. Later transferred to "B" flight with 96 hrs. 35 min. flying time. The motor has remained with "B" Flight since that time. This motor was originally installed in Curtiss plane #44861 which has just been overhauled in the Aero Repair Dept. of this field. A few months ago this plane was wrecked without damage to the motor, and the motor was then installed in Curtiss plane #45232 in which it received the balance of its total flying time of 403 hours 45 min., B. & G. spark plugs were used in this motor for the last 150 hrs. and these plugs were not changed during this 150 hours and all of them firing when the motor was withdrawn.

The total flying at this station for the year 1920 is equal to flying 37 times around the world at the rate of 75 miles per hour--or a total of 12,590 hrs. 48 min. The largest number of hours flown in one day was April 1st, a total of 164 hours 38 minutes, with a total of 30 planes being flown, making an average of 5 hrs. 29 min. per plane.

Carlstrom Field, Arcadia, California, March 9. (Cont'd)

Major Herbert C. Neblett, M.G. has been transferred to Medical Research Laboratory and School for Flight Surgeons Course at Mitchel Field Long Island, N.Y.

2nd Lieut. John A. Kase, A.S. transferred to Chapman Field, Miami, Fla. to assume command and report by letter to the Chief of Air Service, Washington, D.C. for duty.

2nd Lieut. Bernard T. Castor, A.S., transferred to Chanute Field, Rantoul, Ill. for duty.

1st Lieut. Raynor Carey transferred to Middletown Air Inter. Depot Middletown, Pa. for duty.

2nd Lieut. Wm. H. Webb, A.S. transferred to the Fairfield Air Inter. Depot Fairfield, Ohio for duty.

Headquarters Brooks Field, San Antonio, Texas, March 5.

Observation Balloon #1024 was flown during the week with a total of approximately thirteen (13) hours, Reason for such short time due to inclement weather.

There is a new hangar being erected near Airplane Hangar #15 which will soon be ready for the housing of a balloon.

Baseball game was played here on Saturday afternoon by the 5th Balloon Company, this station, and the 96th Aero Squadron of Kelly Field, score 9 to 3 in favor of the 5th Balloon Company.

March Field, Riverside, California, March 12.

Sixty-three planes from this school made a total 714 flights during the past week despite two days of rain which prevented flying. Total Flying time, 494 hours 25 min. Preliminary training required 410 hours 20 min.; advanced training 56 hrs.; test flights 6 hrs. 40 min.; and miscellaneous flights 21 hrs. 25 min.; approximate mileage, 32,145.

Night flying will be in order at this training field the first of next week, according to Captain Ernest Clark, officer in charge of flying. Three planes have been fitted up with proper lights and equipment for flares. The large truck carrying powerful searchlights with which to flood the landing field is again in commission. Each student pilot will be required to make 10 solo flights. Lieutenants Milo Clark and Harry Colliver will act as instructors.

Ninety DeHaviland 4-B's will be utilized in forest fire patrol work in California and Oregon during the coming summer months, according to word from Rockwell Field, San Diego. Forty of this number have already been shipped to Mather Field, Sacramento. The remaining fifty are undergoing repairs and will be ready for shipment by the first of April. Authority has been asked to organize two more squadrons to supplement the work of the Ninth and 91st. Patrol Bases will be maintained at Mather Field, March Field, Red Bluff, Fresno and Rockwell Fields.

Major Harold Geiger, former Commanding Officer at the Arcadia Balloon School has been ordered to Washington preparatory to an assignment to duty as lighter-than-air representative of the Army Air Service at the Hague. Lieut. Col. Theo. Baldwin is now in command of the Balloon School.

Riverside's city council has adopted resolutions of thanks and appreciation for the work being carried on in this community through the War Camp Community Service, which organization has accomplished much for the soldier when off duty. Under the efficient management of Mr. J.L. Alabaster the Riverside Club provides dances each Saturday evening for the enlisted men and on Sunday evening the Club Rooms are packed during an hour of entertainment following which refreshments are served.

Word was received Tuesday from Kelly Field telling of the accidental death of Cadet Walter C. Reams. Cadet Reams will be recalled as the pilot who, during his training at this school, became lost while en route to San Diego and for three days wandered aimlessly about the desert in the vicinity of Superstition Mountain. His fuel supply being exhausted, Reams landed on the desert. His thirst was quenched from muddy pools and he was for three days without food during his wanderings. He at last reached El Centro where Lieut. Brand and Sergt. Taylor located him on the evening of the third day. Reams' home was in Michigan.

March Field, Riverside, California, March 12, Cont'd.

Eddie Rickenbacker, premier American Ace, will be the guest of the Riverside Rotary Club next Wednesday afternoon. An effort is to be made to have him visit this field before returning to Los Angeles.

March Field's baseball team opened its season Friday afternoon in a match game with the Sherman Indian Institute team. There was no scoring by either team.

All San Diego, uniting with the war-ships in the harbor, welcomed with a terrific din from whistles and sirens the return of the surviving units of the Pacific naval air force from the Panama Canal Zone. Seaplane No. 5, first to take off from San Diego bay on December 30, was first to reach the home port on the return flight.

Kelly Field, March 12.

A Cadet of the 27th Aero Squadron, while engaged in an altitude test, ran out of gasoline in making a forced landing, in which he struck an irrigation ditch running across the length of the field which he selected as the most likely place in that vicinity. The wheel, striking the ditch, caused the SE5A to nose over, breaking the longeron and the motor bed. The Cadet, however, received no injuries and the crash was brought to the airdrome.

Cadet Jett, while taking off information with dummy bombs, struck the wash of another preceding SE5A causing him to slip to the ground. Upon striking the ground one of the loaded bombs exploded, thereby igniting the gasoline from the broken center section tank. Cadet Jett showed good presence of mind and initiative in detaching himself from the machine with only a few minor burns. Following close upon the crash the fire truck and ambulance arrived upon the scene; the fire truck immediately extinguished the blaze, whereupon the crash was removed from the airdrome at once, Cadet Jett being taken to the hospital for medical examination.

The 27th Aero Squadron registered 4 crashes upon the airdrome. The apparent cause of these crashes being due to the fact that the acting flight commander took his formation off across wind and upon reaching the end of the hangars, struck puffs of wind causing him to skid sideways of the ground. No. 3 likewise skidded across the ground into No. 2, who banking up in order to avoid collision slipped into the ground. The Cadet of the 27th Aero Squadron endeavored to right his plane, but the strong wind caused his machine or his left aileron to drag and catch the tip of his left wing and flip him over on his back. Almost following this scene, Lieutenant Graybeal came down to land a trifle across wind drifting into another crashed SE5A, where he caught the tip of his left wing, striking on his nose and right wing, falling over on his back. Pictures were taken of the above crashes and all possible precautions taken against the recurrence of same.

The First Pursuit Group has had its first fatality among Cadet personnel of the Group when Cadet Reams, 27th Aero Squadron, while engaged in accuracy landings lost control of his SE5A at an altitude of approximately 400 feet, spinning to the ground. Fortunately the SE5A did not catch fire, and Cadet Reams was removed from the crash at once, and taken to the hospital, where he expired a few minutes following the accident. He resided at Perfection, Michigan, and his remains will be shipped to his home in charge of Lieutenant Graybeal.

Simulated protection patrols have been flown over the Kelly Field, Camp Stanley route, one squadron of the Group being assigned as the observation flight while the other three squadrons of the Group were assigned to the protection patrol under the command of their respective flight commanders under the direct command of the flight commander designated from this office. These simulated protection patrols have now reached the point of real tactical efficiency.

Types of SE5A radiators have been tested during the past week to determine the efficiency of the Curtiss radiator as replaced on SE5A by the Repair Depot at Dallas. The test shows that the Curtiss radiator is not effective at an altitude of over 12,000 feet unless the new and more efficient type of shutters can be enclosed, as the temperature of the motors fall below 40 degrees, thereby decreasing the efficiency and power. The ceiling of the SE5A type is estimated to be about 17 or 18 thousand feet, while the average altitude made by machines of the Pursuit Group is 20,000 feet, and in exceptional cases the SE5A has climbed to the altitude of 21,400 feet.

Kelly Field, March 12, (Cont'd)

The Spads assigned to the First Pursuit Group have shown various defects, some even having broken longerons, which must be replaced or repaired before the plane can be flown. The motors as a rule are in very poor condition and extensive repairs will have to be made in order to enable them to begin functioning properly. All efforts will have to be made to have these planes available for flying in the next few days, so that they can be used for combat and other training which involves extensive strain.

On Saturday last a small truck train consisting of 1 Dodge car, 2 White trucks loaded with tools and men, 2 Radio trucks, 1 mule team and plow left for Camp Stanley to establish a bombing range.

After much trouble going up hill and down through a country shot up like the battle fields of Europe, for the Artillery use this reservation for dropping their big shells, the party arrived at the extreme north east corner of Camp Stanley.

The observation huts were established on prominent hills about 1 mile apart, the target consisting of 3 white washed circles, 50 feet, 100 feet and 200 feet in diameter, was located in the valley between, and the two Radio Trucks were set up near by one of the observation huts.

The Radio turned in with the home station and the party returned to Kelly Field, Huts "A" and "B" are connected by field telephone. Readings are made and result radiographed to Kelly, when the shots are plotted and when the Bombing team lands here after pulling a shoot they can secure their shoot with all shots plotted. Monday 12 teams took off and shots were plotted all day. This stage is operating daily.

The Bombardment Group reported 28 Cross-country flights, 6 Test flights, 11 Practice flights, 13 Artillery Reg., 5 Infantry Contact.

The following cross-country flights were made: by Lieutenant Nutt to Laredo; McAllen, Texas; Lieutenant Plumb to Sanderson; El Paso, Texas and Nogales; Douglas, Arizona; Lieutenant Beaton to Camp Bullis, Texas; Lieutenant Speck to Camp Bullis, Texas; Cadet Tillery to Sanderson; El Paso, Texas and Nogales, Arizona; Cadet Spradlin to Sanderson; El Paso, Texas and Nogales, Arizona.

Lieutenant Leland S. Andrews, Air Service, has reported at this station from the Airdrome Del Rio, Texas and is assigned to the First Pursuit Group.

It is proposed to have a West Point dinner at the Gunter Hotel in San Antonio on Saturday, March 12, at 8:00 P.M. It is hoped that there will be a large attendance, not only from the various posts and camps about San Antonio but also from border stations. All who have ever been cadets at the U.S.M.A. are invited to participate.

Lieutenant M. J. Plumb, Air Service is on a five days leave of absence.

The following named officers and cadets went by airplane to Aviation Repair Depot, Dallas, Texas and returned by airplane for the purpose of ferrying airplanes to Kelly Field, Texas; Lieutenants M. J. Plumb, Harold C. McGinnis, Roland Birnn, Frank E. White, Cadets J. E. Baker, J. W. Kerson, G.D. Willard, A.J. Tillery, R.C. Bodeen, H.E. Elliott, S.S. Fleming, N.R. Thompson, P. Carrier, W.S. Breedwell, I.O. Summerville.

Athletics in the First Pursuit Group consist of baseball, football, volley ball, push-ball, basket-ball, boxing, wrestling, etc. Swimming and hiking, camping and other forms of outdoor sports will be engaged in with the advent of warmer weather for the personnel of the Group. The commissioned personnel of the Group seem interested in polo, golf and baseball.

Kelly Field Basket-ball team was defeated by Camp Normoyle on Tuesday by a score of 30 to 8. This leaves the championship between Camp Travis and Camp Normoyle.

An enlisted men's dance was held Tuesday night at the new Hostess House. There were nearly 100 couples dancing and twice as many looking on. Salad and hot chocolate were served between dances and every one declared the opening program a pronounced success.

During the week the baseball team held only one practice on account of the wet condition of the grounds. Kelly Field plays the New York Giants, who are training at San Antonio, on Tuesday. Kelly Field expects an easy victory.

A Polo meeting was held Friday by all members of the Polo Club, to elect officers for the coming year. Major Reynolds was elected President; Major Spatz, vice president; Lieutenant Brophy, secretary, treasurer and Polo representative. A match was arranged between a team representing the Pursuit Group and one representing the Air Park Group to be played at the close of the present Army Tournament.

Tuesday night four excellent bouts were staged at Service Club #3. Champion Reynolds held his title by knocking out Shaner of the 147th Squadron in first round of the scheduled six round bout.

AERIAL MAPPING OF MISSISSIPPI SWAMP LANDS

Request has been made to the Chief of Air Service by assistant Sanitary Engineer, W. H. W. Komp, of the United States Public Health Service, Jackson, Mississippi, for a detail of airplanes, pilots and observers to make an aerial photographic map of the area immediately adjacent to and including the towns of Rosedale, Cleveland, and Merigold, Miss., a section comprising about 15 square miles. The terrain is described as almost absolutely flat, broken by shallow, sluggish bayous, the banks of which are heavily timbered. The flat nature of the territory and the prevailing method of farming is described as being ideal for photographic mapping, and the large fields under cultivation would provide adequate landing fields.

In response to this request the following letter has been sent:
March 16, 1921.

Mr. W. H. W. Komp,
Assistant Sanitary Engineer,
U. S. Public Health Service,
Jackson, Mississippi.

Dear Sir:-

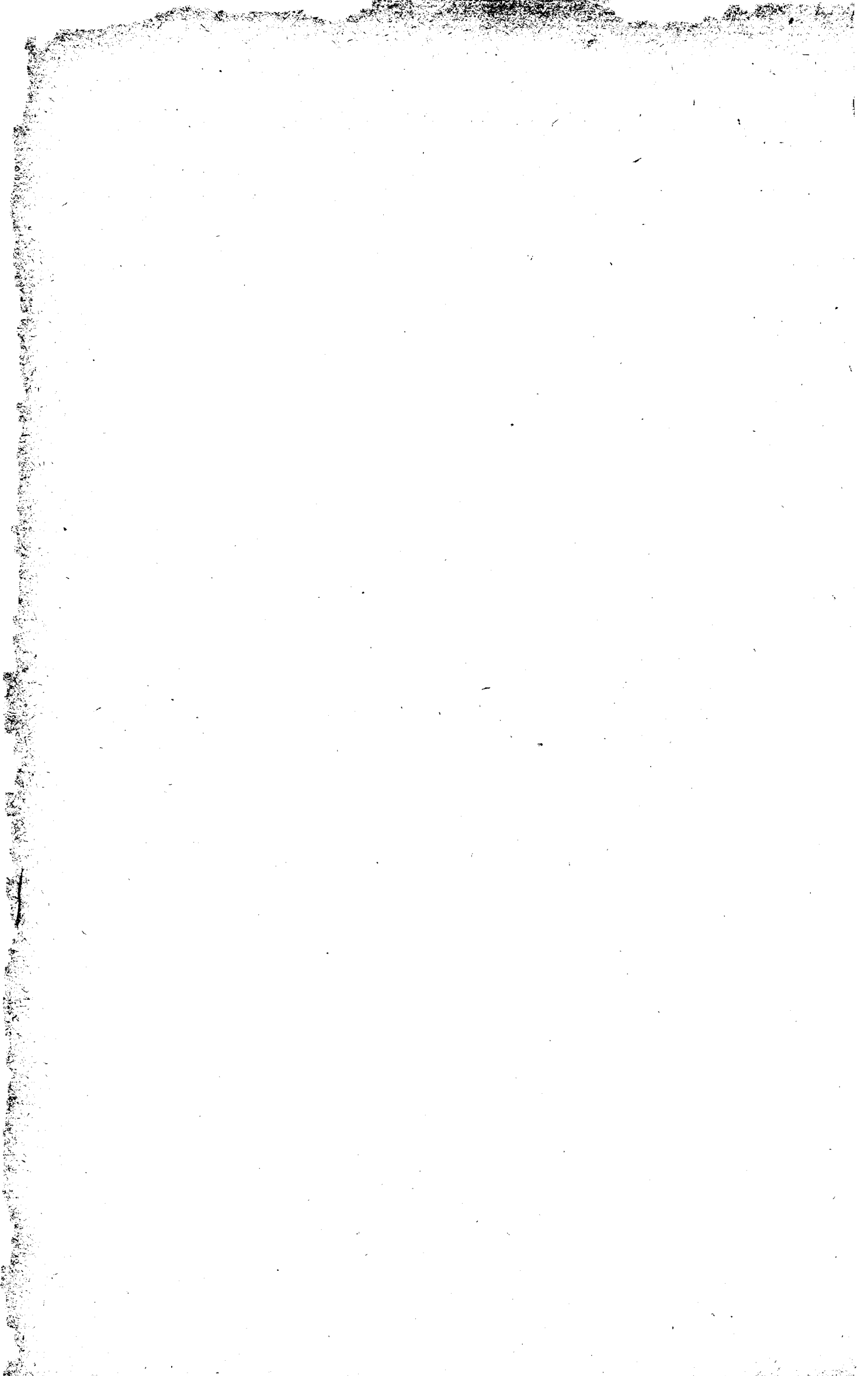
In reply to your letter dated March 1, 1921, regarding aerial photographs of areas immediately adjacent to and including the corporations of Rosedale, Cleveland and Merigold, Mississippi, the Chief of Air Service directs me to inform you that your request has been favorably considered, and desires that you submit to this office the location of the nearest recognized landing field in the vicinity of the area to be photographed.

The Air Service is very desirous of cooperating with your Bureau in demonstrating the value of aerial photography in this particular kind of work, and therefore it is planned to give this project priority. The possibility of completing this work by June 1st is not certain, but if no unforeseen conditions arise it will probably be finished by the last of July.

Yours truly,

J. W. Simons, Jr.,
Major, Air Service,
Acting Administrative Executive.

V-3234, A.S.



Vol. V. AIR SERVICE NEWS LETTER No. 13
Information Group Munitions Bldg.
Air Service April 1, 1921. Washington, D.C.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE APRIL 2, 1921.

LT. CONEY'S OWN REPORT OF HIS TRANSCONTINENTAL FLIGHT

On January 5, 1921, I was ordered to Mather Field, Sacramento, California, to select a plane for the transcontinental flight from Rockwell Field, San Diego, California, to Pablo Beach, Florida. After a careful check of the planes and their records at that station, plane #A.S 63491 was selected. This plane, a remodeled DH4 of the Fisher type, was at that time practically new, having had only 25 hours flying time, and had the reputation of being well balanced and fast.

With the plane selected, the work of reconstruction for the trip across the continent was started. The wings were removed, carefully inspected for weak points in brace wires and ribs. They were scraped, redoped, painted and varnished, and set aside for the final assembly. Next, the two cockpits, gas tank and instruments were removed, and in their places, in the order named, were placed one 103 gal. gas tank, two 82 gal. gas tanks, a new dash and pilot's seat. The gas tanks were separately connected to a Lunkenheimer which in turn fed the main Lunkenheimer or carburetor control lines.

The problem of oil supply came next. This was taken care of by securing two 12 gal. special tanks under the motor, well up inside the pan. As the plane now stood, it carried 274 gals. gas and 24 gals. of oil and should be good for something over thirteen hours in the air, which would be adequate for the longest leg of the trip, 1170 miles. This estimate was based on a DH flying 100 miles per hour and consuming 20 gals. of gas and 6 qts. of oil per hour.

The plane was assembled and test flown on Feb. 8. In the test it was found advisable to decrease the stagger $\frac{1}{2}$ inch to correct for the shift of load. Otherwise, the plane was in excellent condition, and the motor, a Ford Liberty with 25 hour flying time, was performing wonderfully.

The only other change to be made was the landing wheels. In the place of the regulation wheels, oversize wheels with tires 800 X 150 were substituted. With this done, I took off for Crissy Field, San Francisco, California, on Feb. 11, to report to Major Arnold, Ninth Corps Air Officer, for final instructions.

At noon, Feb. 12, I started on a non-stop flight to Rockwell Field, from San Francisco, California. After flying four hours and thirty minutes on a compass course, it became evident that to land at Rockwell, I would have to fly through some very low fog, so rather than run any unnecessary risks, I turned eastward over Oceanside, California, and landed at March Field, some thirty miles inland, after being in the air five hours and fifteen minutes. The next morning I flew on to Rockwell in one hour.

The flight down from San Francisco gave me an excellent opportunity to observe my plane and motor. The log of the trip caused some concern too, for I found that the ship fully loaded would be rather slow at high altitudes, eighty to eighty-five miles per hour and was using over 25 gals. of gas per hour at 1500 revolutions per minute. With this information at hand, the carburetors were changed and carefully adjusted, using small jets and a low float level. The speed of plane could not be changed, so, as a factor of safety, another gas tank was installed beneath the pilot's seat. This gave an additional 20 gals. The oil supply was increased also by replacing one twelve gal. tank with a 23 gal. tank. The final test and tuning up was completed on Sunday, Feb. 20, after which the two compasses, one Army and one Navy, were swung.

With the flight scheduled to start at 6:30 P.M. I arose at 1:30 P.M. Feb. 21, to find it very stormy and raining; the clouds black and very low. The last minute adjustments and a rechecking of compasses were accomplished in a downpouring rain. About 6 P.M. the weather cleared on the western horizon, not much, just enough to give me courage to take a physical examination.

The weather reports showed rain through the coast range of mountains and heavy clouds through Arizona and New Mexico. The Army and Navy aloft reports gave me a west wind with a velocity of 20 miles per hour. A ship sent up at Rockwell came down with the information that the weather was clear above 7,000 feet. It was decided that as soon as the clouds to the west broke, I would take off and climb through the hole and then turn on my course.

Shortly before seven o'clock, a hole was visible to the west and I took the air at 7:03 P.M. With the motor turning up 1560 I was able to leave the ground after a fair run and set the plane in its maximum climb. The ship was a little loggy and tail heavy from the excess weight but handled fairly well.

I circled once over the crowd on the field, picking up their location by the numerous automobile lights, then began picking my way between and through the rain clouds. At 7:35 I had climbed above the clouds and was greeted by a bright full moon. The coast range of mountains was in the clouds directly below though entirely invisible from my position. I had several uncomfortable moments, contemplating my chances for getting down should my motor stop. This was not for very long, however, for I remembered I was carrying the new type seat-pack parachute. At 7:55 I picked up the lights of Calexico, California, directly ahead, and at 8:20 I passed over the border town. As the Imperial Valley was fairly visible, I could easily see the lights of Elcentro and was then positive of my location. My compasses were swung on the magnetic course, so I was flying a course of 74° east. With a west wind I should have passed to the north of Calexico. At this point I turned the plane so that it was headed on a 70° course and continued this course until 9:05. By this time I was a little south of Yuma, Arizona. Realizing that the upper wind was more from the northwest I again changed my compass course, making it 65°.

The weather from Yuma east looked very bad, the clouds extending from the mountains up to at least 14,000 feet. Flying at 8,000 feet, I started to climb as I had to have at least 12,000 feet to clear the mountain range north-east of Tucson, Arizona. Flying a course of 65° and checking up the lights of small towns along the Southern Pacific R.R. I climbed in an effort to clear all clouds; at 10:10 I had 12,000 feet altitude and was directly on my course passing Black Sap, a small town on the T.C. & G.B.R.R. The motor was working beautifully at 1500 revolutions per minute, the oil was steady at 30 lbs. By this time the clouds were on all sides of me, the ground being visible only in small patches through the clouds. The moon rays only touched my plane at intervals. I believed that 1500 feet more altitude would put me above the clouds and I continued a slow climb to reach the top.

Small lights appeared through the broken clouds at 10:57. Those I took to be towns along the Southern Pacific R.R. leading into Tucson. I was flying now at 15,000 feet and the air was getting very rough and the clouds were heavier and thicker. At 11:25 flying at 16,000 feet, I ran into a heavy snow storm. Hoping to fly through in a short time, I continued on my course rather than lose time by trying to go around. Shortly after 11:30 my compass which I was using as a bank indicator as well as compass, began to act queerly. It inclined to the left (I corrected on my controls, without results) then it made a number of revolutions, became quiet and remained inclined to the left. The air was very rough and on account of the extra weight I found it difficult to keep my balance. In fact, I did make two complete turns before I realized it. A few minutes later I put my plane in a glide towards the southeast as I remembered seeing thin white clouds in that direction, prior to entering the snow storm. Soon I was out of the snow but sandwiched between the clouds at 10,000 feet. The mountains ahead on my course were almost touching the upper layer of clouds; while their base was enveloped in clouds that appeared to contain rain. Hoping to pass over these mountains I headed for them. Just before reaching the ridge, I flew into a down current of air and lost 7 or 8 hundred feet altitude. Showing the throttle full on, I tried to regain my altitude but could not. Turning sharply off my course, I headed north for ten minutes before I found a hole in the clouds below me. At 11:45 I was below the clouds at an altitude of

6,000 feet. All charted landmarks were wiped out as my flying above and through the snow had made it useless for me to attempt to check the country as I passed over. From this point on, I made careful note of every deviation to right or left of my course and would fly in the opposite direction long enough to correct for all detours.

Getting under the clouds, near the ground, I felt more comfortable. Picking the largest pass or canyon in sight, I started through toward the east. Here I ran into a heavy rain storm and was forced to throttle my motor to 1380 revolutions per minute to save the blades of the propeller. Going between the mountains was not so bad, but it did keep me worried, as I did not know at what turn I would find a mountain, stopping up the exit to the pass.

At 12:05 I had flown out of the rain and mountains and was passing over fairly good country, hilly, of course, but no mountains; the moon was shining through the clouds and added greatly to my comfort. I opened my motor to 1500 revolutions per minute once more and climbed back to 10,000 feet altitude. The clouds by now were bunched into heavy banks and from their position I judged my compass course to be the same as at Yuma, with the addition of one point to take care of the magnetic deviation. Flying over or under or around the clouds, through them only when I felt sure they were light and small, I proceeded on. Once while banking to avoid a heavy cloud center, I noticed a snow-capped peak less than 100 feet below, and touching the cloud I was flying through. From one to four A.M., I flew a zig-zag course, checked by the plane's clock and during this time, passed over several snow-covered ranges, through one small snow storm and skirted innumerable cloud banks. At 4:30 A.M. I saw the first streak of the on-coming day. It looked more like the reflection of the moon on the clouds than the rising sun. I was flying at 11,000 feet with the motor running 1500. The country below was falling away into barren foot-hills and looked most friendly after viewing the rugged peaks so long.

With the arrival of daylight I dropped to an altitude of 4,500 feet and continued my course. The motor sounded sweet, my oil was remaining steady at 30 lbs. and I had every assurance of a successful trip. There was a light westerly wind and very good visibility. Just as I reached Bronte, my motor began to sputter. I was running on the last of the large tanks and my first impression was --- out of gas. An attempt to switch to the seat tank failed; at the time I believed this was due to air pressure but later found the trouble to be in the gas line. In any event, with my three main tanks empty, as I believed them to be, I could not hope to reach Dallas, so I selected a field near the town on the main road and landed at 7:30 exactly twelve hours and twenty-seven minutes after leaving San Diego.

In forty minutes I had 65 gals. of gas in my front tank and the motor running. On the take off the motor cut out, stopping entirely. Luckily I had picked a good field, so I had no difficulty in getting on the ground when the motor stopped. I now realized it had not been my gas supply that had forced me down, but motor trouble. I examined the distributors, which proved to be in excellent condition. Next, I took out a carburetor strainer; this was fairly clean and should have functioned perfectly. The gas was not flowing to the front carburetor. This lead me to believe the trouble was in the main line.

About 9:30 Pacific time, I phoned Dallas informing them through a relay telephone connection of my condition. I then returned to the plane, drained the gas from the front tank and disconnected the gas lead. Major H.H. Richards with a mechanic arrived from Dallas, a few minutes after one o'clock, or three, Dallas time. Together we traced the trouble to a stoppage in the gas line from the front tank. This was cleaned out and the plane was practically ready for flight by dark.

As I had failed to make the flight in the specified elapsed time, I decided to remain in Bronte that night.

Feb. 23rd was fair and clear, the wind being from the west. I took the air at 10:48 A.M. Dallas time and after an uneventful flight over a straight course landed at Love Field at 12:35 P.M.

At Dallas, Lieut. Harris was in charge of the supplies and all reports. With the assistance received from him and the Engineering Dept. my plane was ready for the air in a short time. It was decided that I remain there until at least 10 P.M. so as to have daylight for my landing in Jacksonville, a strange field.

The repairs were slight at Dallas. Besides the changing of oil and gas, the cleaning of plugs, distributor, and carburetor strainers, there was nothing to repair except one oil connection.

I attempted to sleep before leaving, but could not get more than an hour as the strain and excitement were too great.

Orders to proceed came at 7:30. By 10 P.M. everything was in readiness. The weather and wind reports showed fair conditions all the way to Jacksonville. At 10:14 P.M. Feb. 23, I took off and without circling, headed for Jacksonville, flying a course of 90° by my compass, which was swung on magnetic north. Flying at 3,000 feet altitude with the motor turning up 1500, I flew directly along my course, at the same time checking the towns along the T. & P.R.R. which runs along the line of my flight. At 10:32 I passed over Terrell.

The weather was exceptionally good and the ground objects stood out in fair relief in the bright moonlight. At 11:15 I passed over Longview, Texas, and could see Marshall to the northeast. I evidently drifted a little to the south as I failed to pick up Shreveport, La. in the next half hour. At midnight I passed some large lake but was not positive which it was. Believing it to be a lake just south of Shreveport, I continued the same course of 90°. The country below was beginning to look like one large swamp and gave the impression of being very damp, so I climbed from 3,000 to 6,000 feet which I maintained practically the entire flight. At 12:45 I was near Lake Catahoula and here plotted a new course as the wind was drifting me off my course to the south. Instead of flying 91° as my charts showed the course, I changed it to 85°. On this new compass course, I passed over the Mississippi River, just south of Natchez, Miss. at 1:10 A.M.

From the Mississippi River on east, a low haze or ground fog made it very hard to check my course by time and landmarks. Points below the plane were disregarded, as I continually watched for the coast line of the Gulf of Mexico. Several times I thought I saw some coast town lights glimmer in the fog, but each time was forced to admit I was mistaken. It was not until 2:30 that the lights of the Gulf were sighted. Fifteen minutes later these lights were recognized as Mobile, Ala., for I swung off my course to be absolutely sure of my bearings. According to the speed estimated, I was flying over Mobile more than an hour ahead of time and I began to wonder if I would reach Jacksonville before daylight.

Shortly after leaving Mobile, I became careless with my maps; this together with the poor glue used in preparing them caused me to lose a section of my map of Mississippi, Alabama and Florida. So from there on I had to rely entirely on my compass to take me into Jacksonville. At 6 A.M. the sun was just coming up. Five minutes later I sighted the St. Johns River and breathed a sigh of relief---my trip was nearly over. At 6:10 while straining my eyes for Jacksonville, I sighted the city almost directly below. I throttled my motor and started in a long glide. Passing over the city and circling once toward the Atlantic, I turned and landed at Camp Johnston at 6:27 A.M. Dallas time, or 7:27 Jacksonville time.

Summary:

Left San Diego 7:03 P.M. Feb. 21. Arrived Bronte, Tex. 7:30 A.M.
flying time 12:27.
" Bronte, Tex. 10:48 A.M. Feb. 22. Arrived Dallas 12:35,
flying time 1:47.
" Dallas, Tex. 10:14 P.M. Feb. 22. Arrived Jacksonville 6:27,
flying time 8:13
Total flying time 22:27
Total elapsed time two days nine hours twenty-four minutes.
Average speed 97 miles per hour.
Maximum altitude 16,000 feet.
Gasoline used--total 450 gals. - per hour 20 gals.
Oil used--approximate total 25 gals. - per hour 1 - gal.
Total gas capacity 294 gals.; total oil capacity 35 gals.
Weight of plane-- loaded 5,000 lbs.-- empty 2,820 lbs.
Lift per square foot 11.11.

W. D. CONEY
2nd Lieut. Air Service.

FRENCH GOVERNMENT CONFERS DECORATION
ON LIEUT. COLONEL EDWARD J. STEICHEN, A.S.R.C.

In conferring, in the name of the French Government, the decoration of the Legion of Honor upon Lieut. Col. Edward J. Steichen, A.S.R.C., formerly Chief of Photographic Section A. E. F., and President of the Inter-Allied Aerial Photographic Commission, General Collardet, Chief of the French Military Mission to the United States, said in part:

"No branch of the Army constituting the American Expeditionary Forces was more popular in France than the Air Force. This was not alone because the daring aeronauts composing the various squadrons were themselves so worthy of admiration, but because the qualities which they represented with such distinction belong to all America. Particularly worthy of admiration was the brilliant manner in which the organization work of the various branches of the American Army was conducted. It is in recognition of the distinguished work of Colonel Steichen as Chief of the Photographic Section that the Republic of France confers upon him the decoration of the Legion of Honor."

The interesting ceremony by which former Lieut. Col. Steichen became a Chevalier of the Legion of Honor, took place at 4 o'clock Tuesday afternoon, March 22, in the Trophy Room of the Army Air Service, the walls of which are decorated with the emblems presented by the women of France to the different squadrons comprising the flying force of the A.E.F.

Accompanying General Collardet was Colonel de Lavergne, Air Attache of the French Embassy; with Col. Steichen was Colonel Mason M. Patrick, now of the U.S. Army Engineers and formerly Chief of the Air Service in the A.E.F., while the U.S. Army Air Service was represented by Major General Charles T. Menoher, Chief; Brigadier General William Mitchell, Assistant Chief; Lt. Colonel William E. Gilmore; Lt. Colonel Harry Graham; Major Walter H. Frank; Major P.E. Van Nostrand; Major Horace M. Hickam; Major Rush B. Lincoln; Major Harold Geiger; Captain Harold E. Hartney; Captain Burdette Wright; Captain David S. Seaton; Captain Edward J. Ralph; Captain William F. Vollandt; and Lieutenants W.V. Andrews, St. Clair Street, William E. Connolly, and Clarence E. Crumrine.

SEEING BRYCE CANYON BY AIRPLANE

One of the most interesting aerial excursions undertaken in the United States by a civilian flier is that which included the exploration of Bryce Canyon and the surrounding country made successfully during the summer of 1920 by Mr. Hal H. Bullen, president of the Utah Airplane Company.

Flying from Ely, Nevada to St. George, Utah, Mr. Bullen performed in 14 hours a journey which by the usual method of rail and stage coach, requires 4 days. The object of the flight was to attend the dedication of Zion National Park, at which exercises Senator Reed Smoot and Director Stephen T. Mather of the U. S. National Park Service were among the prominent visitors.

Following the dedicatory exercises, Mr. Bullen made an extended flight over the region, selecting and establishing landing fields, spending the summer and up to the 15th of September in exploring from the air localities either inaccessible or requiring long and tedious travel by ground modes of transportation. For example, in a flight over the oil structures near the point where the Standard Oil Company recently began developments, Mr. Bullen made, in a flight of 25 to 30 miles a journey which stretches to 350 miles by land.

Particularly interesting was the trip through Bryce Canyon and the Cave Lake and Virgin River country, a hazardous undertaking in a region without landing fields of any kind, but which was accomplished without a single mishap.

Mr. Bullen's machine was a Curtiss Oriole, with a 150 h.p. K-6 motor. This machine accomplished easily an elevation of 1600 feet fully loaded, and in his flights Mr. Bullen was accompanied usually by a mechanic and occasionally by a passenger, also.

A number of most attractive photographs were taken by Mr. Bullen showing the physical contour of the region, the beauty of the scenery, and the peculiar stratified structure and suggesting the rich and varied coloring that belongs to the volcanic formation of the locality.

During the coming summer, Mr. Bullen plans a number of flights in the same region largely devoted to carrying scientific experts into inaccessible localities. Among the points to be explored are Henry Mountains and San Juan County, the Navajo Indian Reservation, the ruins of the Cliff Dwellers, Rainbow Natural Bridge, the Painted Desert, Zion National Park, Bryce Canyon, and the Virgin River Country.

FACTS CONCERNING FLIGHT TO FT. NORMAN, MACKENZIE DISTRICT

Concerning reports of an expedition by airplane from Edmonton, Alberta to Ft. Norman, MacKenzie District, said to have been undertaken by the Imperial Oil Company, the following has been received by the Chief of Air Service from the Air Board of Canada, under date of March 14.

"As far as this Department is aware, the report that two machines operated by the Imperial Oil Company of Edmonton, Alberta, have successfully flown to Ft. Norman, is erroneous, although it is understood that they have recently left Edmonton for the North Country.

"The information which we have at present is that these two machines after being outfitted at Edmonton, flew to Peace River, a distance of approximately 250 miles in a little over three hours. After some delay at Peace River it is understood that they have now set out on their next stage, the objective of which we understand was to be in the neighborhood of Hay River and Windy Point on the Western shores of the Great Slave Lake, a distance from Peace River of approximately 375 miles. Beyond Peace River there is no communication available either by wireless or telegraph line, hence information regarding the progress of these machines is likely to be slow and interrupted in transmission. It is understood, however, that the expedition has made arrangements to send back reports of their progress by relays of pigeons.

So far as the probability of a rapid trip as far North as Ft. Norman is concerned, it is hardly to be considered as likely that such a trip will be undertaken, as it is understood that the Imperial Oil Company had in mind the establishing of a fairly well equipped base on the Western shore of Great Slave Lake (which would necessitate several trips back and forth from Peace River in order to bring personnel, supplies, etc., for drilling operations) before endeavoring to push on further North in the direction of Fort Norman."

NOME CHAMBER OF COMMERCE APPRECIATES ALASKAN FLYING EXPEDITION

The following letter from Mr. W. J. Rowe, Chairman-Secretary of the Nome-Seward Peninsula Chamber of Commerce to the Chief of Air Service exemplifies the sentiment aroused in Alaska by the flying expedition which was made to that country in 1920 by a group of intrepid fliers of the U.S. Army Air Service under the command of Capt. St. Clair Street :

Nome, Alaska, January 26, 1921.

Major-General Chas. T. Mencher,
Chief of Air Service, U.S.A.,
War Department,
Washington, D.C.

My dear General Mencher:-

Yours of November 9th to hand January 6th, 1921. The expression of your appreciation of the work done on the Nome airdrome is indeed very gratifying to me and I feel amply repaid for anxious moments during its preparation. I must acknowledge that my position was a bit difficult, not only because the people of Alaska, and especially of this Peninsula, deemed your Expedition a godsend to the Territory, but because I had given my word to the Board of Directors of the Nome Chamber of Commerce, which represents the people of Nome, to prepare the landing field. They expressed confidence in my ability and gave me to understand that they sincerely hoped nothing in the way of casualties or mishap would occur to mar the Expedition. It is needless to say I "breathed a sigh of relief" when the last plane landed and the crowd rushed forward to greet the boys.

The Expedition was a great treat to Alaska and especially to Nome, and I feel safe in expressing, as the sentiment of every citizen, commendation of your worthy action and of the successful demonstration to the world through your competent Air Service that such an Expedition was feasible, and it was accomplished, in my opinion, during one of the worst climatic seasons we have had in many years.

We feel you have brought before the minds of the people in the states that Alaska is not so far away from civilization after all and we sincerely hope to become better acquainted.

Very sincerely,

W. J. Rowe

DEVELOPMENT OF 700-H.P. MODEL "W" ENGINE

The Power Plant Section of the Air Service Engineering Division at Dayton, Ohio is engaged in preliminary tests of a 700 H.P. Model "W" aircraft engine. This engine was designed entirely by the Power Plant Section and was assembled in the McCook Field shops. The part comprising the first assembly was made up by various engine manufacturers and delivered to McCook Field for assembly.

The engine is designed to develop 700 h.p. at 1700 r.p.m., and is of the water-cooled "W" type, having 18 cylinders arranged in three rows of six, the angle between cylinder banks being 40°, giving included angle between outer banks of 80°. The cylinders are 5½ bore by 6½ stroke, having four valves per cylinder and provided with welded steel water jackets. As great reliability was one of the fundamental points in the design, provisions have been made for use of four independent magneto systems; although where it is desired to reduce the weight, one or two magnetos may be admitted. Throughout the design every effort was made to secure a strong, reliable construction at a moderate value of horsepower per unit weight. The weight of the completed engine is 1720 lbs. when equipped with four magnetos. This weight includes all ignition devices, carburetors, propeller hub, flange and bolts, but does not include any water nor oil.

The tests so far conducted prove conclusively that the engine may be relied upon to deliver the rated horse power in service, as the power obtained on the dynamometer showed a considerable margin in excess of the required 700 horsepower. Tests are progressing satisfactorily and a surprisingly small amount of trouble has developed so far. As soon as the preliminary power determinations are completed the engine will be put on the 50-hour test to study its endurance.

FLIGHT TESTS AT MCCOOK FIELD, DAYTON, OHIO

Lt. J. A. MacCready, pilot, and Roy F. Langham, observer, have been doing considerable high altitude flying this week. They are using a LaPere biplane, equipped with a 400 horse power Liberty motor. The engine is fitted with a Moss supercharger, and due to this, very satisfactory results are produced. Lt. MacCready and Mr. Langham made a flight on March 15, 1921, leaving McCook Field at 10:05 and returning at 12:20, reaching an altitude of 30,000 feet. A temperature of 39 degrees below was encountered at the ceiling, with a ground temperature of 43 degrees.

The weight of this airplane is 480 pounds more than the weight carried to 31,800 feet by Major Schroeder in 1919, when he brought back the two-man altitude record.

This flight, together with other high altitude flights recently made at McCook Field, are an indication of the reliability of the high flying equipment, and a new record may be expected when a plane is trimmed down in weight and advantage taken of every possible factor that contributes to a record climb.

QUINTUPLE PARACHUTE JUMP

On the morning of March 9th a five man parachute jump was made without mishap, at Mather Field, Sacramento, California. It is believed that this is a record jump as the descent was made from an altitude of 2100 feet. The plane was a DeHaviland 4-B, piloted by Lieut. Kiel of the 91st Aero Squadron, who deserves

much credit for his handling of the plane to that altitude. The jumps were as follows:

Lieut. Eugene C. Batten, 91st Aero Squadron	(In rear cockpit)
Sergt. Richard L. Thorne, 9th Aero Squadron	(Left lower wing)
Corpl. Paul M. Conners, 91st Aero Squadron	(Right upper wing)
Pvt. Earl D. Woodgerd, 91st Aero Squadron	(Left upper wing)
Pvt. Alewis Hartner, 91st Aero Squadron	(Right lower wing)

The jumps were made almost simultaneously, each jumper first receiving his signal from Lieut. Batten in the rear cockpit. Each of the four men on the wings were pulled off by their parachutes, Lieut. Batten jumping from the cockpit after the others were off. The jumps were perfect and all reached the ground together. Motion pictures of the event were taken from another plane.

REPORT OF CHANGES OF STATIONS OF OFFICERS FOR WEEK
ENDING MARCH 22, 1921

March 16, 1921- Major Wm. C. Sherman relieved from duty at Washington and ordered to report at Field Officers School, Langley Field.

March 17, 1921- Major Thomas G. Lanphier ordered from Mitchel Field to Ft. Sill, Oklahoma, for duty at Post Field.

March 17, 1921 -Following officers ordered from Ross Field to San Francisco for duty with 14th and 24th Balloon Companies:

First Lieut. Warner B. Gates
First Lieut. James H. C. Hill
First Lieut. Ivan B. Snell
First Lieut. George S. Warren

March 17, 1921 - Following officers ordered from Ross Field, Arcadia, California, to Langley Field, Hampton, Virginia, for airship training:

Major Arthur G. Fisher
Major Norman W. Peek
Major Harold A. Strauss

March 17, 1921 - Following Officers ordered from Langley Field to Carlstrom Field for flying training:

First Lieut. Bob E. Nowland
Second Lieut. Laurens Claude
Second Lieut. Harry J. Martin
Second Lieut. Adolphus R. McConnell
Second Lieut. Valentine S. Miner

March 18, 1921 - Following officers ordered from Carlstrom Field to Kelly Field for training as indicated:

Pursuit

Captain Vincent B. Dixon
Captain M. F. Donnelly
1st Lieut. Hobart R. Yeager

Bombing

Lt. Colonel C. H. Danforth
Major F. L. Martin
First Lieut. M. G. Estabrook
Second Lieut. F. P. Booker
Second Lieut. H. A. Craig
Second Lieut. F. D. Lynch
Second Lieut. W. T. Meyer
Second Lieut. Henry E. Sessions
Second Lieut. C. P. McDarment

March 18, 1921 - Following officers ordered from Carlstrom Field to Post Field, Ft. Sill, for training in observation:

Lt. Colonel Paul W. Beck
Major R. E. M. Goolrick
Major Junius W. Jones
Captain C. E. Griffin
Captain J. L. Keane
Captain C. B. Oldfield
Captain F. N. Shumaker
Captain W. P. Wynn
1st Lieut. A. F. King
1st Lieut. Robert A. Kinloch
1st Lieut. J. F. Loomis
1st Lieut. J. E. Parker
1st Lieut. F. H. Pritchard
1st Lieut. G. H. Styles
1st Lieut. J. M. Signer
1st Lieut. C. C. Way
2nd Lieut. A. G. Watson

March 19, 1921 - First Lieutenant Harold H. Stiebel relieved from duty with Air Service at March Field and returned to duty with Coast Artillery.

March 17, 1921 - Following officers ordered from stations indicated to Post Field, Ft. Sill, for course at Air Service communications School:

2nd Lieut. James E. Adams	Bolling Field, Washington, D.C.
2nd Lieut. Harold W. Beaton	Kelly Field, Texas
2nd Lieut. John M. Gardner	Kelly Field, Texas
2nd Lieut. Spencer Hall	Mather Field, Calif.
2nd Lieut. George O. Roberson	Kelly Field, Texas
2nd Lieut. Wallace G. Smith	Ellington Field, Texas
2nd Lieut. Isaac J. Williams	Mather Field, Calif.

March 18, 1921 - Second Lieutenant Harold P. Hennessey relieved from duty with Air Service at Carlstrom Field and returned to duty with Coast Artillery at Camp Jackson, South Carolina.

March 19, 1921 - First Lieutenant Winfield S. Hamlin ordered to proceed to Langley Field upon arrival in United States.

March 21, 1921 - Captain John R. Hermann relieved from duty with Air Service at March Field and returned to Infantry.

March 21, 1921 - Orders previously issued sending following officers to Carlstrom Field for pilot training revoked:

First Lieut. Benedict A. Coyle
First Lieut. Wm. S. Gravely
First Lieut. Alvin C. Kincaid
First Lieut. Otto G. Trunk
First Lieut. George L. Usher
Second Lieut. George P. Johnson

March 19, 1921 - First Lieutenant Louis C. Simon ordered from Post Field, Ft. Sill, Oklahoma, to Camp Benning, Georgia for duty.

March 21, 1921 - Following officers ordered from stations indicated to Langley Field for courses of instruction at Photographic School:

2nd Lieut. Evers Abbey
2nd Lieut. Robert T. Cronau
2nd Lieut. Lionel H. Dunlap
2nd Lieut. Gerald E. Grimes
2nd Lieut. Bushrod Hoppin
2nd Lieut. Frederick A. Johnson
2nd Lieut. Delbert E. Jones
2nd Lieut. Emil C. Kiel
2nd Lieut. Alfred Lindeburg

AERIAL SURVEY OF CYCLONE SWEEP
TIMBER ZONE OF THE OLYMPIC PENINSULA

Arrangements are being expedited for the co-operation of the Army Air Service with the Forest Service of the Department of Agriculture in making an aerial survey of the cyclone-swept timber-zone of the Olympic Peninsula in the State of Washington. A detail of planes, pilots and observers will be made by the Commanding General of the Ninth Corps Area who will co-operate with the District Forester, George H. Cecil, at Portland, Oregon in the carrying out of arrangements.

According to reports, not since the coming of the white man to the New World, has there been a storm to compare in violence and in the extent of destruction with that which visited the Olympic Peninsula on January 29.

Some accounts put the area of windstorm timber at 2,250 square miles. The area of worst destruction appears to lie in a strip 30 miles wide extending from Gray's Harbor near the southwest corner of the Peninsula to Clallam Bay on the Straits of San Juan de Fuca. While no accurate data is yet available, the loss of timber is estimated at from 8,000,000,000 to 12,000,000,000 feet board measure.

This disaster has not only resulted in the loss of public property, through the destruction of timber in the Olympic National Park, and in the loss of enormous quantities of State and privately owned timber, but still further destruction is threatened by forest fires.

In requesting the co-operation of the Army Air Service by detailing the necessary machines, pilots and observers to make an aerial survey of the region, the then Secretary of Agriculture, E. T. Meredith, called attention to the imperative need for the Government to take immediate steps to salvage the public owned timber which had been blown down and to assist in salvaging that which was State and privately owned, and especially to control as far as practicable the serious fire hazard.

"The first step", the Secretary of Agriculture writes, "is to make as promptly as possible a survey of the area as a basis for the plan of salvage and protection; and this can be done far more rapidly and conveniently from the air than by attempting to traverse these uprooted forests on the ground. This survey might be made by aerial photography even "if absolutely clear photographs could not be obtained on account of adverse weather conditions; or, if this were not feasible, through sketch mapping by observers in airplanes. It is especially desirable to determine the limits of the affected district, and the location of blown-down and of standing timber."

It is estimated that the cost of the survey from the air will not exceed \$500, approximately. The immense advantage, then, in making such surveys from the air instead of on the ground will be obvious. The saving in money, in time, in men employed, is of immeasurable importance.

SQUADRON NEWS

Kelly Field, San Antonio, Texas, March 5

Flying in the First Pursuit Group during the past week has been discontinued owing to the unusual heavy rains which drenched the airdrome. After the cloud burst of Tuesday, it was tentatively decided to equip the SE5's with pontoons, thereby giving the "naviators" a chance to enjoy their favorite element -- water.

During the interval in which flying was suspended owing to adverse weather conditions, opportunity was taken to thoroughly examine all the SE5 airplanes at present in use. Of the above planes, a large percentage was condemned by various Engineering Officers in charge of this inspection. However, repairs are rapidly going forward and it is anticipated that a reasonable number will soon be available to carry on the usual active tactical operations.

The Group welcomes the first batch of Spads and after a thorough overhaul and check, these will be used to enable the cadets, student officers, and naval officers to obtain a reasonable amount of combat experience and acrobacy, which is so essential to the trained pursuit pilot.

Tactical battle front conditions will be assumed for the ensuing week and patrols will be scheduled which, in so far as possible, does not tax the strained conditions for safety of the SE5's. All practice target shooting will be made with the greatest safety possible. An intensive course in bombing has been carried out to determine the relative efficiency and accuracy of pursuit pilots in offensive and defensive combat operations. Bombs have been dropped individually and in pairs, in various altitudes which have been specified in orders from this office. Altitude patrols have been scheduled to determine the efficiency of the SE5's, equipped with the standard radiators and the SE5's equipped with the new Curtiss radiators. Rapid reconnaissance flights to nearby stations have been engaged in, complete reports being turned in to this office immediately upon return, where they have been carefully scrutinized by the Operations Officer and filed for future reference. Assumed protection patrols have been engaged in by the Group as a whole and by each individual squadron, at various altitudes specified from this office. The route to be taken and the altitude of both defensive and offensive patrols have been specified, thus enabling in so far as possible, assumed battle front conditions eliminating actual combat due to structural weakness of some of the planes of the Group.

A meeting of the Squadron Operations Officers is held each Saturday morning to facilitate and expedite all matters concerning the carrying on of operations in the Group and any errors discovered are immediately thrashed out and eliminated in the future, thereby leaving the Group, as a whole, to function smoothly and perfectly.

The graduating time is fast approaching for the cadets of the First Pursuit Group, and, under the auspices of Captain Brooks, the cadets will soon be ushered into the mysteries of a lieutenant's examination.

The tactical training for the past week amounted to 6 formation flights, 13 by Naval Officers, 22 by cadets; 12 test flights; 1 by Naval Officer; 10 practice flights; 4 by Naval Officers; 1 acrobacy flight, 3 by Naval Officers, 4 by cadets. 4 combat flights by Naval Officers; 2 cross-country flights by Naval Officers, 6 by cadets; 2 gunnery flights by Naval Officers, 4 by cadets. Total flights 112 and 56 hours and 25 minutes total time.

Monday of this week was the only day which was a total flying day. The remaining days of the week were rainy and on Thursday and Friday in particular the airdrome was covered with water which had not drained off, so that flying was impossible.

Training of the fliers of the First Day Bombardment Group at Kelly Field in bombing preparatory to their participation in experiments in bombing planes that will be carried out this spring on the Atlantic Coast, will start Monday, March 7.

A letter has been received by Maj. Gen. Joseph T. Dickman, commander of the Eighth Corps Area, from the adjutant general of the Army, authorizing the bombing practice here and later at Ellington Field. The letter stated that 24 fliers from Kelly Field would be wanted to take part in the experiment on the Atlantic Coast together with several fliers from other Texas fields.

Twelve bombing teams of two officers each, are to be organized at Kelly Field, and the practice and instruction in bombing will be started. The instruction will be given in four stages here, the practice will be carried out over the Camp Stanley reservation.

Kelly Field, March 5.- Cont'd.

The first stage will be given Monday and Tuesday with camera obscura and observation in the morning of each day for five hours. Lectures will be given in the afternoons.

Low altitude bombing will be taken up Wednesday and Thursday, and each officer will be required to take part in the operations for four hours. Low altitude formation bombing will be taken up Friday and Saturday, and each flier will put in six hours in the air.

The third stage which will be given from March 14 to 19, inclusive, will consist of high-altitude bombing and high altitude formation bombing. Each flier will put in 13 and one half hours in this stage.

The fourth stage will be conducted on the gulf coast, the fliers going to Ellington Field as soon as the first three stages of their training here are completed. The training there will be practically the same as in the third stage, except that the bombing will be done over water at floating targets, which will be 200 by 100 feet in dimensions. This stage will continue from March 21 to 31, inclusive, and each flier will remain in the air 22 hours during that time.

Arrangements will probably be made before the fliers go to Ellington Field for some practice to be conducted in dropping bombs on moving targets there. It has been suggested that the targets be attached to boats by long tow lines and moved at varying rates of speed over the water, unless the practice is found to be too dangerous to other boats.

No definite date has been set for the experiments to be carried out on the Atlantic Coast, according to the letter from the Adjutant General to General Dickman, but it will probably be near the latter part of June. The place has not been decided upon.

Prompt action on the part of Private Charles T. Height, 27th Aero Squadron, Kelly Field, probably prevented a serious accident Monday morning when he boarded a motor truck, heavily laden with lumber which was rushing down Army Boulevard without a driver. He succeeded in stopping the vehicle just as it reached River Avenue after it had run the full length of Army Boulevard on the wrong side of the street.

Ira P. Clark, of New Orleans, who is spending the winter here, was going up Army Boulevard in a jitney when his attention was called to the "wild" truck by a passing automobile. Seeing the soldier further down the street, he called to him and when Private Height saw the danger, he quickly crossed the street, jumped aboard the truck as it came past him and succeeded in stopping it just before it reached River Avenue, which was crowded with traffic.

Lieutenant S. L. Van Meter, Jr., Air Service, as pilot, and Lieutenant C. C. Nutt, Air Service, as passenger, made a cross-country trip to McAllen, Texas on February 26th and returned on February 27th, 1921.

Major Carl Spatz, Air Service, went by airplane from Kelly Field, Texas to Aviation Repair Depot, Dallas, Texas, and returned by airplane for the purpose of ferrying airplanes between the stations named.

Lieut. McDermott, in addition to his other duties, has been appointed Defense Counsel, special Court Martial. Lieut. Frierson has been assigned as member of Special Court now sitting at Kelly Field, and judging from his record, prisoners should avoid same.

There was very little activity displayed in athletics during the past week on account of heavy rains and bad weather.

The Kelly Field Basket-ball Team defeated the Fort Sam Houston Team by a score of 20 to 5. The cup lies between Normoyle, Camp Travis, and Kelly Field, odds in favor of Camp Travis and Camp Normoyle. The game between Kelly Field and Camp Travis will be played on Monday, March 7th and will go a long way towards deciding the championship.

An officers' dance was held at the Aviation Club Friday night, and every one seemed to enjoy the affair very much.

A dance was held by the enlisted men Tuesday night; in spite of the weather conditions, the dance was well attended.

France Field, C. Z. March 5.

Four months of restricted flying faces the men on flying status at France Field and the present outlook is that each pilot will be restricted to

France Field, C. Z. March 5. (Cont'd)

about six or seven hours per month until the next fiscal year. About six thousand gallons of gasoline are all that are available under the economy campaign which has been put into effect in this department and that means very limited operations for the planes here. Several plans for aerial training which involved the use of a larger amount of gasoline have been discarded. One of these is the extended training of the carrier pigeons and another is a thorough course in bombing. To carry out either of these plans would necessitate the expenditure of a larger amount of fuel than can be obtained at present and therefore the instruction along these lines will have to be postponed until a normal amount of gas is available. All plans for cross-country flights to the interior of Panama have also been laid aside. It is not a cheerful outlook for the flying personnel, but as it has to be, there is no kicking about it.

More orders have been received by officers whose tours of duty are nearly up at this point. Capt. Thomas Boland, Engineer Officer, is to be sent to Little Rock, Ark., and expects to leave late in June. 1st Lieut. Rowland C. W. Blessley will receive orders to Fort Sam Houston, Texas, when his time expires about July 1st. 1st Lieut. Harlan W. Holden has his orders to Langley Field, Va., and will leave on the first transport sailing after May 6th. 1st Lieut. Charles B. Austin is the only other officer whose orders are due and have not been received. His tour of duty will be completed the latter part of April. The first replacement officers are expected on the next transport about the middle of this month, and the others are expected in time to relieve officers returning to the States at later dates.

The new landing field at Fort Clayton, on the Pacific side of the Zone was put to good use last week. On Wednesday three planes made landings there in connection with the baseball game between France Field and the 33rd Infantry. The field is practically completed and after it has been grassed over will be in excellent condition. Another plane landed at the new field on Friday when 2nd Lieutenant S. M. Connell went to Quarry Heights to represent this post at a meeting of the department athletic council.

The baseball team only played one game during the week and its string of victories was broken when the 33rd Infantry won a six inning game by a 4 to 0 score. The Doughboys didn't earn a run but grabbed four on breaks of the game. Rain interrupted the play three times and finally ended the game in the seventh inning. The game scheduled with Fort Sherman on Saturday had to be called off because the diamond at France Field was too muddy for use. This game will be played off next Thursday. The other games for the coming week are with the strong Naval Air Station team and the Engineers at Corozal.

Airdrome, McAllen, Texas, March 12.

The saddest incident that has occurred to the members of the 8th Aero Squadron since the death of Lieutenants Bateman and Hollingsworth in 1919, occurred last Sunday, March 6th, 1921, when Lieut. Pitman W. Mills was killed in an automobile accident. The car in which he was riding crashed into the rear end of a small wagon driven by a Mexican. It occurred in a sandy place in the road, a short distance from McAllen, Texas. No lights were carried by the Mexican vehicle so that it was not seen by the driver until the car was almost on top of the wagon. The Mexican turned to the left instead of to the right and the car hit the wagon, skidded in the sand, reversed ends and turned over, crushing Lieut. Mills beneath.

The body was shipped to Atlanta, Georgia, and was accompanied by Lieut. V. J. Meloy and Mrs. Mills, the mother of Lieut. Mills. During the placing of the body on the train, two planes circled above, dropping flowers on the casket.

The Commanding Officer, Lieut. Pursley, received orders to proceed to Carlstrom Field, Arcadia, Florida, where he will undergo a course in pilot training. This will leave Headquarters and Flight "A" with only three officers. Lieut. Pursley had just returned from a honeymoon trip to Palm Beach and Havana, Cuba. The bride had just selected her furniture and the happy home was broken up almost before it was started. This is the third instance that an officer of this command asked for a leave, returned with his bride and found travel orders awaiting him. Evidently McAllen is no place for a married man.

Airdrome, McAllen, Texas, March 12, Cont'd.

A look of pride is on the faces of the members of this organization as they observe the developing of the new camp, from a desert place of mesquite and cactus, to a beautiful garden of Bermuda grass, Calla lilies, native trees and shrubs. Soon this will be one of the most attractive Airdromes in the country. The clearing, leveling and dragging of the old camp site, will add several hundred feet to the landing field, enlarging the field to such an extent that it would be possible to locate a group at this point.

Brooks Field, San Antonio, Texas, March 13.

Sixteen (16) car loads of steel for the large dirigible hangar were received here during the past week.

Wednesday afternoon witnessed a lively baseball game between the sixth and seventh Balloon Companies. The Sixth went down in defeat before the onslaught of the Seventh. The final score was 22 to 0 in favor of the Seventh Company.

U. S. Army Balloon School, Ft. Omaha, Nebraska, March 15.

A clay pigeon trap has been installed on the Post and all Air Service officers are taking advantage of it. Every evening sounds emanate from that direction like a real skirmish. Some very good scores have been made, taking into consideration the short time some of the officers have been shooting. It is hoped to bring the average up to any of the heavier-than-air teams.

Captain Henry C. White has received orders transferring him to the U. S. Army Balloon School, Ross Field, Arcadia, California, for duty and training in the lighter-than-air and First Lieutenant Richard E. Thompson has received orders transferring him to the same school for duty as an instructor in the Lighter-than-air training courses.

A. S. Mechanics School, Chanute Field, Rantoul, Ill., March 15.

The capacity of the Air Service Mechanics School has been increased to 3000 students per year. The exact percentage of men entering in the different courses, however, has not as yet been approved by the Chief of Air Service. A tentative schedule has been laid out with the average length of courses, four months, with a 48 week year. In addition to the regular graduates provision is being made to trade men as Specialists along different Air Service Lines. These men are picked by the Chief Instructors among the students after they have been in school for from two to four weeks, and are given special attention.

The work of remodeling buildings of this Post for instructional purposes is progressing steadily. The Aircraft Armament Course is almost complete, and the motors, benches and stands in the Course of Engine Mechanics are being set up daily. The location of the Test Block has not, as yet, been determined, the present Test Block on the field being inadequate. It is believed these will be placed on the site of Hangar #4, which was burned down sometime ago. The advanced Field Training Flight has been in operation since the first part of February. Planes are flown daily and all planes brought from Kelly Field have been set up and placed in operation. The Course for Airplane Mechanics is having a fine time since its organization at Kelly Field. Here it is no longer cramped, and has plenty of room to carry on properly everything of instruction. April 15th promises to be a day of celebration for the departments of instruction, which has left no stone unturned that might detract from the efficiency of the School.

The big gymnasium at the east end of the field has already proved a source of fascination to those who skate and source of constant amusement to the on-lookers. At the present time, although no remodeling has been done, except to smooth the floor, everyone who can beg, borrow or steal a pair of roller skates, puts in an appearance at least once a day to master the intrications of roller skating. On a busy evening the place offers much more excitement than Second Solo Stage, such as side slips, skids, but most of all tail spins which generally end in a crash, this is something that causes the innocent bystander to stand aghast at the utter disregard for life and limb shown by these intrepid young men. It is a most interesting sight to see some of the hardest and fiercest young men, who have never been known to smile, or utter a kind word, almost achieve flying speed, and straighten up with an ecstatic grin to enjoy the motion, only

A.S.M. School, Chanute Field, Cont'd.

to have one skate go one way and one the other, causing said officer to wipe said grin from his countenance with a look of broken-hearted dignity and mop up several square feet of floor space. They are all game, however, from the K.P.'s to the K.O.

If plans already started for the enlisted men at this Post finish up anywhere near where they have started, no enlisted man will have an idle moment during his spare time. In addition to the Enlisted Men's Social and Athletic Club, which is the Special Club for the permanent personnel, and which has been remarkably successful since its organization. The gymnasium and roller skating rink has two bowling alleys, and will have a good motion picture screen and machines where second run pictures from Chicago can be shown three nights a week. A portable stage and a boxing ring are being constructed, so that all activities dealing with the recreational and athletic, with the exception of a library and reading room, which will be in a converted mess hall, are being taken care of. In addition to this, plans are under consideration for a large swimming pool adjoining the gymnasium, base ball diamond and sodded gridiron. Cinders are being selected for a good quarter mile track. The most artistic, as well as the best design for these out-door activities, is being stressed. The pool, in addition to being of sufficient size to accommodate the personnel, will be a decided improvement in the appearance of the field; so also will be the athletic fields.

The musical activities, under the direction of Morris Stoller, at one time member of the Boston Symphony Orchestra, have progressed nicely. Try-outs have been held in which every one who had ever seen a band participated. The result of this conglomeration of sound, which for a week disturbed the pastoral calm of Chanute Field, is evidenced by the fifteen piece band, and the Chanute Field Symphonic Jazz Society, both of which organizations are enthusiastic, tireless and musical. The "tired enlisted man" will soon have no kick coming from the recreational stand-point.

Lieut. H. H. Carr and wife and son are newcomers from Carlstrom Field to this Post. Lieut. Carr is reporting for duty in a course of instruction in Air-plane engines.

A.S.M.S. Bridge Club meets Tuesday, March 15. This starts the first play for the March Trophy. The first A.S.M.S. party will be held at the Officers' Club Thursday, March 17. Music will be furnished by the Post Jazz Orchestra. Decorations will all be green. Dancing will be from 9:00 P.M. until 12:00 M, with light refreshments.

On Sunday, February 27, 1921, a fleet of eight JN6 Planes with Hissco Motors left Montgomery, Alabama, for Carlstrom Field, piloted by the following named Air Service Officers, Major A. H. Gilkerson in command:

Lieut. Col. P. W. Beck; Captain V. B. Dixon; 1st Lieut. J. E. Parker; 1st Lieut. H. R. Yeager; 2nd Lieut. R. T. Cronau; 2nd Lieut. O. A. Gottschalk; 2nd Lieut. S. M. Umstead.

Seven pilots and planes arrived at their destination by air and one plane and pilot arrived by rail. The itinerary included Camp Benning, Souther Field at Americus, Waycross, Ga., Camp Johnson, near Jacksonville, Fla., Daytona Beach, Kissimmee, and the home field. There were one or two extra landings not listed - not for the whole fleet but for individuals forced to land. Also six of the eight planes flew over a large part of eastern Alabama and that part of Georgia within sixty miles north of Camp Benning, becoming thoroughly familiar with the heavily wooded, hilly terrain of that portion of the United States, and giving the people a chance to see modern planes close up.

The four student officers of the flight gained much knowledge of flying cross country, landing on small and strange fields, and had a chance for birds-eye views of Okefenokee Swamp and the lake region between Daytona and Carlstrom Field.

A board of officers has been appointed to meet at Carlstrom Field, Arcadia, Florida, for preliminary examination of applicants for appointment in the Regular Army.

Lieut. Col. Alvin S. Perkins, A.S., has been relieved from assignment at this Field and transferred to the 5th Cavalry, and will proceed to Marfa, Texas.

Carlstrom Field, Arcadia, Florida, March 17, Cont'd.

The following officers have left for Montgomery Air Intermediate Depot on temporary duty for the purpose of ferrying an additional five (5) Curtiss planes to this field: Major Adlai H. Gilkeson; 2nd Lieut. Hugh A. Bivins; 2nd Lt. Oliver A. Gottschalk; 2nd Lt. Frederick A. Johnson; 2nd Lt. Samuel M. Umstead.

Mather Field, Sacramento, California, March 14.

On March 10th Lieut. Emil C. Kiel, Pilot, 91st Aero Squadron, with Lieut. Arthur G. Liggett, 9th Aero Squadron, as observer, working a Magnavox installed in a DeHavilland plane, flew over Berkeley, California, for participation in conjunction with the maneuvers held by the R.O.T.C. at the University of California.

The troops were divided into two armies, one being the "Blue Army", and the other the "Red Army". Lieut. Kiel and Lieut. Liggett worked in liaison with the "Blue Army"; Panels were used for signalling, each platoon leader operated his panels calling for certain information which the plane would secure and report by Magnavox. The scheme worked out very successfully and at all times the platoon leaders knew the exact positions held by the "enemy". Owing to the great help and efficiency of the Magnavox the "Blue Army" was easily victorious.

The maneuvers were under the direction of Major W. A. Robertson, in command of the Air Service R.O.T.C. at the University of California.

Much competition and enthusiasm are being shown by the entire field in the baseball games now being played to decide the championship for the Post. On Wednesday, March 9th, the Air Service Supply Detachment was defeated by the 91st Aero Squadron thus disqualifying them from further participation in the championship games. This now leaves the 9th and 91st Squadrons as the only contenders, each of which are confident they will win and the deciding games between the two rivals will be watched with much interest.

Captain Robert L. Walsh, 9th Aero Squadron Commander, left on a thirty days sick leave which will be spent in San Francisco and Walla Walla, Washington.

1st Lieut. John W. Slattery, A.S., has returned to this station from a two months leave of absence and has been appointed Executive Officer.

Little flying of any nature has been done in the last week although weather has been one hundred per cent suitable. The personnel of the station are all engaged in general cleaning-up work, both outside and in the offices.

A special mission consisting of six army battle mules, type A-1, "flew" a close formation into Mexico with Lieutenant Woodruff as Flight Commander, the mission being a reconnaissance of the sector containing Lieutenant Pearson's lost airplane. A number of thrilling incidents were related by members of this "flight" upon their return to regular meals. The party consisted of Lieutenant James A. Woodruff, Air Service; Master Sergeant Traxler, 5th Cavalry; Pvt. First Class Trueblood, airplane mechanic, and Packer Johnson of the 4th Pack Train at Marfa. Considerable stress was laid upon the inferiority of the type of "ship" used upon the party's return, some of the objections being the slow rate of climb, and the rate of water consumption was too high for the supply. The "machines" were not equipped with air speed indicators, though the pilots all agree that the speed is somewhat inferior to that of the Verville-Packard. After a five day "flight" the formation had to abandon the mission and return to this station. Other members of the party said that their morale was buoyed up constantly by the acrobatics of the Flight Commander, who also originated a new evolution which has been christened the "Bed Rock Slip". However, all checked in safely and further instructions are being awaited.

The commissioned personnel of this airdrome are now "one hundred per cent" in the United States Air Service Association. Every one has displayed a lively interest in the work being done by the Association and spreading the good word to discharged friends by sending copies of the official publication of the Association to them.

90th Aero Squadron Airdrome, Sanderson, Texas, March 12th.

The Enlisted Men's Club gave an Inaugural Dance in Sanderson which was largely attended, all sections of Terrill County being represented. The music was furnished by the Fifth Cavalry Orchestra from Marfa. Refreshments were served during the evening in the hall, which was profusely decorated with the Air Service insignia, etc. The dance was voted one of the best in the history of Terrill County, and the Club's debut was declared a decided success by all those present.

France Field, C. Z., March 12.

Major Millard F. Harmon, Jr., who returns to the States the last of this month, made his final inspection of the 3rd Observation Group Saturday. The inspection took place on the flying field with all the planes, motor transportation and the various organizations and detachments lined up nearly the length of the field.

Upon the completion of the inspection Major Harmon complimented the command on its orderly appearance and the excellent condition of equipment and urged them to continue their excellent reputation under the next commanding officer. Major Harmon is held in the highest regard by every member of the command.

Two new landing fields in the Canal Zone were inspected during the past week one being reported as usable and the other as impractical except in case of forced landing. The first field is just out of Panama City and is being laid out by the government of Panama. This field was looked over by 2nd Lieut. H. B. Chandler on Sunday when he flew from France Field and made a landing on the projected site. He gave the officials several instructions to be followed in completing the field and when these changes are made it is expected the field will be easily accessible to all planes from this station.

It has been reported that the removal of telephone wires had made a field at Camp Gaillard available for landing, but 1st Lieut. C. B. Austin, who tried to verify the report found that it was practically impossible to get a plane into the field with any safety. High hills and fields surround the field and make it impracticable for landing with any degree of safety.

In order to get some formation practice, six planes flew to Fort Clayton on Saturday afternoon and from there the pilots and passengers went to Corozal to see the France Field vs Corozal baseball game. Some rough landings were made because of a high pole which bothered the pilots in approaching the field, and two tires were blown. As there was only one spare tire on the planes, Master Sergt. Joe Grant made a return flight to France Field and brought back two spare wheels. The return flight found the planes in excellent formation all the way and especially during a swing over Colon and Cristobal and the various naval and military ports just before landing. 1st Lieut. C. B. Austin was in charge of the flight, the other pilots being 2nd Lieuts. H. B. Chandler, Odas Moon, J. D. Barker and Kenneth Garrett and Master Sergt. Joe Grant.

1st Lieut. Perry Wainer, communication officer, with 2nd Lieut. J. F. Whiteley as a pilot, made numerous radio test flights and on one day worked with the Signal Corps detachment at Fort Clayton.

The undefeated France Field polo team has at last arranged a game, and on Sunday morning will meet a team of Field Artillery officers from Gatun. The players and ponies are all well primed for the contest after four months of constant practice and Major M. F. Harmon expects to keep the team's record clean. Major Harmon expects to start the following lineup: 2nd Lieut. Watson, No. 1; Capt. Thomas Boland, No. 2; Major Harmon, No. 3; and 2nd Lieut. Connell, No. 4. This will be the first polo game ever played on this side of the Canal Zone and a large turnout of spectators is expected from the neighboring army and navy posts.

The Naval Air Station ball team, which until this week has held the leadership of the League, played France Field on home grounds last Wednesday and took the best end of a hard won 4 to 3 score.

Matters were evened with Fort Sherman when the coast artillery ball team was administered a 10 to 2 defeat on their visit to France Field last Thursday, although the visiting players made half a dozen changes in positions in unavailing hopes of putting a stop to the bunched runs brought in by the aviation team.

Rain stopped the early scoring of France Field in what promised to be an interesting game with the Engineers at Corozal on Saturday.

France Field, C. Z. Cont'd.

An aquatic meet to be held the coming Thursday will bring the men of the Post together for one last event before the departure of Major Harmon, now completing his tour of duty as commanding officer. Were it not for the handicap in lack of athletic equipment and facilities for the events of the field, an athletic meet would be held, for this Post has taken back seats in few events in past competitive meets with the other organizations of the Canal Zone. For the water events of next week, a large number of entrants have been listed by 2nd Lieut. Samuel Connell officer in charge of athletics, and the diving tower daily bristles with activity in anticipation of some events to be closely contested.

2nd Lieut. Kenneth Garrett has been relieved of his duties as assistant Quartermaster, in charge of the Post Commissary, and assigned as Post Salvage Officer and Assistant Engineer Officer. His duties at the Commissary have been taken over by Warrant Officer, Cecil Hewitt. 2nd Lieut. Odas Moon has been assigned as adjutant of the 7th Aero Squadron in order to relieve 1st Lieut. A.C. George from the entire burden of the squadron duties.

Selfridge Field, Mt. Clemens, Michigan, March 19.

Major H. S. Brinkerhoff, U.S.A., retired, of the office of the Inspector General, Washington, D.C., spent several days at the Field during the past week. Major Brinkerhoff's visit was in connection with the claims of property owners of the right-of-way of the railroad leading to Selfridge Field.

Fairfield Air Intermediate Depot, Fairfield, Ohio, March 19.

The usual activities in shipping and handling supplies have continued at the Depot during the week.

In the Engineering and Repair Department two Martin Bombers, a Handley Page and a Caproni Biplane are being overhauled for use in connection with the bombing experiments soon to be conducted with obsolete Naval Vessels. Two DH-4B ambulance planes and two DH-4B messenger planes are nearing completion. A Spad was completed during the past week and turned over to the Flying and Testing Department.

In the Flying and Testing Department experimental work is being conducted in an attempt to secure the greatest possible efficiency from a Curtiss JN-4H plane which has recently been assembled for cross-country work. Some interesting combat work has been staged with SE-5's and a Spad which came to this Department for test during the past week.

Lieutenant Charles W. Steinmetz completed the cross-country section of his J.M.A. test during the week.

The entire personnel of the Utilities Department has been busy with the moving of the garage and the Automobile Repair Shop from the Second Unit on to Government owned property, close to the main warehouse.

The work of laying out new lawns and flower beds and the beautifying of the Post in other ways is rapidly progressing.

In the Quartermaster Reclamation Department an experiment is being conducted in feeding the Post garbage to hogs which are the property of the organizations at this station. Present indications are that the profits realized from the disposal of garbage this summer will be approximately one thousand percent greater than would be possible under the old system of selling the garbage to contractors. A careful cost record of this experiment is being kept and if the expectation of the Quartermaster is realized, this system of garbage disposal probably will be prescribed throughout the entire Fifth Corps Area.

Headquarters 2nd Aero Squadron, Fort Mills, P.I., January 29.

Seventeen (17) flights including practice formation flights, Photographic flights and several other motor test flights have occupied most of the week. Nearly all of the HS-2L are undergoing a G.O.H., including rewiring and repainting.

Construction at the tail of the island of both hangars and barracks is rapidly nearing completion. But from all indications the Squadron won't be able to occupy the new barracks before April or May of this year.

Headquarters 2nd Aero Squadron, Fort Mills, P.I., January 29. (Cont'd)

The Engineering and Operations Officers have moved to the tail of the Island: the Engineering Office occupying the building previously occupied by the Armament Department and the Operations Office occupying one of the vacant offices in the Headquarters Building on top of the hill.

Captain Ervin and Lieutenant Patrick spent a few hours in Manila Tuesday on official business.

Lieutenants Cole, Richter and Lea are detailed on special duty in Manila in connection with the aerial exhibit at the Carnival grounds during the coming week.

Private Prevost, chief mechanic on the Air Service Launch "Geary", distinguished himself as a hero recently when he answered a distress signal from a local sub-chaser that was on patrol duty off the coast of Luzon near the Barrio of San Jose. Due to the darkness and high seas the boat had accidentally headed on a reef instead of the cove which is used for the small boats to anchor in. By skillful maneuvering the "Geary" was successful in rescuing the stranded boat by towing it back to deep water, without any material damage to either.

Staff Sergeants Sankey, Taylor, Von Haverbeck and Feichtinger, were ordered to appear before a board of officers convened, pursuant to a special order issued at Headquarters Kindley Field, Ft. Mills, P.I., to determine their fitness for promotion to the grade of Master Sergeant.

Clark Field, Pampanga, P.I., Jan. 29.

Problems with the Annual Staff Ride of the Philippine Department and exhibitions at the annual Carnival of Manila and the Department Military Tournament have kept the six pilots of this Field busy during the week.

The Staff Ride has ended after the Squadron had successfully participated in the four main problems, and delivered mail daily to the Headquarters of the ride at different points over northern Luzon.

The Carnival and the Military Tournament, however, have just begun. Formation flights with D.H.'s and combat exercises with Spads are scheduled almost daily as a part of the program of either the Carnival or the Tournament.

Headquarters Detachment, First Observation Group, Manila, P.I., Jan. 29.

The Grand Carnival Parade heralded the opening of the great Magallanes Carnival. During the parade a formation of six DeHavilands flew low overhead dropping messages and taking motion pictures.

The parade was composed of commercial, agricultural, educational and military floats and formations, they proved very interesting as well as instructive.

The Military Athletic Tournament opened at Fort William McKinley today and will continue for several days. All military units in the Philippine Islands will participate in some event. On Thursday, February 3rd, five DeHavilands from Clark Field, Camp Stotsenburg, will fly a formation over Fort McKinley after which they will compete in a message dropping contest, the winner to receive a silver cup.

The most interesting of all events in the tournament will be the Photographic Race. Planes will fly from Clark Field at a set time and take pictures of Fort McKinley, return to the field, develop and print the pictures and return to drop the prints on the parade ground. Good prints as well as speed will be taken into consideration.

Headquarters, 2nd Aero Squadron, Fort Mills, P.I., February 5.

The largest part of the week has been spent in preparing four (4) of the HS.2L Seaplanes for a trip to the Southern Islands in the near future. All motors for this trip have been carefully selected and tested and proved to be the best h.p. of the Liberty Motors that are in stock at this station, all of them averaging from three hundred and ninety-five to four hundred and ten h.p. at sixteen-fifty (1650) to seventeen hundred (1700) R.P.M. Also an additional fan pump has been installed near the back engine bed's struts which works in conjunction with the original pump and can be used in case of emergency on long distance flights.

Headquarters, 2nd Aero Squadron, Fort Mills, P.I., February 5. (Cont'd)

The machine-shop is now fully equipped with new electrical machinery to handle all repair work of the Squadron and has some excellent mechanics who are capable of repairing all classes of motors that are operated at this station.

Sergeant Keating has been appointed First Sergeant vice Staff Sergeant Taylor, who has received orders to return to the States.

Lieutenant Hine flew to Manila, Friday on official business.

Captain and Mrs. R.C. Ervin celebrated their seventh Wedding Anniversary on Saturday, nearly all the officers and families of the Air Service Garrison being present.

Privates Burford and Witwicki were promoted to the grade of Corporal and Private Turley to the grade of Private First Class.

A basket-ball team has been organized and is composed of some of the best players in the Squadron. Most of the training and practice is done at the new Army Service Club Gym.

Headquarters, Clark Field, Pampanga, P. I., Feb. 6.

The combination of a military tournament and frequent exhibitions at Manila's Annual Carnival have kept the six pilots of the Third Aero Squadron busy during the week.

A message dropping contest, photographic contest, and a formation were the features at the Annual Military Tournament of this Department.

A formation and acrobatics in Spads on several occasions were given for the benefit of the carnival which has been in operation during the week. The frequency of the exhibitions held all of the Squadron officers in Manila during most of the week.

The arrival of five additional officers on the transport "Sherman" gives the Squadron eleven pilots, the largest number on its roster since the arrival of the organization on the Islands, nearly two years ago. The Squadron, however, is still without observers. The new arrivals are First Lieutenants Henry I. Riley, Martin S. Lindgrove, Clarence L. Midcap, Leland C. Hard, and Second Lieutenant Edwin Johnson.

Headquarters Detachment, Flight Observation Group, Manila, P.I., Feb. 5.

The Philippine National Guard aviation hangars at Paranaque Beach are gradually nearing completion. The famous Curtiss F-5-L Flying Boat will be used for passenger and mail carrying, but it is understood the smaller and faster craft will be obtained for smuggler-chasing. The Philippines at the present time is exceptionally well fitted to cope with smugglers of any kind, for in addition to the fast Revenue Cutter, a sub-chaser and two beautiful twenty-one knot sea-going speed boats have been purchased from the United States.

Lieutenant John Blaney, Camp Clark, Stotsenburg, P.I. won the honors in the message dropping contest held during the Military Athletic Tournament at Fort William McKinley, P. I.

The Aerial Ground Exhibit at the Philippine Carnival has been the source of great interest and excitement, for each day the grounds in and around the hangar have been crowded with people.

In addition to the DH-4B and the French Spad VII, each of which are completely equipped, there was also a fine line of aerial equipment and apparatus, such as the camera gun and parachute, that few people in the Islands have had the opportunity to see.

On Feb. 4th the Aviation Ball was held in the Grand Auditorium with a very large crowd. The Queen of the Carnival arrived at the Ball in a plane and was taxied up to her throne where she alighted.

Seventeenth Balloon Company, Kindley Field, Fort Mills, P.I., February 5.

Two enlisted men in this organization, Corporals Walter H. Archer, and Max M. Sternberg, have been appointed Cadets, and will be sent to the United States on the first available transport to take flying instructions.

Members of the 17th and 27th Balloon Companies participated in the Post Review, at Topside Parade Ground, Saturday, February 5th, 1921.

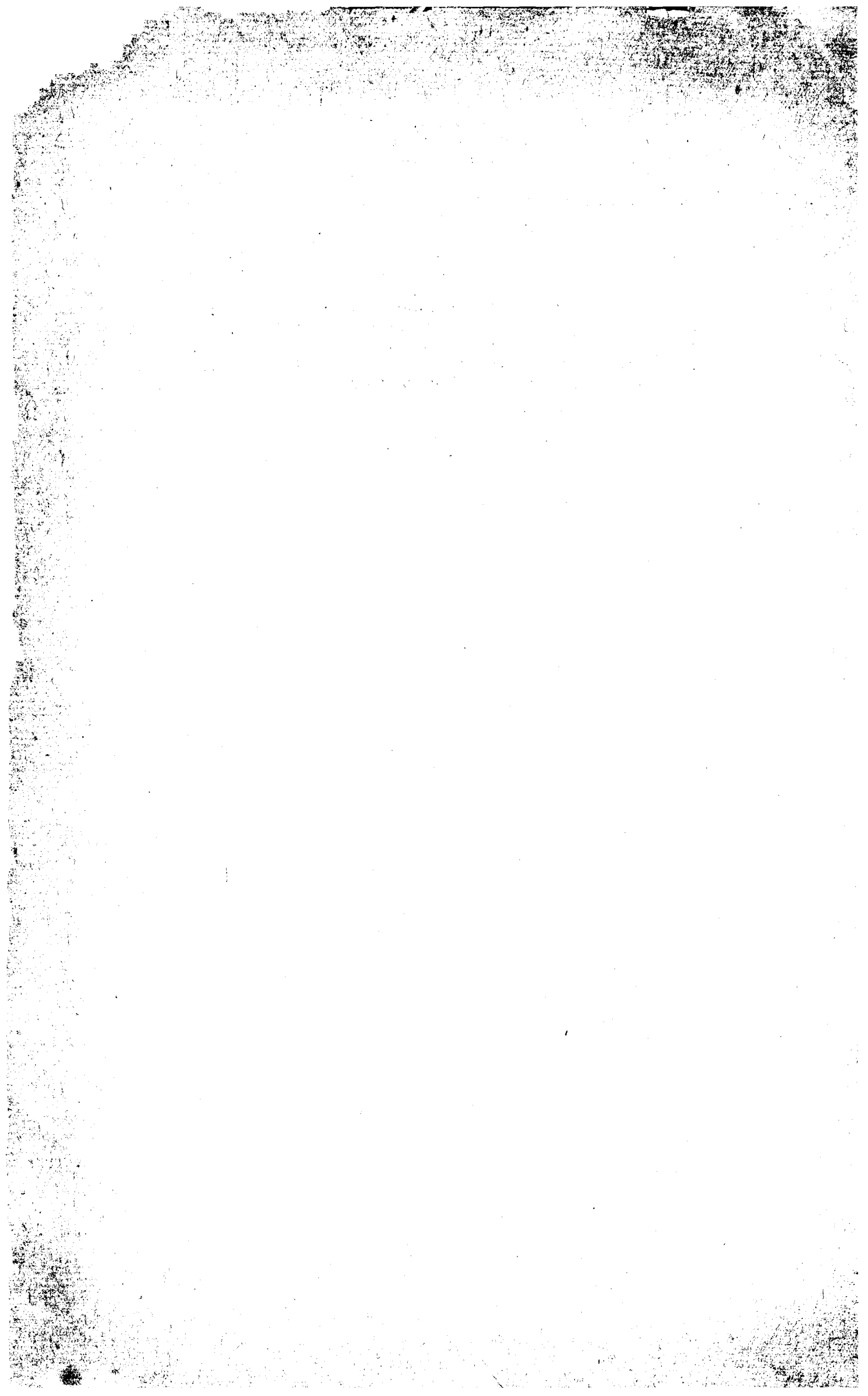
Seventeenth Balloon Company, Kindley Field, Fort Mills, P.I., February 5. (Cont'd.)

The Garrison at Kindley Field, which consists of the 2nd Aero Squadron and the 17th and 27th Balloon Companies, are giving a dance at the Army Service Club, Saturday night. Refreshments will be served after the dance.

Flight "B", 12th Obs. Squadron, Airdrome, Nogales, Arizona, March 19.

The Bombing Range, which was arranged for by Major Hefferman on January 1, was marked with a large white circle by Lieut. Prosser, and Wednesday of this week it was bombed for the first time, good results having been obtained, Mark III bombs used.

The base ball team which was organized from this Flight during the past week played its first game with the Nogales High School on this Airdrome March 18, defeating the N.H.S. in a score 15 -- 12. All the boys are in good shape and are practicing hard to make a good record for this Flight in the coming season. It is also being arranged for the team to play other teams in Arizona.



April 12, 1921

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE APRIL 13, 1921.

ELEMENTARY DISCUSSION OF AIR SERVICE, AIR FORCE, AND AIR POWER

In these days of controversy as to the relative merits of seacraft and aircraft, and as to whether the air forces should have a separate organization of their own such as the Army and Navy, or whether they should be divided piece-meal and assigned to those organizations which have use for them, there seems to be a general confusion existing as to exactly what is meant by air service, air force and air power. In an attempt to explain these various terms, it seems necessary to resort to the history of the late World War.

It will be remembered that when the first airplane actually flew, military men were immediately interested in it because it represented to them a mobile elevated platform by means of which information could be obtained concerning the movements of an enemy whether on land or sea. Therefore, upon the outbreak of the World War, the few airplanes in existence were used purely for reconnaissance purposes. It did not occur to the military mind at this time that the airplane would become a powerful offensive weapon. Therefore, in the first few months of the war, a German pilot in the air would wave his hand in passing a French pilot and go on about his business, which was to get all available information relative to the movements of the French forces on the ground. This status persisted for some time and then some ingenious pilot got the idea that it would be a great help if he could shoot the enemy pilot while engaged in his mission and thereby prevent him from carrying back any information which he might gain. He attempted to do this with a pistol, rifle and shot gun with vary poor success, due to the extreme difficulty of hitting an object moving at a high rate of speed which was also capable of quickly maneuvering out of range.

However, this one little idea was enough to start things, for the next step, which proved of extreme importance, was the mounting of machine guns capable of shooting through the propeller. This was destined to change the entire aspect of war as concerned the flying end of it. It did not take a military genius to figure out that an enemy airplane equipped with machine guns, was capable of clearing the air of planes not so equipped. And thus the race for air supremacy was on.

Since the machine gun was fixed and fired through the propeller, in order to hit anything it was necessary to maneuver the whole airplane. In other words, instead of aiming the gun, the pilot aimed the airplane. Therefore, it now became necessary to design airplanes which could outmaneuver enemy planes, and by so doing, shoot them down. With this conception came the little pursuit plane, commonly and erroneously referred to as a scout plane, whose one aim in life was to destroy as many enemy planes as possible, and who cared absolutely nothing about what was taking place either on land or water, but whose one concern was the air. Its reason for being - in fact its very birth - was for the sole purpose of clearing the air of enemy planes so that its own observation planes could continue about their business as of old and to prevent the enemy observation from continuing theirs. Naturally, the German desire became that of getting more pursuit planes of superior performance on the front than could the Allies. The result was a pursuit plane extremely fast and maneuverable which carried only one man, and whose only function was to fight.

Therefore, at this stage we have two distinct branches of aviation. One branch concerns itself with aiding troops on the ground or on the water by seeking and obtaining for those troops information relative to the enemy, and by assisting in the adjustment of artillery fire on targets, which, due to its altitude, it can see when the surface troops can not. This branch is known as Observation, which, in turn, is divided into many specialized kinds of observation, such as Surveillance, Army Observation, and Corps Observation. However, the general object is always that which is mentioned above. The other branch concerns itself only with fighting in the air with a view of protecting its own observation machines and clearing the air of enemy fighting and observation machines so that its own observation machines may work freely over enemy territory or water.

These two branches constantly underwent improvement as to design and armament until a point was reached where it was realized that a modern airplane could carry considerable weight in addition to the personnel. This at once meant to the military mind a vehicle which could carry a certain amount of explosive to places beyond the range of artillery. And thus in 1918, we have the bombing plane coming into its own as an entirely new branch of aviation.

It is the function of Bombardment aviation to destroy, by means of missiles containing either high explosives or gas, important centers of concentration behind the lines, or important manufacturing centers in the interior, or to attack bodies of troops marching along roads, with machine gun fire and fragmentation bombs. The possibilities of this branch during the late war were merely scratched. With the improvement of airplanes, greater weights can be carried and more effective bombs have been developed, whose terrific effect can be imagined when it is pointed out that in a 2,000 pound bomb, 1,000 pounds is high explosive such as T.N.T. There are airplanes now easily capable of carrying a bomb of this size, and in the near future there will be planes capable of carrying three and four such bombs. One bomb like this in the financial district of New York City would make the recent disastrous explosion look like that of a penny firecracker.

With the advent of the bombing plane, it was found necessary to increase the number of pursuit planes so that they could take on the additional burden of protecting the bombing planes as well as the observation planes. The bombing plane carrying a great load, being at least a two-seater, is not so maneuverable or fast as a pursuit plane, and is therefore at its mercy.

Bombing, however, like pursuit, does not aid directly the forces on the ground or on the water. Its mission is to attack the reserves or to actually attack troops on the ground or ships on the water. In order that it may operate, it is necessary that the enemy pursuit be kept down or it will be subject to destruction from that enemy pursuit before it can drop its bombs effectively. Therefore, we have another branch of air force coming into being which concerns itself purely with air work and is not directly interested, as is observation, in the troops on the surface. This, in turn, is composed of specialties. For instance, it was found necessary to divide it into Night Bombardment and into Day Bombardment. One reason for the development of Night Bombardment was to protect it from pursuit attack under cover of darkness, as then it was possible to use a bigger airplane of slower speed capable of carrying much greater weight - a plane which would not exist in the day time for one minute in the neighborhood of enemy pursuit planes.

During this period of development of the bombardment air forces, pursuit had not contented itself with simply shooting down enemy planes, but had found that due to its mobility and great rate of speed that it could descend from altitudes and attack enemy troops on the ground with its machine guns, the fire from the ground being negligible as the fast plane could fire and get away before the forces on the ground could organize a defense against it. This was the forerunner of the latest development of aviation which did not take place until the closing days of the war and was called Attack.

The function of the Attack aviation is to fly at extremely low altitudes and actually attack troops wherever they may be on the ground. In order to protect it from machine gun fire from the ground, the vulnerable parts of the plane and engine are protected with light armor. This branch of aviation, although in its infancy, has great prospect of development during the coming years. In addition to carrying very heavy armament (one type even now in existence carries eight machine guns and one 37 m.m. cannon), it also carries small fragmentation bombs which are very injurious to the morale of the troops. This new branch of aviation is also purely an air matter. It is vulnerable to attack of enemy pursuit and relies on surprise attack and flying at low altitude to escape this pursuit which is usually patrolling at a high altitude.

Therefore, from the above it can be seen that the name "Air Service" which was originally applied to aviation, was applied because at that early time the only work of the airplane was observation work as outlined previously in this paper. Its duty was simply service to the troops on the ground and it had no other function. However, we see that in addition to this air service, arms of aviation have been developed which are purely air force, namely, Pursuit, Bombardment, and Attack, whose element is the air; who are not concerned with movements of enemy troops on the ground or directing artillery fire, and whose function is purely an air function. The name "Air Service" is an unfortunate heritage and a misnomer. It would be as logical to insist that the army be called "Artillery" or "Infantry", each of which is a component of the Army. In the event of war, the difference between air service and air force becomes even more sharply defined. The Air Service would be mobilized at the same rate as would its divisions, corps, or armies, but the Air Force should be ready to operate on "D Day" to prevent hostile air raids on our important centers, and at the same time to attack the centers of the enemy with a view to delaying his mobilization and preparations. Without such an air force, if the attacking nation had one strong and efficient, our main centers could be put completely out of action with gas and high explosives. This interference might become so serious as to prevent our mobilization and result in almost complete helplessness. Again, the Air Service depends directly on the size of the army mobilized. The Air Force is limited in size by that of the hostile air force and our ability to produce the necessary equipment and personnel.

Having traced the development of Air Force, it is desired to treat briefly the subject of Air Power. Air Power may be defined as the application of air force, and air force can be mobilized and concentrated at any desired point infinitely quicker than can units on the surface, either troops or ships. Air forces move without reference to railroads or roads at a rate about five times as great as the average movement of ships and of troop trains. Therefore, by means of this air force, power can be quickly applied to any point of our coast within a very limited time after information is received that such a point is threatened. Like every other power, however, it must be directed by one head. There are no frontiers or coast lines in the air, and it makes no difference whether this air force fights over the sea or over the land, the personnel is trained in the same manner and the tactics utilized are identical. Again, it is only the Observation aviation or Air Service which stays and acts directly with troops or ships.

In closing this paper, it is desired to ask if any thinking person would advocate doing away with our navy on the supposition that if we should have war our plants could turn out the necessary battlehips with their auxiliaries in time to be of any use. Such a proposition is quite as sound as is one that advocates that the equipment for an Air force can thus be built. It takes three years to develop a first class fighting, bombing or attack plane, a limit of time which compares with that necessary to develop a fighting naval vessel. The navy in the future must share with the Air Force the honor of holding the first line of defense, as the navy possesses no means within itself to stop an air attack. Therefore, why not face the facts and act accordingly?

It must be appreciated, in considering Air Service and Air Force, that the Air Service is really a part of and works directly with the Army organization.

Therefore, Air Service aviation need not be ready for action until the Army itself is ready for action, inasmuch as it cannot be used by or work with the Army Units at the front until those units reach the front. It is therefore apparent that Air Service can be allowed the same length of time to prepare for service at the front as it takes the Army to prepare for and reach the front.

On the other hand, it will be necessary for the Air Force to begin operations not only on the day but on the minute that war is declared. In case there should be a war between the United States and a bordering country, the side which put its air force organizations into the air first, attained air ascendancy and maintained it, would decidedly have the advantage; could carry on depredating expeditions against important centers in the enemy territory with much greater effect than if it were necessary to carry on these expeditions in the face of overwhelming forces of enemy aviation. In other words, the Air Force like the Navy is a first line of defense and must be ready to act the minute war is declared, whereas, the Air Service is a service like the Signal Corps and necessity for its presence is not established until the Army with which it operates takes its place at the front.

The above phase of Air Service and Air Force is along only one of the lines of discussion in which the question is being considered in this office. Some officers are of the opinion that attack aviation, which is equipped with reinforced armored planes made to fly at low altitudes and attack ground troops, should belong to the Air Service. Others believe that it should belong to the Air Force for all operations with the Air Force and be merely loaned to the Air Service when attack aviation is desired to assist the advance of ground troops. Bombing aviation is similarly considered. It is believed that in the future, during advance of ground troops, that both attack aviation and bombing aviation will play an important part; bombing aviation by dropping bombs just in front of the advancing lines along principles similar to artillery barrage, and that while bombing aviation is engaged in this type of work that it should be a part of the Air Service. Then again, other officers believe that all aviation that applies force from the air should belong to the Air Force wherever it is operated. Inasmuch as this particular phase of aviation development is being considered and is being influenced by individual opinion, it is requested that you submit your views with respect to this after you have given it consideration.

NATIONAL SOUTHERN AIR TOURNAMENT
BELLEVUE - BELLEAIR - CLEARWATER, FLORIDA.

Beneath sunny skies, witnessed by 20,000 people, without a serious mishap the National Southern Air Tournament made a record of successful achievement at Belleair, Florida, on March 26, 27, 28. Complimentary to the public, in the interest of commercial aeronautics and national defense in the air, under the auspices of the Aero Club of America and with the co-operation of the U.S. Army Air Service and of the Manufacturer's Aircraft Association, the derby was given with the support of the Clearwater Board of Trade and the management of the Hotel Bellevue.

The Army Detachment, headed by Major Ralph Royce, Commandant of Carlstrom Field, in his Wright-Vought, a flight which included four DeHavillands, powered with 400 h.p. Liberty engines, eight Curtiss-Wrights, three Nieuports and two Spads with LeRhone engines, reached the field at 3 P.M. on the 25th, hundreds of spectators including a large contingent of newspaper men having already arrived.

The feature of the arrival was the landing of a Curtiss-Wright plane equipped with a reversible propeller. Ordinarily, an airplane rolls as far as 200 feet on alighting. This plane especially equipped with a propeller whose action can be reversed the instant the wheels touch the ground, came to a dead stop at 15 feet. This is said to be the most remarkable demonstration of the air brake yet accomplished. The application of the air brake principle in commercial aeronautics will be of especial value, since it will mean a much greater degree of safety and the utilization of much smaller landing fields.

The first days' events consisted of, forenoon: Inspection of airplanes and other exhibits: Practice flights over race course: Arrival of Navy seaplanes from Pensacola: Arrival of Aeromarine Cruiser from Havana. At 3 P.M. came the 100 mile derby, five laps over a 20-mile triangular course from the golf links at Belleview Hotel to Indian Rocks; to the crossing of Tampa Bay Canal and the De Soto Pinellas road, back to Belleview, the turning point at Belleview being the flag staff.

In this event the entrants all from U.S.A. Air Service were: Major A. W. Gilkerson, flying a DeH: Capt. C. W. Ford, DeH: Lt. J. G. Williams, DeH: Lt. Victor D. H. Strahm, DeH.: Lt. Fred E. Woodward, D.H.: Lt. J. D. Corkille, Nieuport "28": Lt. O. A. Gottschalk, Nieuport "28": Lt. A. Dunlap, Spad "13": Lt. C. W. Woolsey, Spad "13".

Winning this race was Lt. Victor D. H. Strahm, of Carlstrom Field, with a time record of 51 minutes flat. The average speed per hour was 119.6 miles. Behind the winner came Second Lieutenant J. G. Williams, Carlstrom Field, 51:30: third, Capt. C. W. Ford, Carlstrom Field: fourth, Major A. H. Gilkerson, Carlstrom Field.

A Nieuport "28" and two Spads were forced out early in the flying by overheated motors, while Lt. J. D. Corkille, Carlstrom Field, flying a Nieuport, was forced down because of a "freezing" motor. He made a perfect landing, however, in a garden at Indian Rocks, without injury to himself or damage to the plane.

First of the second day events was: Landing on a mark for accuracy from a height of 2,000 feet, all pilots using JN-H planes equipped with Wright motors. Lt. Robert U. Cronau, of Carlstrom Field was winner, bringing his plane to a stop with the propeller over a spot just 28 inches from the center of a ten-foot white cross. While not as spectacular as some of the events, this accuracy test was considered by army experts one of the most remarkable pieces of work the Air Service has to record.

The only event so far won outside the Army was the parachute jump, Ray Lockwood taking first in a leap of 1000 feet from a plane piloted by ex-Lieutenant Haldeman. Other features of the day were: Combats, first, Lt. J. D. Corkille, Nieuport, vs. Lt. O. A. Gottschalk, Nieuport: second, Lt. A. Dunlap, Spad, vs. C. W. Woolsey, Spad: Acrobatics, Lt. O. A. Gottschalk, J. D. Corkille, C. W. Clark: and Acrobatic Formation, Lts. C. C. Chauncey, H. McClellan, R. Y. Cronan, C. W. Clark, and Patrick.

March 28 was Seaplane Day, the features being: Aerial Gunnery at Water Targets: "Taxi Race" over an 8-mile course: 50-mile Race, starting off the Belleview Pier, ten laps of approximately 5 miles each, Lt. L. F. Kirke winning the trophy in the Naval sea-plane H-16, averaging slightly better than 73 miles per hour, with a crew of three men. Lt. F. P. Snody, in F-5-L came second, while the Aeromarine Company's air-cruiser, "Aeromarine", carrying a crew of four with an average of more than 60 miles and carrying 9 passengers, came in third. Officials in charge of the tournament were: Referee in charge, Major Ralph Royce, U.S.A. Air Service, Commandant, Carlstrom Field: Starter, Major H. C. Claggett, U.S.A. Air Service, Air Officer 4th Corps Area: Assistant Starter Lt. C. C. Chauncey, U.S.A. Air Service: Checkers at Turns, Lts. Clark and McClelland: Officer in Charge of Field, Lt. Ward: Flight Surgeon, Major Harwood: Timers Lieutenants Mallory and Johnson.

RESOLUTIONS BOOSTING AERONAUTICS
ADOPTED AT BELLEAIR AIR MEET

In connection with the National Southern Air Tournament held at Belleair, Florida at a luncheon given by Vice-president Earle E. Carley of the Belleview Hotel Company, and at which the guests were, Mayor Eooth of Clearwater, Charles M. Hemphill of the Clearwater board of trade, Mayor Mitchell of St. Petersburg, Lew B. Brown, president of the Chamber of Commerce of that city, A.R. Dunlap, newspaper man, C.H. Freas, president of the Brookville board of trade, Lt. Snody, and Lt. Commander Brown, U.S.N. Major Ralph Royce, A.S. Capt. Lamb of the "Nina", B. L. Smith of the Aeromarine Company, C. A. Judkins, manager of the Belleview Hotel, and Luther K. Bell of the Manufacturers Aircraft Association, the party resolved itself into a committee for the advancement of aeronautics in the South and the following resolutions were adopted:

"Whereas the State of Florida is deficient in transportation facilities, our natural growth being thereby seriously retarded; and

"Whereas, the World War and subsequent International developments proved that there can be no security without aviation; and

"Whereas, the United States has thus far failed to utilize all the splendid opportunities presented for navigating the air, and has neglected to formulate a national aeronautical policy or otherwise stimulate flying or to increase adequately the aerial arm, now, therefore, be it

"Resolved by the committees for advancement of aviation in the South held in conjunction with the National Southern Air Tournament, that the legislature of the State of Florida be and it is hereby petitioned to memorialize the United States on the urgent necessity for the adoption and observance of a Federal policy of the air, and be it further

"Resolved, That such Federal policy of the air include the enactment of an aerial code, the establishment of air ports, the designation of air routes and the development of signaling and other devices to facilitate safe and regular operation of transport lines, and be it further

"Resolved, That copies of this resolution be sent to members of the Florida legislature and to the members of the Florida delegation in the Congress of the United States."

The "Tampa Morning Tribune", from whose issue of March 27 the above resolutions are quoted, devoted several columns each day to detailed reports of the meet, rendering in this way valuable service for the advancement of aeronautics by crystallizing attention upon the derby and recording accurately the results of the various events. Whole-hearted generous and intelligent expression of appreciation by the press, such as the "Tribune" stories, will do more than any one thing to educate public opinion in regard to the importance of aeronautics both commercially and as a means of national defense.

DEATH OF LIEUTENANT WILLIAM D. GONEY

It is with a feeling of profound regret that the death is recorded of Lieutenant William D. Coney, which sad event occurred at 5:20 P. M. March 30 in a hospital at Natchez, Mississippi, whither he had been taken after injury in an airplane accident at Crowville, Franklin Parish, near the City of Monroe, Louisiana, March 25, at 7:30 A.M.

It was in a dashing and gallant attempt to stretch his own record in making a one stop flight across the continent that Lieut. Coney met with the disaster that resulted in his death.

In the evening of Feb. 21, Lieut. Coney left Rockwell Field, San Diego, California for Pablo Beach, Jacksonville, Florida, in an effort to cross the continent in a day, in a one stop flight. Because of engine trouble Lieut. Coney was forced down at Bronte, Texas, flying thence to Love Field, Dallas, from which point he made one hop to Jacksonville, actual flying time for the transcontinental flight being 22 hours 27 minutes.

Disappointed by his inability to produce the performance aimed at in this flight, Lieut. Coney desired to make a return trip from Jacksonville to San Diego in a one-day, one stop flight. It was this attempt that ended fatally on March 30. Hopping off from Pablo Beach at 1:40 A.M. March 25, engine trouble forced Lieut. Coney to attempt a landing at 7:30 the same morning. His plane struck a tree, and fell 75 feet, Lieut. Coney sustaining injuries that resulted in his death.

"I wanted to break my own record in my trip back to the Pacific coast and my keenest regret is that I have failed", Lieut. Coney is quoted as having said.

"I had a fair flight until I struck the fog banks along the Mississippi River. Then I lost my bearings to some extent and continued to fly low. I was preparing to make a landing because of engine trouble, when I struck a tree and came down. I do not remember much about what occurred after I struck the tree until I found myself in the arms of Mose Lanier and his good wife who carried me to their farm house."

As soon as telegraphic news of the accident reached the office of the Chief of Air Service at Washington, an officer was directed to proceed by airplane from Love Field, Dallas to Monroe to take charge of the situation and to render all assistance to Lieut. Coney. His mother, Mrs. E. F. Coney, his brother, E. F. Coney both of Brunswick, Georgia, and his aunt, Mrs. W.H. Devoe

of Jacksonville, Florida were with him at his death. The remains were taken to Brunswick, Georgia for interment, Major Henry C. Claggett of the 4th Corps Area being in charge of arrangements.

Lieut. Coney, who was a member of the 91st Aero Squadron stationed at Mather Field, Sacramento, California had just received his First Lieutenantcy. From May 15, 1919 until February 8, 1920 at which time he was ordered to Mather Field, Lieut. Coney served as a member of the Information Group in the Office of the Chief of Air Service where he rendered conspicuous service and endeared himself to his associates in a marked degree.

NEW MATERIAL NEEDED FOR AIRPLANES

In an address delivered before the Transportation Section of the American Society of Mechanical Engineers, on December 9, 1920, Leon N. Colin, Aeronautical Engineer, 206 West 109th St., New York City emphasized the need of a new material for the manufacture of airplanes. Mr. Colin whose address is full of interesting details, said in part:

"Now that we have heard so much with reference to railroad, truck, and water transportation, I shall endeavor to tell you of what will ultimately be the best medium of long distance transportation for passengers, mail and special freight, namely, the air. Everybody knows that the development of aircraft during the war was so rapid that the airplane and the airship of today, in the matters of speed, safety, reliability and carrying capacity, have required at least 25 years of peace-time development to attain. It is an elemental theorem of geometry that a straight line is the shortest distance between two points. For that reason, the air will always be the most direct and rapid medium of transportation."

"One of the most marvelous performances of the war was the flight of the German Zeppelin to the West Coast of Africa with nearly two tons of ammunition and supplies. When it reached its destination, the Commander found the British flag flying, the German Fort had been taken the day before -- so the ship was turned about without landing and flown to Turkey. This flight and all similar ones -- as, for instance that of the R-34 across the Atlantic -- were made possible by the reliability of the motors."

"As regards the airplane proper, the trend since the war has been strictly along commercial lines. The air mail service between New York and Washington, starting a couple of years ago, and making use largely of Army machines, has extended across the continent, has been operated in all kinds of weather and with relatively few mishaps. As an example of this service, in the month of June, 1920, nineteen machines were operated between Washington and New York at a flying cost of 21 cents per mile: overhead 25 cents per mile: and maintenance 56 cents per mile. The total number of miles covered was 15,082 in a flying time of 182 hours. The unit cost per hour figures \$84.12 and cost per mile \$1.02."

"The carrying of passengers, mail and express matter has been going on in the past year between London and Paris with occasional trips from London to Brussels and Amsterdam. A commercial traveler recently flew from London to Bucharest in a day, and a regular service has been inaugurated since, the cost per passenger has been found to be 12 pence per mile. This is about double the railroad fare, but will soon be on a par with it, owing to the invention of the new Handley Page wing which makes it possible to transport a given weight with but one-third of the present horse-power and also to take off and land at relatively low speed, which adds to the safety and practicability of carrying large loads."

In summing up the situation at the present time, Mr. Colin said: "Anyone who has studied the problem of aerial transportation will see that the difficulty is due to the material now employed in the manufacture of aircraft. Aviation cannot come into its own until a proper material is found for the construction of the machines. For commercial purposes it is essential to have a weather-proof machine, as landings are often made in places where space for hangar facilities is not available. The present machines of wood construction with doped fabric-covered wings are seriously affected by climatic and weather conditions. A machine of galvanized steel and duraluminum combined, or all duraluminum will doubtless be the airplane of tomorrow."

REPORT OF CHANGES OF STATION OF OFFICERS
FOR WEEK ENDING MARCH 29.

March 22, 1921 - Following officers ordered from U. S. A.B.S., Fort Omaha, Nebraska, to Engineering Division, McCook Field, Dayton, Ohio, for duty:
Captain Allan P. McFarland,
1st Lieut. Richard E. Thompson.

March 22, 1921 - Major Karl H. Gorman, Cavalry detailed to Air Service, relieved from Ft. Riley, Kansas, effective June 30, 1921 and ordered to Carlstrom Field, Arcadia, Florida, for pilot training.

March 23, 1921 - First Lieutenant Grisson E. Haynes relieved from duty in O.C.A.S., and ordered to Langley Field, Hampton, Virginia, for duty. Orders direct him to go by way of Cleveland, Ohio, ferrying Martin Bomber from there to Langley Field.

March 23, 1921 - First Lieutenant Reuben D. Biggs ordered from McCook Field, Dayton, Ohio, to Langley Field, Hampton, Virginia, for duty.

March 24, 1921 - Orders previously issued relieving First Lieutenant John Y. York, Jr., from duty in this office and directing him to proceed to Carlstrom Field, for pilot training revoked.

March 25, 1921 - Major Jermer Y. Chisum ordered from Kelly Field, San Antonio, Texas to Washington, D.C. for duty in O.C.A.S.

March 25, 1921 - Major Henry J.F. Miller ordered from Mitchel Field, Long Island, New York to Kelly Field, San Antonio, Texas, for duty.

March 25, 1921 - Major Raymond S. Bamberger ordered from Langley Field, Hampton, Virginia, to Little Rock, Air Intermediate Depot, Little Rock, Ark. for duty.

March 25, 1921 - Lieutenant Roderick N. Ott, ordered from March Field to McCook Field, Dayton, Ohio for duty in Armament Section.

March 25, 1921 - Lieutenant Wm. C. Morris ordered from March Field, Riverside, California, to Kelly Field, San Antonio, Texas, for advanced Pursuit Training.

March 25, 1921 - Following officers ordered from Manila, Philippine Islands, on June transport and ordered to places indicated.

Captain Charles T. Phillips,
1st Lt. Ira C. Baker,
1st Lt. Royal B. Lea,
1st Lt. Newton H. Longfellow,

Carlstrom Field, Fla.
Kelly Field, Texas.
Bolling Field, D.C.
Mather Field, Calif.

March 25, 1921 - Following officers ordered from stations indicated to Manila, Philippine Islands on May 5th transport:

Captain Lloyd N. Keesling,
1st Lt. Raphael Baez, Jr.
1st Lt. Cyrus Bettis,
1st Lt. George W. Pardy,

Washington, D.C.
Kelly Field, Tex.
Bolling Field, D.C.
Mather Field, Calif.

March 26, 1921 - Maj. Clarence L. Tinker ordered from March Field, Riverside, California, to Post Field, Ft. Sill, Oklahoma, for course at Observation School.

March 28, 1921 - Captain Ernest Clark ordered from March Field, Riverside, California, to Air Service Mechanics School, Chanute Field, Rantoul, Illinois.

March 28, 1921 - Following officers ordered from March Field, Riverside, California to Post Field, Ft. Sill, Oklahoma, for course at Observation School:
Major John H. Howard
Major Eugene A. Lohman.

March 28, 1921 - Lieutenant Paul H. Prentiss ordered from Barron Field, Everman, Texas, to Little Rock Air Intermediate Depot, Little Rock, Ark., for duty.

HUFF DALAND BIPLANE

The Huff-Daland Biplane arrived at Bolling Field, Washington, D.C. during the past week and was set up there for some experimental tests. This plane has a wing spread of 37 feet, stands $8\frac{1}{2}$ feet high and has an over-all length of 23 feet. Its weight loaded is 2800 pounds, which includes gasoline for two hours and five men including the pilot. Its weight empty is approximately 1750 pounds. It is equipped with two Anzani engines totalling 200 h.p. Its gasoline capacity is 45 gallons which is sufficient for $2\frac{1}{2}$ hours flight. Its speed is about 90 to 100 miles per hour at full throttle. Its overall factor of safety is about 6, and it takes off in about 8 seconds.

This plane is manufactured by the Huff-Daland Company, who have manufactured their model H.D.-4 as an army training plane for which a contract for three experimental models has been let and on which the sand and flight tests have been made. They have been examined and accepted. This plane is equipped with 140 h.p. 9-cylinder Lawrence radial motor. The commercial type which was described above is \$5,700 f.o.b. Ogdensburg, N.Y., where the Huff-Daland factory is located. Mr. Huff states that the company has specific orders for five of these machines. The company owns the design patents, fuselage patents and variable camber wing patent, all of which they have developed. Mr. T. H. Huff, Mass. Institute of Technology 1915, is the president of the company and Mr. L. G. Randall is general manager. Mr. Huff was formerly with the Standard Aero Corporation formerly located at Plainfield, New Jersey.

Mr. C. M. Devitalis is the pilot of the plane which is being tested at Washington. This particular plane is being tested with reference to picking up materials during flight from the ground in order to work out patents that are pending for the purpose of accomplishing this feat. The plane will be in action here for some little time in the process of conducting these tests. The plane has a high parasite resistance when being landed and consequently rolls but a short distance on landing. The plane has several unique features in its construction that will prove of interest in engineering circles.

ALTITUDE JUMPING RECORD STRETCHED AT CHANUTE

A mark of 23,000 feet was chalked up March 23, 1921, when Lieutenant A. G. Hamilton, Air Service, stepped off over the side of a DH-4B, and putting his faith in the reliability of a Parachute, had a pleasant four mile drop. He landed safely about seventeen miles from Chanute Field in a fairly strong wind, but experienced no difficulty. Lieutenant Weddington, who piloted the plane, followed the jumper down, and after noting where he landed, returned to the Field, changed to a Curtiss "H", and flew back to get Lieutenant Hamilton, whom he finally located in the kitchen of a nearby farmhouse, where, while enjoying a home cooked meal, he was regaling the family with the story of his exploit.

The plane from which the jump was made, "Jeremiah III", as it is called, is an ordinary DH4B with a hand fitted motor, 32 degree spark advance, and a special air scoop which enables the motor to gulp in a little more air while in the upper regions. An Eagle propeller was used.

Sixty minutes elapsed from the take-off at the field to the "jump off" at 23,000 feet. Hamilton landed 24 minutes later. A 24,000 ft. recording barograph was used which was checked and sealed by a Board of Officers, consisting of 1st Lt. Joseph L. Stromme and 2nd Lt. H. A. Shovelin. The record was verified and attested after the flight. 1st Lieut. Langhorne W. Motley, Executive Office and 2nd Lieut. Warren R. Garter, Operations Officer, flew a second plane to witness the jump.

THE FIRST AIR STATION MASTER

From his office in a big central tower perched on four legs high above the hangars and service buildings at Croyden, Major S.T.L. Greer the first air station master in Great Britain -- it is believed, the first in the world -- will direct all arrivals and departures at that aerodrome.

Major Greer, who, according to the London "Star", has had wide experience in military and civil flying, will be charged with giving safe landing orders to all incoming machines, and thus prevent collisions on the aerodrome. By wireless he will be able to instruct an aeroplane on its way from Lympne, after crossing the channel from Paris, either to increase or slacken speed so that it does not collide with the arrival from Amsterdam, and "joy riders" lingering on the aerodrome must be hustled in order to insure clear landing space for approaching machines.

At night Major Greer will direct air traffic with rockets and Very lights. Far away over the Surry hills he will see the green light rise high in the sky-- a night flier on the airway signalling for a landing at Croyden. The answer will be flashed back-- a green light if the way is clear, or white if no landing space is available and the flier should defer his arrival till space can be made ready.

"It is all so matter of fact", says the 'Star', "this first air post in the world, all so full of wonders locked up in innocent little houses beside the mighty hangars, that it is only when one gets behind the scenes that one realizes its outstanding features. A lighthouse to guide pilots lights up and goes out automatically, its 72,000 candle-power beam visible from the air for thirty miles. Three powerful searchlights help with the night flying operations. Near by is a rocket apparatus for signalling. The old flares that used to indicate to night pilots the direction of the air currents -- since a machine always lands head to wind -- have been replaced by an ingenious landing light in the shape of a huge capital L. It is let into the ground, the electric bulbs being covered with glass safe for an aeroplane to land upon. The upright arm of the L faces the direction in which the wind blows."

A TEN MINUTE THRILL

Lt. H. R. Harris and Roy F. Langham, during a flight from McCook Field, March 28, 1921, had a trying experience. Using a DH-4 plane, they left the field at 3:40 in the afternoon and reached an altitude of 10,000 feet. While flying at this altitude, Mr. Langham, observer, wearing a back pack type parachute, in moving about, accidentally loosened his parachute from the pack. The parachute opened, and when released, caught in the tail of the ship.

Lt. Harris, piloting, turned and saw the condition of the parachute. He immediately tried his controls and found them working, in spite of the parachute fastened in the tail.

Mr. Langham could do nothing to help himself, for at any time he was likely to be pulled out by the parachute which was quite likely to remain caught and leave him suspended in the air. He could not cut himself loose from the parachute for it was quite probable that he would be pulled out of the plane with the ropes partially cut and their strength so impaired that they would not hold his weight.

Lt. Harris, finding his controls working, started to descend immediately, not knowing whether or not the controls would continue to function until they reached earth again.

They made a safe landing, reaching the field at 4:30.

"SHALL I NOT FLY?"

Shall I not fly? My spirit has confest,
Spirit of forbears long since passed away
Longing for flight unceasing, freed from earth,
Of all man's longings, loveliest and best -
Shall I not fly?

Shall I not fly to realms of air afire,
And every effort use to mount on high;
Up above beasts and lower men who live
Far from the goals of flight and man's desire?
Shall I not fly?

Shall I not fly, a virile, vital mind,
Winged like a greater bird in heaven above;
Worlds and more worlds to conquer and control,
Soaring and striving perfect worlds to find?
Shall I not fly?

Should I not fly the very heavens would ring
With condemnation loud and sentence long,
Ambitions thwarted, aspirations gone
And all the peopled skies man's doom will sing,
Should I not fly.

Empty as yet the zenith of our dreams,
Empty and free from man and all his kin,
Free for the mind, no longer mind enchained,
For man in space and flight high destiny beams;
Shall I not fly?

HAROLD A. DANNE.

- New York Times -

SQUADRON NEWS

A.S. Mechanics School, Chanute Field, Rantoul, Ill., March 19.

Major William C. McChord, Air Service, 6th Corps Air Officer, made an informal inspection of the Air Service Mechanics School, March 17. He was much pleased with his inspection, and the way the work was being carried on at this Post. The Major remained over night for the "Hop". Major William H. Shutan, Infantry, 6th Corps, E. & R. Officer, accompanied Major McChord, and made an inspection of all the E. & R. activities. These were all progressing satisfactorily, and Major Shutan promised that this Post would receive all the aid possible in making it one of the best equipped Posts in the way of E. & R. activities in the Corps Area. Major McChord and Major Shutan left for Chicago on the 18th.

Authority has been received to try an Altitude Parachute jump. Everything is in readiness as the event will take place within the next five days. Lieutenant A.G. Hamilton, formerly of Carlstrom Field, will make the jump. Five successful parachute jumps have been made during the week by instructors in the Parachute Department. These jumps were made for Instructional purposes.

The Course for Airplane Mechanism promises to be one of the largest of its kind in the Air Service. Under the capable direction of Lieut. Owen E. Spruance, assisted by Master Sergeant E.N. Nichols, the Course has shown a surprising growth in efficiency and size during the last six months. The Department at present covers three hangars, a large Instructional Building, (formerly E. & R.), and the dope house which is a part of the Wing Repair Division. The length of the Course is 4½ months, and it covers every phase of practical mechanics. It is one of the best all around courses in the Air Service. In the last three months of operation ninety-seven qualified mechanics were graduated. The present enrollment is ninety-eight students. The future capacity will be about 1200 students per year.

The past week has been a busy one for the usually staid residents of Chanute Field. The Bridge Club, which had its session from 7:30 P.M. to 1:00 A.M. on the 15th was well attended.

The St. Patrick's Day hop was the first formal dance given at the new Post and it was a great success. Besides the entire Military Staff from the University of Illinois, who were the guests of honor, Major William C. McChord and Major William H. Shutan, and several towns people were present.

First Lieutenant John S. Roff, Dental Corps, arrived from Ft. Sheridan during the week to organize a Dental Office at this Post.

Bolling Field, Anacostia, D.C., March 22.

The usual routine of the station was interrupted for several minutes last Thursday, owing to the pre-detonation of one of the dummy bombs being used in bombing practice. A small quantity of black powder and several dummy bombs were exploded, slightly injuring Corp. E.C. Eidson and Pvt. 1cl. Howell F. Baker, both of the 10th Observation Squadron. This accident, however, did not cause any cessation of bombing activities, which are being carried on under the direction of Lieut. Talcott P. Smith. Continued practice has resulted in the officers engaged reaching a high state of proficiency.

The Radio Station is operating most efficiently, handling War Department Radiograms to Langley and Mitchel Fields, in addition to the usual inter-field communication work. It is greatly regretted by all of the personnel that Lieut. James E. Adams, under whose able direction the Radio Station has been operating, is leaving this station for a course at the Air Service Communications School at Post Field, Fort Sill, Okla.

Activities in connection with the Model Airway from Washington, D.C. to Dayton, Ohio, are progressing favorably, material having been ordered forwarded to Moundsville, W. Va., for the complete establishment of an intermediate field at that point. With the approach of summer, it is felt certain that this most important pioneer work in the establishment of National Airways will be completed. To the Air Service it will be an achievement of note.

Bollie Field, Cont'd.

With the arrival of Master Sergt. Andrew Matos of the Photographic Section, Langley Field, as a nucleus of a Photo Section here, is seen the fulfillment of a long felt want in the near future. With the great number of historic and scenic spots in and near Washington, there will be ample opportunity for the Photo Section to demonstrate its ability. The benefits to be derived by the officers of the two Observation Squadrons from the opportunities for practical photographic work are manifest and manifold.

The Honorable Manuel Herrick, Representative from Oklahoma, honored the field with a visit, and was apparently greatly interested in the activities of the Air Service as shown by this station.

U. S. Army Balloon School, Fort Omaha, Neb.

The Ninth and Twelfth Balloon Companies have each organized a Base Ball team and indications are that some very good games will be played this coming season. The Lighter-than-air Experimental Department has also organized a good team and with three teams at this post it is expected that every available moment for playing will be utilized.

Trap shooting has taken quite an added interest and the officers are usually on hand at the traps every evening to try their skill in shooting. Some very good scores have been made.

Very little flying time was made during the week, owing to very high winds which usually prevail in this part of the country at the present time of year.

Kelly Field, San Antonio, Texas, March 19.

It is rumored from reliable sources that the first shipment of the new TMB3's will arrive in the near future at Kelly Field for the First Pursuit Group. All the officers are looking anxiously forward to the time when the new planes will be in active operation.

The Group welcomes the assignment of Captain Baucom to the Group, who will assume command of the 94th Aero Squadron, relieving Lieutenant Frier-son who will take charge of the operations of the 94th Aero Squadron.

Lieutenant Roberson of the 94th Aero Squadron will be sent on detached service with the 2nd Air Park.

Lieutenant Whitehead will assume, in addition to his other duties that of Post Athletic Officer.

The cadets in the graduating class of the First Pursuit Group will receive a brief and intensive course in the Group Motor Overhaul, repairing, timing, trouble shooting, and other phases of motor trouble.

The cadets of the First Pursuit Group have finally completed their course and are now marking time and awaiting word from Washington. The majority have carefully followed instructions and demonstrated by their attention to details the proper soldierly attitude, the proper spirit that is found at present in the Air Service.

The Group will receive 16 French Spads equipped with 220 Hissco French type motor. These Spads are all used Spads, being shipped from France to the United States. These Spads will be used for advanced pursuit training, such as approach, combat, cloud flying, and other phases of pursuit tactics.

The First Pursuit Group now boasts of a Chilean officer in its midst. He has just arrived from Arcadia, Florida and is assigned to the Group for intensive training.

Kelly played a basket ball game with Camp Travis at Camp Normoyle Monday, March 14. The game was very interesting, but Travis seemed to have the edge on Kelly from the beginning and the game ended in a score of 32 to 14 in favor of Camp Travis, thus eliminating Kelly Field from the championship of this Area which now lies between Camp Normoyle and Camp Travis.

Kelly Field and Fort Sam Houston played a very good game of Polo at Kelly Field Tuesday, March 15; Fort Sam winning by a score of 14 to 0.

This Field had as royal visitors during the past week the team comprising "The famous Base Ball Machine of John J. McGraw". The Giants insisted on giving an exhibition of what made them famous in the national pastime, and of course they walked away with the game by a score of 26 to 1.

Kelly Field, San Antonio, Texas, March 19, Cont'd.

An Officers' dance was held at the Aviation Club on Friday, March 18 and all seemed to enjoy it very much.

A dance was given Tuesday, March 15, at the Hostess House for the enlisted men of the field. The Kelly Field Orchestra furnished the music, and San Antonio, the girls. The dance was a grand success and all seemed to enjoy themselves immensely.

The enlisted men gave an entertainment at Service Club #4 Thursday, March 17. Wonderful talent was displayed by some of the men in singing and dancing; black face comedian acts and some trapeze performances.

The Methodist ladies of South San Antonio are going to give a play tonight at Service Club #3 entitled "The Hickory Hollow School House", for the benefit of the new church being erected at South San Antonio.

Lieutenant Frank E. White and Cadets Noel R. Thompson, Allen J. Tillery, and Samuel S. Fleming, Air Service, proceeded from Kelly Field to Airdrome, Marfa, Texas for the purpose of ferrying airplanes between the stations.

During the absence of Captain S. E. Brown, Medical Corps, Flight Surgeon, Major Alexander M. Brailsford, Medical Corps, will examine such applicants as may be ordered before the Board of Officers by the Chief of Air Service to determine their mental, moral and physical fitness for appointment as Flying Cadets, or as Second Lieutenants in the Officers' Reserve Corps.

Lieutenants A.M. Guidera, H.F. Carlson, W.R. Maynard and J.M. Wilson are ordered to Carlstrom Field, Arcadia, Florida for duty and pilot training.

Major Thomas L. Long, Medical Corps, is relieved from further duty at Kelly Field, Texas and will report to the Commanding General, Eighth Corps Area, Fort Sam Houston, Texas for assignment to duty and station.

Lieutenant L. C. Blackburn and Cadets E. M. Butz, E.J. Snyder, H. Pitt proceeded by rail to the Aviation Repair Depot, Dallas, Texas for the purpose of ferrying airplanes to Kelly Field.

Lieutenant Gordon B. Woolley, U.S.N., is relieved from further duty at Kelly Field and will proceed to San Francisco, California, sailing on or about April 5, for Manila, P. I.

Mather Field, Sacramento, California, March 19.

On Sunday the 13th, a formation of ten planes from this station, consisting of a flight of five planes each from the 9th and 91st Aero Squadrons, made a flight over San Francisco in honor of the Air Service Memorial Day Celebration held at that City. The plane equipped with the Magnavox belonging to this field was used to announce all events from the air.

The following officers stationed at this field have been promoted under the new appointments: First Lieutenant Robert Kauch, 91st Aero Squadron and T.S. Voss, A.S., to Captains, Second Lieuts. Eugene C. Batten, William D. Coney, Grandison Gardner, Emil C. Kiel, Warren A. Maxwell, Samuel C. Carter and William S. Sullivan, 91st Aero Squadron and Second Lieuts. Spencer Hall, Delbert E. Jones, Arthur G. Liggett, Jesse A. Mandarasz, George W. Pardy, Isaac J. Williams, Paul L. Williams and Mark R. Woodward, 9th Aero Squadron to First Lieutenants.

A double "pull-off" parachute jump from an elevation of about 2000 feet was made on the 15th by Cadet Jack M. Clegg and Sergeant Richard L. Thorne with 1st Lieut. George W. Pardy, 9th Aero Squadron piloting the DeHaviland plane from which the jumps were made. A "cock-pit" jump from an elevation of 5000 feet was made on the 18th by Private Coughlan with Lieut. Frank D. Hackett, pilot, both of whom are members of the 91st Aero Squadron.

The 91st Aero Squadron is conducting a series of experiments with their radio truck and apparatus for the purpose of locating fires during the coming forest patrol season by directional finding apparatus. These experiments are not yet completed.

Baseball enthusiasm continues to hold its own with a Post-Championship game in sight between the 9th and 91st Aero Squadrons during the coming week.

Mather Field, Calif., Cont'd.

Lieut. Delbert E. Jones, 9th Aero Squadron, returned to this station on the 18th from a fifteen days leave of absence.

Lieut. George W. Pardy, 9th Aero Squadron, made a trip to Corning, California, by airplane on the 18th, to inspect a proposed landing field at that place.

Ensign Alden Bartlett of the U.S.S. Champlin, was a visitor to the Post from the 11th to the 13th of the past week.

Flying Cadet James M. Larsen of the 9th Aero Squadron left for Rockwell Field, California, for Border Patrol duty on the 14th.

Fort Mills, P. I., February 10th.

A dance was given at the Army Service Club, Saturday, February 5, by the members of the Kindley Field Garrison. A number of ladies came over from Manila especially for the occasion, and the co-operation of the Hostesses of the Manila and Corregidor Service Clubs contributed largely to the success of the affair. The officers of the Kindley Field Garrison and their families attended this dance.

Tests of Weatherproof Parachute Containers. Especially designed weather-proof parachute containers were shipped to this station from the U.S. Army Balloon and Airship Experimental Station, Fort Omaha, Neb. Parachutes were packed in these containers and allowed to remain for a period of approximately five months. These containers were opened and parachutes inspected February 9, this year, and it has been found that they were free from moisture, dampness, mold, and other deteriorating elements. It is believed that they are in as good condition as the day they were packed and stored, notwithstanding the fact that the parachutes were stored during the typhoon season. These tests were made by the 17th and 27th Balloon Companies.

Vocational Training has started in full blast and the Recruiting Posters which advertise "Join the Army and get an Education", "The U. S. Army the greatest School on Earth", do not lie. Out of a garrison of over 450 men over 150 have signed up either for instruction or as instructors; and men are still signing up. The following courses are offered: General Education; High School; Machinist; Motor, Aero and Auto Mechanics; Radio; Music; Type-writing; Photography; Electricity and Stenography. All men taking courses attend school at the following hours; Monday, Tuesday and Thursday 1:00 P.M. to 4:00 P.M.; Wednesday, 8:30 A.M. to 11:30 A.M.

Forty-two members of the Second Aero Squadron have enrolled in the Vocational School which has just commenced. The High School Course and Mechanics Course have the largest membership although various other men have selected other courses.

Considerable change for improvement is noticeable in the Radio Department. Where all work had formerly been concentrated in one small shop there is now a separate room for operating and a machine shop to handle all the mechanical work.

The Aero Repair has taken over one of the old wooden hangars and has completed the installation of a number of wood working machines which will facilitate work in this department. The deterioration of the fabric on many crates of planes has put a lot of work of recovering on this Department. The Engineering Department has turned over another H.S.2-L, flying boat for Squadron Operations. This plane has the feature of two air pumps in place of one on the other planes. This makes a total of six of this type of plane on the line.

Sergeants A. Taylor and J. C. Ayers, Privates S. C. Herberger and Marincil are leaving for the States on board the U.S.A.T. "Sherman". They were successful in the recent examination for Flying Cadets and are going back to take Pilot's Training at March Field, California.

The hasty organization of a Basket Ball Team had been thought a handicap but the success of the first game proved this to be not so; the V.T.S. showed up well in the first half with a score of 10 - 2 in their favor, but a few changes in the positions of players resulted in a closing score of 16 - 14 in favor of the Second Aero Squadron.

Fort Mills, P. I. - Cont'd.

Privates Max M. Sternburg, and Walter H. Archer of the 17th Balloon Company who have been recently ordered to return to the States will leave tomorrow, for the purpose of receiving training as flying cadets, at March Field, California.

The Vocational Training School commenced Feb. 1. There are 10 men attending the Motor Mechanic's Class, 9 attending the Musical Class, 1 man attending the Vulcanizing Class, 1 man attending the Typist's Class, 6 men attending the Mechanic's Class, 6 men attending the High School Classes, and 10 men attending the Grammar School Classes.

The 27th Balloon Company is represented by fifty-four men and five instructors in the Vocational Training School. Motor Mechanic's is the popular class, there being twenty-eight students attending this course of study.

A company recreation room has been started and is equipped with all the current magazines, writing tables, a victrola, etc. The Company also has a tailor and now practically all the men have a khaki tailor-made suit of the same color and during the company inspections this feature adds greatly to the appearance of the men.

Great difficulty has been experienced within the last three months with the Balloon fabric at this station, due evidently to the effect of the tropical sun on the rubberized fabric causing it to become porous. Experiments are being conducted at present to eradicate this trouble, but it is believed that the maximum life of a balloon will be three months at the most.

Hdqs. Detachment First Observation Group, Manila, P.I., Feb. 12.

The record for airplane speed in the Philippine Islands was made this week in a DeHaviland 4. Major Canady and Lieutenant Eaker made the trip from Stotsenburg, P. I. to Manila, a distance of ninety-six kilometers, in twenty minutes. Of course the wind was on their tail, but even at that three miles per minute is stepping right along.

"They have come! - and have been conquered". The Spad combat and acrobacy maneuvers during the Carnival was a source of much excitement and amazement. The Filipinos didn't quite seem to get the idea that a plane so small could be so fast and strong. Lieutenant Eaker and Lieutenant Longfellow of the 3rd Aero Squadron were the pursuit pilots, and they certainly gave the people a run for their money, for all the acrobatics to be found in the Air Service locker were pulled, and even some that were original.

Lieutenant John Blaney, Clark Field, P. I., has been ordered to report to the Department Air Officer for duty as Air Service Supply and Transportation Officer.

Godman Field, Camp Knox, Kentucky, March 25.

Due to continued inclement weather very few flights were possible the past week. Two réglages were carried out successfully with the 83rd and 2nd Field Artillery respectively with excellent results.

A competitive examination was held of the three radio-panel details of the three Artillery Regiments with each detail making a very high mark. The 81st Field Artillery won, however, with the 83rd and 2nd close behind.

Having won the camp base-ball pennant last year, the Heavier-than-air Detachment team is at practice in earnest to repeat last year's performance.

The officers of the detachment were entertained in Louisville at a delightful dinner at the home of Mr. James McGrath last Monday.

1st Surveillance Group, Fort Sam Houston, Texas, March 19.

Lieutenants Gaffney and Abbey made a trip to Santa Fe, New Mexico for the purpose of taking pictures. Due to generator trouble they could not make the return trip. 1st Lieut. Lewis and Master Sgt. Wiseman, Mechanic, went with another plane to make the necessary repairs and landed at San Domingo, stopping there for ten minutes then proceeding to Santa Fe after the necessary repairs were made. Both planes returned without stop to El Paso.

1st Surveillance Group, Fort Sam Houston, Cont'd.

The work on the swimming pool is about completed and it will be in good shape when the season opens for swimming. The new canteen will soon be completed and ready for business, and a new pool table has been added to the fixtures of the Service Club.

Athletic activities are going at high speed. Base Ball Manager Jack Rohn and his sluggers to date have made eight starts and are credited with eight victories.

Carlstrom Field, Arcadia, California; March 23.

Lieut. C. C. Chauncey in charge of Ground School Instructions at this Station, quietly slipped away last week to Atlanta, Georgia, and on Friday the eighteenth took unto himself a bride, Miss Mildred Miller of Ada, Oklahoma. The newly weds will reside in Arcadia, Florida, pending further orders.

Major A. H. Gilkeson; 2nd Lieuts. H. A. Bivins, O. A. Gottschalk, F. A. Johnson, S. M. Umstead, successfully completed the ferrying of five Curtiss JN6H planes from Montgomery, Ala., to their proper station, Carlstrom Field, Arcadia, Florida, thereby attaining 100% performance.

The student officers who graduated at this field have all received their orders:

Pursuit - Kelly Field, San Antonio, Texas.

Captain	Vincent B. Dixon,	A.S.
Captain	William F. Donnelly	A.S.
1st Lieut.	Hobart R. Yeager	A.S.

Bombardment - Kelly Field, San Antonio, Texas.

Lieut. Col.	Charles H. Danforth	A.S.
Major	Frederick L. Martin	A.S.
1st Lieut.	Merrick C. Estabrook	A.S.
2nd "	Francis P. Booker	A.S.
2nd "	Howard A. Craig	A.S.
2nd "	Frederick D. Lynch	A.S.
2nd "	Walter T. Meyer	A.S.
2nd "	Henry F. Sessions	A.S.
2nd "	Corley P. MacDarmont	A.S.

Observation School - Post Field, Fort Sill, Okla.

Lieut. Col.	Paul W. Beck	A.S.
Major	Robert E.M. Goolrick	A.S.
Major	Junius W. Jones	A.S.
Captain	Calvin E. Giffin	A.S.
Captain	James L. Keane	A.S.
Captain	Charles B. Oldfield	A.S.
Captain	Floyd N. Shumaker	A.S.
Captain	William B. Wynn	A.S.
1st Lieut.	Alfred F. King, Jr.	A.S.
1st "	Robert A. Kinlock	A.S.
1st "	John F. Loomis	A.S.
1st "	James E. Parker	A.S.
1st "	Frank H. Pritchard	A.S.
1st "	Cassius H. Styles	A.S.
1st "	John M. Signor	A.S.
1st "	Clyde C. Way	A.S.
2nd "	Arthur G. Watson	A.S.

Carlstrom Field, Cont'd.

The Flights and Detachments can be seen about the field each night in training for the Track and Field meet April 1, 1921, which promises to be a big day at Carlstrom.

On Friday and Saturday of last week the Carlstrom Field Baseball Team journeyed to DeLand, Florida and played the Stetson University Team, losing both games.

Much interest has been displayed by the participants in the coming National Southern Air Tournament. Daily one can see combats between Nieuports and Spads, also acrobatic formations looping and spinning. There appears to be much rivalry between the flights in preparing the DH planes for the race.

Chanute Field, Rantoul, Illinois, March 26.

Lieutenant and Mrs. Bernard T. Castor are new arrivals from Carlstrom Field. Lieutenant Castor is now on duty with the Training Department.

Lt. A. G. Hamilton is a fast worker. Not content with breaking one record he must needs attempt another in the same week. This time he enters the field of romance with Dan Cupid as running mate. The excitement started on March 25th when Mrs. Lundell, the wife of the efficient Utilities Officer, whispered to somebody else's wife that her daughter, Miss Miriam Hunter, was to become Mrs. Hamilton. The wedding took place in St. Louis on March 26. Lt. and Mrs. Hamilton will take quarters at Chanute Field, and scores of friends wish them much happiness.

Selfridge Field, Mt. Clemens, Michigan, March 26.

Major William C. McChord, A.S., Air Officer of this Corps Area, arrived at Selfridge Field, March 24, 1921, for the purpose of making an inspection of this activity. Upon completion of the inspection Major McChord left for Fort Wayne, Michigan.

The plans and specifications covering the changing of the water intake pipe at this station have been returned approved, and bids are now being requested on this work from various contractors in this vicinity. As soon as this detail is arranged the undertaking will be rushed to an early completion.

24th Balloon Company, Fort Baker, California

The Twenty-fourth Balloon Company operating with the Coast Defenses continues to average something like fifteen hours in the air per week. This continuous flying in connection with actual problems and drill with the Coast Defense forces is resulting in a fine Balloon organization which at present consists of two officers and 100 men.

In addition to carrying out the actual work in firing problems and in keeping well drilled, the Twenty-fourth Company is developing a set of enlisted men who can act as emergency relief for the officers and as a surplus to draw on in case of need. The following enlisted men are being trained in this way. Staff Sergeants McDonald, and Riley, Sergeants Klosowski and Ferguson, and Private Chitwood.

The work of the Company recently included several problems. Two of the problems fired were in connection with Battery Mendell, 12 inch disappearing rifles. In the first, ten shots were fired at 10,000 yards and the balloon did the spotting but undertook no tracking of targets. In the second, ten shots were fired at an approximate range of 15,000 yards, the balloon doing both the tracking and spotting. Of these ten shots, one was a direct hit and four were "ship" hits. In the next problem, with Battery Alexander, 12 inch mortars, sixteen shots were fired at 15,000 yards. Two "ship" hits were made. In general these results were very satisfactory to all concerned.

24th Balloon Company, Fort Baker, California, Cont'd.

Recently a curious incident occurred in inflating and flying a new balloon. After the balloon was in the air it was discovered that the air scoop was reversed and no air could enter the fins and rudder. The balloon did some unusual stunt work before it landed and caused a good deal of surprise and discomfort on the part of the passengers.

The Twenty-fourth Company has organized baseball and basket ball teams which give promise of being successful contenders for local honors.

Brooks Field, San Antonio, Texas.

Brooks Field reports a three hour free balloon flight with 2nd Lieut. Harold K. Hine, pilot; 1st Lieut. Asa J. Etheridge, ass't. pilot; Staff Sergeant Francis D. Hustwayte, Aide and recorder; and Staff Sergeants John D. Feyen, William Jackson and Jesse L. Hodson, passengers. After a valve landing had been made, Staff Sergeant John D. Feyen continued in a solo flight in the same balloon. His time in the air was one hour. At the same field the Fourth and Fifth Balloon Companies made a practice march of about seven miles to Southton, Texas.

Brooks Field again reports a very successful and enjoyable "Fite-Nite". Sporting events at this post also included two baseball games. In the first game, between the Sixth and Seventh Balloon Companies, the score was 15 to 16 in favor of the Sixth Company. In the second game, between the Fourth and Fifth Companies the score was 14 to 4 in favor of the Fifth Company.

8th Airship Company, Camp Bierne, Texas

In spite of a limited personnel and a very small hangar, the 8th Airship Company keeps its "C" ship in the air for frequent flights. Lieut. Shoptaw has recently been on leave and during his absence Lieut. Edward L. Fernsten of Brooks Field was on temporary duty at Camp Bierne. Lieut. Fernsten, during his stay had the task of maneuvering the "C-1" out of her extremely small hangar. When the ship's nose began to emerge from the hangar the view of the entire opening was shut off from where Lieut. Fernsten stood. He swore the ship was bigger than the hangar, and called for help.

There are only two officers at Camp Bierne and the flying time is therefore very limited. Nevertheless the 8th Airship Company is carrying on some very interesting problems including dropping provisions, ammunition, machine guns, etc., with regulation parachutes. The Company is also experimenting in the laying of field telephone lines with the airship and is making arrangements to mount two machine guns and a camera on the ship. Recently two night flights were made under perfect weather conditions.

The entire commissioned personnel of Camp Bierne are now owners of closed Ford cars and swear they never fail to reach their destinations on time in spite of intervening stretches of choice Texas sand and bumpy roads.



The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE APRIL 16, 1921.

THE THERAPEUTIC VALUE OF FLYING

Complete restoration of his voice which had been lost for several months was the novel and interesting experience of Mr. H. A. Renz, Jr., of Washington City, who, acting upon the advice of Dr. Charles A. McEnerney of the Public Health Service, made an ascent in an airplane at Bolling Field, Anacostia, on March 30, seeking thus to obtain the therapeutic agency of the rarified upper air. After a flight which reached an altitude of 14,000 feet, in which he was piloted by Lieut. Cyrus Bettis, Mr. Renz descended, his voice completely restored, which happy event he promptly announced to his mother whom he called by telephone.

The experience of Mr. Renz is not without precedent. Recent newspaper stories have appeared relating the experience of Miss Grace Ford, a Roanoke, Virginia girl whose vocal cords collapsed under strain when entertaining soldiers during the war. As Miss Ford is a singer the loss of her voice was particularly disastrous, since it, apparently, registered the end of a career. Among the first to volunteer for service as an entertainer at the various training camps that sprang into existence during the first days of the war, Miss Ford found herself early in the year 1918, voiceless, her singing tones ineffectual, muted. There followed rest, of course, repose, relaxation, medical treatment, but without avail in so far as restoration of her singing voice was concerned.

The Washington Post of March 6 gives an interesting account, the gist of which follows of Miss Ford's recovery while taking an airplane flight at Lima, Peru:

Having failed to get relief after 30 months of loss of voice, Miss Ford decided, in the fall of 1920 to try a sea voyage to Panama and South America merely for the tonic effect in restoring her nerves. While at Lima she met friends whom she had known in Europe, and through whom she received an invitation from President Leguia to sing at the palace. Before sending her regrets and explaining her disability, Miss Ford, by chance, motored out to Lima's flying field, where Capt. Moore, formerly of the U.S. Army, invited her to take a flight over the City in his Curtiss plane.

"We circled the city," Miss Ford relates, "and then pirouetted upward. It must have been about 8,000 feet from the ground when there came an unusual sensation in my throat and nose, just as if something had given way. I took my handkerchief and put it to my mouth, for I thought there had been a hemorrhage -- the sensation was more like a nosebleed than anything I can describe. Up and up we went until we had reached 10,000 feet, at which altitude my throat and nose felt surprisingly clear. I instantly thought of my voice -- the thing always uppermost in my mind -- and there high in the sky softly tried a few notes. They were clear and surprisingly audible above the whirr of the propeller."

Miss Ford's restoration was complete, according to the account; she not only sang at the palace, but has been singing ever since.

These and similar experiences which are heard of from time to time suggest a wide field of investigation as to the therapeutic value of flying. Even from the meagre details now available, it seems conclusive that the future in this field holds tremendous possibilities. From the earliest experimental stage, medical men have evinced the keenest interest in aeronautics, and among them are numbered some of the best known authorities on the subject; as, for example Dr. F. J. Poynton, whose knowledge of the subject from an historical point of view is well known. Indeed it was a physician, one Dr. Black of Edinburgh, who, in 1767, suggested that hydrogen gas would be capable of raising a thin bladder in the air, thus coming within an ace of being the inventor of the first balloon.

Almost the first handbook on aeronautics in the English language was the "Aeropaedia" by Baldwin, published in 1786. Although not a medical man, Baldwin heartily recommended balloon ascents for convalescents in the following words: "The spirits are raised by the purity of the air and rest in a cheerful composure," his theory, it may be noted, being far more futuristic than his spelling. Baldwin also advised scientific investigation of physical and mental reaction to tastes and odours at different altitudes, and suggested the possibility that the tonic effect of change from hot, putrid, and impure atmosphere to cool, pure air impregnated with invigorating aerial acid, might contribute without the aid of drugs to the recovery of the sick and invalid. With grim humor, it may be noted, he recommends ballooning as a means to promote longevity!

In a recent volume, "The Medical and Surgical Aspects of Aviation," the author, H. Graeme Anderson, M.B., Ch.B., F.R.C.S., formerly Surgeon Royal Air Force, Central Hospital, devotes the opening chapter to Medical Interest in Aeronautics, from which the following excerpts will be interesting:

"The celebrated American aeronaut, John Wise, who was a piano-maker suffered from dust phthisis, wrote: "From the devouring ravages of such a complicated disease the practice of ballooning relieved me". This rather justifies Baldwin's theory, though it is recorded that Lunardi, another balloonist, died of phthisis."

"Flammarian records that he ascended in a balloon while suffering from an attack of influenza, and that when he came to earth he was completely cured. In Hamel and Turner one reads that a gentleman at York while suffering from neuralgia made a passenger flight in an aeroplane and, on landing, found that the pain had gone, and that Hubert Latham, the aviator, suffered from early phthisis but after taking up aviation enjoyed good health."

These facts are interesting, and their truth may be confirmed by the recounting of similar experiences on the part of the average flier with whom one converses. Reports of "head colds" and like ailments that have disappeared once the rarified air is reached in flight, or that the appetite and general health are improved by flying, are familiar to all. But these may be said to deal with one aspect only of the subject of the therapeutics of flying, and that the more strictly physical or material. There remain the more delicate and, to that extent, the more interesting phases which would present themselves to the neurologist and the psychologist.

Nothing so quickens perception, so stimulates the imagination, so accelerates and elevates thought as the act of flying under agreeable circumstances. Does not this fact suggest possibilities to the nerve specialist and psycho-therapist as to the therapeutic value of flying? May we not predict that the aerial sanatorium and the aero-therapist will yet have their day?

This discussion presents, however, only one - and that very little known - phase of the matter, namely: the possible therapeutic value of occasional flying under agreeable circumstances.

To quite another story belong facts dealing with the very well known results of strain which are experienced by every pilot who must, in the line of duty, fly under circumstances very far from agreeable: who may contend with adverse weather conditions; or traverse long distances where landing fields are few or non-existent; whose every nerve and brain cell is at high tension from the moment he leaves the earth till he reaches it again in safety. Nor does this cover the case of the flier on the battle front, concerning whom there are more statistics available at present, for very apparent reasons, than for any other.

These matters are being dealt with every day by the flight surgeon, and classify themselves variously under the terms of aero-neurosis and aero-psychology, concerning which much has been written and much more remains to be said.

AGAIN THE HELICOPTER

The fact that the French Government, despite its depleted treasury and the general exhaustion following war conditions, has just paid approximately \$40,000 for the patent rights of a new type of helicopter, the invention of Messieurs Laccoi and Damblanc, may be taken as an indication of the earnestness with which research and experimentation is going forward in all forms of flying craft.

Singularly enough while next to the flapping machine the helicopter was the earliest form of flying craft to be developed to the experimental stage, it has been so far the last to stand the acid test of practical performance. Helicopters were built and tried long before airplanes, and there was only one thing the matter with them - they would not fly.

Helicopter experimenters there have been galore, since its invention by Leonardo Da Vinci, including Godard, Defaux Leger, Santos Dumont, Bertin, Cornu, Breguet, Lyties, Kimball, Beach, Berliner, Renaud and others. The list is fairly extensive, and the efforts of each has, no doubt, contributed something to the stock of useful information that will help to solve the problem of the helicopter - that is, a flying machine without wings and which obtains its lift by means of airscrews rotating on vertical axes.

The development of a successful and reliable helicopter would, it goes without saying, solve many of the problems now to be encountered in the conquest of the air. The solution of the problem of vertical ascent and descent would go far toward making commercial aviation an accomplished fact though the cost of production would still be a bar. It would cheapen flying by the abolition of large and costly areas of land for airdromes: it would enable machines to land on housetops in the very center of cities; to rise from the gardens of private householders. Equally, also, to make a rapid transition from so peaceful an aspect, it could hurtle itself with deadly intent from the deck of a battleship, or mount stealthily from the midst of front-line forces for a swift reconnaissance across the enemy's line.

Two great difficulties have always faced the experimenters with this type of machine. First is the problem of obtaining ascent without the body of the machine whirling around with the propellers: second, the danger of unchecked descent in case of the engine cutting out. Another disadvantage is the tremendous weight of machinery so far thought necessary. This has been so great that had any of the designed craft flown they could only have carried their own weight without pilot or cargo of any kind.

The crux, then, of the helicopter question has a fourfold aspect, according to Edward P. Warner, Chief Physicist Aerodynamical Laboratory, Langley Field, Va., the securing of the necessary lift to rise from the ground, the assurance of a safe descent after complete failure of the engines, the securing of stability and controlability, and the maintenance of a reasonably high forward speed in the horizontal plane. The question as to what extent all of these separate phases of the problem have been overcome easily answers itself. Helicopters are certainly not crowding our airways, nor are they visible above the horizon, even with field glasses in the clearest of clear skies.

Nevertheless, all experiments along this line are interesting, and some of them outstanding. Conspicuous among the more notable inventions is the "Helicopter No. 1", the work of Prof. Francis B. Crocker and Dr. Peter Cooper Hewitt, the well known New York scientists. Basing their experiments on the idea that previous attempts to build a flying-machine of this character have failed primarily because the propellers were too small in diameter to act upon a sufficiently large mass of air, they decided upon a radical departure in the way of aviation propellers.

For the purpose of comparison, it may be stated that the average airplane propeller measures not more than six feet or so across, while the exceptional one attains a diameter of ten feet. To compensate for this moderate span, these propellers make from 1200 to 2000 revolutions per minute. As may be readily seen the spinning propellers defeat their own purpose to a very considerable extent - perhaps as much as 50 per cent - since the rapidity of rotation sets in motion the atmosphere for some distance in front of them, causing cavitation, or "holes" in the air through which the screws "slip" instead of delivering propulsive beats. With a full knowledge of these facts to work upon, Professor Crocker and Dr. Hewitt have constructed "Helicopter No. 1" with propellers that are 51 ft. in diameter, made of aluminum, and so designed as to be radically different from the airplane propeller having the least material where that bulks largest.

During the months of ground testing, "Helicopter No. 1" was driven by two electric motors of 100 horse-power each. According to press reports of the tests, with the propeller blades set at a certain angle, and the screws turning only 70 times a minute, with the motors furnishing a combined effort of little more than 125 h.p., the total lift of the two propellers amounted to 2,550 pounds, while the machine in its entirety weighed only about 2,300. This would

allow for an actual useful weight of 250 pounds, and a speculative weight of 400 provided the engines functioned at full power.

Work on "Helicopter No. 1" was stopped after the armistice, but the experiments have led its inventors to the conclusion that it has cleared the way for radical changes in the every-day use of heavier-than-air flying craft. The claims advanced for the helicopter are: greater lifting capacity per unit of power meaning that larger loads can be carried economically; a much less costly propulsive plant; higher speed without adding to the motive equipments, and that a fixed quantity of fuel will take the helicopter much further than an airplane of similar carrying capacity. All of these have a very direct bearing upon the commercial application of the flying machine.

Robert G. Skerrett, describing the "Helicopter No. 1" for the New York "Sun" says: "Because the helicopter can descend with the utmost deliberation, it can grope its way amid fog, snow, or the darkness of the blackest night to a place where it may settle to earth without inviting catastrophe. Further, it can come within a few feet of the ground, and then rise without touching if the location is not suited for a landing. From a military point of view, this hovering power would prove of inestimable value, and would add enormously to the precision of attack by means of bombs or any other weapon with which the helicopter might be supplied. As a means of communication between ship and ship, or between land and floating bases, the helicopter is sure to make possible what is hazardous and even denied in the case of an airplane.

In his lecture before the Royal Aeronautical Society in London on Nov. 18, 1920, M. Louis Damblanc, one of the inventors of the helicopter, patent rights to which have been bought by the French Government, is quoted by the "Aeronautical Journal" of Jan., 1921 as saying:

"The helicopter is not a competitor of the aeroplane. It is an entirely different type of aircraft, but one is the complement of the other. In that golden book of the science of aeronautics, where there are already inscribed those glorious conquests which we know as "balloons", "airships", and "aeroplanes", the last page is reserved for the helicopter. In a few months the helicopter will enter upon a phase of decisive achievement."

"A fact which is remarkable is that with the helicopter no new principle is involved. Everything is known, and it is merely a question of adaptation. The one single shadow over the picture is the difficulty of actual mechanical construction. But we have already solved an even more delicate problem in the construction of the aero-engine, that veritable masterpiece of skilled and intelligent workmanship. The probable characteristics of the first type of helicopter to be constructed will be somewhat as follows:

Total weight	800 kilos
Useful weight, pilot and armament....	150 "
Engine power.....	120 h.p.
Climbing speed.....	3 meters a second
Horizontal speed	100 kiloms an hour."

AVELINE STABILIZER OR "AUTOMATIC PILOT"

A device by which the equilibrium of an aeroplane could be maintained at all times and without the aid of the pilot has engaged the attention of inventors from the earliest days of flying. Naturally, of course, the pendulum idea has prevailed in most of the inventions along this line, a notable variation of the type being presented by the various gyroscope devices which have appeared, the best known and most satisfactory being the Sperry stabilizer. While this instrument has been found to work well, especially on large flying boats, it has not as yet come into general use, perhaps the greatest objection being the excessive weight of the apparatus and its attendant paraphernalia, though the fact that the gyroscope is a very delicate piece of machinery likely at any time to get out of action, may, also, be a reason for its lack of adaptability to universal use.

Recently a form of "automatic pilot" has appeared in England which involves the pendulum principle but for which it is claimed the objectionable features of this type of stabilizer have been eliminated or, rather, counter-balanced.

The inventor, M. Georges Aveline, is a young French engineer and former military pilot who was loaned to the British Government during the war, being stationed for most of that time on the Isle of Grain. While M. Aveline states that he had been considering the possibility of the stabilizer for some time, it was during his stay in England that he had the opportunity to develop his idea into an invention. The device, it is said, combines great ingenuity with simplicity and the precision which is necessary in the manipulation of aircraft.

Briefly, the invention consists of the utilization of compressed air combined with an electrical current. The air is automatically compressed by means of two air pumps which are fitted beneath the forepart of the fuselage and are actuated by small air propellers immediately the aeroplane begins to work. The air is conveyed by tubes into an atmospheric reservoir fitted with the fuselage, and is connected with a pressure gauge fitted in the pilot's cockpit, so that he can see at a glance that the necessary pressure of 60 lbs. to the square inch is maintained.

By merely raising a small lever in the cockpit the whole of the mechanism is thrown out of gear, and the pilot is free to take full control of the machine again. This takes not more than a second to manipulate.

"That the invention is of more than ordinary interest from a technical point of view, will", according to "Flight" for Feb. 3, "be generally admitted. What are its practical applications? In the first place, the weight of the apparatus is considerable. Even granted that by future development and simplification the weight can be got down to say 150 lbs., this will mean that the equivalent of one passenger is expended on carrying the device.

"On the London-Paris journey this would mean, at the present fare, a loss of £18-18s. on the double journey. This is a serious consideration, and unless the device can save the pilot from a considerable amount of strain it will not be tolerated. That it will do so is more than probable and a fact that will have to be kept in mind when trying to form an opinion of the value of the device, is that it is probably not on very many journeys that the full complement of passengers or goods is carried. In that case, there would be no loss due to carrying the device other than a small one in petrol consumption, and that probably, would be negligible.

"There is one sphere in which the stabilizer does appear to score heavily, and that is for use in flying in fog or clouds. Normally when the pilot is in a cloud, he has, after a time, very little notion of what is the altitude at which he is flying. Also, for all he knows he may be flying around in circles, and, usually, the only indication he has is that his compass appears suddenly to have gone mad. If his machine is so very stable he may be able to put all his control central and get back to normal in this way. In the meantime, however, he may have got the machine into positions involving stress which approaches the danger mark. Here the stabilizer would score heavily. As a pilot approaches a cloud he can set his elevator adjustment to what he wants either a steady climb or a horizontal flight, and so long as he keeps on his compass course by steering with the rudder, he has the satisfaction of knowing that the machine is proceeding normally. Again for flying at night the stabilizer would be invaluable as it would relieve the pilot of all control except that of steering."

WHAT ONE SOLDIER THINKS OF THE ARMY

The following letter, written home by one of the soldiers at Fairfield Air Intermediate Depot was forwarded by his parents to the Commanding Officer. It is believed that this letter will be of general interest as indicating the manner in which the opportunities of self-advancement given by the Army are appreciated by the better type of recruits whose ambition and industry win for them rapid advancement:

"Dear folks:-

I will try and write you a decent letter, I haven't much time. The other letters I wrote, I just had to scratch a little, so I do not know whether you could read them or not. I hope you can read this.

I am glad, dear Mother, that you are able to be up. I hope you will be well soon. It is too bad you have to be sick. You ought to join the Army; that would fix you up in a little while. I have gained twelve

pounds since I have been here. When I joined I weighed one hundred forty-three pounds stripped; now I weigh one hundred fifty-five pounds. I sure feel good.

This is a grand place. In three months from now I can take an examination to be a Pilot. If I pass I go to Mitchel Field, New York, or to March Field, California, either one I want to go to, and train to be an officer.

This Army is whatever you want to make it. If you "bum" around and only do what they make you do, you will still be a Private when your three years are up, but if you are up and at everything and are not afraid to work you get ahead; and if they see you want to, you go as high as you want.

I have my mind set on only one thing and that is to be an Aviator; and that is what I am going to be. It is all up to me.

I am also learning how to play a violin, so you see if I get one hour in a day flying, two hours in drilling, four hours in studying, one hour in taking instructions and at night learning on a violin and writing a little, my time goes fast, also it does not go for nothing, as every minute I learn something.

It is the greatest place that I was ever in. I hear fellows here and outside telling what a place the Army is and it is just because they are lazy and wont work unless they have to; get in the guard-house and try to get out of all the work they can and are always in some kind of trouble. If I hear anybody say anything about the Army I am going to knock him on his ear for I know what it is; it is a great school and one of the best there is.

So don't worry about me; I wish you were all living as happy a life as I am; it is my place to worry about you, if you would fix things right, nobody in our family would need to worry. Life is what we make it.

Well I do not suppose I will get to come home this month as I bought a coat, but will be sure to come home next month. You could get a new machine and come down and see me.

I got the box of fudge Frances sent. It was fine and I could eat more.

Goodbye, As ever,

Your son,
Pat K.

CHANGES OF STATION OF OFFICERS.
FOR WEEK ENDING APRIL 5.

March 30, 1921 - First Lieutenant Edward M. Morris, ordered from March Field, Riverside, California, to Langley Field, Hampton, Virginia, for the course of instruction at Photographic School.

March 31, 1921.- Orders previously issued directing First Lieutenant George W. Pardy to proceed from Mather Field, Sacramento, California, to Manila, on the May transport amended to direct him to proceed on the transport sailing July 5, 1921.

April 1, 1921 - Following Cavalry officers detailed to Air Service and ordered to return to the United States from the Philippine Islands and report at Carlstrom Field, Arcadia, Florida, for pilot training not later than July 28, 1921:

Captain Robert C. Candee
1st Lieut. Richard H. Ballard.

April 2, 1921 - First Lieutenant Ernest L. Hurst ordered from Brooks Field, San Antonio, Texas, to the San Antonio Air Intermediate Depot, Kelly Field, San Antonio, Texas, for duty.

April 2, 1921 - Captain Ralph A. Gibson ordered from Army Balloon School, Ft. Omaha, Nebraska, to Fairfield, Air Intermediate Depot, Fairfield, Ohio, for duty.

April 4, 1921 - First Lieutenant Ned Schramm ordered from March Field, Riverside, California, to Mather Field, Sacramento, California, for duty.

DEATH OF CAPTAIN WILLIAM C. BRADY

It is with deep regret that the News Letter records the death of Captain William C. Brady, of Marshall, Minnesota, which sad event occurred on January 16, 1921.

Captain Brady, who was formerly in the U.S. Army Air Service attached to the Information Group, C.C.A.S., was a most conscientious officer and rendered valuable service to the department. It was while on duty at this station that he was taken ill and had to be sent to Walter Reed Hospital.

After a continued period of illness he was honorably discharged from the Army in 1920.

ARMY PLANES HAVE BEGUN SURVEY OF OLYMPIC PENINSULA.

According to reports from the Commanding Officer at Mather Field, Sacramento, California, and to special press dispatches from Hoquiam, Washington, two army airplanes, one piloted by Capt. Lowell H. Smith with District Forester Cecil of Portland, Oregon, as passenger, and the other piloted by Lt. Emil C. Kiel and carrying an observer, made a preliminary flight on the 28th of March over the storm-damaged area on the west side of the Olympic Peninsula.

The two planes left Camp Lewis just before noon, crossed to Shelton and thence over the southern edge of the Olympic mountains to the vicinity of Lake Quinault, crossing the Queets River near the mouth of the Clearwater, thence north along the coast to the Hoh.

From the Hoh valley the planes turned inland to the Forks Prairie flying low there to observe the possibilities of landing. From Forks they circled over the Ozette Lake district and returned south along the western edge of the mountains to Lake Quinault, and thence back to Camp Lewis. The flight was made in 2 hours and 50 minutes.

The extent of the damage done by the storm could be observed clearly. The fliers reported timber down only in patches except in the Clearwater valley and the Hoh district, with the greatest loss in the Hoh and Bocachiel areas.

DISABILITIES OF AIRCRAFT

Under the above caption the "Star" of London calls attention, as follows, to two present-day disabilities of aircraft for the remedy of which means should be speedily found:

"The accident to the R-34 focuses attention on the two great disabilities, one common to all aircraft and the other peculiar to airships only, which confront aeronautics. The first is that as the aneroid only registers height above sea-level, it affords no indication of how high the earth may be under the aircraft. The second is that airships are peculiarly susceptible to damage when moored in a choppy wind, which tends to beat them down at one moment and put undue strain on the rigid wood-work the next. General Maitland says that if they had had mooring masts the R-34 could have been saved, but the gale proved too much for her."

SQUADRON NEWS

Kelly Field, San Antonio, Texas, March 26.

An extensive course of lectures will be given in the near future comprising in a general way a total summary and synopsis of First Pursuit work tactical, technical, administration, and executive. The following lectures will be given:

Sketch of advanced course and conduct of personnel		Major Spatz
Lecture on application of Pursuit in Military Aeronautics	1 hr.	Capt. Brooks
Lecture on Hispano Suiza airplane motor	1 hr.	Lt. White
Theory and practical work on rigging on types of airplanes present with Group	1 hr.	Lt. Whitehead
Study and application of flying rules of C.A.S. and this field	1 hr.	Major Spatz
Outline of inspection and study in Group Motor Overhaul	1 hr.	Lt. White
Lecture on Pursuit Tactics--individual and flight	1 hr.	Lt. McDermott
Lecture on Trouble Shooting, Hispano Suiza Motor	1 hr.	Lt. White
Lecture on Topography and Map Reading	1 hr.	Lt. Graybeal
Lecture on Air Service History	1 hr.	Major Spatz
Lecture on Pursuit Tactics--Squadron and Group	1 hr.	Capt. Brooks
Lecture on Protection and Patrols	1 hr.	Lt. Tourtellot
Lecture on Aerial Navigation	1 hr.	Lt. Matthews
Outline of lecture on Camera Gun, Lewis, Vickers and Marlin Guns	5 hrs.	Lt. Frierson
Lecture on Meteorology	1 hr.	Lt. Getchell
Lecture on Attack and Strafing Missions	1 hr.	Lt. Sheridan
Lecture on Liaison with other arms of Service	1 hr.	Capt. Baucom
Lecture on Trap-shooting and ground gunnery	2 hrs.	Lt. Frierson
Lecture on Pursuit Bombing tactics	1 hr.	Lt. Ellis
Critique on phases of course to date	1 hr.	Capt. Brooks
Pursuit overseas history	1 hr.	Lt. McDermott
Purposes and details of night Pursuit	1 hr.	Lt. Pennewell
Lecture on Radio and Wireless Telephony	1 hr.	Lt. Benton
Lecture on organization of Flight, Squadron and Group	1 hr.	Lt. Heffley
Lecture on operations in Squadron, Group of Wing	1 hr.	Capt. Brooks
Lecture on practice in care and maintenance of transportation	1 hr.	Lt. Andrews
Study of requisites for selection of airdromes	1 hr.	Lt. Getchell
Study of details incident to movement of mobile group	2 hrs.	Lt. Hoppin
Critique on phases of work	1 hr.	Capt. Brooks
Study of Lighter-than-air Branch of the Air Service	1 hr.	Lt. Blackburn
A survey of Corps and Army observation duties	1 hr.	Lt. Birnn
Study of recent developments within the Air Service and in Foreign countries	1 hr.	Major Spatz
General Review of course		Capt. Brooks

Immediately upon receiving orders from Washington, 22 SE5A's were shipped to Langley Field where they will assist in all manouvers with the Navy.

All squadrons are finally working to place the 20 Spads in flying condition. Judging from appearances these machines must have had a taste of rough transportation from France to America.

Kelly Field, Cont'd.

The following Flying Cadets, Verne W. Bohnke, Franklin Cole, George B. Dietz, Harold B. Fisher, Joe B. Glass, Elmer C. Goodall, Albert Jett, George H. Holmes, Clarence S. Irvine, James L. Johnson, Matt A. Nieminen, Raymond E. Pease, Edward L. Preston, Eugene Roberts, Tyro O. Robinson, William P. Thomas, Dolman W. Willis, James S. Willits, who have completed the course of intensified pursuit training March 18, have been ordered before the Cadet Examining Board consisting of - Captain Brooks, Lieutenant Raily, Lieutenant Clark, to be examined as to their mental, moral, physical and professional qualifications to be appointed Second Lieutenants in the Reserve Corps.

These Cadets have reviewed training not only in pursuit flying tactics but have been trained in squadron administration, paper work, and the handling of men.

The absolute necessity of acrobatic flying discipline is explained and the necessity of carrying out in detail the respective mission assigned is emphasized.

The following Naval Aviators have completed flying training with the First Pursuit Group and are now awaiting orders from the Navy Depot to be ordered to their respective stations where they will assume control of the new Loenig monoplanes equipped with Wright 200 motor. These planes will have a speed of about 150 miles per hour and can be maneuvered with the ease and rapidity of a scout, with the added offensive and defensive ability of seating two persons.

In addition to these fast two-seater planes the above pilots will fly the twin naval scouts from the airplane carriers; the landing on the deck of an airplane carrier requires not only expert judgment but the ability to stall a plane to the ground with the least possible speed; thereby stopping in a very limited space.

The advent of the reversible propellers will enable a fast scout plane to land upon a small given surface such as on the deck of a battleship.

The van guard of the Navigators, Ensigns Brown, Calloway and Groh, received their orders to report to their respective stations where they will be assigned to Loenig monoplanes and the others are expecting orders to leave in a few days.

Lieutenant G.O. Roberson who has been assigned to the 94th Aero Squadron as Supply and Mess Officer, received orders to report to Post Field where he will take the course of the Communications Officer.

Lieutenant Aldworth, Commanding Officer of the 27th Aero Squadron, who has been absent from the Group for 30 days, received an extension of 20 days to enable him to get the necessary rest to participate in the activities of the First Pursuit Group.

Lieutenant Hoppin, Commanding Officer of the 27th Aero Squadron, has been assigned as Group Supply Officer, where he will relieve Lieut. White.

Lieutenant Carrasco, Chilean Aviator, has been assigned to the First Pursuit Group to undergo pursuit training at present in force in the Group. Lieutenant Carrasco is a graduate from the Chilean Military Academy where he completed the five years course with honor and was commissioned in Artillery Corps, Chilean Army. He has received his primary training at Carlstrom Field, and upon completion of the prescribed pursuit course he will return to his native land where he will command the leading Aero Squadron.

The following named officers from Carlstrom Field received orders to report to the First Pursuit Group for pursuit training: Captain Vincent H. Dixon, Captain William F. Donnelly, Lieutenant Hobart R. Yeager.

Lieutenants Harold W. Beaton and John H. Gardner, of the First Day Bombardment Group have been relieved from duty at this station to report to Post Field where they will take the course of Communications Officer.

Captain John F. Monahan has been ordered to report at Camp Grant, Illinois, not later than April 2, 1921 for a course in the Chaplain's Service School.

Lieutenant Roy W. Camblin and Cadets Clinton C. Chalk, Julius B. Danielson, Edward J. Lorenz went by rail to the Aviation Repair Depot, Dallas, Texas and returned by Airplane for the purpose of ferrying airplanes to Kelly Field, Texas.

Kelly Field, Cont'd.

Lieutenant William J. McKiernan, Air Service, has reported at this station from the Airdrome, Laredo, Tex. He is attached to the First Day Bombardment Group for temporary duty in connection with aerial maneuvers with the 2nd Division.

Lieutenants C. W. Wieber, Vernon F. Grant, and John J. Ballentine, United States Navy, made a cross country flight for practice purposes to Laredo, Texas on March 26, 1921, and will return on March 27, 1921.

Love Field at Dallas, Texas, having been disbanded by the Government, the enlisted personnel which consisted of a detachment of 48 men have been transferred to this field, split up and assigned to the different organizations.

Base Ball is fast becoming the sport of Kelly Field. Every squadron has picked its team and all are going through some very strenuous practice. The Post team is being rapidly rounded into shape and is expected to develop into one of the best teams in the Eighth Corps Area. The first game on schedule will be played with Kelly No. 1 on next Tuesday.

March Field, Riverside, California, March 26

Sixty-two planes made 697 flights from this school during the past week. Total flying time was 436 hrs. 35 min. Preliminary instruction required 390 hrs. 15 min.; advance instruction 17 hrs. 45 min.; Test flights, 8 hrs. 20 min.; and miscellaneous flights, 20 hrs. 15 min. Approximate mileage flown - 28,384.

Civic committees composed of members of Riverside's Business Men's Association and the Chamber of Commerce will raise a fund of \$6,000 to continue the work of the local War Camp Community Service. The war camp club under the supervision of J. L. Alabaster provides weekly dances for the enlisted men, every Saturday evening and recreational quarters in the business district of the city. March Field men are appreciative of the efforts to provide recreation and entertainment for them while off duty.

Seven enlisted men from the Philippine Islands have reported for cadet training at this school. They are: Staff Sergt. Archie Taylor; Sergt. James C. Ayres; Corporals Walter H. Archer and Max M. Sternberg; Private First Class Clinton E. Herberger and Privates Andrew J. Marinick and Alexander Spitzer. They were previously attached to the Second and Third Aero Squadrons and the 17th Balloon Company.

March Field's baseball team made a clean record for the week winning two successive games from visiting aggregations. Sunday they will play a picked team of big league stars, in training on the Pacific Coast, at Urbita Springs Park.

Art Springer, March Field's bantam-weight boxer won the decision over Ikey Smith in a four round bout at the Gate City Arena Thursday evening. Springer will now meet Izzy Glassier of San Francisco, reputed to be the best boy in his class in the west.

Dropping 3,500 feet in a strong wind at Santa Monica late Wednesday afternoon, Walter Raub, civilian balloonist, broke through three parachutes and was blown out to sea before his descent was completed. The remnants of his third parachute fell on him while he was struggling in the water and he was nearly drowned before help could reach him. Raub's balloon ascensions are one of the features of daily events at the Beach City Carnival.

More than 30 student officers are nearing completion of their preliminary course at this school. They are anticipating travel orders in the very near future to advanced schools for pursuit, bombing and observation instruction. A similar number of cadets will be graduated within the month. About 20 in the latter class expect to be ordered to Mather Field, Sacramento, where they will be attached to a forest fire patrol squadron.

Bolling Field, Anacostia, D.C., March 30

Considerable interest was manifested in a rather remarkable experiment at this field Wednesday. Mr. H. A. Renz, Jr., of Washington, lost his voice several months ago, and in spite of the efforts of numerous specialists, a cure could not be effected. Upon the recommendation of Dr. Charles A. McEnerney, of the Public Health Service, Mr. Renz was taken to an altitude of 14,000 feet, Lieut. Cyrus Bettis piloting. On return to the field, it was found that the rarified atmosphere had restored Mr. Renz' voice, much to his surprise and gratification. Thus, aiding the medical and surgical profession, does aviation add another accomplishment to an already lengthy list.

During the past week the Assistant Secretary of War, Wainwright, was flown to New York by Captain W. C. Ocker. Travel by air becomes more popular daily. Will the day ever come when railroads will be as the stagecoach is today -- picturesque, but not of great utility?

With regard to officers, Bolling Field appears to be either unpopular or unlucky. Lieut. Cyrus Bettis is ordered to the Philippine Islands, and Lieut. Gerald E. Grimes is leaving for Langley Field for a course in Aerial Photography. The officers have been at this station about four months. Lieut. Paul C. Wilkins who has not enjoyed very good health since his arrival here, is now at Walter Reed General Hospital receiving treatment.

Brigadier General William Mitchell, Assistant Chief of Air Service, flew to Langley Field to personally determine the progress being made in the bombing program now being carried on at that field.

Air Intermediate Depot, Fairfield, Ohio, March 29.

Work on the bombing planes now under process of reconstruction is being rushed, these planes having been given priority over all the work in the Engineering Department, in order that they can be completed for use in connection with the experiments that are to be carried out with obsolete naval vessels.

Two DH-4B airplanes remodeled for messenger service have been completed during the past week. These planes are for use of the Air Service and have dual equipment in the rear cock-pit. Martin Bomber wheels have been substituted for the standard DH wheels to permit landing on soft fields. One of the planes is equipped with a standard 110 gallon tank and the other with an extra tank, giving a capacity of 120 gallons. Complete radio equipment has been installed, including direction finding apparatus. It is expected that these planes will be flown to Washington by Major George E.A. Reinburg, and First Lieutenant Caleb V. Haynes, about March 30th. Major Reinburg will carry an enlisted mechanic as passenger.

Major Maxwell Kirby inspected the Stock-keepers' School at this Station March 24th. From this Station Major Kirby went to Chanute Field, Rantoul, Ill. where he will inspect the Air Service Mechanics' School at that place.

First Lieutenant Floyd A. Lundell, flew to this Station from Chanute Field March 25th, for the purpose of obtaining spare parts for La Pere airplanes. He returned to Chanute Field March 26th. While at this Station, Lieut. Lundell was the guest of Mrs. Charles Leonard and Lieutenant Leonard, who recently arrived here from Chanute Field.

Honorable Roy Fitzgerald, member of Congress from Dayton, Ohio, was a visitor at this Field March 25th. Mr. Fitzgerald, who was a Captain of Infantry overseas during the war, was greatly interested in the activities of this Station. He was especially impressed by the manner in which vast quantities of Air Service material on hand in this country at the signing of the Armistice or which was returned from overseas, including large quantities of captured material, is being repaired, classified and placed in condition for use in case of future need. Mr. Fitzgerald's experience in the Service during the war has given him a general knowledge of the value of Air Service not ordinarily possessed by men who are not fliers. Mr. Fitzgerald inspected the twin motor bombers which are being prepared for bombing experiments with naval vessels

A.I.D., Fairfield, Ohio - Cont'd.

and other ships under process of construction in the Engineering Department. His visit to this station was for the purpose of familiarizing himself with Air Service activities within his district.

Wilbur Wright Air Service Band participated in a program given at Memorial Hall, March 22nd, for the benefit of the disabled veterans of the world war. The outline program was a great success. The band numbers attracted very favorable attention. The Post Band and a firing squad participated in the funeral of Charles Freeman Bonner, a soldier who died overseas and whose body has just been returned to this country for burial. The funeral took place at Troy, Ohio, at the home of Mr. Bonner's parents, March 27th.

March Field, Riverside, California, March 19.

Sixty-three planes made a total of 636 flights from this field during the past week. Total flying time - 410 hrs. 20 min. Preliminary instruction of cadets and student officers required 357 hrs.; advance instruction, 35 hrs. 30 min.; test flights, 7 hrs. 35 min. and miscellaneous flights 10 hrs. 15 min. Approximately 27,115 miles were flown.

Flying an Italian Balilla combat plane, propelled by a 200 horsepower Hall Scott motor, ex-Captain Eddie Rickenbacker, premier American Ace, landed at March Field shortly before noon Wednesday. He was greeted by Major B.K. Yount, commanding officer, as well as other commissioned officers of the school and some two or three hundred enlisted men who swarmed the line to get a glimpse of the famous bird-man.

Rickenbacker made a flying trip to the Southland from Oakland in his official capacity as vice-president and general manager of the Sheridan Motors Company of California. While in Riverside he was the guest of the Rotary Club and at a luncheon gave a very interesting talk of some of his war experiences in France. He paid glowing tribute to several fellow aviators and to the dough-boy. In fact his remarks were confined more to the accomplishment of others during the war than to his own exploits.

Lieut. Fred B. Weiners has been appointed officer in charge of the Post Exchange, vice First Lieutenant A. L. Foster, who will leave next Thursday for France Field, Panama Canal Zone.

March Field's Base Ball Club is rapidly rounding into seasoned form. Out of four games thus far played the club has won three, losing the last game to Fullerton College by but one run. One good first baseman is needed to relieve some additional pitching material in the infield. Sunday afternoon the team will play the Los Angeles Pacific Coast League team at Elsinore. Tuesday a game has been scheduled with the Colton Club; Wednesday afternoon with Riverside High School and Friday a return game with the Sherman, Indiana.

L. C. Brand, president of the Guarantee Trust Company of Los Angeles, and an aerial enthusiast, was a visitor at March Field, Wednesday. Mr. Brand was accompanied by his nephew, C.C. Brand, ex-Canadian officer, and his pilot Gilbert Budwig, ex-civilian flying instructor at this school. Mr. Brand is the owner of a specially built Le Pere said to have cost \$20,000 and known in Southern California as "the palace of the air".

All second Lieutenants of the command are preparing acceptance blanks to be forwarded to the Adjutant General of the Army as soon as notified that promotions have actually been confirmed. About 20 First Lieutenants of the command will advance to the grade of captains.

In compliance with instructions from headquarters Ninth Corps Area the following named officers have been appointed to comprise a board which will conduct preliminary examinations for commissions in the regular army. Applicants in this vicinity will report to this board early in April. Members of the board are: Major W. W. Vautsmeier, Captains E. V. Reinartz, John P. Beesen, John R. Herman and Lieutenant Charles R. Melin.

France Field, Cristobal, C.Z., March 19.

A big attendance of officers and ladies from neighboring army and navy posts witnessed the polo match between France Field and Field Artillery Officers' team from Gatun on Sunday last, when the aviation team won the game 8 to 0. The

France Field, Cristobal, C.Z., March 19. (Cont'd)

France Field team followed the ball better and showed a marked superiority in hitting, although neither team showed finished team play. The entire France Field team worked well while Lieutenant Palmer and Major Houghton were in the fore among the visiting players. Unsatisfied with the score the visitors requested another game and plans were made to play again next Sunday. The summary follows, Lieut. Garrett replacing Lieut. Watson at the start of the fourth period:

<u>France Field</u>	<u>Field Artillery</u>
2nd Lieut. Watson, Major Harmon	No. 1 1st Lieut. Woodruff
Captain Boland	No. 2 1st Lieutenant Palmer
Major Harmon, 1st Lieut. Garrett	No. 3 1st Lieutenant Montgomery
2nd Lieutenant Connell	No. 4 Major Houghton

Goals - Capt. Boland 4, Major Harmon 3, Lieut. Garrett
Time - 6 six minute periods.
Referee - 1st Lieut. Zellars, 12th Cavalry.

The monthly field day was observed at the post on Thursday with an aquatic meet in the morning and officers and men participating in an afternoon baseball game between picked teams. In the aquatic events, which included a number of swimming races, plunging, and diving contests, Corp. Cassell was the star of the meet, while Pvt. Kelsey cleaned up two events for second honors. The fancy diving was very close and interesting, Pvt. Friesing winning from Sergt. Johnson by a narrow margin. The baseball game, which ended in a far one-sided score, aroused much interest and rivalry among the men and has since led to the forming of several rival teams among the men of the post.

One of the best games of the season was that of Wednesday when France Field played Sub-Division-One at Coco Solo, though lost the game 2 to 0, an error early in the game letting in the scores. With splendid support by both teams the game developed into a pitchers' duel and the France Field team played a splendid brand of baseball against the top-notch team of the league. Holden in the box for the aviation team struck out 9, issued no passes, and kept the few hits of the sailors well scattered.

France Field was scheduled to meet Camp Gaillard on the diamond of the 42nd Infantry Saturday but owing to a crippled lineup and the interference of duties at France Field with other players a request for the postponement of the game was made. Gaillard refusing the request the game was forfeited.

The coming week will bring the ball teams from Forts Randolph and Amador to France Field, interest being added to the contests by the fact that previous games leave France Field one and one with each of the two coast artillery teams.

1st Lieut. Charles B. Austin, pilot, and 1st Lieut. Harlan W. Holden observer, made two mosaics on Tuesday, one covering the country from Gatun to Cristobal and the other about 20 miles of coastline west of the Chagres River, 68 successful exposures being made out of 72 plates. Other photographic flights during the week were made by Master Sergt. Carducci in testing cameras and taking photos of points of interest on the Atlantic side of the Canal Zone.

Among the flights of the past week was a cross-country trip on Tuesday to Fort Clayton by 2nd Lieut. H. B. Chandler and 1st Lieut. A. C. George, who attended a civil trial in Balboa. Another cross-country flight to Fort Clayton was made Saturday by 2nd Lieut. S. M. Connell and Pvt. C. B. Wood to bring polo supplies for the France Field team.

One new plane of the DH4B type was turned over to the flying department during the past week and assigned to 2nd Lieut. D.C. Watson. Flying was suspended on Thursday in the observance of the field day at the post.

The new headquarters building was practically completed and the various offices established during the week. Minor completions will be made shortly and the headquarters, flying office, E. and R., operations office, and school rooms, formerly all widely scattered, will be housed under one roof.

France Field, Cont'd.

The transport "St. Mihiel", reported as due on Friday night, was delayed on the call at Porto Rico and the last wireless advices indicate that the ship will dock Monday morning. Major Raycroft Walsh, new commanding officer of the field, Lieut. and Mrs. R.C.W. Blessley, and 2nd Lieut. Frank B. Albrook from Little Rock, Ark., are booked on the "St. Mihiel".

A Congressional party numbering close to a hundred, now visiting the Canal Zone, will include France Field in visiting various army and navy posts on the Atlantic side of the Zone next Wednesday.

Airdrome, Nogales, Arizona, March 26.

On the evening of March 24th, Lt. H. W. Prosser, Engineering Officer of this flight, made the second night flight ever attempted at this station. Six flood lights were used in lighting the field which answered the purpose very satisfactorily. Lt. Prosser remained in the air one hour and forty-five minutes and used a D.H.4B. plane for the flight.

The Flight Base Ball Team played its second game of the season, March 23rd, with the Nogales Team, on the Nogales High School ground, defeating the Nogales Team in a score 12-8.

The Flight team has five games scheduled for next month.

Brooks Field, San Antonio, Texas, March 27.

Brooks Field reports the following activities for week ending Saturday March 26, 1921. Observation Balloon was flown approximately twenty-two hours.

A Post Ball League was organized during the week composed of a team from each organization, season to begin on April 1st and end on September 30, 1921. Prizes are to be awarded the winning team.

Base Ball Game was played here on Saturday afternoon at 3:00 o'clock between 9th Infantry of Camp Travis and Brooks Field, score resulting in 15 to 1 in favor of Brooks Field, Boothe and Wagner starring for Brooks Field, while Windsor and Kennedy were the stars for the 9th Infantry.

Selfridge Field, Mt. Clemens, Michigan, April 2.

Captain John H. Jones, A.S., Commanding Officer, Selfridge Field, left the station today on a leave of absence of one month and fifteen days. Captain Jones expects to visit Meridian, Miss., and other southern points during his trip.

Mather Field, Sacramento, California, March 28.

Baseball enthusiasm continues at a high pitch. A championship game was played by the 9th and 91st Aero Squadrons on Wednesday, March 23rd, which resulted in a victory for the 9th Squadron with a score of five to three.

On Wednesday, March 23rd, Captain L. H. Smith, Lieut. Emil C. Kiel, Master Sergeant Cornish, Staff Sergeant de Garmo, Private 1st Class Otis, of the 91st Aero Squadron, and Sergeant Thomas of the 15th Photographic Section, left on an extended cross-country trip over the Olympic Peninsula, Washington State, for the purpose of mapping and photographing the storm devastated forest area of the peninsula. They expect to accomplish this in one week.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE APRIL 23, 1921.

FACTS AND FIGURES CONCERNING THE SINGLE LIST
AS IT AFFECTS THE AIR SERVICE

Status of Air Service officers on the Single List.

Single List Nos.	No. Files	Present Rank					Detailed or Attached (Included in Present Rank)				
		Col.	Lt.Col.	Maj.	Capt.	1st Lt.	Lt.Col.	Maj.	Capt.	1st Lt.	
1 to 1000	14	2	12				7d.	1a			
1000 " 2000	48		3	45				3dla			
2000 " 3000	47			47				8dla			
3000 " 4000	54			36	18			4d	12d		
4000 " 5000	34				34				8d		
5000 " 6000	46				46				15d		
6000 " 7000	31				31				12d		
7000 " 8000	83				30	53				6d	
8000 " 9000	232				21	211			1dla	1dla	
9000 " 10000	320				3	317			3a	1a	
10000 " 10999	96				1	95				10a	
TOTALS	1005	2	15	128	184	676	7d	15d2a	48d4a	17d2a	

Note:-

All officers between files No. 1 and 4000 were commissioned prior to April 6, 1917 with the exception of one Captain. All other officers in the Air Service were commissioned on July 1, 1920. There were no permanent appointments in the Air Service in grade higher than Captain.

In the recent promotions, eighty-eight First Lieutenants in the Air Service were promoted to Captain and thirteen Second Lieutenants were promoted to Captain out of the total promotions of 2300 officers to that grade. These figures include promotion for about 30 attached officers.

Over 1200 promotions were made to First Lieutenant. Out of this number 478 were Air Service officers.

The files between 10,000 and 11,000 are not filled up by July 1st, 1920 appointments. Therefore, the 96 Air Service officers in these files represent actually about one-sixth of the last thousand files on the single list.

Summing up the above we have, briefly the following facts:

- (a) 96 files below 10,000 equal approximately 16 2/3% of all these files in the Army.
- (b) 320 files between 9,000 and 10,000 equal 32% of all these files in the Army.
- (c) 232 files between 8,000 and 9,000 equal 23.2% of all these files in the Army.
- (d) 83 files between 7,000 and 8,000 equal 8.3% of all these files in Army.
- (e) 31 files between 6,000 and 7,000 " 3.1% " " " " " "
- (f) 46 files between 5,000 and 6,000 " 4.6% " " " " " "
- (g) 34 files between 4,000 and 5,000 " 3.4% " " " " " "

A significant fact is that in the last three thousand files mentioned, twelve of the thirty-one, fifteen of the forty-six and eight of the thirty-four are detailed from other arms. There are 676 Lieutenants in the Air Service and only approximately 1945 Lieutenants in the whole Army. Therefore, the Air Service has more than 35% of all the First Lieutenants in the United States Army. Omitting officers detailed and attached from other Arms, the following figures show the

status of the Air Service as compared to what it should be and with other Arms.

	Col.	Lt. Col.	Majors	Cpts.	1st Lts.	2nd Lts.
Commissioned Air Service should have	29	45	164	278	508	490
Air Service actually has	2	8	111	136	654	0
There are commissioned in all other Arms approximately	597	666	2134	4354	1291	0

Note:-

Out of eight hundred forty-one Junior officers now in the Air Service, one hundred fifty-five are captains, of whom thirty-seven are detailed, or attached from other Arms; six hundred seventy-six are First Lieutenants of whom twenty-two are detailed, or attached from other Arms. This means that out of seven hundred seventy-two officers, commissioned in the Air Service July 1st, 1920, six hundred forty-eight, or about eighty-four per cent are in the last three thousand files of the Army Single List, and, under the most roseate circumstances because of the fact that they are out-ranked by captains and lieutenants of less or similar age in other Arms, can never hope to reach a grade higher than captain prior to retirement age.

Furthermore, the majority of the flying personnel in the Air Service is contained in these lower files. The above facts and figures conclusively show that the Air Service is out-ranked by all other Arms in the Service and further means that young captains with no war experience in the Air Service who are surplus in other Arms, may be transferred into the Air Service and by a brief course of training fill positions in the Air Service for which the officers junior to them in the Air Service are better qualified by virtue of their war time training and experience.

THE ABERDEEN RECORD

To date more than twice the weight of bombs dropped by the entire American Expeditionary Forces have been dropped at this station. It is believed that Aberdeen Proving Ground has the smallest active flying field in the Air Service, yet on three days - April 4th, 5th and 6th - 25,855 pounds of bombs were dropped by the operating personnel of Flight "B", 14th Squadron, which consists of 6 officers and 63 enlisted men. Flight "B" therefore believes that it is warranted in challenging any and all Air Service stations to a duplication of this record.

BOMBING THRILLS

That bombing is not without an occasional thrill was demonstrated a few days ago when a missing motor on the take-off necessitated dropping two 300 pound bombs on the edge of the flying field from an altitude of less than 50 feet. The bombs bounced along the ground on their sides and when examined later it was found that one safety had failed with the result that a fulminate detonator had been slightly dented, just slightly enough, in fact, to avoid a detonation and consequent serious results.

CHANGES OF STATION OF OFFICERS - FOR WEEK ENDING APRIL 12.

April 7, 1921 - Orders previously issued sending Lieutenant John S. Crawford, Air Service, from Brooks Field, Texas, to Ross Field, California, revoked.

April 7, 1921 - First Lieutenant George H. Brown, Air Service, relieved from further duty at Bolling Field, Anacostia, D.C. and ordered to Chanute Field, Rantoul, Illinois, for course at Air Service Mechanics School.

April 7, 1921 - Lieutenant William G. Moore ordered from Barron Field, Everman, Texas, to Miller Field, Long Island, New York, for duty.

April 7, 1921 - Major Walter R. Weaver ordered from Kelley Field, San Antonio, Texas, to Washington, D.C., for duty in office, Chief of Air Service.

April 7, 1921 - First Lieutenant James P. Jacobs, Air Service, relieved from duty with Air Service at March Field and returned to Coast Artillery.

April 8, 1921 - First Lieutenant Arthur H. Boese relieved from duty with Air Service at March Field and returned to duty with Cavalry.

April 8, 1921 - Lieutenant Lawrence P. Hickey, Air Service, ordered from March Field, Riverside, California to Kelly Field, San Antonio, Texas, for pursuit training.

April 8, 1921 - Major Blackburn Hall, Air Service, ordered from March Field, Riverside, California, to Kelly Field for bombing training.

April 9, 1921 - Following Air Service officers relieved from duty at March Field, Riverside, California, and ordered to Post Field, Ft. Sill, Oklahoma, for course at Observation School:

Captain William H. Crum,
1st Lieut. Erle G. Harper,
1st Lieut. Francis M. Brady,
1st Lieut. John W. Kelly,
1st Lieut. Ray L. Owens,
Captain Charles B. B. Bubb,
Captain Henry T. Morrison.

ENGLAND'S AIR ESTIMATES FOR 1921-22

Judging from the outspoken statements of the English press, Great Britain's policy for the current year with regard to aeronautics is meeting with severe opposition or, rather, it has met with wide-spread disapproval on the part of the public.

The Air Minister's announcement of the air estimates made in the House of Commons on March 1, called forth a storm of protest most of which seems to have been concentrated upon the inadequate allocation of a sparse £1,000,000 - of which £60,000 will go for subsidies to aerial transport companies - toward civil aeronautical affairs as against an approximate £17,000,000 to be spent on military and naval aviation, out of a total of £19,000,000 estimated on.

In introducing the estimates, Mr. Churchill said, in beginning a speech, which in its entirety, covers three closely packed pages of "Flight" for March 10th:

"I pointed out two years ago that, quite apart from clearing away the gigantic debris and enormous mass of material which the War had left, and which had to be dispersed in one way or other, it would take, in my opinion, five years to make an efficient, self-respecting, well-disciplined, economically organized Air Force. About eighteen months of these five years have now gone, and the progress has been very much greater than I had ventured to hope. It has been rendered possible solely by the fact that during the whole period we have had continuity of administration. There has been no chopping or changing either of men or of plant so far as the Royal Air Force is concerned. Everything is being carried out step by step as was intended, every superior officer or official is pursuing his work with a sense of being accountable, not for a week or for a month, but for the year after next, and possibly the year after that. Every subordinate is doing his duty with the sense that he has got to give satisfaction to superiors and seniors who are not going to be shifted and changed with every gust of service intrigue or of newspaper agitation or anti-waste agitation. There is absolutely no other way in which you can form a disciplined force worthy of the name or worthy of this country. No more complicated service has ever been brought into existence in this world. There are few people who have any idea of the complexity of the organization of an Air Force. There are, for instance, no less than fifty-four trades, of which thirty are highly skilled trades, involved in the production and in the repair of an aeroplane. That gives an idea of the immense complexity from a technical point of view. Almost every known science and art practised among men is involved in aeronautical research. The Navy and Army can each specify a large number of separate and particular functions, each requiring a special type of machine each requiring a specially

trained pilot, which they demand to have fulfilled for them by the Royal Air Force. It is difficult to make an officer, to train men for the responsibility and bearing which an officer requires. It is difficult to make a pilot, to secure that extraordinary facility in the conduct of the machine in the air; but in the Royal Air Force, when you have trained a man both to be an officer and to be a pilot, trained the same man to both these important functions, even then you are not by any means at the end. The pilot, with all his skill in flying, with all his knowledge of his machine, would be a mere prey to an enemy unless he could, in addition, fulfill at least one of the highly specialised functions of aerial war gunnery, bombing, torpedoing, photography, wireless telegraphy, spotting for artillery, observing, and other functions of that kind. Our organization must, therefore, provide for a large number of varied schools and training establishments, and this is what we have been steadily building up in different parts of the country, according to one scheme, in the last eighteen months."

Mr. Churchill seems to have gone very profoundly into the matter explaining every item of contemplated expenditure step by step and giving his reasons for them. According to him, the irreducible and absolute essential was a great frame work of training schools and aerodromes for all of the numerous departments of aerial operation. Upon that could be superimposed a greater or less number of fighting squadrons, in accordance with the needs and finances of the times. That, he explained, was the principle upon which the Air Force had been, and was being, built up. The number of fighting squadrons was now 28, and 4 more would be forming on April 1st. Of the twenty-eight, 6 were in Egypt, 5 in Palestine and Mesopotamia, 8 in India, one on the Rhine, one at Malta, 3 in Ireland, 3 with the Navy, and one engaged in training pilots. One of the training schools is also situated in Egypt, and it is interesting to note how the thoughts of those connected in any way with aeronautics seemed to move inevitably toward that country.

It is of especial interest to note what the Air Minister had to say with regard to airships, or, as he expressed it, "the gassy side of aviation". No less important was his presentation of the case of civil aviation, the death and nonchalant burial of which gave rise to such vociferous discussion in the House of Commons and such universal protest in the press:

"Last year the Admiralty reached the opinion that, as the need for economy was so great, we could not afford to develop both airships and aeroplanes for naval purposes, and that we had better give up the airships and concentrate on the airplanes. It was a melancholy decision, when you consider that, as a result of so much expenditure, we had reached almost the first place in the world in the construction of rigid airships. But I think it was a wise decision. It seems to me very probable that that will involve the abandonment by the Government of airship building in the civil sphere. We have hitherto been engaged in completing airships under construction when the War ended, in experimenting with those ships, and in building a new ship for the United States, for which we receive a sum of £500,000, in training their crew in the handling of this ship, and in carrying out certain experiments with mooring masts which are of great interest and importance. Unless, however, within the next few weeks private companies are willing to come forward and take over the airships and run them for commercial purposes, I shall not feel justified in continuing expenditure upon airships for civil purposes. If any company will come forward and give a reasonable undertaking to operate the vessels and to continue to experiment, they shall have all our airships free of charge, together with all the spare parts in our possession and the necessary ground establishments. They can have them as a free gift, with any assistance that we can give, if they care to come forward.

"The task of fostering civilian aviation in the British Isles will be attended with much difficulty. The fogs and mists and other climatic conditions are a terrible hindrance. Moreover, the country is covered by a network of railways and roads, which constitute the most formidable competition with the air. I think the Government might easily pour out very large sums of money with that object, without achieving any permanent results. There is, however, one route which we should keep open, and which certainly offers superior prospects of success. I mean the air route from London to Paris and the continent generally. Here the British aeroplane, although still hampered by the weather conditions of these islands, has the enormous boon, the almost inestimable boon, to bestow on a traveler, of eliminating the crossing of the

Channel, with its attendant delays and discomforts. It is not simply the inconvenience of the sea voyage which will be saved, but the long delay which takes place both before and after the passage. I cannot conceive that with a sustained effort to popularize this service it will not succeed, at any rate during the summer months. I think we should concentrate upon this now, when our funds are so limited instead of dissipating our strength in enterprises which we may not be able to carry through.

"The Chancellor of the Exchequer has accorded to the Air Ministry a very wide discretionary power in the spending of the £1,000,000 allocated to civil aviation, provided that the total is not exceeded and that no commitment is made which involves future increases on the £1,000,000. The sum of £60,000 is included in the Estimates for subsidies to civil transport firms, and this was based on a scheme proposed by Lord Weir's Committee for subsidizing such companies to the extent of 25% of their gross earnings. Now, however, that the French Government have decided to grant to their own companies, assistance on a most generous scale, I fear that if we adhere to the scheme of Lord Weir's Committee our firms will be so heavily undercut that there will be no encouragement for British lines to continue. I propose, therefore, to set up immediately a Committee, including members of the aircraft industry and the aerial transport firms, to devise the necessary alternative methods which will meet these changed conditions, and to make proposals for immediate action. If a saving can be effected on other parts of the civil aviation Vote, the inducements we now offer will be made much greater. More than that I cannot say at present."

In quoting Mr. Churchill so freely, it is significant also to note what he did not say. The point on which every critic of the Government's aeronautical policy fastened, was the entire absence from the Air Minister's speech of any reference to the Controller-General of Civil Aviation and the work of his department. So far as the speech was concerned, Sir Frederick Sykes, the official head of the department that administers peace-time flying in Great Britain might not exist. The London "Times", which is, of course, frankly anti-administration, calls attention to this fact, and asks: "Was it because Sir Frederick Sykes has stated more than once that it is his established opinion that the foundation of safety in the air in time of war can best be laid by maintaining the leadership in commercial aviation? Does the Royal Air Force, established even on the generous scale which Mr. Churchill advocates, offer so wide a training field that it eclipses and renders negligible the vast and varied arena of experience that would be offered by a properly developed commercial air service?"

The opinion of Sir William Joynson Hicks on this subject is of value. Questioning Mr. Churchill very pointedly, he said:

"During the War we said over and over again that the essential of an Air Service is that you should keep your factories in existence. You cannot institute factories by the wave of a magician's wand. You cannot get back the designers and staff necessary for making aeroplanes or air engines. You must keep the factories going. Ours have almost disappeared. Mr. Holt Thomas's is practically gone. Shorts, who made naval machines, are now making omnibuses and have practically stopped doing air work. Sopwiths were broken up some few months ago, and eight of their best men, including the chief designer and the assistant works manager, have been taken over in Japan. They have gone there and are working for the Japanese Government, which, I may say, is spending far more on aviation than we are.

I am as strongly convinced as ever that the future success of any country in war will be in the air. Whether the success will be Great Britain's will depend entirely upon how the leaders of thought in the Cabinet deal with this matter. I plead for civil aviation, not merely because I think it would be fatal to have no civil aviation lines while other countries have them, but because it will provide a reserve in personnel and on the factory side of aviation for our military aviation when we want to increase it. It cannot be increased on an emergency unless there are the factories and the reserve of men. If we had ample civilian air services, the pilots would provide an ample reserve for military aviation, and could be called upon in time of a sudden emergency to fill up the ranks of the military air service. If, however, you have no civilian air service today, if your men are going to Japan and your factories are shut, how are you going to expand?

The complete table of estimates is given on the following page.

ABSTRACT OF ENGLISH AIR ESTIMATES, 1921 - 22.

	£
Net estimates, 1921-22	18,411,000
Revised estimates, 1920-21	22,992,230
Net reduction	<u>£4,581,230</u>
Numbers, all ranks, 1921-22	30,880
Numbers, all ranks, 1920-21	29,730
Increase	<u>1,150</u>

The general abstract of the estimates gives the following net figures under the various heads of expenditure:-

	£
Pay, etc., of the Air Force	4,794,000
Quartering stores (except technical), supplies, and transport	3,105,000
Technical and warlike stores	3,758,000
Works, buildings and lands	3,018,000
Air Ministry	915,000
Miscellaneous effective services	129,000
Civil aviation	880,000
Experimental and research services	1,706,000
Half-pay, pensions and other non-effective services	106,000
Total	<u>£18,411,000</u>

As regards establishment, the number on the strength of the Active Force, exclusive of officers and men serving in India, is made up as follows:-

Air officers	12	Airmen	21,845
Comm. officers	2,769	Boys	2,191
Cadets	135		
Warrant officers	329	Total	<u>30,714</u>
Non-coms	3,433		

The remainder consists of seven air officers, 125 commissioned officers, and five other ranks attached to the Air Ministry; five commissioned officers and ten other ranks serving in the Department of Civil Aviation, and fourteen commissioned officers engaged in experimental and research services.

Under the head of pay and allowances--with which there is a net decrease of £162,850--the principal items are: £1,501,000 for officers and £2,065,000 for men; £250,000 for separation and marriage allowances; £793,000 for civilians for (comprising the staff of educational establishments, stores, etc.); £115,000 for the Air Force Reserve; £20,000 for the Territorial Air Force; and £122,000 for recruiting staff and expenses, including £60,500 to cover bounties on re-engagement or extension of service.

There is a net decrease of £5,163,550 under the head of technical and warlike stores, due mainly to the fact that the current year's estimates included some six and a half millions on account of aircraft supplies delivered under war contracts. The principal sub-heads compare as follows:-

	1921-22	1920-21
	£	£
Aeroplanes, seaplanes, and engines ..	1,681,000	1,352,750
Airships and airship engines	16,800	37,000
Aircraft technical and warlike stores	49,000	89,200
Armament and ammunition	249,500	240,400
Miscellaneous materials	116,000	126,500
Mechanical and other transport	581,000	427,700
Petrol and Oil	471,000	477,500
Rewards to inventors	700,000	450,000

The vote for works, buildings, and land includes £1,888,550 for new works, additions and alterations; £668,500 for repairs, renewals and maintenance; and £230,000 for purchase of land and buildings. Among works which appear on the estimates for the first time are five stations in the Suez Canal Zone, estimated to cost £670,000 of which £163,250 is to be voted in 1921-22.

In respect of civil aviation there is a net increase of £458,760, the chief items of expenditure being: Works, buildings, and land, £356,000; salaries and wages, £178,000; technical equipment, £120,000; and meteorological services, £102,000. Buried under "Miscellaneous" £82,000 in which are included compensation cablegrams, advertisements, etc., is the subsidy of £60,000 to Civil Aerial Companies. The first sub-head includes provision for an aerial lighthouse at Lympne, and for landing and other lights, mooring masts, etc. at various stations at home and abroad. Experimental and Research services show a net decrease of £132,440, the net total for the year being £1,706,000. After allowing for the smaller amounts required for Royal Airship Works, Cardington, liquidation of War Liabilities, and smaller appropriations in aid, the net total for these services will have the benefit of an increase sum of £362,560.

SUBSIDIES AND THE DISCONTINUANCE OF THE BRITISH, LONDON - PARIS AIR LINES.

"Some two hundred and fifty years ago a Dutch fleet sailed up the Thames, fired shots at Greenwich, looted the farms on the banks, and went away with the booty unmolested. Probably one's ancestors rejoiced very much at that performance, for the shock awoke the contemporary and contemplative Englishmen to the need for a Navy, and in due course they got it. Certainly one would be very pleased to see the Koninklijke Luchtvaart Maatschappij come over here and loot our £60,000 subsidy if as a result we could be made to wake up and insist on having a Royal Air Line of our own! It would be still more amusing if a German air line, with German machines and German engines were to start running direct from Berlin to London."

This significant statement, which appears in an article in the "Aeroplane" of February 10 relative to the discontinuance, on March 1st, of the London-Paris air line formerly conducted by the Handley-Page Transport Company, discloses the bitterness of spirit with which the press and the public are regarding the present state of civil aeronautics in Great Britain.

The story of this which may well give the English pause, and which is now filling columns of the daily press of Great Britain, does not make pleasant reading, but it does contain a valuable lesson. It points a moral: it sounds a warning, which, let us hope, will gather force as it crosses the Atlantic and strikes the shores of America. Perhaps its echoes might reach the powers that be, might stir the press and people of the United States to a realization of the case of civil aeronautics in this country; might arouse a keener interest, stimulate a livelier appreciation of the possibilities to be derived from a wholesome, sane, business-like and substantial encouragement of commercial aeronautics in accordance with the spirit of the government and of our commercial institutions.

The "London Evening News" of Feb. 28 says: "The Handley-Page airlines to Paris and Brussels have been running since August 30, 1919. They will definitely be suspended tomorrow after only 19 months work, failing a move by the Cabinet today toward subsidizing British civil flying firms in such a way as to enable them to operate on an equal footing with foreign concerns. Last September there were four British air lines running to the Continent. Tomorrow there will be none at all. The first to withdraw its regular service was the Instone Air Line, which is now using its big air liners for joy-riding only. The Air Posts of Banks service succumbed a few weeks later. In December, Aircraft Transport and Travel, Ltd. - usually known as Airco - which for more than a year had run an average of 50 machines per week between England and the Continent, announced that it had been forced to close down through lack of Government support. Yet today nearly a dozen firms could be named which would decide to open up air lines, both inland and Continental, if the Government would re-allot a bigger subsidy than the present £60,000 so as to allow British firms to compete with foreign ones."

This brings us to the crux of the matter in so far as the case stands between England and France. In England, commercial air concerns have been operating without Government subsidy, support or apparent interest of any kind, since the contract for carrying the mails was but a small fraction of the Handley-Page Company's undertaking. The £60,000 spoken of as having been budgeted by the Department of Civil Aviation to subsidize British commercial firms, is not only declared wholly inadequate -- being, as one newspaper says, only twice the amount paid for messenger service by the Air Ministry - but does not become effective until the end of the present Calendar year, on Dec. 31, 1921.

The Communique from the Air Ministry, announcing that the Cabinet had approved, subject to Parliamentary sanction, the grant of a sum for direct assistance of aviation, reads as follows:

"During the financial year 1921-22 payments under this grant will be limited to a maximum sum of £60,000 and will be made to British companies operating on approved aerial routes. They will be calculated, subject to the above limitation in regard to the total sum available, within the year, on the basis of twenty-five per cent of the ascertained gross revenue of each company (exclusive of the Government grant) earned by the carriage of passengers, mails and/or goods, on and after Jan. 1st, 1921.

No differentiation will be made with regard to the class of load carried and payments will be allotted on the return for each period of three months treated separately, provided that the company can show that on a minimum of 45 days in each period of three months (or such other factor of regularity as may be determined later by the Air Council) flights have been completed in both directions by aircraft of British manufacture fitted with British-made engines with a fixed maximum period of time allowed for each journey.

The routes at present approved are London to Paris, London to Brussels, and London to Amsterdam.

Extensions to these routes and additional routes, such as England-Scandinavia, on which the possibilities of a service employing flying-boats or amphibian machines, or a mixed service of sea and land aircraft, can be demonstrated, may be approved from time to time if satisfactory proposals are received by the Air Council.

Payment of the grant will be subject to the production for departmental inspection, when required, of such accounts and records as the Air Council may deem necessary.

Any British company intending to run on the routes and notifying the Air Council of this intention will become an "approved" organization by fulfilling the conditions laid down.

With regard to this Communique a writer in the London Outlook for March 5 indignantly points out: "£60,000 is nothing like enough for a service which, precisely because it is in its infancy, is faced with fresh problems every day. Most unfortunate and short-sighted, the starvation of the British commercial aviation seems to me. Economy or no economy, this infant industry should have been protected; if we cannot afford this, Mr. Churchill ought not to be allowed to spend seventeen millions on naval and military aviation. The French, in far worse financial straits than ours, find it possible to subsidize their cross-channel planes so that passengers can be carried henceforth between London and Paris for six guineas. We must be thankful that the French have not also thrown up the sponge. At fifteen guineas the trip to Paris was a luxury to be taken by a poor man, perhaps, once. At ten guineas one went sometimes, but as one sailed across the sky ^{one} felt a prick of conscience at the extravagance. But now, at six guineas, we are asked to pay but a little more than a first class railway fare, to gain five hours and escape the channel."

This, then, brings to the important detail, namely: that the French air line, because it is sustained by a subsidy during its experimental stage, can operate on a basis of cost per passenger so far below the unsubsidized British lines as literally to sweep the latter from the sky.

Prior to March 1, the fare charged by British and French companies alike was 10 guineas - nominally \$55 - for a one-way trip and 18 guineas for a return trip. On March 1 the two French Air Lines running between Paris and London, Les Messageries Aeriennes, and Les Grands Express Aeriennes reduced the price of the one way ticket to 300 francs, or between 5 and 6 guineas, just one-half of the former price.

The regulations governing the French air transport subsidies were granted under somewhat complicated regulations, based primarily upon distance flown irrespective of load carried. The result of this was that many French machines have flown over various routes carrying no passengers or goods, and solely for the purpose of obtaining advertising and learning the subsidy.

The new regulations provide that, in order to receive the subsidy, operating companies must have a minimum moving stock of 28 single-engined or 13 or 14 twin-engined airplanes. The subsidy amounts to 8 francs per kilometer flown for single-engined, and 12 francs for twin-engined airplanes.

A construction guarantee of 50 per cent of the cost of new aircraft is also provided under the new system.

It is of interest also to note further that the French authorities undertake to throw open all aerodromes to ex-military aviators who have returned to civil life and permit them to utilize free of charge on Sundays various types of aeroplanes, such as Farmans, Caudrons, Broguets, &c., gasoline being provided free of charge for a certain number of hours, and the life of the aviators in training being insured for 50,000 francs in each case. In the event of a crash occurring to a machine belonging to an aviation company the Government will pay for the damage. The subsidy and facilities referred to are only granted to French companies on the understanding that the passenger and freight rates are reduced to the Government scale which, in the case of the London to Paris service, is the equivalent of 5 to 6 guineas.

But the point is, that two very flourishing French companies will be running machines to London this summer, and, it is stated, so will a Belgian company which, ironically enough, will operate a British built D.H. machine out of Brussels.

The Dutch K.L.M. line, in which Herr Fokker is interested, will follow, according to press reports, with a service from Amsterdam and connections to all the European capitals.

The London "Evening News" of March 18 reports that the civil department of the Air Ministry has purchased two DeHaviland eight-seater aeroplanes with Napier Lion engines from the liquidators of Airco, and have also acquired a third machine of the same type now nearing completion at the DeHaviland aircraft works at Edgmore. These are to be hired by the Air Ministry to firms that will undertake to run them on the Continental airway. This is the scheme adopted as a temporary measure by the committee set up by Mr. Churchill to inquire into the collapse of British commercial aviation.

It is interesting to note that this committee has further recommended that the £60,000 subsidy be doubled. Meanwhile, however, British Cross-channel air transport has been driven from the sky!

FIGURES ON CIVIL FLYING IN ENGLAND.

The Practical Engineer, London, March 3, gives the following interesting statistics on civil flying in Great Britain:

"Since the opening of civil aviation in May, 1919, British aircraft have flown considerably more than a million and a half miles, the approximate figures to the end of last year being 1,556,000. For the quarter ending December, 1920, the number of miles was 175,000 as compared with 138,000 in the same quarter of 1919, although the number of flights was considerably less. The number of flights reported since May, 1919, was 62,003. The total number of passengers carried to December 31st was 106,712, the figures for the last quarter being 424 a slight increase over the number of 6284 for the same period in the previous year. Goods carried, almost entirely on continental services, weighed 167 tons, the weight for the last quarter being 34½ tons, which is a substantial increase over the figure for that quarter in 1919, and is considerably above the average quarterly weight throughout. There were three accidents to machines during the quarter, one of these only with fatal results. For the whole period under review the number of accidents was forty-eight, but of these twenty did not involve injury to personnel. The number of machine miles flown per flying accident is 33,100. The rate of passengers killed per thousand carried was .10, and for passengers injured .15."

REVERSIBLE STEEL PROPELLER

The most noteworthy advance in steel propeller development of recent date has been made by the Standard Steel Propeller Company, of Pittsburgh, Pa. This company, working under contract with the Government, has delivered to the Air Service, Engineering Division, an all metal steel propeller capable of having the blades reversed.

The blades are made of steel tubing of tapering section and thickness without welding, except to close the extreme tip. The blades fit over the two

arms of the hub, being held in place by means of rollers and ball bearings. These rollers greatly reduce the friction of rotating the blades about their center axis. By means of a control which extends to the cockpit, an angular movement of 45° can be obtained with little exertion. The cockpit control consists of a lever for quick reverse, in combination with the hand wheel for final adjustment in straight-away level flying.

The propeller was given a rigid test on the rest rig and later was installed in an airplane in which it was given several flight tests.

The idea of making a reversible propeller of steel was suggested to the Standard Steel Propeller Company by the Engineering Division. The design of the blades was made by the Engineering Division at McCook Field, but all mechanical details were worked out by the Standard Steel Propeller Company. Credit for the development and manufacture of this propeller is chiefly due to Thomas A. Dicks, of the Standard Steel Propeller Company, who formerly manufactured the Dicks-Luttrell Steel Propeller, and is now with the Standard Steel Propeller Company.

THE E. D. 1,000 HORSEPOWER ENGINE

The Engineering Division, McCook Field, has completed preliminary design of a 1000 h.p. 18-cylinder engine. This preliminary work indicates that such an engine can be constructed on conservative lines and may be expected to give an excellent power to weight ratio, at the same time maintaining a very conservative loading of all vital parts, thus insuring great dependability and long life.

The design is being further developed on the basis of 1000 h.p. at 1400 r.p.m. direct drive, this speed insuring great reliability and being favorable to high propeller efficiency in connection with a large power output.

A cylinder of the proposed design has been constructed and tested with very satisfactory results. This cylinder has a bore of 6½ inches with a 7½ inch stroke. It is of the 4-valve type with welded steel jackets. Dynamometer tests of the single cylinder indicate that the 18-cylinder unit may reasonably be expected to develop 1000 h.p. at 1400 r.p.m., with a very satisfactory fuel consumption. The cylinders are arranged to accommodate 4 spark plugs per cylinder, which has some advantage from the point of view of power output and economy. Furthermore, it is planned to use four independent magnetos, thus securing the utmost reliability through the use of four entirely independent ignition systems.

CAPTAIN H. A. LeROYER

Word has just been received that Captain H. A. LeRoy of the Canadian Air Board was killed in an airplane accident at Camp Borden, Ont., April 5th. Captain LeRoy accompanied Captain H. T. Douglas on the Alaska Pathfinding trip last summer. They worked together in selecting landing fields from Edmonton to Dawson,

According to Captain Douglas, who is the only Army Officer in the office of the Chief of Air Service intimately acquainted with the late Captain LeRoy, he was an officer of exceptional ability and his loss will be keenly felt in aviation circles in Canada.

Captain LeRoy was a native of Montreal, and since the war had made numerous inspection trips for the Canadian Air Board. He had more than once circled the globe in the course of travels. During the war he established an enviable record, being officially credited with seven enemy airplanes.

AEROPLANE LUNCHEON, A NOVEL ENTERTAINMENT

"Mr. and Mrs. Leslie C. Brand request the pleasure of your company at an Aeroplane Luncheon on Friday, April 1, at high noon, at their Club House in Glendale, California. Attendance requested via aeroplane only."

Responding to this unique invitation nearly a hundred persons, all of them prominent in aeronautical circles in California, arrived by plane

at the Brand Aerodrome and participated in America's first real airplane party. To Mr. L.C. Brand, president of the Guarantee Trust Company of Los Angeles and owner of two planes and his own landing field, belongs credit for this innovation. More than 20 planes, each of them carrying two and more passengers arrived within the noon hour. Many of them made several trips in carrying passengers between Los Angeles landing fields and the Brand estate.

With each invitation issued the following instructions to pilots were provided: "The L.C. Brand Aerodrome is located along the foothills between Glendale and Burbank, about five miles north of Mercury and Rogers airports in Hollywood. The field is 1,800 feet long. To enter, glide low over small trees at foot of field and land on 'T' toward hangar. D.H.'s can cross trees low at 85 miles per hour without danger of overshooting."

Not an accident of any kind marred the pleasure of this aerial party and to those present it was not difficult to visualize the possibilities of similar week end parties in the near future which might be held at almost any country club or private country home.

Among those present were some fifty or more pilots prominent in commercial aviation in the Southland; officials and ex-officials of the Aero Club of Southern California; Miss Mary Miles Minter and Miss Ruth Rowland, as well as several other movie stars who have taken up aviation as a sport, and the following named officers from March Field: Major B. K. Yount, commanding officer, Major Clarence L. Tinker, Major John H. Howard, Major Eugene Lohman, Major Jacob H. Rudolph and Captain Ernest Clark.

Mr. Brand is the owner of two planes - a Hispano-Curtiss and a special-built La Pere constructed in Los Angeles by the Waterman Aircraft Company. The latter is said to have cost \$20,000 and is regarded as the "Palace of the Air" in Southern California. Gilbert C. Budwig, ex-civilian flying instructor at Rockwell Field and March Field is Mr. Brand's pilot.

FIELD DAY AT CARLSTROM

A day of entertainment was put over by the Carlstrom Field personnel on Friday, April 1st. The events of the day consisted of a track and Field Meet and a baseball game. The affair was under the supervision of the newly organized Non Commissioned Officers' Club; and too much credit cannot be given the members of the committees which put the event over. Among the guests of honor at the Field Meet were: Major Ralph Royce, Commandant of Carlstrom, and his staff.

The Meet was won by Flight "B" with Flight "A" second. Probably the most spectacular showing made by any one entrant was that of Private H. R. Williams of Flight "A" who won the high jump and the 440 yard dash, in easy style. The officials for the meet were as follows: Starter, Captain Hough, timer, Lieut. Dunlap; Judge, Lieut. Chauncey. Fifteen hundred visitors attended the meet.

In the evening a ball was held in Hangar "X" under the auspices of the Non Commissioned Officers' Club. This is conceded to be the biggest affair of its kind yet held at the Field. Green moss, palmetto, green and yellow ribbons and an abundance of beautiful lights made the hangar a pleasant sight to the most discriminating eye. Music was furnished by the Hartzels Novelty Five of Cincinnati. A similar affair will be held at the Field on May 6th.

SQUADRON NEWS

March Field, Riverside, California, April 2.

Fifty-six planes made a total of 653 flights from this field during the past week. Total flying time - 365 hrs. 05 min.; preliminary instruction required, 330 hrs. 35 min.; advance instruction 10 hrs. 05 min.; test flights, 10 hrs. 40 min.; and miscellaneous flights, 12 hrs. 55 min. Approximate mileage flown - 25,550.

Cupid has been active at March Field during the past week. As a result two Captains have acquired partners for life. Captain Francis M. Brady was married Thursday evening to Miss Dorothy Black of Irving-on-the-Hudson at the Presbyterian church in Pasadena. Several officers from the field attended the ceremony and acted as ushers. Capt. Brady is awaiting orders which will doubtless transfer him to Fort Sill, Okla., for bombing and observation instruction.

Captain Henry T. Morrison was married Saturday afternoon to Miss Janet Gray of Hartford, Conn. The wedding took place in the Cloister music room of the Glenwood Mission Inn and was attended by a large assemblage of friends of both the bride and groom.

Several officers of the command and their wives motored to Ross Field, Arcadia, California, Friday evening where they were guests of the officers at that Post and enjoyed a very pleasant dancing party.

Orders of transfer have been received for the following named officers: Majors Clarence L. Tinker, John M. Howard and Eugene A. Lohman to Post Field, Fort Sill, Okla., Captain Ernest Clark to Chanute Field, Rantoul, Ill., Lieut. R. N. Ott to Wright Field, Dayton, Ohio, and Capt. William E. Frathing to Kelly Field, Texas. Additional orders effecting the transfer of student officers at this school who have completed their course of instruction are expected daily.

Flying cadets who have passed all examinations are being classified for advanced training. No orders have as yet been received indicating when or where the graduate cadets will be transferred.

Civilian pilot Eric Springer is claiming the altitude record for the Pacific Coast. On Wednesday of this week he ascended to a height of 19,160 feet in a Davis-Douglas cloudster, Los Angeles-built plane. The previous record, made by a German Fokker, is said to have been 16,819 feet. Springer announced his intention of attempting a non-stop transcontinental flight from Los Angeles to New York late this summer.

Majors Max R. Stockton, John V. Littig and Captain H. James Gramond of the Medical Corps have reported for temporary duty at this school in compliance with orders from the Adjutant General. They will report to the Post Surgeon for a course of instruction in the methods employed in conducting physical examinations for flying.

Pope Field, Camp Bragg, N.C., April 4.

During the week two reconnaissance missions and two formation flights were carried out according to instructions in first class condition and tested out.

Wednesday two DeHaviland planes of the Marine Corps arrived at this station from Bolling Field on their way to the West Indies. Weather conditions being unfavorable for flying and needing some repairs they were forced to remain over until Thursday noon. The two planes left Thursday immediately after noon for Paris Island, South Carolina. A telegram was received the same evening stating that the planes landed there safely at 3:45 P.M.

Sunday afternoon Mr. Chadwick of Charleston, South Carolina landed at this station in his standard bi-plane.

Kindley Field, Fort Mills, P.I.

Major General Francis J. Kernan and staff inspected the entire Garrison, February 16, 1921.

A number of Radio Tests, both Phone and Spark, have been held in cooperation with the U.S.S. "HART", Seaplanes and Ground Stations. Varying degrees of success have been had. The Spark has been good in nearly every test, but during the Phone tests the planes could hear the Ground and Destroyer Stations but the planes' phones could not be heard. Detailed report tests will be given later.

Kindley Field, Fort Mills, P.I., Cont'd.

The Air Service Officers entertained the officers of the U.S.S. "HART" at lunch yesterday, and also exchanged visits and inspections of each others homes.

The Air Service Garrison Base Ball Team lost the first game of this season to Cavite by a score of 3 to 1. Two games are scheduled for the coming week. The Manila Cits on Sunday and Meralcos on Tuesday. Better results are anticipated.

Yesterday a number of Chief Petty Officers and men of the U.S.S. "HART" were entertained by men of the 27th Balloon Company, and had dinner at the Company Mess. The men of the station were in turn taken aboard the Destroyer, and an interchange of views and experiences made the day very interesting.

An excellent piano has been added to the equipment in the Recreation Room; making a great improvement to what is thought to be the best Recreation Room on the Rock.

Lieutenant and Mrs. Mayer of Kindley Field, entertained a party of fifty with a Buffet supper and dance on Monday evening, February 14th.

The adaptation of Mark 1, 2, 3 and 1A Bomb releases for use on H.S.2.L. Flying Boats is the latest item of interest received from the Gunnery Department. Considerable change is required, as these releases were originally intended for use on D.H.4.L's.

The Engineering Department is to have a new assistant Engineering Officer in Warrant Officer, Corcoran, who has just arrived from the States and is attached to the Second Aero Squadron. He is quite at home in the Islands, as well as in his connections with the Air Service; having come to the Philippines in 1912 with the first detachment of Air Service troops; he was then sent to Fort McKinley; then from there, together with five other men was sent to Corregidor, where they were largely responsible for the construction of hangars and other facilities at the old station. He tells an interesting story of Lieut. Dargue's record altitude and endurance flight, which was made in a Stertevan War Plane, reaching an altitude of 800 feet and remaining in the air 58 minutes.

All worn out transportation vehicles are being overhauled by the Engineering Department.

Air Service Construction is progressing well; three hangars are now practically completed with the skeletons of two more in evidence, giving a very progressive appearance to the Squadron's hangar colony. There is an urgent need for space to store crated planes which are rapidly deteriorating under exterior weather conditions.

Sergeant Keating has taken the place of Sergeant Archie Taylor, who has left for the States to take flying training. Sergeant Keating is an "old timer" and a very good successor to Sergeant Taylor.

Kelly Field, San Antonio, Texas, April 2.

Major Jenner Y. Chisum, Commanding Officer of the First Day Bombardment Group, had an almost fatal accident Wednesday afternoon. While flying at an altitude of about 1500 feet his control failed to respond and the plane fell into a spin and crashed on the Somerset Road, east of Kelly Field. The gasoline tank burst and the gasoline being thrown on the hot motor, ignited immediately. Major Chisum's foot caught in a tangle of wires but he finally succeeded in releasing it; covering his face with his hands, he leaped through the flames that surrounded him, into safety with only a few burns and bruises. It is thought that the accident was caused by the sand bag in the rear cock-pit, slipping and catching in the controls, causing the machine to fall. As Major Chisum neared the ground he managed to get his controls to work sufficiently to avoid striking a house. The fire following the crash entirely destroyed the plane which was of the DeHaviland 4B type.

The following Officer teams composed the assignment for March 28 which proceeded to the Stanley Bombing Range and made eight trips over the target dropping one bomb each trip: Lts. Landers and Sharon, 166th Squadron: Lts. Frederick and Horton, 96th Squadron: Lts. Myers and Pascale, 96th Squadron: Lts. Borum and Drumm, 20th Squadron: Lts. Plumb and Speck, 166th Squadron: Lts. Baez and George, 96th Squadron: Lts. Beery and Hillery, 20th Squadron: Lts. Curry and Davidson, 20th Squadron.

Kelly Field, San Antonio, Texas, April 2, Cont'd.

The following Cadets bombed at the Stanley Bombing Range making eight trips over the target, dropping one bomb each trip and sending code calls immediately after dropping bomb: Cadets Thompson and Lockhart, 96th Squadron: Danielson and Rutz, 96th Squadron: Bodeen and Breedlove, 166th Squadron: Willard and Lorenz, 96th Squadron: Chalk and Parkes, 96th Squadron: Davis and Gallup, 166th Squadron.

The Camera Obscura Stage operated from 8:30 A.M. to 11:30 A.M., and 1:00 P.M. to 4:00 P.M. at 3000 feet upwind, each plane making five trips over the target, sending the dash for the bomb. They used streamers instead of code call.

The following formation took off at 9:30 A.M. and remained in the air till 10:00 A.M., taking off again at 10:15 A.M., and remaining in the air till 11:30 A.M. They flew at 3000 feet and stayed within the vicinity of the airdrome at all times: Plane #1 - Cadets Clifford and Frost, 96th Squadron: Plane #2 - Cadets Chapkowitz and Roberts, 96th Squadron: Plane #3 - Cadets Bunge and Martin 20th Squadron: Plane #4 - Cadets Shoudy and Biescit, 166th Squadron: Plane #5 - Cadets Brady and Leisy, 166th Squadron.

The following Officer teams composed the assignment for March 30 which proceeded to the Bombing Range: Lts. Landers and Sharon, 166th Squadron: Lieuts. Borum and Drumm, 20th Squadron: Lts. Plumb and Speck, 166th Squadron: Lts. Curry and Davidson, 20th Squadron: Lts. Frederick and Horton, 96th Squadron: Lts. Meyers and Pascale, 96th Squadron: Lts. Baez and George, 166th Squadron: Lts. Beery and Hillery, 20th Squadron.

The following Cadets proceeded to the Stanley Bombing Range: Cadets Thompson and Lockhart, 96th Squadron: Danielson and Rutz, 96th Squadron: Bodeen and Breedlove, 166th Squadron: McLaughlin and Nix, 20th Squadron: Willard and Lorenz, 96th Squadron: Chalk and Parkes, 96th Squadron: Davis and Gallup, 166th Squadron: Kerzon and Barker, 20th Squadron.

The following formation took off at 8:30 A.M. and flew regular formation periods: Plane #1 - Cadets Chapkowitz and Roberts, 96th Squadron: Plane #2 Bunge and Martin; Plane #3 - Brady and Leisy, 166th Squadron: Plane #4 - Barton and Kauer, 20th Squadron.

The Naval Officers course with the Pursuit Group will terminate at this station on the 8th of April. These officers should be trained during the entire flying day and operations officers will schedule individual naval officers such flights as will bring the naval detachment into a most comprehensive understanding of pursuit work. The special flights will be assigned outside of the following schedules. The total time for each naval officer upon completion of his course should be at least 50 hours.

Naval Officers flew a scheduled chain formation this week, using all available naval officers with the squadron for this purpose.

The Cadets were scheduled for chain echelon formation this week, using all available cadets from the squadrons. This was considered a test of the cadets' ability and the Operations Officers' training. Cadets of the April graduating class were the Flight Leaders.

Kid Reynolds, the champion boxer of Kelly Field, met Battling Johnson the champion of the Eighth Corps Area, for a six round bout at Beethoven Hall, San Antonio, Texas one night last week. The boxers were very evenly matched, and fought hard to the finish. Kid Reynolds won from the champion by the judges decision.

Fort Sam Houston played Kelly Field a game of Polo at Kelly Field, Wednesday and won by a score of 7 to 3. The Fort Sam Team seems to have it on our "Birds" when it comes to Polo.

Base Ball is fast becoming the most interesting sport on the field. Although we have been handicapped by cold weather this week, practice has been regular. Our first scheduled game was played Tuesday between Kelly Field and Camp Normoyle. Camp Normoyle seemed to hold the edge till the ninth inning when Kelly came from behind and scored three runs, thus, tying the score, then Normoyle tightened up and the battle royal began, but Kelly eased in a run in the twelfth thus winning the game 7 to 6.

Each squadron has organized a team and much enthusiasm is being shown by them. A schedule has been arranged for the Kelly Field Teams but no games have been played, though the 147th Squadron seems to be making the best showing thus far and it won't be a bad idea for the opposing squadrons to keep an eye on them throughout the season.

Kelly Field, San Antonio, Texas, April 2. (Cont'd)

The Hostess House was the scene of another enlisted men's dance Tuesday night. A good crowd was present and all seemed to have a good time.

The officers of the Pursuit Group have entered a tournament and one can see them exercising their spurs on the local Q.M. nags in the endeavor to hit their opponents, or the unoffending polo ball, on the head. The melee between the Pursuiters and the Air Park Quartette was a spectacle to behold on April 1st. The "Pursuiters" applied the necessary whitewash.

Captain Arthur R. Brooks and Lieutenant Evers Abbey, Air Service, went to College Station, Texas for the purpose of delivering a lecture on Pursuit subject to ROTC unit at the A & M College. They left on March 30 and returned April 1.

Lieutenant Colonel Charles H. Danforth, Second Lieutenants Francis P. Booker, Howard A. Craig, Walter T. Meyer, and Henry F. Sessions have reported at this station from Carlstrom Field, Arcadia, Florida, and assigned to the First Day Bombardment Group for temporary duty and advanced flying training. Captain Vincent B. Dixon, from Carlstrom Field, Florida has been assigned to the First Pursuit Group.

Major Jenner Y. Chisum, Air Service, is relieved from further duty at Kelly Field Texas, will proceed to Washington, D. C., and will report to the Chief of Air Service for assignment to duty in his office.

Lieutenant George P. Tourtellot, Air Service, is on a ten days sick leave.

Lieutenant Jack J. O'Connell, Air Service, has reported at this station and is assigned to the 464th Aero Construction Squadron.

Fairfield Air Intermediate Depot, Wilbur Wright Field, April 4.

There have been few events of general interest at this Station during the past week. On Friday, April 1st, Pilot W. J. Smith, of the Aerial Mail Service delivered a Martin Bomber to this Station for repairs.

Satisfactory progress is being made on bombing planes which are being prepared for use in the naval bombardment program.

Two DH-4 messenger planes which have been under construction for the Office of the Chief of Air Service, were completed during the past week. Second Lieutenant Caleb V. Haynes, pilot, accompanied by Staff Sergeant Arthur E. Rigney, mechanic, left with one of the planes for Bolling Field, Sunday, Apr. 3. Major Geo. E. A. Reinburg will fly the other messenger plane to Washington during the coming week.

Fair weather with bright, warm sunshine has greatly stimulated outdoor activities. Flying has been carried on continuously and the athletic program is being gotten under way. A class in Equitation has been established and an elimination contest for places on the trap-shooting team is being held while the golf enthusiasts are beginning to warm up on the links.

The following article appeared in the Chicago Tribune, April 1st:

"London, March 31.-- 'With fire and sword' was the phrase scribes used for centuries to indicate a war was on and one nation was practicing it diligently on another. The world war virtually retired the euphemism, for although that conflict offered considerable firing, there was little, if any, swording. The sword, that ancient and trusty weapon of mankind, went into the discard.

But now it is reported that the sword is coming back, albeit in peace time. King George has ordered the British Army to sport it once more."

The Dayton News in commenting on this, states that "We cannot exactly see the point in this." It seems to us that the point is in the fact that Wilbur Wright Field takes the lead in this matter by about three weeks, it having been announced in a previous news item that the use of the sabre had been revived at this station by Major Geo. E. A. Reinburg on March 10, 1921.

Carlstrom Field, Arcadia, Florida, April 6.

Second Lieut. Fred E. Woodward, A.S., quietly slipped away on Saturday, April 2nd, and at the home of Mr. M. Velie in Fort Myers, Florida, took for himself a wife, formerly Miss Helen Ryder. Lieut. F. A. Johnson of Carlstrom Field was best man and Miss Marjorie Velie was maid of honor. Chaplain Reynolds officiated.

The training activities have again started. The new class consists of some sixty Student Officers, ranking from Majors to Second Lieutenants, also two Naval Officers from the Argentine Navy; and all students are receiving flying instructions and attending the ground courses.

A dance was on Thursday evening given in order that the student officers could become better acquainted with the permanent commissioned personnel. It was a huge success and was still going strong in the wee small hours of the morning.

Aberdeen Proving Ground, Maryland, April 11.

General Mitchell and staff have visited this station three times within the past month, for the purpose of witnessing bomb tests, particularly the development of short delay fuses to be used in project "B". The visits were made on March 10th, 21st and 25th. During the month following the first visit 79,555 pounds of bombs were dropped. That record is not at all unusual for this station, but it appears worthy of mention in view of the fact that they were dropped by but 4 planes.

In addition to the straight bombing mentioned above, the work of Flight B during the past month here included bomb sight tests, parachute flare tests, airplane signal light tests, frequent meteorological altitude flights, photographic flights, ferrying one Martin Bomber from Cleveland, Ohio to Langley Field, Va., ferrying two DH4B's from Mitchel Field to this station, the instruction of four student officers in all phases of bombing work and extensive work on the rebuilding of a Handley Page and Martin Bomber. The work on the big ships is progressing in very satisfactory fashion. One Handley Page and two Martins are now in operation, all three airplanes having been used during the past week.

In spite of the heavy work carried on by Flight "B" which has preceded practices except after hours, an excellent base-ball team has been assembled. Flight "B" is now tied with the 18th Balloon Company for Post honors all other teams having been disposed of. The tie is to be played off next week and the winner will represent Aberdeen Proving Ground in an inter-Post League.

France Field, Cristobal, C.Z., March 26.

The arrival of Major Raycroft Walsh, new commanding officer of the post, and the departure of Major M.F. Harmon, Jr., who completed his tour of duty in the Canal Zone the past week, was the occasion of a dinner party given at the Hotel Washington Tuesday for Major and Mrs. Walsh and Major and Mrs. Harmon, attended by the officers and ladies of the post. The arrangements for the affair were in charge of Capt. Lloyd Ballantyne, 2nd Lieut. H. S. Chandler, and 2nd Lieut. J. D. Barker.

Formations of four planes each were made when flyers from the field met the transport "St. Mihiel" on its arrival Sunday with Major Walsh, the new commanding officer, 1st Lieut. R.C.W. Blessley, returning from leave, and 2nd Lieut. Frank P. Albroom, reporting for duty, and again later in the week as the "St. Mihiel" sailed with Major Harmon, relieved of his command at France Field. 2nd Lieut. John F. Whiteley also sailed on the transport for a two months leave following which he will report at Langley Field, Va. for duty.

Major Walsh and 2nd Lieut. Albroom were given transition flights during the week by 2nd Lieut. Moon and 2nd Lieut. Chandler, neither being familiar with the DH4B's.

A flying boat of the HS2L type is being assembled in the Engineering Department under the direction of Capt. Boland in anticipation of coast-wise flights to Bocas del Toro.

France Field, Cristobal, C.Z. March 26. (Cont'd)

The entire Congressional party numbering close to a hundred, which visited the Canal Zone the past week, was expected at France Field on Wednesday morning but the tour of the naval stations took the entire forenoon and the party failed even to stop at the field. Congressman F. C. Hicks, New York, of the Naval Committee, and Congressman L. C. Dyer, Missouri, visited the post later in the day and thoroughly inspected all buildings, equipment, and various phases of work being carried on. A flight of seven DH4-B's flew formation for their benefit under the leadership of 1st Lieut. R.C.W. Blessley, the other pilots being: Captain Thomas Boland, 1st Lieut. C. B. Austin, and 2nd Lieuts. S. M. Connell, H.B. Chandler, Odas Mocrn and J. D. Barker.

The Field Artillery officers returned to France Field on Sunday for a second polo game and although the Gatun players showed a marked improvement in their game over that of the week before the score favored the aviation officers 6 to 0.

Arrangements are being made for a polo tournament to be held at France Field between the France Field, Field Artillery, and 12th Cavalry teams.

The Fort Randolph base ball team was whitewashed at the hands of France Field players Wednesday by an overwhelming score of 24 to 1.

An extra game of the week was won from the team representing the U.S.S. Hancock when France Field met the sailors at Colon.

Favored by the breaks France Field took the third win of the week from Fort Amador when the team from the Pacific side lost 3 to 2 at France Field Saturday.

Selfridge Field, Mt. Clemens, Michigan, April 9.

The weather during the past week has been of the midsummer variety, it having been exceptionally warm and bright for this time of the year. The change from the rain and cold of the preceding few weeks was welcomed by the pilots, the flying field having dried out sufficiently to permit the first flying time in nearly a month.

Airdrome, McAllen, Texas, April 9.

Camp improvements are going on as usual and but very recently the station succeeded in securing several hundred feet of beaver board. This will be sufficient to fix up one room in each of the quarters. The grass and trees are coming along in good shape but need a heavy rain as the local alkali water is not half as beneficial as rain water.

During the past three weeks the ball team has chalked up three victories against only one defeat. Taking into consideration the lack of equipment, a mediocre field and the small number of men to select a nine from, their record is very commendable.

The station welcomes the return of Lieut. Meloy from his exceptionally sad trip. He accompanied the remains of one of his best friends, Lieut. Mills, to Atlanta, Ga. A seven days leave took him home to New York. Five days after his arrival there, the hardest blow a man can suffer was dealt him in the loss of his mother.

Mather Field, Sacramento, California, April 4.

Captain Lowell H. Smith, Lieut. E. C. Kiel, Sergeants Cornish, Thomas and Burman, and Private De Garmo, all of the 91st Aero Squadron, returned from a 2200 mile mapping and photographing trip of the timber on the Olympic Peninsula, Washington State, which was devastated by a tornado several weeks ago. The trip was reported a great success. There was a total of about 66 hours flying time. Three hundred twenty-nine (329) negatives were made with no accidents of any kind. Very poor weather was encountered.

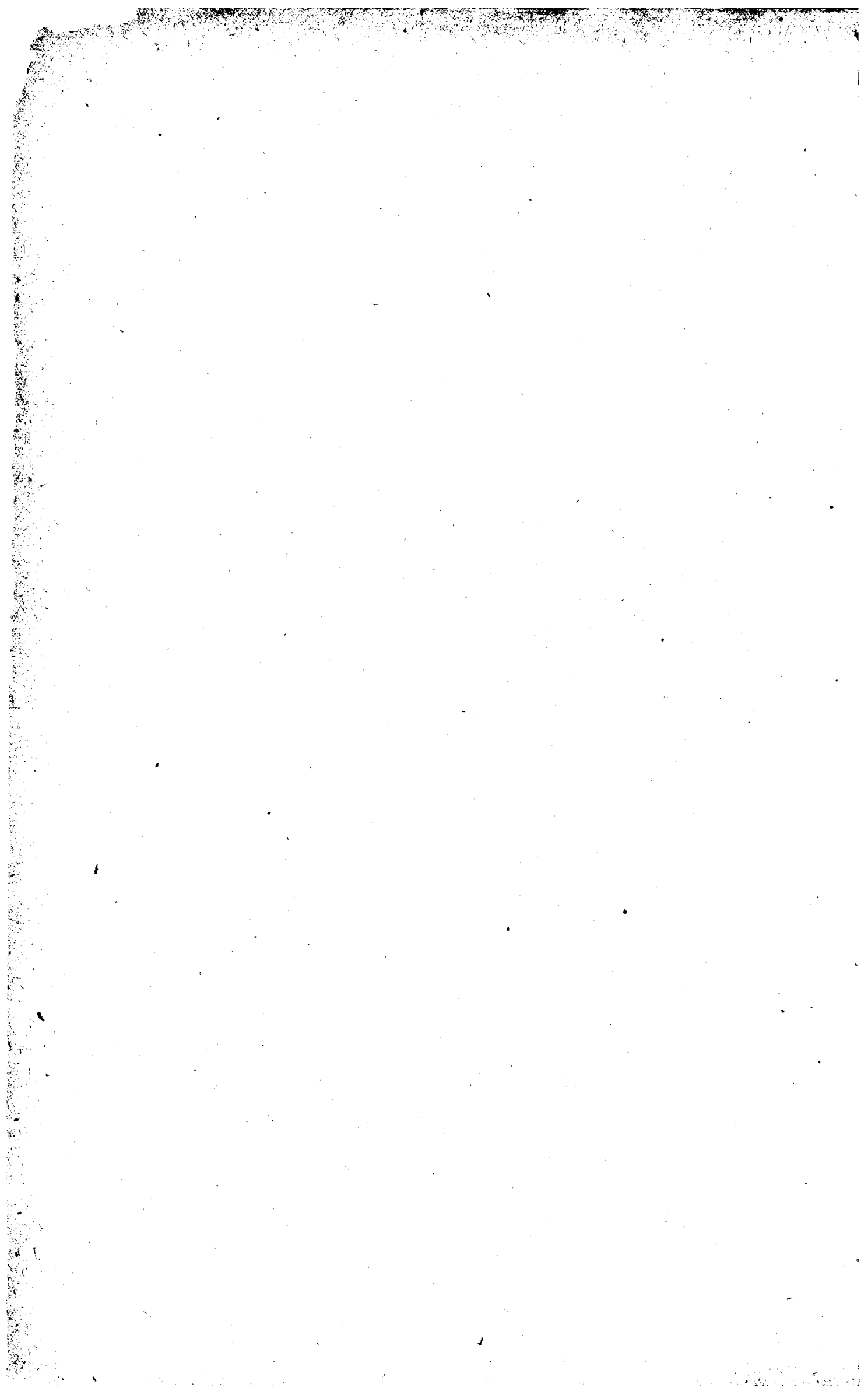
Doctor Dexter, Educational Expert of the Ninth Corps Area, inspected the educational work being carried out at this station, during the past week. Dr. Dexter made a most favorable report on existing conditions and work done here, stating that they were the best in the Ninth Corps Area. Reports for the Ninth Corps Area under date of March 25, show the cost per pupil enrolled in the Educational and Vocational schools to be fifty cents (\$.50) at Mather Field, while the next lowest in the Ninth Corps Area is one dollar and eighty cents (\$1.80) Lieut. Arthur G. Liggett, 9th Aero Squadron has charge of all Educational and Recreational work at this station.

Mather Field, Sacramento, Calif., April 4. (Cont'd).

1st Lieuts. Spencer Hall and Isaac J. Williams, both of the 9th Aero Squadron, have been transferred to the school at Fort Sill, Okla. since our last letter. Master Sergeant Lyle H. Scott, pilot, of the 9th Squadron, was discharged on April 2nd, making a total of three pilots lost by the Ninth during the week.

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The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE APRIL 30, 1921.

METEOROLOGY IN RELATION TO AERONAUTICS.

In calling attention to the effect of weather on the aerial mail service the "Monthly Weather Review" for June, 1920, states that during a period of eight months, out of 1,111 trips made there were a total of 203 forced landings, of which 47 were due to mechanical trouble, while 154 were attributed to weather conditions. A report for the month of May of the route from New York to Washington, Cleveland, Chicago and Omaha shows a total of 54,693 miles flown, with 28 forced landings, 2 due to mechanical trouble, 15 because of running out of oil or gas in combating head winds, 4 on account of bad weather and 7 because of unfamiliarity of pilots with the course. These facts bring to the following figures: In the eight months' report, 75 per cent of the forced landings were attributable to the weather, and for the month of May, 68 per cent were due to this cause.

Taking into consideration the fact that in almost every instance, accidents result from forced landings on unknown, unprepared and inadequate fields, the conclusion cannot be escaped that meteorology is the main-stay of aviation regardless of the confidence of the flier in his motor and its ability to carry him safely over all obstacles.

The two ways in which meteorology is of service to aeronautics are: By providing information regarding all weather conditions likely to be encountered on a particular flight: By making available statistical data which will explain the physical causes that may be expected to produce certain phenomena.

To the first of these functions belongs the daily weather service which is made available in the United States by the Weather Bureau of the Agricultural Department through the public press and otherwise to fliers in every locality and at every stage of a flight. This daily service furnished four distinct items of information: First, regarding the probable wind which a flier will encounter at any height at which he may go along his route - this will be not only an aid to navigation, which is almost essential if the flight be above the clouds, but also for guidance in selecting the best height at which to fly: Second, information regarding the heights of the upper and lower limits of the various cloud layers so that the choice may be made of flying above or below cloud: Third, ample warning is given of any possibility of the clouds descending so low as to touch the ground at any point along the route or of the formation of a ground fog: Fourth, an indication of the general weather conditions likely to be encountered along a route with particular warning of storms or squalls.

In making graphs of the probable winds, the method may be that of obtaining as much information as possible about the wind and pressure distribution, at various heights over a large area, and from this information forecasting the wind for any height over a particular district some hours ahead. For this method is claimed the advantage that the flier is given a value of the wind for the actual time of his flight, and not the wind which was noted a few hours previously. Against this, however, must stand the fact that the process of forecasting will not produce perfectly accurate results, even though based upon the fullest information possible.

For flights over the line of established air routes, or where prearrangement has been made for a special flight, of course the method of getting the estimates of the probable winds is from observations wired or wirelessly of actual wind conditions at fixed times and from stations at short intervals apart along the airway. This, obviously, has many advantages over the method of forecasting reports, and very few observation stations are needed for a fairly extended area. As aeronautics progresses and air routes develop, the use of wireless for transmitting reports will become universal. Every airdrome will have its own wireless set, and every plane will be equipped with radio direction-finding apparatus,

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enabling meteorological data to be transmitted instantly from point to point and to be available at all times on bulletin boards at flying fields.

What the flier wants, of course, is to get instantaneous information as to weather conditions in front of him at the various stages of his journey, and this radio can furnish him more directly and accurately than the forecast.

To exemplify the importance to aeronautics of meteorological statistical information, the following striking example of the consequence of neglecting to make use of this valuable aid is given by Rouch in his "Preparation Meteorologique des Voyages Aeriens". During the war a British commission was appointed to select a location for the establishment of a training field for instruction in aerial bombing. A charming spot in Ayrshire, Scotland, on the shore of Lock Doon was chosen, and the work went merrily on, hangars were well under way, a railroad was being constructed for, and other expensive arrangements made to the extent of £2,000,000 before it was ascertained by experience that safe flying was absolutely impossible in that locality because of the eddies, squalls and other aerial disturbances caused by the adjacent hills.

This knowledge was available all the time, and, had the proper statistics been consulted and the cooperation of a meteorologist been secured, the wasted time and money would have been saved.

These suggestions are sufficient to emphasize the importance of meteorology in the selection of air routes and landing fields. It is customary to quote, in support of flying, the old axiom "a straight line is the shortest distance between two points". In its application to the airways, this axiomatic statement does not always hold true. Many things must contribute to the selection of an air route beside the straight edge, and the most important of these are a knowledge of the physical characteristics of the country to be traversed, the "lay" of the terrain, the proximity of ocean, mountains, hills, lakes, rivers, forests, and the resultant climatic conditions.

To these we must add statistics as to weather variations arising from the physical characteristics - winds, cloudiness, fog, storms, temperature, humidity and precipitation.

As this is true with regard to selecting air routes, so also is it of first importance in determining on the location of landing fields. A plane cannot easily take off from a muddy field, and a snow cover calls for special attention. Landing fields in a hilly country are apt to be dangerous because the effect of wind blowing over rough terrain is to produce rough air, and the proximity of trees, or even high buildings is likely to cause roughness extending to an altitude three or four times the height of the objects themselves.

All this is merely by way of suggestion as to the vital importance of meteorology to aeronautics. In the last analysis it is to this science that we must look for information that will guide the pilot as he wings his way swiftly and securely through the trackless but not uncharted airways.

"AND I LEARNED ABOUT FLYING FROM THAT".

Under this head the News Letter recently started a column, the purpose of which was to afford opportunity for pilots to relate their experiences.

No two flights are alike any more than two individuals are alike. For this reason every flier has had an experience that is unusual and from which he has gained valuable information. This information not only helps him, but it will benefit others to hear about it. It was for just this reason that the department was started - that pilots in the Air Service or elsewhere might take full advantage of it to give a personal account of such incidents. These articles

may be signed if desired, or the names of the writers will be treated as confidential.

The character of stories desired are of two general classes: those in which the flier has done something particularly foolish: and those in which he has done something particularly good. In either case, however, much benefit can be derived from a frank recounting of the experience, and both classes of stories are earnestly solicited. It may be mentioned, incidentally that no recommendation for grounding a pilot will be given as a reward for a free and open confession. Send your contributions in at once to the Air Service News Letter. Let's get together on what we have learned about flying from actually taking the air - and coming down to earth again.

AIR LEGISLATION PENDING

NUMBER	SENATE BILLS	Disposition
2676	To Amend Sec. 55 of an Act entitled "An Act making further and more effectual provisions for National Defense and other purposes, approved June 3, 1916." Introduced by Mr. Wadsworth.	In the House
3299	Providing for the purchase of certain inventions, designs and methods of aircraft, aircraft parts and aviation technique of Edwin Fairfax Naulty and Leslie Fairfax Naulty, of New York. Introduced by Mr. Thomas. Note:--A similar bill--H.R.11294 was introduced by Mr. Oldfield in the House Military Affairs Committee.	In the Senate Military Affairs Committee
3386	To provide for the assistance of civilian aviators in distress by authorizing the Secretary of War to sell at cost price at Aviation posts, or stations, gasoline, oil and aircraft supplies to persons in charge of civilian aircraft landing upon or near said posts. Introduced by Mr. Wadsworth.	At present in House Military Affairs Committee
3516	To authorize the Secretary of War, in his discretion to furnish quarters at Langley Field, Virginia, to civilian employes of the National Advisory Committee for Aeronautics and for other purposes. Introduced by Mr. Wadsworth.	Before the House
4470	To regulate air navigation within the United States and its dependencies and between the United States or any of its dependencies and any foreign country or its dependencies. Introduced by Mr. Wadsworth.	In the Committee on Commerce
3348	To create a Department of Air, defining the powers and duties of the Director thereof, providing for the organization, disposition and administration of the United States air force, creating the United States air reserve force and providing for the development of civil and commercial aviation. Introduced by Mr. New.	Recommitted to the Senate Military Affairs Committee Jan. 31, 1920.

AIR LEGISLATION PENDING - Cont'd

NUMBER	SENATE BILLS	DISPOSITION
4469	<p>Authorizing the President of the United States to make regulations and appointments covering participation by the United States in the work of the so-called International Aircraft Standards Commission.</p> <p style="text-align: center;">Introduced by Mr. Kahn</p>	<p>In the House Military Affairs Committee</p>
16151	<p>To create a Department of Aeronautics, defining the powers and duties of the Secretary thereof, providing for the organization, disposition and administration of a United States air force and providing for the development of civil and commercial aviation, regulation of air navigation and for other purposes.</p> <p style="text-align: center;">Introduced by Mr. Curry.</p>	<p>House Military Affairs Committee</p>
12134	<p>To create a Department of Aeronautics, defining the powers and duties of the Director thereof, providing for the production, development, designing and maintenance of aircraft and other purposes.</p> <p style="text-align: center;">Introduced by Mr. Hull.</p>	<p>House Military Affairs Committee</p>
11206	<p>To create a department of Aeronautics, defining the powers and duties of the Director thereof, providing for the development, production, operation and maintenance of aircraft and providing for the development of civil commercial aviation.</p> <p style="text-align: center;">Introduced by Mr. Morin.</p>	<p>House Military Affairs Committee</p>
13468	<p>To prohibit the use of government aircraft insignia by other than government aircraft.</p> <p style="text-align: center;">Introduced by Mr. Volstead.</p>	<p>In the Committee on Judiciary</p>
13803	<p>To make more effectual provisions for the aerial defense of the United States and to provide for the concentration of the National air strength.</p> <p style="text-align: center;">Introduced by Mr. Kahn.</p>	<p>House Military Affairs Committee</p>
14061	<p>To regulate navigation in the United States and its dependencies and between the United States and any of its dependencies, and any foreign country and its dependencies.</p> <p style="text-align: center;">Introduced by Mr. Kahn.</p>	<p>Committee on Interstate and Foreign Commerce</p>
14137	<p>To create a Bureau of Aeronautics in the Department of Commerce and providing for the organization and administration thereof.</p> <p style="text-align: center;">Introduced by Mr. Hicks.</p>	<p>Committee on Appropriations</p>
14368	<p>To provide revenue, encourage domestic industries and make provisions for the National Defense by the elimination through the assessment of special duties, of unfair foreign competition in the sale of airplanes imported into the United States and for other purposes.</p> <p style="text-align: center;">Introduced by Mr. Tilson.</p>	<p>Senate Committee on Finance</p>

CHANGES OF STATION OF OFFICERS
FOR WEEK ENDING APRIL, 19.

April 13, 1921 - Lieutenant Charles B. Austin ordered to return to United States from Panama and report at Langley Field for duty, and Capt. Orlo H. Quinn ordered from Fairfield Air Intermediate Depot, Fairfield, Ohio, to Panama to replace Lieutenant Austin.

April 13, 1921 - Captain Robert Kauch ordered from Mather Field, Sacramento, California, and Lieutenant Milo McCune from Laredo, Texas, to Engineering Division, Dayton, Ohio, for duty.

April 13, 1921 - Lieutenant Ronald A. Hicks ordered from March Field, Riverside, California, to Kelly Field, San Antonio, Texas, for pursuit training.

April 13, 1921 - Lieutenant Henry Wooldridge ordered from Chicago District Office to Air Service Mechanics School, Chanute Field, Rantoul, Illinois, for duty to replace Lieutenant Joseph L. Stromme ordered from latter station to Washington, D.C., for duty in office Chief of Air Service.

April 13, 1921 - Lieutenant James Flannery ordered from March Field, Riverside, California, to Air Service Mechanics School, Chanute Field, Rantoul, Illinois for duty.

April 14, 1921 - Following officers ordered from March Field, Riverside, California, to Kelly Field, San Antonio, Texas, for bombing, training:

Captain Frederick B. Lafferty,
1st Lt. Park Holland,
1st Lt. Aubrey Hornsby,
1st Lt. John A. Laird, Jr.

April 15, 1921 - Orders previously issued sending Captain Dudley B. Howard from Washington, D.C., to Ross Field, Arcadia, California, for lighter-than-air training revoked.

April 16, 1921 - Following officers ordered from March Field, Riverside, California, to Post Field, Ft. Sill, Oklahoma, for course at Observation School:

1st Lieut. Ralph B. Walker,
1st Lieut. Walter F. Kraus,
1st Lieut. Francis B. Valentine

April 16, 1921 - Major Carl Spatz relieved from duty at Kelly Field, San Antonio, Texas, and directed to report to Commanding General, 8th Corps Area, for duty as Air Officer, relieving Major Henry C. Pratt, who is ordered to Kelly Field, for bombing training:

April 16, 1921 - Following officers ordered from March Field, Riverside, California, to Kelly Field, San Antonio, Texas, for bombing training:

1st Lieut. Ames S. Albro,
1st Lieut. Thomas L. Gilbert,
1st Lieut. John E. Lynch.

April 18, 1921 - Lieutenant Alfred J. Lyon ordered upon completion of present course at Massachusetts Institute of Technology, Cambridge, Massachusetts, to Engineering Division, Dayton, Ohio, for duty.

DEVELOPMENT OF TIRES AND WHEELS

McCook Field, Air Service Engineering Division activities in the rubber materials used in aircraft construction have been mainly centered around the development of the straight side tires and wheels. A satisfactory program of wheel and tire sizes has been drawn up after considerable experimental work, and it is hoped that tire and wheel replacements will be of the straight side type, rather than of the present clincher type.

Experimental work on the development of straight side tires and wheels has extended over a period of about two years. The chief reason for an attempt to develop the straight side tire has been that the unsatisfactory performance of the clincher type was most marked in the case of the DeHaviland airplanes, which use the 750 x 125 millimeter tires.

At best, the clincher tire has never been satisfactory, even in the case of automobiles, except in the smallest sizes. Under-inflation was the chief contributing cause, as the majority of the trouble experienced was due to rim cutting. A secondary contributing cause was the type of wheel used, which is essentially an unbalanced structure.

The first service test on the straight side tires was made with the 44 x 10 inch tire, used on the Glenn L. Martin airplane, of the type which has only two wheels. To date, the performance of these tires, and the service, which extended over a period of about six months, has been very satisfactory.

Another size which has been subjected to service conditions is the 36 x 8 inch tire, which was developed with a view to replacing the 900 x 200 millimeter size. An essential difference between this size and the 44 x 10 inch size is that the wheel for the 36 x 8 inch tire has a one piece rim, having a channel in the center to permit of the application of the casing. In general, it resembles a type of rim used on the Fokker D-7, which was equipped with a straight side tire. The wheel for the 44 x 10 inch tire has a truck type rim. This includes the removable side ring, to permit of ease of application or removal of the casing.

In every case of straight side tires, the wheel used has a hub which is centered in the wheel, as opposed to the Palmer type of off-set hub. Other sized tires are being manufactured for service test and it should not be long before complete information is available regarding the suitability and serviceability of this type, as compared to the original clincher type. It is believed that the difficulties, experienced with the clincher type tires, especially when used on the Palmer type wheel, will be completely overcome in the new straight side tires.

STUDENT FLIES TO HIS CLASS

University of California Extension claims the record of the first student who ever flew by airplane to a University class. The student is Bert Hathaway, aviator of San Francisco, and the class to which he flew, rather than be tardy, was very appropriately the class in Aeronautics, conducted by Allan F. Bonnalie, former army aviator.

Hathaway, who is an automotive engineer as well as an aviator, is a student in the University Extension Aeronautics class which meets on Tuesday evening. He was at Santa Rosa on business and was detained there too late to catch the train that would bring him to San Francisco in time. So he got into his plane, hopped off from Santa Rosa and flew to San Francisco, being the first "school boy with shining morning face" at the airplane class room.

The new class in Aeronautics conducted by University Extension started Tuesday, April 12th, at 7:15 at Walter T. Varney's, 832 Post Street. It is conducted somewhat on the principles of the ground school held at the University of California during the war to train army aviators. Theory of flight is studied but not actual flying, and study is made of airplane engines of standard types and of the construction and repair of planes. Bonnalie, the instructor, won the Distinguished Service Cross for exceptional bravery in the air over the French battle lines.

DEATH OF LT. JAMES JOSEPH LANGIN

James Joseph Langin, First Lieutenant, Air Service, crashed and was burned to death while flying an S.E.-5 at Bolling Field on the morning of April 15, 1921 at about 10:30 A.M. Lieut. Langin was one of the best flyers at Bolling Field and was Summary Court Officer at that Station and Adjutant of the 99th Aero Squadron. He was also in charge of the Washington end of the Washington-Dayton model air way.

Lieutenant Langin was appointed a Second Lieutenant in the Air Service Regular Army, November 26, 1920 to rank from July 1, 1920 and was promoted to First Lieutenant on March 18, 1921. He was born on January 27, 1895 at Neola, Iowa. He was single and is survived by his mother and father, Mr. and Mrs. J. L. Langin of Neola, Iowa. He attended school at Creighton University and Boyles Commercial College and was a ranchman before entering the service. His military record follows:

Enlisted in Company B, 4th Nebraska Infantry, December 29, 1914. Called into Federal Service and served on the Mexican Border, in Company F, 4th Nebraska Infantry, June 27, 1916 to January 15, 1917. Enlisted in Company B, 109th Engineers July 27, 1917; made Corporal August 1, 1917, transferred as private first class to Aviation Section, Signal Corps and reported to School of Military Aeronautics, Austin, Texas, March 2, 1918. Graduated May 18, 1918, sent to Camp Dick, Dallas, Texas, and then to Scott Field, Belleville, Ill., for primary training flying, reported there June 7, 1918. Completed course and commissioned Second Lieutenant (Reserve Military Aviator), Air Service, Aeronautics, September 14, 1918, with sixty-five flying hours. Reported at Langley Field, Hampton, Va. September 29, 1918 to take course for Army Corps Pilots. Completed course October 26th, with sixteen hours flying and reported at Taliaferro Field, Hicks, Texas, November 10th, to take course in Aerial Gunnery. Completed course December 7th with twenty-one hours flying, having had about one hundred and five hours flying on DH, H and Canadian Curtiss ships.

"NOTICE TO AVIATORS"

"Notice to Aviators" published by the Hydrographic Office under authority of the Secretary of the Navy, reached its fourth number with the April issue, the first having appeared under date of Nov. 1, 1920. The object of this publication is to furnish to aviators such information as will be of assistance to them in the navigation of the air.

In addition to giving a complete list of landing fields on file in the office of Chief of Air Service, U.S.A., the April issue contains paragraphs on: Canada's customs air ports: Canadian air regulations: a useful map for aviators; aviation facilities of the Hawaiian Islands: determination of position of aircraft by radio: quarantine regulations governing United States Naval Vessels and aircraft in the Canal Zone: aircraft distress signals: and, under the head of "An Inaugural Morning Call", tells the story of the air-messenger performance of Capt. Claude R. Collins of the New York Air Police, and president of the Aviator's Club of Pennsylvania, who, with greetings from Mayor John F. Hylan of New York to President Harding, left Manhattan early on the morning of March 4th, arriving in Washington at 9 o'clock. Taken to the Willard Hotel, he was the first Inauguration Day caller on Mr. and Mrs. Harding, presented the letter of greetings from Manhattan's mayor, and accompanied the official party to the White House and then to the Capitol. By co-operation of automobile and airplane, Capt. Collins left the Capitol in a waiting motor with the first film made after President Harding had taken the oath of office, found his plane at Bolling Field gassed and ready for a quick get-away; and made the flight to New York ahead of all competitors without mishap, and without stop, though a package of newspaper plates for the "Evening Bulletin" was dropped at Belmont Plateau, Philadelphia, where the plane was piloted close to the ground.

Customs air harbors where airplanes coming from the United States into Canada are required to land have been established at the following points: Montreal Province of Quebec, St. Lawrence Polo grounds; Deseronto, Ontario, Mohawk Indian Reserve, near C.N.R. Line: Toronto, Ontario, Armour Heights: Virden, Manitoba.

The following amendment to the Canadian Air Regulations passed in Council on Dec. 4, 1920, is of interest:

"Whereas the chairman of the Air Board reports that accidents have occurred in the course of civil flying due to machines being "stunted" with passengers, at or without their special request;

"And whereas the technical officers of the Air Board state that there is no purpose in 'stunting' in civil flying, and that its prohibition would be beneficial not only for the purpose of preventing accidents but also for the purpose of inducing a realization that civil flying does not involve or require the taking of risks;

"Therefore, his excellency the Governor General in Council, on the recommendation of the chairman of the Air Board, is pleased to amend the Air Regulations, 1920, and the said regulations are hereby amended as follows:

(a) No pilot of any flying machine shall unless he is alone therein permit or cause such flying machine to spin, roll, loop or execute any other evolution involving unnecessary risk.

(b) It shall be a defense to any prosecution under Section 4, subsection 2 of the Air Board Act, for a breach of the foregoing regulation if the pilot established that the dangerous evolution was performed without intention on his part and notwithstanding the exercise by him of reasonable care."

FIRST GROUP (PURSUIT)

Circular 67 of the War Department this year designated the new name for the First Pursuit Group as the "First Group". Another change incorporated within the group is that whereby the 147th Pursuit Squadron is now known as the 17th Squadron. This reclassification, in a way, breaks up the First Pursuit Group organization from the historical stand-point, yet in view of the fact that the 17th is equally famous with the 147th, there is no material difference in the change of squadron numbers. The First Pursuit Group itself was organized early in January, 1918, under Major B. M. Atkinson, Captain Philip J. Roosevelt and Captain J. G. Rankin and subsequently travelling up and down the Front while composed of the 94th, 95th, 147th and 27th, became famous in the annals of Aviation History and was really the basis for the subsequent and present development and importance of pursuit in the U.S. Air Service. The 17th Squadron was a complete American squadron which worked on the British Front; it fought hard, long and gloriously and ended up with a wonderful record and with particularly competent flight leaders who brought down a maximum number of the enemy with minimum loss to themselves. A review of this history is enough to make one's blood tingle.

With the incorporation, therefore, of the 17th in place of the 147th the First Group (Pursuit) more fully rejuvenates the history of two famous squadrons in place of one.

In this connection, under the change in the lettering devised by the War Department, several famous pursuit organizations will be temporarily lost from view although they can never be forgotten. In particular, the old LaFayette which became the Americanized 103rd is just three numbers too high to come under the wire. Also in this category comes the 139th from the old Second Pursuit and the 148th, which, like the original 17th, saw much service on the British Front. There are a lot of good ones left, however, considering the 22nd which established a record of 46 official victories in as many days. In this list are also many others such as the 13th, the 49th, etc.

NAVAL OFFICER'S COURSE IN PURSUIT TRAINING TERMINATED AT KELLY FIELD

The Naval Officers' course in advance pursuit training terminated officially on April 4th. Twenty-one Naval Officers, as follows, received the three months advance training after having completed their preliminary three months at the primary schools:

Lt. Commander N. H. White; Lieutenants E. L. Ericsson, R.M. Farrar, F.C. Fechtler, W.S. Hactor, F.B. Connell, A.C. McFall, R. Davison, F.W. Wead, J. J. Ballentine, C.W. Wieser, V.F. Grant, G.B. Woolley; Jr. Lts., E.P. McKellar, L. H. Lovelace, Fred T. Estabrook; Ensigns, L.W. Brown, S.W. Gallaway, G.R. Groh, Schuyler Adams, R.K. Madison, Jr.

The work given consisted of a development from the Curtiss flying into formation work from which the jump was made to solo and practice in the pursuit planes. Tactical formations were practised as soon as the "feel" of the pursuit planes was attained and after running through the list of pursuit subjects such as the protection missions, offensive patrols, gunnery, combat, &c. Special missions such as message dropping, rapid reconnaissance, altitude tests, light bombing, etc. were given a trial. Each officer, upon completing the course was enthusiastic about it, and declared that he was sorry he could not be with the group to fly the new 300 horse power pursuit planes which will soon arrive.

USEFUL MAP OF OHIO FOR AVIATORS

"First Lieut. Charles McK. Robinson, A.S., desires to bring to the attention of pilots and others interested in aviation a recent map entitled "The Railroad Map of Ohio", published by the State Commissioners of Public Printing, Columbus, Ohio. This map is of particular value in cross-country flying because of its many distinctive features not ordinarily found on any one map. Railroads are shown by different colored lines, rivers in blue. Special insert maps on a larger scale of Cleveland, Cincinnati, Columbus, Toledo, Dayton, Akron, Youngstown, and Canton show public grounds and buildings blended in with a color scheme that very clearly brings out the important features. The size of the map is 34 x 44 inches in covers 4 1/2 by 9 inches. Scale 1,500,000. Price on bond paper 40 cents; with roller for wall use, 10 cents extra.

PERSONAL

Lieut. Col. C. C. Culver, A. S., has been honored by the scientific body, The Society of Sigma Xi, by election to membership therein.

Lieutenant James A. Healy, A. S., who has been stationed in Washington in the office of the Chief of Air Service, left on April 21 for Ross Field, Arcadia, California, where he will take a course in lighter-than-air training. Later he will be sent to Kelly Field as instructor in Pursuit flying.

AERONAUTICAL NEWS FROM OTHER COUNTRIES

AIR ROUTE TO SLAVE LAKE; GIANT MONOPLANES' LONG TRIP

The News Letter is indebted to the Canadian Air Board for the following account, clipped from the Edmonton Journal of March 15th, of the Imperial Oil Company's flight of two J.L.-6 machines from Peace River into the Mackenzie District.

The Aeroplanes have made their first trip to Great Slave Lake. The two Imperial Oil Company monoplanes, "Vic" and "Rene", got back to Peace River Monday afternoon, after an initial flight into the wilderness north under weather conditions that were some what more than semi-Arctic. Each machine had carried a cargo of 1,000 pounds of gasoline to Hay River, on the south shore of the lake, and before returning to the base at Peace River had done some necessary scouting and survey work at the other end.

Pilots George Gorman and Elmer Fullerton, with Mechanics Hill and Derbyshire, were in charge of the planes, and Billy Waddell, D.L.S., accompanied them as navigator. They left Peace River Saturday afternoon, with the intention of returning Sunday afternoon but were detained at Hay River, where they found it necessary to make a survey of the harbor.

Both planes were flying with their skis, and as the water in the harbor had overflowed the ice to the depth of about twelve inches without covering the snow, a safe landing field for future trips had to be located. The harbor was carefully looked over and a suitable field staked out that will serve until the snow leaves the ground.

The birdmen stayed at Hay Harbor all day Sunday and got away to a good start Monday morning, reaching their hangar early in the afternoon. It was cold weather, the mercury registering from twenty-five to thirty-five below zero at Hay River, but the planes, being of all-metal construction, experienced no difficulty from the low temperature and both trips were made without a hitch.

There was no attempt at establishing a speed record as a zig-zag course was followed for the purpose of exploring the country east of Hay River and south of Buffalo Lake. This vast area is inaccessible to all but trappers, owing to its swampy character, but the aviators saw it all.

Vic and Rene are now being tuned up at Peace River for another trip northward, and this time it will be into the still farther beyond. They will be ready, it is expected, for their first flight to Fort Norman within a short time, and as soon as weather conditions permit they will break away.

A high class aerial camera will be carried on this next trip, and a full record of the flight will be taken in the form of bird's-eye photographs.

C. E. Taylor, the Imperial production manager, is of the opinion that the flight of the two monoplanes to Great Slave Lake and back will mark a record in aerial navigation. At any rate, there is no information available here that flying machines have ever before carried on commercial work in such low temperatures, with strong winds prevailing all the way, without coming to grief. The Edmonton birdmen faced the weather and the unusual below-zero conditions in fine style, however, and the round trip was made by both planes with complete success.

Great Britain

"A REAL AIR MINISTER AGAIN"

Under this caption, the London "Times" of April 6, comments at length upon the appointment of Captain Guest as Secretary of State for Air. The article with eliminations, follows:

One of the bright points about the reconstruction of the cabinet is that there is again a real Air Ministry. Since the beginning of 1919 Mr. Winston Churchill has combined the office of Secretary of State for the Air first with the control of the War Office and lately with his work as Secretary of State for the Colonies. Now the head of the Air Ministry is again an individual Minister. Captain Guest, the new Secretary of State for Air, has a very great opportunity. His record may reveal no conspicuous qualification for the post, and--if we do not mistake--he once committed himself to disparagement of the climate of these islands so far as the development of flying went; but few would care to be tied down to past grumbles about the English climate.

The restoration of the Air Service is both the task and the opportunity of the new Secretary of State. His first care should be to think out his problem. It has never been thought out yet as a peace problem; yet it is a problem of peace far more than of war. The balance between military and civil aviation must be struck, for it has not been struck yet. As a defence arm the Air has its special value, which can only be recognized and calculated when the trammels of Navy and Army tradition are cut away from it. This Captain Guest will have to do. Even more difficult will it be for him to restore civil aviation to the place which it should have in the imagination and aspirations of the country. Never was faith and daring more necessary than here; and the recent tendency to make the most of the unavoidable failures of the infancy of civil flying is both unimaginative and petty. No Imperial interest can compare with the need for the development of quick long distance transport. It would work a beneficent revolution in the distribution of population throughout the British States and Settlements--the most difficult of all the problems that the British races have to solve, and the key, if once solved to all the rest. Our future greatness as a nation may depend, as we have said before, on our imaginative foresight giving us a view of just a few more inches around the corner of the future, and on the start which this prescience may ensure to us. With that in his mind, Captain Guest may do wonders; but the field for doing them is on the civil, far more than on the military, side of aviation. We suggest that he should rake his military estimates for savings to apply to the development of civil aviation. A comparatively small saving, for example, would suffice to give the airship the trials that have been planned for this summer. Mr. Churchill--whose adventurous soul abhorred the prosaic safety of the airship--had doomed these trials, and proposed to dispose of the R.36 to any country which would give the price of skins and sticks for her. That policy has handed over the R.38 to the United States already. The new Secretary of State might well reflect whether a similar sacrifice of the R.36 would not be unpardonable waste.

Great Britain (Cont'd)

AERIAL TRANSPORT RESTORED

London Times.

Aerial Transport

Instone Air Line.

By arrangement with the Air Ministry the Vickers-Vimy and other well-known machines have resumed running to Paris from London and vice versa.

Daily service at 12:30 from London (Croydon Aerodrome) until further notice.

Saloon fares six guineas single, £12 return; tariff for freight on application.

Bookings by all usual agents, and Instone Air Line 49, Leadenhall Street, E.C. 3 Telephone, Avenue 3613.

Handley Page Air Service to and from Paris. Single fare, £6 6s; return £12. - Full particulars of all usual agents and Hampstead 7500. Illustrated booklet post free on application.

Paris, 6 guineas. Brussels, 5 guineas.

Agents to Principal Aviation Companies.

Thos. Cook and Son, Ludgate-Circus, London, and Branches. Telephone, City 810.

6GNS.--Paris by Air.

Daily Service.

Lepaerial Travel Bureau, Criterion Corner, Picadilly-circus. W.1. Gerrard 4387.

The above cuttings, from the classified Advertisement Column of London "Times" of April 6, are self-explanatory. The committee, set up before his retirement by Mr. Churchill for the purpose of investigating conditions with reference to aerial transport, seems to have acted promptly in taking steps to restore the British cross-channel air lines to the sky.

With a doubling of the £60,000 subsidy recently reported by the press additional satisfactory arrangements seem to have been made at the Air Ministry Conference by which the Government will co-operate with the owners of the aerial transport lines.

FRANCE.

SUCCESSFUL FRENCH AIR SERVICES

Reuter's from Paris, April 4 reports that during the month of March 244 aeroplanes, carrying 665 passengers and 8,753 kilogrammes (over 8½ tons) of goods, left Le Bourget aerodrome and landed there, going to and returning from London, Brussels and Prague. As from April 15, the Compagnie des Grands Express Aeriens will be able to increase its services between Paris and London, running machines in both directions daily.

BALLOONS AS AIR GUIDES

Airmen are notified by the Air Ministry that in order to assist airmen flying above cloud or fog, the Service de la Navigation Aerienne is experimenting in marking the French part of the Paris-London air line by means of captive balloons, says the "Times", London.

In foggy weather or in case of cloud below 800 metres (2,625 ft.) a balloon will be sent up at each of the following points:-- Paris, on the N.E. glacis of Fort Aubervilliers; Beauvais, on the Franc-Marche square; Boulogne-sur-Mer, on the battery of the Tour de l'Ordre (Casino). The balloon will be put up during the day, between sunrise and half an hour after sunset, and will be kept above the low cloud, generally at an altitude of 1,500 metres (4,920 ft.)

France (Cont'd)

and never above 2,000 metres (6,560 ft.). The cable will bear a red streamer every 300 metres (984 ft.), and the balloon will bear signals.

Pilots navigating by dead reckoning above fog or low cloud will use the balloon as a land-mark to find their position and correct their track. In addition the balloon will carry a signal showing the altitude of the cloud base at the point at which the balloon is sent up. The absence of such a signal will mean that it has been torn away by the wind.

HOLLAND.

NEW AIR LINES IN EUROPE

The Netherlands Aircraft Manufacturing Company of New York on April 13 announced the following:

On April 15th the air mail and passenger service between London and Holland, with through connections to Northern Germany and Scandinavia, will be reopened. The Royal Dutch Air Transport Company - better known as the K.L.M. from the initials of the Dutch name - carried out these services last year with chartered English machines. They have now, however, purchased a whole fleet of Fokker Commercial Airplanes, as it was found impossible to conduct passenger services with converted war machines, which carried insufficient comfort. The machines now used are the new Fokker F.III type monoplanes, which have 220 HP B.M.W. and Siddeley motors and carry, in a comfortable cabin 5 passengers with their baggage, at a speed of 105 miles per hour.

It is stated that the Dutch Company intends to extend the services from London to Southampton, Plymouth and Liverpool in order to enable passengers arriving from America immediately to resume their journey to Paris, Brussels, Amsterdam, Berlin or Copenhagen by air. An office may be opened in New York so that reservations may be made in advance.

In connection with the above, the New York Herald of the 17th states:

A genuine "Flying Dutchman" was inaugurated by the Royal Dutch Air Service this week when the first improved Fokker left Croyden with a passenger and goods. The machine carries a British Siddeley pump motor and is in charge of a British pilot. The intention is to maintain daily service, including Sundays.

The planes will leave at 10 o'clock, proceeding to Rotterdam, and then after a fifteen minute halt will go on to Amsterdam, arriving there about 1:30. From Amsterdam it will be possible to make connections for airplane flights to Paris, Hamburg and Brussels.

The machine that is opening the service is of a distinctive type. It is a monoplane with wooden wings, and without the familiar complicated rigging possesses many improvements over any now in commercial service anywhere. It is fitted up in a luxurious manner, with comfortable chairs, pictures on the walls, and flowers in vases on the table. It will carry ten passengers, a pilot and mechanic. The machine has a highly efficient wing design, and like the old war Fokker has balanced ailerons, but the bullet nose is not so pronounced.

PHILIPPINE ISLANDS.

PHILIPPINE GOVERNMENT ESTABLISHING AN AIR SERVICE

"Far East Aviation", the official journal of the Aero Club of the Philippines is performing valuable service in setting forth the aeronautical activities of a section of the globe as yet infrequently heard from in that regard.

That this section is making aerial progress in a way that will cause it to be heard from more frequently in future is evident from the reports from the Philippine Islands, from China and Japan, all of which are quoted from "Far East Aviation" for December, 1920.

It is apparent from aviation news appearing in the local press, that the Philippines are by no means indifferent to aeronautics, but are watching the progress made by the rest of the world, with the intention of benefitting by the experience of others. Realizing the benefit that the Islands will derive from an aerial system, the Philippine Government has taken the initiative in the introduction of commercial aviation.

Philippine Islands (Cont'd)

The Government, through the Council of State, has announced that it has decided upon a plan for the establishment of an air service for the purpose of carrying the mails and improving the administration of our widely separated provinces. The services of the Filipino aviators who have been trained at the Government's expense will be utilized in this enterprise. The plan of the Government seems to be to begin operations with five seaplanes by inaugurating an aerial mail service to the Southern Islands.

The two F-5-L and three HS-2-L type flying boats which were purchased from the Navy Department sometime ago, are to be put on the Manila-Cebu line as soon as possible after their successful test flights.

CHINA.

PEKING-SHANGHAI AERIAL SERVICE

The Department of Aeronautics, under the direction of General Mauhan K. Tinn, is now busily engaged in formulating plans for operation of the proposed Peking-Shanghai Mail Service. The problem before the department is the development of emergency landing fields to be used in case of motor trouble. Nanking and several other important cities will also benefit by this service. Parcels post will also be carried. Passenger transportation will be developed by a private corporation. It is understood that a very strong Chinese Company is now endeavoring to secure the services of a well-known aeronautical engineer who was recently in Peking negotiating with the Chinese Government for one of America's largest aircraft manufacturers. It is understood that these aerial lines were to have been put in operation about the first of April.

Military aviation data worth recalling:

In March, 1913, an order was placed for six 80 h.p. and six 50 h.p. Caudrons with the idea of gradually acquiring a larger force. A machine was constructed at Nanyuan in 1913. In 1914, Art Lynn was appointed flying instructor to the Chinese Army. In the "White Wolf" operations, 1914, four of the Caudrons were employed and found very effective in locating the enemy.

The military school is at Nanyuan near Peking. General Wong is in command. Mr. Zee Yee Lee, who learned to fly at the Bristol school at Salisbury Plain, England, is Chief Instructor.

In February, 1919, the Department of Communications purchased six Handley Page converted Bombers, for the mail service. These machines have recently been turned over to the War Department. A large order for aircraft was recently placed for Vickers-Vimy-Rolls machines.

Capt. Tom Gunn is chief of the Canton A.S. Department with several pilots under him. They have a couple of training planes of an obsolete type.

The Navy sent four officers with Major J.E.H. Stevenot to attend the Curtiss aviation school at Manila. Commander Wong reports that the students are progressing satisfactorily.

JAPAN.

IMPERIAL GOVERNMENT AVIATION

The Imperial Government Aviation Service was formerly one general unit, but has recently been formed into two departments, one under the army, the other under the navy.

The army has charge of the lighter-than-air equipment. It also has quite a number of Japanese made airplanes, old Curtiss, Farman, Bleriot, and Rumpler types, as well as a few machines of a later type.

When the French Aviation Mission consisting of 20 pilots, 5 observers, and 20 mechanics originally sent to Siberia, visited Japan, the Government, through diplomatic channels, secured their co-operation in re-organizing and modernizing the Japanese Air Force, and also purchased several hundred of the latest type of aircraft from the French Government. The army is reported to have a total of 365 planes.

A regular aviation school is in operation at Tokorozawa while others are being established in various localities. Major General Inouye is Director

Japan (Cont'd)

of the Imperial Army Air Service, and General Arikaura is Chief of Operations.

The Department of Naval Aviation is headed by Capt. K. Kamaji, I.J.N., with headquarters at Oihama. Reported to have 265 machines, the Navy is said to have purchased a number of hydroplanes from the French, the British and the Italian Governments, and to have entered into a contract for 30 British Naval Instructors to arrive from England in the early part of April. Orders have been issued to give the Navy eyes by placing aboard every vessel, including colliers, as many aircraft as it is able to accommodate and launch from its decks. Base aerodrome operations will be conducted from Oihama, Kure and Sasebo. Every effort is being made to put the aircraft factories at Yokosuka, Sasebo, Kawasaki shipyard, Kobe, and Ootoiyachi, in efficient condition, and also the aircraft engine plants at Mitsubishi shipyard, Kobe. Sasebo will be the main general supply for equipping the warships with aircraft.

The Imperial Aero Club of Japan has done much to stimulate public interest in aerial mail with the result that competitions and mail flights have occurred between Tokyo and Osaka.

During the past year civil aviation has progressed considerably, and the future seems to offer bright possibilities. Beginning with about 30 civilian fliers and as many machines, mostly of local manufacture, the Imperial Japanese Air Service has begun to encourage civil flying, and allow civilians to receive instruction. There are several private flying schools now in operation, and private capital is coming forward for the manufacture of aircraft.

SQUADRON NEWS

Air Intermediate Depot, Fairfield, Ohio, April 11.

Major General George C. Squier, Chief Signal Officer of the Army, was a visitor at this Station April 4th.

Major George E. Stratemeyer, Commanding Officer of the Air Service Mechanics' School at Chanute Field, Rantoul, Illinois, was a visitor at this Post on April 4th. Major Squier, accompanied by First Lieutenant Harry Weddington and Mr. A. H. Moore, Chief Instructor in the Mechanics School, arrived at this Station in a DH-4B plane; after obtaining certain technical material and visiting the Stockkeepers' School at this Station, they returned to Chanute Field, arriving there the same day.

Lieutenant Colonel William E. Hunt, Inspector General's Department inspected this Post April 8th and 9th.

A number of Officers and civilian employees of this Station, together with a large delegation from McCook Field, visited Mystic Lodge Free and Accepted Masons, at Dayton on April 5th, witnessing the raising of Major Howard C. Davidson of McCook Field, to the degree of Master Mason.

On April 4th, the band and all troops participated in the first formal Retreat to be held this season. The Band gave a concert immediately preceding Retreat. Band concerts and formal Retreat are now a part of the daily schedule of this station.

Special attention is being paid to fire prevention in all departments of the Depot. Daily inspections are made by the Fire Marshal and frequent fire drills keep the fire department on the alert at all times. The Fire Department answered a still alarm on April 4th, making a run of two miles from the Fire Station to the old Post Exchange in the second unit, and had a hose and forty gallon chemical extinguisher in action within four minutes of the time that the alarm was turned in. This is believed to be unusually good time and to indicate that any fire which might break out on the reservation would very quickly be brought under control.

Carlstrom Field, Arcadia, Florida, March 30.

1st Lt. Ellis De V Willis, A.S., has returned from A.E.F. in Germany and reported to this Station for pilot training.

Ensigns Victor M. Padula, and Silvio J. Loporace, Argentine Navy, have reported to this station for pilot training.

The following named officers: 2nd Lieutenants Robert P. Cronau, A.S., Lionel H. Dunlap, A.S., Frederick A. Johnson, A.S., Alfred Lindsburg, A.S., have been ordered to Langley Field, Va., for temporary duty for the purpose of taking the Aerial Photography course.

All the cadets to date have had a flight in our new Vought 7, equipped with 150 H.P. Wright engines.

Airdrome, Nogales, Arizona, April 9.

The flight base ball team has made a good showing during the early part of the season, having won five games out of five played. Two more games went to the flights credit during the past week, on Saturday the 2nd, the Nogales all - Star team was defeated in a score 8 - - 0 and on Sunday the 3rd, Company G of the 25th Infantry was defeated in a score 10 - - 1.

A series of games will follow with the Companies of the 25th Infantry, and a game has been scheduled with the Regimental team for the latter part of the month. A good game is expected.

March Field, Riverside, California, April 9.

Fifty-six planes made a total of 778 flights from this field during the past week. Total flying time - 261 hrs. 20 min. Preliminary instruction required 206 hrs. 5 min.; advance instruction 25 hrs. 25 min.; test flights 6 hrs. 10 min.; miscellaneous flights, 23 hrs. 45 min.; approximate mileage flown, 16,685. Student officers and cadets have practically completed their course of instruction. Some few have yet to engage in night flights.

March Field, Cont'd.

Colonel C.G. Hall, Chief of the Procurement Division of the Air Service, was a visitor at March Field during the past week. He arrived and departed via air as a passenger in a D.H. piloted by Major Fitzgerald, commanding officer of the repair depot at North Island, San Diego. Colonel Hall is on leave and is spending a few days with friends and relatives in Southern California.

Mr. J. R. Gabbert, editor of the Riverside Enterprise and Mr. Joseph Daniels, city librarian, were the luncheon guests of Major B. K. Yount, commanding officer of March Field, Wednesday noon. Tentative plans were made for the visit of Riverside's Rotary Club to March Field next Thursday afternoon. A band concert and a few aerial flights for the entertainment of the visitors will precede the weekly parade.

March Field's baseball team defeated Fullerton College in a nine inning game at Evans Park, Riverside, Friday afternoon, 9 to 1. The game was staged under auspices of Riverside Post 79, American Legion.

Ex-Captain Bogart Rogers, who writes interestingly of aviation in the Los Angeles Examiner under the caption "Up in the Air", in a recent issue declares: "Normal and conservative aviators who are attempting to build legitimate commercial aeronautics regard the trick fliers as the greatest detriment to the popularizing of the airplane". He reviews the aerial antics of the numerous stunt pilots and acrobats who have entered the field by way of sensational feats for the entertainment of the public.

"Aerial acrobats, stunt fliers, and the whole company of subnormal daredevils who earn their three-a-day by sending cold chills up and down the spines of thrill-thirsty County Fair congregations, have awakened with the spring robins to find that the prospective summer jobs are exceeded only by the applicants for said jobs. The proportion of excess is something like five to one. A thousand dollars for a two or three day appearance looks as large as the U.S. War debt, while from five to eight hundred dollars will probably approximate the average contract."

"Many of these aerial acrobats know little or nothing of flying", continued the writer, "almost none of them being licensed pilots. They simply engage fliers competent to operate their planes and carry on as they would under the roof of a circus tent. Vamping the undertakers seems in fact to be the popular out-door sport with these aerial stunt fliers who are doing untold harm to the pioneers of commercial aviation."

Corporal Harvey M. Sutter, 23, member of "B" Squadron, this school, died at the Post Hospital early Monday morning following a lingering illness with pneumonia. The body was shipped Tuesday evening to the home of his parents at Creston, Montana.

Art Springer, March Field's bantamweight boxer, received a draw in his match Thursday evening with Izzy Glassier of San Francisco, Pacific Coast Champion in this class.

Kelly Field, San Antonio, Texas, April 9.

The next course of officers and cadets in First Group to take pursuit advance training will be started on April 16th. A number of Spads, of 220 horse power, have been placed in operation to take the place of the present S.E.5-A's and undoubtedly before this course is terminated the new Thomas Morse M.B.3 and the Ordnance D-2 will have arrived. About twenty officers from Florida will take this course in this class in addition to a number of cadets who are scheduled for service squadron training, which will be completed in June.

The following tactical training assignments were carried out by the Bombardment Group for the week ending April 9.

The teams listed below proceeded to the Stanley Bombing Range on April 9. At 8:30 A.M. and 1:00 P.M.; Cadets Thompson and Lockhart, 20-6, 96th Squadron; Danielson and Rutz, 20-7, 96th Squadron; Bodeen and Breedlove, 20-4, 49th Squadron; McLaughlin and Nix, 20-2, 20th Squadron; Power and Elliott, 20-2, 20th Squadron.

Kelly Field, Cont'd.

At 9:30 A.M., Lts. Davidson and Curry, ZM-3, 20th Squadron; Landers and Drumm, ZM-4, 20th Squadron; Fredericks and Horton, ZO-2, 96th Squadron; Plumb and Speck, ZO-3, 49th Squadron.

At 10:30 A.M. and 3:00 P.M.; Cadets Willard and Lorenz, ZO-8, 96th Squadron; Chalk and Parkes, ZO-9, 96th Squadron; Davis and Gallup, ZQ-6, 49th Squadron; Kerzon and Baker, ZM-7, 20th Squadron; Spradlin and Haight, ZQ-4, 49th Squadron.

At 2:00 P.M., Lts. Myers and Pascale, ZO-3, 96th Squadron; Baez and George, ZO-4, 49th Squadron.

Camera Obscura operated from 8:30 A.M. to 11:30 A.M., flying at 6,000 feet upwind. Major Weaver and Lieutenant Beery flew this stage taking off at 9:30 A.M. and making six trips over the hut.

The following formation took off at 8:30 A.M. and flew regular periods:

Plane #1 - Cadets Bartow and Kauer, 20th Squadron; Plane #2 - Cadets Chapkowitz and Roberts, 96th Squadron; Plane #3 - Cadets Bunge and Martin, 20th Squadron; Plane #4 - Cadets Brady and Leisy, 49th Squadron; Plane #5 - Cadets Suter and Sandbag, 96th Squadron.

All squadrons in the First Group are concentrating on the erection of the French Spad, type "13". These planes require numerous repairs before they can be put in service. However, it is expected that at least one flight of Spads in each Squadron will be in commission by the time the new class of cadets starts the course on April 15th.

Monday and Tuesday, April 4th and 5th, the 17th Squadron led the group off in pistol practice, and during these two days made up some good scores on the range. The Squadron had the distinction, besides the helpful example, of having the Commanding Officer of the Group fire with it.

This is the first time the majority of the men of the squadron had ever had the opportunity of practicing with .45 automatic, which, in the peaceful past was considered merely an insignia for the officer of the day. As they lined up for their first shooting, they looked like a row of masculine sub-dabs waving good-bye with cast iron handkerchiefs. Most of the men felt right down in their hearts that they could do better with base balls, while at the longer ranges there was a persistent demand for compasses and maps. On the whole, the shooting was very successful and unmarred by any accidents.

Pistol practice in all squadrons has engaged the entire time, aside from that used in setting up the Spad. Since no one is excused from this practice and the squadrons are almost full strength, the practice takes two entire days from 6:30 A.M., until 6:00 P.M. for each squadron. The 17th Squadron's practice, referred to above, more or less explains the situation that prevails throughout the Group.

Combat patrols, tactical formations transformation to Spads and cross-countries to border stations were scheduled and carried out within the First Group (Pursuit) up to the week set aside for pistol practice. Pilots were enthusiastic over certain phases of this work, particularly in regard to the offensive and defensive patrol on the New Braunfels-Brooks Field sector.

Flying time in the First Group (Pursuit) for the month of March, 1921, during which there were only seventeen actual flying days, exclusive of week-end cross countries, was 952 hours and 40 minutes. By squadron this was - 17th Squadron 277 hours and 5 minutes, 27th Squadron 170 hours and 10 minutes, 94th Squadron 276 hours 10 minutes, 95th Squadron 229 hours and 15 minutes. This flying time covered the training in advanced pursuit on subjects such as; tactical formations, group echelon formations, cross-country, altitude flights, fragmentation bombing, silhouette shooting, message dropping, aerial mapping, accuracy landings, combat, rapid reconnaissance, and special missions. Night flying was engaged in for the third time in the last six months. Both carbide Milburn lights and six electric generating sets were used in the latter.

The usual enlisted men's dance was given at the Hostess House Tuesday night, a large crowd was present and all enjoyed themselves immensely.

Kelly Field, (Cont'd)

The Provisional Air Park Group gave a dance at the K.C. Hall, San Antonio, Texas, Thursday night. The hall was well decorated with tiny DeHaviland planes, propellers and the Group's colors, black and green. A large crowd was present and each lady received a small pair of gold wings as a souvenir. Punch and an ice course were served during the evening. The dance was a great success.

Athletics has been very slow this week, as there was so much rain, it was almost impossible to get out part of the time but the team managed to play the regular scheduled game of baseball with Brooks Field. The field was muddy and the game was slow. Brooks Field won by a score of 6 to 1.

Captain B. V. Baucom, Lieutenants F.S. Borum, E.A. Hillery, L.C. Blackburn, Air Service, were granted a five days leave of absence.

Captain Ernest F. Harrison, Medical Corps, has reported at this station from Fort Wayne, Michigan.

Bolling Field, Anacostia, D.C., April 14.

During the inclement weather, operations were necessarily curtailed during the past week, but the officers assigned to bombing managed to "carry on" with that work nearly every day.

General Mitchell has returned to Washington after a week's stay in New York City and Newport. He attended the horse show at the Polo Grounds, conducted under the auspices of the American Remount Association.

A new type of plane, "Early Bird", which the Huff-Daland Co., Inc., of Ogdensburg, N.Y., is putting on the market, is undergoing tests at this field. It is of the bi-plane type; two rotary motors mounted on the wings; the observer's cockpit in front of the pilot's cockpit; and it is estimated that it will make about ninety miles per hour. One feature of this plane is its exceedingly low landing speed, and its light weight.

Lt. Howard K. Ramey, who has just completed the Photographic School at Langley Field, has been transferred to this post and has assumed his duties as Post Photographic Officer. Lt. Ramey, who has a great number of friends in the Air Service, is considered one of the best pilots in the service, and Bolling Field feels fortunate in having an officer of his type detailed here as Photographic Officer.

Captain Seaton, O.C.A.S., had a little argument with an SE5 in taking off one day last week. Inasmuch as the Captain "walked away from the plane" it was voted that he won the argument, but the series of ground acrobatics which the field was entertained with, was good proof that the SE "kept him guessing" right up to the last lap.

Bolling Field held the bi-monthly dance March 29th with the usual success. The music was exceptional, and every one attending was well entertained. The next one to be held will be on April 14th.

Two tennis courts are under construction at this field, which, when completed, will afford an added recreation for those interested.

With the transfer to Bolling Field of Master Sergeant Andrew Matos comes the beginning of a photographic section at this station. Much is expected of the photographic work at this station in view of the beautiful buildings and surrounding landscape of the Nation's Capital City.

Staff Sergeant Monroe W. Skinner has been transferred to Langley Field for the purpose of taking a course in photographic work. Staff Sergeant Edward S. White has been transferred to this station.

First Surveillance Group, Airdrome, El Paso, Texas, April 11.

General Escobar, Commander of all Chihuahua troops and General Meddez, Commanding Juarez Garrison, were visitors at the Field Friday evening. They were given a trip over the surrounding country, which they enjoyed very much. The pilots were Lieut. Gaffney and Lieut. Hinkle.

The athletics are going full blast. The baseball team played the first game of the league series, Wednesday and won, defeating the Eighth Engineers ten to three. From all indications the First Surveillance is going to win the pennant.

Fairfield Air Intermediate Depot, April 15

Major Geo. E. A. Reinburg and First Lieut. Merrill D. Mann, left this Station April 12th for Washington, D.C., flying a DH-4B airplane, remodeled for messenger service. Major Reinburg and Lieut. Mann left this airdrome at 8:00 A.M. and arrived at Bolling Field, Washington, D.C. at 1:30 P.M., having stopped en route at Moundsville, W. Va. for gas.

First Lieut. Caleb V. Haynes, returned to this station April 12th, after ferrying one of the DH-4B messenger planes from Dayton to Washington. Lieut. Haynes' flying time was four hours and fifteen minutes for a distance of 567 miles. Lieutenant Haynes landed at Moundsville, West Virginia, for gas on the way. He found the air very rough, due to a number of storms in and about the mountains; however, he succeeded in passing the mountains without having to detour on account of the storms. The remodeled DE functioned most satisfactorily. The Liberty Motor appeared to run more smoothly and produced greater power when equipped with magnetos. It is thought that the new DH messengers will be very reliable and satisfactory planes for the purpose for which they were constructed.

Captain Howard T. Douglas, from the Office Chief of Air Service, was at this Station April 15th, examining the planes which are being constructed for the naval bombardment experiment. While in this vicinity, Capt. Douglas also visited the experimental station at McCook Field.

First Lieut. Caleb V. Haynes returned April 12th, from a short visit to his home at Mt. Arry, North Carolina.

Major Geo. E. A. Reinburg spent a few days with friends in Washington, D.C. during the past week.

Mrs. S. A. Blair, wife of Capt. Blair, and Mrs. Charles M. Leonard, wife of Lieut. Leonard, entertained the ladies of the Post at the Officers' Club April 15th.

Captain Orlo H. Quinn, Air Service, and First Lieut. Byron J. Peters, Medical Corps, attended a banquet given by the Scottish Rites Masons of Dayton, at the Shrine Club, April 13th.

Carlstrom Field, Arcadia, Florida, April 14.

During the past week the station has been visited by Major H.B. Clagett, A.S., who flew in from Montgomery, Ala., in his D.H.4, Ardmont Fride, leaving here Thursday, April 14th, for Miami, from which place he will return direct to Montgomery.

The station was also inspected by Major Maxwell Kirby, A.S., of the Training Group, Office of the Chief of Air Service, who arrived by train, leaving Wednesday, April 13th, for Camp Benning, in an Ardmont piloted by Major A. Howard Gilkeson, A.S., making the trip in three hours and thirty minutes, Major Gilkeson returning the next day.

A board of Officers has been appointed at this field, for the final examination of such applicants as may be authorized to appear before it, to determine their fitness for appointment to the Regular Army:

Detail for the Board; Major John H. Pirie, A.S.; Major Fred H. Coleman, A.S.; Major H. Gilkeson, A.S. Medical Examiners, Capt. H. S. Steenberg, M.C.; Capt. L. I. Evans, M.C.

The following named enlisted men, at this station, have been appointed Flying Cadets, and are assigned to the Cadet Detachment, this station: Headquarters Flight; Sergeant Forrest Myers; Corporal Gilbert Waller; Pvt. 1/Cl. Paul L. Johnson Pvt. Wm. R. Bradew. Flight "A", Pvt. Chauncey D. Young.

The Cadet Detachment which recently graduated are being held over until July 1st, and will be assigned the machines they will be required to fly at their advanced schools; namely, Observation and Bombing Pilots will fly D.H. B's; Pursuit will fly Spads, Nieuports, T.M. and S.E. 5's. All students in flying training are required to have soloed in night flying and extensive preparations are now under way for this.

Sgts. Bryant K. Newcombe and Wm. A. Winston will do the D.H. instructing for the Cadet Class.

Mather Field, Sacramento, California, April 9.

Capt. T. S. Voss, A.S., whose home station has been Mather Field since June of 1918, was transferred to Langley Field, Va., for a course in Aerial Photography at that station on April 4th. Capt. Voss was transferred in place of 1st Lieut. E. C. Kiel, of the 91st Squadron (Observation).

Major H. H. Arnold, Air Officer of the 9th Corps Area, visited the Post on Tuesday, April 5th, leaving for Medford, Oregon, on the 6th.

Master Sergeant Ephraim L. Cornish was placed on the retired list on April 6th, after serving thirty years, including double time. He was sent to his home in Elgin, Ill. A banquet was given in his honor. He was the first soldier ever retired from the ranks of the 91st, so far as is known, and the good wishes of the Post go with him.

Master Sergeant Theodore J. Robins, pilot of the 9th Aero Squadron, was discharged on account of expiration of term of service, on Friday the 8th, leaving the Post the same day. He was on forest patrol at Red Bluff last year and has just recently returned from border patrol duty at Rockwell Field.

Col. Guy P. Carleton, Inspector General of the 9th Corps Area, arrived on the Post Friday, April 8th, for a short conference with the Commanding Officer.

Lieut. D. E. Jones, 9th Squadron Supply Officer, is busy turning over property of that Squadron to Lieut. George W. Pardy, preparatory to going to Langley Field, Va., to attend the Aerial Photographic School at that place.

Authority has been received from the Chief of Air Service to ferry twenty DeHaviland airplanes from the Repair Depot at Rockwell Field to this Field. Owing to the shortage of pilots available they will be ferried one or two at a time instead of in group.

The Chamber of Commerce of Sacramento is now engaged in planting trees and shrubs on the Post. Trees have been needed so much at Mather, the assistance of the Chamber of Commerce is greatly appreciated. Since the families of married officers and enlisted men are now living on the Field, the shade afforded by trees will be very welcome to the children during the hot summer months.

Major Francis H. Poole, M.C., as Flight Surgeon, and Lieut. Newton Longfellow, A.S., have been ordered to report to this Station for duty upon completion of their present tour of foreign service in the Philippines. Previous transfers of officers from the Philippines have brought agreeable additions to Mather, and the arrival of these new men is looked forward to with pleasure.

A Trap Shooting League and Tournament is about to be organized, with teams from the 91st, 9th and Supply Detachment participating, and judging from the material available, good scores are expected.

Squadron baseball has just died down, but with seven players on the Mather Field Post Team, the 91st Squadron is still in the game so far as interest is concerned. Two games are scheduled with the University Farm Team from Davis, Calif., and prospects look toward both being good close games of baseball.

Crissy Field challenged Mather to box against their man "Kid" Richardson. Challenge has been accepted and Frank F. Nowakoski ("Novey") will meet him in the ring at Mather Field, Thursday, April 14th, at 7:00 P.M. Both men are under 120 pounds.

Selfridge Field, Mt. Clemens, Michigan, April 16.

What would have been otherwise a dull week was enlivened somewhat by the arrival on Tuesday afternoon, April 12, of two DeHavilands from Camp Knox, Ky. enroute to Grand Rapids, Michigan. The planes were piloted by Lieutenants Gotlin and Burtis, with Captain K. K. Jones, F.A., and Master Sergeant O.M. Rector as passengers. Lieut. Burtis gave an aquatic display by landing on a portion of the field that had been made soggy by recent rains. The plane "nosed up", but the only damage sustained was a broken propeller. After staying over night at this station the flight took off for Grand Rapids on the following day.

France Field, C.Z., April 2.

The transformation of France Field from a white dazzling expanse of coral to a rich, red, loamy color, is rapidly taking place, and within a few weeks visitors will see a marked change in the appearance of the reservation. While the work on the grading proposition has been going on for about four months the results are only just becoming apparent to a marked degree. Two big steam

France Field, C.Z., April 2. (Cont'd)

shovels, a switch engine with about forty gondola cars, and a large number of native laborers are making rapid strides in the work at the present time. The large fill across the road for an addition to the flying field has been completed, a little filling has been done around all the barracks and buildings close to the road and now the dirt is being rushed on to the unfinished part of the present flying field. With the completion of this fill the transformation of the field will be complete and its general appearance very much better. The flying field will be greatly enlarged and improved and this will make it far safer for the use of the planes here, which is the main reason for the work being done. Upon the completion of the fill the land will be seeded and rolled and the new athletic field will be constructed near the edge of the flying field.

Several changes in the duties of the officers of the post were made effective April 1st and as a result several of the officers are now digging up the information necessary to handling their new work. 1st Lieut. Harlan W. Holden was relieved of three jobs, the E. & R. and Morale work being assigned to Lieut. Kenneth Garrett and Lieut. Odas Moon taking over the position as Survey Officer. Lieut. Garrett also relieved Lieut. John D. Barker as assistant E. & R. Officer with duties as Officer in charge of the Service Club. 1st Lieut. Rowland C. W. Blessley resumed his work as Officer in charge of Flying, relieving 1st Lieut. Charles B. Austin who had performed these duties while Lieut. Blessley was on leave. Another change occurred when Lieut. Garrett was relieved as Assistant Engineer Officer and assigned as Student Engineer Officer and 2nd Lieut. Frank P. Albrook was assigned as Assistant Engineer Officer. Lieut. Moon was also assigned as Adjutant of the 7th Aero Squadron.

Two new specialists' ratings were passed out by the E. & R. Officer on April Fool's Day, Privates Harry F. Stengle and Nelson G. Pringle were given third class ratings. Pvt. Stengle is the new Service Club Steward, and Pvt. Pringle is assistant instructor in basic education.

A radio-equipped DeH 4 was slightly damaged on Thursday when the motor cut out on the take-off and the plane nosed over on the rough ground at the end of the field. The damage was confined to the under carriage and the propeller. 2nd Lieut. J. D. Barker was piloting the plane with 1st Lieut. Perry Wainer, Radio Officer, as passenger.

2nd Lieut. D. D. Watson was injured in polo practice the latter part of the week when the blow of a polo mallet injured one eye, smashed several nose bones, and severely contused the right side of his face. During the four months and more that the team has been practicing, accidents have fortunately been few, this being the first time that one of the players has been completely put out of the game for more than a day or two.

Major Walsh and 2nd Lieut. Albrook have been continuing their transition flights during the past week, Lieutenant Albrook having been ordered to take a refresher course in a JN-4H under the supervision of 2nd Lieut. Odas Moon.

The second ball game of the week brought the 33rd Infantry team to France Field on Saturday where a 6 to 3 defeat was pinned upon them.

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The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE MAY 7, 1921.

"AND I LEARNED ABOUT FLYING FROM THAT."

KEEP YOUR EYES OPEN

On July 1, 19--, on an offensive patrol over Lille, I happened to be the right rear man of a formation of five, and, when attacked by a number of enemy Fokkers, got separated from my formation and found myself half way between Roubaix and Roulers, Belgium. We had done considerable fighting and my gunner, then a private, had jammed one of his machine guns. I decided to make my way back to our own side of the lines, hoping to come out somewhere about St. Eloi and Ypres. I was at an altitude of about 8,000 feet, far behind the antiaircraft guns and in the early morning - it was about 7:30 - of a beautiful summer day, and everything was as serene and peaceful as could be imagined under the circumstances. My gunner, who was sitting in front of me working on his Lewis, had little worry about enemy aircraft, and I was paying more attention to getting back to our own side of the line by the shortest route consistent with the wind direction or drift.

At this time I was a "greenhorn", and although people had warned me to look out over my tail I was in about the same position as the ostrich with his head buried in the sand, until, for some unknown reason, I cannot tell why, I thought it would be well to assume some of the duties of my gunner and look back over the top of the engine and see if any enemy planes were following me. To this day I have the silhouette of that Fokker imbedded on the retina of my eye, for on climbing up on my seat and looking back over the top of plane - I was flying a Rolls-Royce FE-2-D - there was a Fokker at not more than forty yards range literally pouring lead my way. It was only a glance, however, that I took, for I dropped immediately to my seat, concurrently swatting my observer over the head to waken him up. With my nose down, I pushed hard first on one rudder and then the other to cause sideslips both ways - and I could hear the click, click, click of the bullets, crescendo and decrescendo, until I had gotten sufficient momentum to do the first Immelman turn I ever did in my life, and, thanks to the high-powered Rolls-Royce, the tables were turned and I was on the enemy's tail.

I learned that day the greatest lesson of flying - keep your eyes open. It is a point that I have always done my utmost to teach new pilots, and it is lack of this precaution that has made it a fact that most pilots are killed during the first two weeks of their flying; to the lack of this precaution can be attributed many a casualty. It is easier to surprise and easier to be surprised in aerial combat than in any other style of fighting I know of, therefore KEEP YOUR EYES OPEN.

SECOND ANNUAL RACE FOR PULITZER TROPHY
TO BE HELD IN DETROIT, SEPT. 8, 9, 10.

The major airplane event in the United States for the year 1921 will be the annual contest for the Pulitzer Trophy, a three days' meet to be held in Detroit September 8, 9 and 10. This will be the second race for the trophy donated by Ralph Pulitzer, owner of the New York World, the first having been flown at Mitchel Field, Long Island on Thanksgiving Day, 1920, with 35 entrants, Lt. Carlisle G. Moseley, A.S., flying the Verville-Packard being winner, with an average time of 178 miles an hour, Captain Harold E. Hartney, A.S., flying a standard Army Thomas-Morse with a 300 h.p. Wright motor coming second, with a time only 2 minutes and 30 seconds behind that of Lt. Moseley.

Realizing the importance of this annual event to the future of aeronautics in America, the Aviation Country Club of Detroit, with Colonel Sidney D. Waldon as

head of the race committee and Henry B. Joy heading the finance committee, is making plans for the greatest air tournament that has ever been held in this country.

Four events have been scheduled, the first, second and third for commercial planes, the first and second for transport, and the third for observation planes carrying two passengers.

Selfridge Field, adjacent to Mt. Clemens, is to be the starting point for the triangular course which will touch Packard Field and the Aviation Club's Field at Green Lake. The distance which is being surveyed and mapped is to be identical with the course flown over for the Gordon Bennett Airplane trophy at Paris.

The Aero Club of America under whose auspices the contest is to be held, has ruled that the Club owning the winning plane is to obtain the race for the next event thereafter.

Full particulars with regard to the event and entry blanks may be obtained from the Aero Club of America, 11 East 38th St., New York City, or from the Aviation Country Club of Detroit.

LT. THOMAS H. WARD AND SERGT. NOBLE C. BRYANT
KILLED IN AIRPLANE CRASH

As the result of an airplane crash when flying in low hanging clouds at Hampton, Virginia on the morning of April 27, the pilot, Sergeant Noble C. Bryant was instantly killed, and Lt. Thomas H. Ward, Post Adjutant at Langley Field, died a few hours later.

Lt. Ward, was 30 years of age, and leaves a wife and daughter now living at Langley. His service record follows:

Enlisted May 3, 1917 at Dayton, Ohio. Sent to Officer's Training Camp, Camp Sheridan, Alabama, May 15, 1918. Commissioned 2nd Lt., F.A., Aug. 31, 1918. Reported for F.A. to School of Fire, Fort Sill, Oklahoma, on Oct. 12, 1918. Graduated School for Aerial Observers, Post Field, March 20, 1919. Graduated Aerial Gunnery School, Post Field, March 20, 1919. Head of Department of Aerial Liaison for School for Aerial Observers at Post Field, in 1919, E.A. attached to Air Service. Transferred to Langley Field, Oct. 14, 1919. Graduate of 2nd Wing Communication School at Langley Field, 2nd Lt. F.A. to 2nd Lt. Air Service, July 1, 1920, Airplane Pilot Feb. 3, 1920, Radio Officer May 5, 1920.

Lt. Ward's home address is 37 Colberg Avenue, Roslindale, Mass.

According to officers at Langley Field, Sergeant Bryant was one of the most expert non-commissioned fliers in the service. He has been stationed at Langley since the post was opened in 1917, and has made a number of difficult flights. His home is in Mayfield, Kentucky, where his mother, Mrs. W.T. Reeves now lives.

WHEN TO USE A PARACHUTE

Under date of April 10 an article on parachutes appeared in the Chicago Tribune in which this statement was made: "30 per cent of the aviators who have met death in crashes had an opportunity to jump free from their planes, and would not have been killed had they worn parachutes."

With regard to this, Major Follett Bradley, Assistant Commandant Post Field, Fort Sill, Oklahoma, has written to Major H. M. Hickam, Chief of Information Group, Air Service, as follows:

Your attention is invited to a News Item in the April 10th edition of the Chicago Tribune, which states that parachutes might have saved 30% of aviation deaths.

I do not know what the attitude of your office is with respect to these parachutes, but I should like to submit my own personal viewpoint on the matter. This viewpoint is concurred in by the majority, if not all, of the older pilots at this station:

It is our opinion that a pilot who leaves his ship by means of a parachute, except under the following circumstances is guilty of gross misconduct. By so doing he does not endeavor to save an extremely valuable piece of government property. We think that if pilots are required to wear parachutes, and are encouraged to use them, it will lead to many crashes that could have been perfectly

safe landings, and will encourage faint heartedness. The occasions upon which we think it justifiable to use a parachute are practically all covered by the following:

- (a) Fire.
- (b) Collapse of the Airplane, or of some essential portion of it, such as loss of a wing, loss of a control surface, breaking of a control wire.
- (c) Collision.

The news item above referred to indicates that its author may not have been wholly disinterested, as he is head of a company which manufactures parachutes and it would, of course, be greatly to his advantage to have each pilot required to carry a parachute. /

A NEW ACTIVITY CENTERED AT MCCOOK FIELD

Lt. R.E. Thompson of the Balloon and Airship Experimental Station at Fort Omaha, Nebraska, arrived at McCook Field, Dayton, Ohio, last week in order to make preparatory plans for the removal of the station from Fort Omaha to Dayton. The remaining personnel of the organization, consisting of Captain Allen P. McFarland and thirty-four civilians, will follow as soon as plans are completed to effect the removal.

The consolidation of the Balloon and Airship Experimental Station with the Engineering Division, Air Service will place the engineering of higher-than-aircraft development under the direction of Major Bane.

UNSOLICITED ADVICE TO A NOVICE

The Commanding Officer at Kelly Field sends the following poem by Lieutenant Birnn that is very eloquent in its way. It applies particularly to the novice who tries to land an SE5 cross wind.

Stone walls do not an aerodrome make, nor mud a landing field,
And quickly to a cross-wind puff, the SE5 will yield;
Beware the hill near Hangar Three, beware the thick mesquite.
If e'er you need seek landing field, this warning I'll repeat--
Stone walls do not an aerodrome make, nor mud a landing place.

So set her on the landing gear and not upon your face,
This SE5 it handles well when way up in the air
Except when you are pulling stunts there's small need to beware,
So take her off, my hero bold, you'll handle her with ease,
But when you come to set her down, don't land her 'cross the breeze.

SECRETARY OF THE NAVY DENBY LAUNCHES CONVERTED NAVY COAST PATROL FLYING BOAT IN THE INTERESTS OF COMMERCIAL AVIATION.

The first of a series of Naval Aircraft which has been converted into flying boats suitable for Commercial and Civil Aviation was launched in the Potomac River at Washington on April 22, by Secretary of the Navy Denby and other high Naval officials. The machine is one of the well-known Navy coast patrol flying boats which did such wonderful service during the war in patrolling the entire Atlantic Coast in all kinds of weather. The boats have been converted into six-seat open-cockpit and six-seat enclosed-cabin passenger boats. They are equipped with 400 horse power Liberty motors, have a wing spread of 72 feet, and a speed of about 70 miles per hour.

In order to stimulate interest in Commercial and Civilian Aviation so that we will have trained men available for national defense in case of emergency the Navy Department has allotted a limited number of these well-known aircraft to be sold to the public, believing that those interested in aviation, desiring to keep aeronautical progress in this country abreast of foreign development, will gladly take advantage of this opportunity to procure equipment of thoroughly

reliable and proven worth at such an attractive figure. The present price unconverted, \$6,160; open-converted, \$6,500; enclosed converted, \$9,000.

In launching the boats Secretary Denby said that he considered it of very real importance that our people become familiar with the advantages as well as the safety of commercial aviation. The Secretary took a flight in the boat, which he enjoyed very much. These boats are brand new and are the most thoroughly proven craft of that kind in the world. They were used extensively, for convoy work in Europe during the World War and commanded the respect of the Allies.

Among the prominent officials present at the launching were: Senators New and Keyes; Congressmen Hicks, Burroughs, Hudspeth, Anderson, Sanders, Carter, Michener, Layten and Parker.

TRIBUTE TO LIEUTENANT LANGIN

Request has reached the office of the Chief of Air Service from prominent citizens of Moundsville, West Virginia that the Landing Field at that point on the Model Airway be officially named Langin Field in honor of Lieutenant James Joseph Langin, who lost his life in an airplane accident at Bolling Field on the morning of April 15, 1921.

Mr. H. T. Compton of Moundsville who has taken such a personal interest in the Model Airway, and who has co-operated with the Air Service in every way possible in the development in his locality, writes as follows with regard to the matter:

"Since my visit to Washington I have received the sad news of the death of Lieut. Langin. The news was a great blow to me. We feel here almost as if it were a loss in our home circle, he took such an interest in Moundsville and in the people he met here. During his numerous visits here he always spoke so enthusiastically of the future of aviation and of the Model Airway."

"I want to make a request: cannot the local landing field be named Langin Field in memory of our friend? We here in Moundsville are all of one thought in this matter."

"I am enclosing a little tribute to Lieut. Langin written by my father, M.F. Compton, which was published in the local and the Wheeling papers. It will show how the public in this locality regards the Air Service and appreciates its personnel."

The cutting from the Moundsville paper follows:

"The sad news was received yesterday of the death of Lieut. Langin. Those who attended the luncheon given by the Rotary and Kiwanis Clubs to aviators sent from Washington will remember the address of Lieut. Langin, who said that he felt like calling us "fellow-citizens". The play of humor and wit in his address, the stories of experience in many flights, his description of the Moundsville field, and his predictions of the great future for aviation will be remembered by all who heard him. His influence contributed largely to the final selection of this field.

He was a warm hearted, genial, lovable character, and the members of the Central Garage are saddened as if by a personal loss. Lieut. Langin was a bold, fearless and successful flyer.

The word comes that flying over Bolling Field, Washington, D.C., the machine fell to the earth and the life of this brave young man went out. He now takes his place with the great but invisible host of pioneers who by toil and sacrifice have mapped the way for humanity on earth and sea and sky. Peace to his memory."

REPORT OF CHANGES OF STATIONS OF OFFICERS FOR WEEK ENDING APRIL 26

"April 19, 1921 - First Lieutenant Bernard S. Thompson, ordered from Post Field, Ft. Sill, Oklahoma, to Langley Field, Hampton, Virginia, for duty as instructor in Communications.

April 19, 1921 - Order previously issued sending Major Henry B. Clagett to School of the Line, Ft. Leavenworth, Kansas, ~~revoked~~.

April 19, 1921 - Major Leonard H. Drennon, relieved as Air Officer, 1st Corps Area, Boston, Massachusetts, effective September 5, 1921 and ordered to Ft. Leavenworth, Kansas, for duty as student officer at the School of the Line.

April 20, 1921 - Following Air Service officers ordered from March Field, Riverside, California, to Post Field, Ft. Sill, Oklahoma, for course at Observation School:

Major John H. C. Williams,
1st Lt. Francis W. Ruggels,
1st Lt. Samuel P. Walker,

April 20, 1921 - First Lieutenant Walter R. Peck, Inf., detailed to Air Service, relieved from duty in Hawaiian Department and ordered to Carlstrom Field, Arcadia, Fla., for pilot training on August 1, 1921.

April 22, 1921 - Following officers ordered from March Field, Riverside, California, to Kelly Field, San Antonio, Texas, for bombing training:

Captain Early E. W. Duncan,
Captain Wolcott P. Hayes.

April 23, 1921 - Following officers ordered from March Field, Riverside, California, to Post Field, Ft. Sill, Oklahoma, for course at Observation School:

Major Jacob H. Rudolph,
1st Lt. Carl F. Greene,
1st Lt. John McRae,
1st Lt. Samuel C. Skemp,
1st Lt. Russell L. Williamson.

April 23, 1921 - Major Edwin B. Lyon, Air Service, ordered upon completion of duties at West Point, New York to Boston, Massachusetts, for duty as Air Officer, 1st Corps Area.

April 23, 1921 - Following Air Service officers ordered from stations indicated to Langley Field, Hampton, Virginia, for course at Airship School:

1st Lt. Robert S. Olmstead,
1st Lt. Harvey H. Holland,
1st Lt. Arthur Thomas.

April 25, 1921 - First Lieutenant Charles E. Branshaw ordered from Gerstner Field, Lake Charles, Louisiana, to San Antonio, Air Intermediate Depot, San Antonio, Texas.

April 25, 1921 - Following officers ordered from stations indicated to Ross Field, Arcadia, California, for lighter-than-air training:

1st Lt. Frank Kehoe, Brooks Field, San Antonio, Tex.
1st Lt. George G. Cressey, Langley Field, Hampton, Va.

April 25, 1921 - Following Air Service officers ordered from Langley Field, Hampton, Virginia, to Post Field, Ft. Sill, Oklahoma, for duty at the Observation School:

1st Lt. Roscoe C. Wriston,
1st Lt. Donald G. Stitt.

April 25, 1921 - Lieutenant Clifford E. Smythe ordered from Ross Field, Arcadia, California, to Langley Field, Hampton, Virginia, for duty.

AERONAUTICAL NEWS FROM OTHER COUNTRIES

HOLLAND.

"DUTCH WEEK" TO BE HELD IN MADRID IN MAY.

The Netherlands Chamber of Commerce has announced that a "Dutch Week" is to be held in Madrid in May, for the purpose of fostering good relations between Holland and Spain. It is said that the Netherlands Government will send a squadron of military Fokker airplanes to assist in the demonstrations. It is also stated that the Netherlands Aircraft Company may send several Fokker Commercial airplanes in order to arouse interest in air transport with the Spanish authorities, especially the postal department. The machines are of the type now carrying mails between Holland and England, Germany and Denmark.

FOKKER INVASION OF ENGLAND PREDICTED

In an interview during the period of cessation of the English Air Services, caused by the increased subsidies from the French Government to the French Air Lines, and the consequent cutting of passenger rates, Mr. Holt Thomas the founder of the First English Air Line, said that a Fokker invasion of England was inevitable. "This Spring" he predicted, "extensive daily passenger services are being started by the Dutch companies between London and the Continent and it will be an obvious development for them to extend these lines to Southampton and Liverpool in order to make the speediest possible connection for passengers between the American liners and Continental centers.

JAPAN.

THE BRITISH MISSION TO JAPAN

Following the refusal of the British Government to permit a regular R.A.F. Mission to go to Japan to train the Imperial Navy fliers, an unofficial mission was formed for this purpose, the second in command of which is Major Bernard Fowler, known as one of the best instructors in the R.A.F., who has been flying since 1910 and who founded the Eastbourne Aviation Co., Ltd. Major Fowler will be in charge of flying operations, while Lt. Col. Mears, who did excellent organization work in the R.A.F. during the war, will be in charge of ground organization. With these officers are a number of highly skilled pilots, engineers and mechanics.

In commenting on this matter and the effort the Imperial Japanese Government is making toward developing an efficient air service, the "Aeroplane" of March 23rd says:

"Doubtless the United States will not be pleased with us for sending this mission to Japan, but let all good Americans remember that they themselves have barred us from selling aeroplanes in their country, and that we must sell our products, human and mechanical, where we can."

JAPAN RECEIVES PART OF HER SHARE OF GERMAN AIRCRAFT

One Zeppelin airship for the navy, and about 30 aeroplanes, constituting a part of Japan's share of the German machines either captured or turned over to the Allies, have reached Yokohama, according to press reports.

A RECORD SHOOT

Lieut. Higuchi, an instructor in Army Flying School at Akenohara aerodrome, Aichi prefecture is said to have made a record of 48 per cent recently in shooting down balloons from an aeroplane. The highest record in France, it is believed, is 35 per cent.

BELGIUM

HONORARY RANK OF MILITARY AVIATOR CONFERRED ON KING AND QUEEN OF THE BELGIANS.

The honorary rank of military aviator has been conferred on both the King and the Queen of the Belgians.

PERU.

PERUVIAN GOVERNMENT DEVELOPING BOTH MILITARY AND NAVAL AERONAUTICS.

Peru is showing great enthusiasm in organizing both a military and a naval air service. Major Sison of the R.A.F. has been lent by Great Britain to the Peruvian Government, and the first ten of a consignment of 110 h.p. LeRhone-Avros have been delivered.

The Minister of War, Col. Castro, and his staff have been highly pleased with the demonstrations made by Major Sison in an Avro, Major Gaudouret on a Morane monoplane, Lieut. Romanet in a Salmson, and Lieut. Pootzel in a Caudron.

The naval organization is under the direction of Capt. J. Leguira, son of President Leguira, and a staff of pilots and ground engineers from the U.S. Naval Air Service are in charge of instruction.

GERMANY.

GERMAN AIR TRAFFIC WITH LITHUANIA AND POLAND

The German Air Transport Companies are making good use of the sad state of railroad and other transportation systems in the countries of their new Eastern neighbors.

A German company is reported to have opened a regular service with Fokker passenger and freight planes between Danzig, Kovno and Vilna and between Danzig and Warsaw. The first two of these Dutch planes arrived by air from the Fokker factory recently, one stop being made en route, at Warnemunde; each machine carries 1200 lbs. of freight so the service should prove a useful connection for passengers and urgent supplies between the centres of Lithuania and Poland and the Baltic ports.

CZECHOSLOVAKIA.

SUCCESS OF THE AERONAUTICAL EXPOSITION AT PRAGUE

The latest number of "La Suisse Aérienne" records the success of the aeronautical exposition held a few months ago at Prague, and comments on the surprising number of entries which included examples of both domestic and foreign industrial concerns. One of the curiosities of the salon was the new type monoplane, Avia, constructed by M. M. Benes and Haja of Prague. Resembling in appearance the Fokker, the Avia is a one-seater monoplane, constructed without wire-bracings, and the general form is said to offer a minimum of resistance. The motor produces 35 h.p., and the speed is 150 kilometres to the hour.

The salon also contained airplanes from the Bohemia and Chota factories, and a rara avis in appearance, a limousine Smolik with a Beitfeld and Dank motor or 230 h.p., the work of the Central Aviation establishment.

FRANCE

A GOOD SHOWING

At a recent banquet of the Aero Club of France, M. Flandin, Under-Secretary of State for Aeronautics, furnished the following interesting details of the record of French aviation.

He said that in 1920 there had been 1,500,000 kilometers flown as against 350,000 in 1919.

In the course of these voyages, there had been only one fatal accident for every 315,000 miles flown.

FRANCE (Cont'd)

In 1920, there had been 6750 passengers transported as against 960 in 1919. In 1920 there had been 103,360 kilos of freight transported as against 13,980 kilos in 1919.

The statistics gave 5210 kilos of letters carried in 1920, while in 1919 the amount had been 466 kilos.

There were at the moment, 275 airplanes in operation for public service, and 79 privately owned machines operated for individual use.

MONTPELIER - NICE

An air transportation service has recently been inaugurated between Montpellier and Nice. There are two airplanes flying the route in each direction and the journey is made in 2 hours 45 minutes, with one descent at Hyeres.

THE PESCARA HELICOPTER

In "L'Aeronautique" for January Captain Lami gives a resume of the effort being made in France with a view to solving the problems of the helicopter. No fewer than five French experts are known to be experimenting with this type of aircraft, and each one seems to offer promise of a certain degree of success.

The particular machine under discussion is the Pescara type, the invention of the Marquis Pescara of Barcelona which is now undergoing official tests by the French Air Service. The body of the machine resembles a racing automobile with a vertical mast bearing two propellers, which move in a horizontal plane, and in opposite directions at about 200 revolutions per minute. Each propeller has six blades - or rather has six wings, like a small biplane 2 metres square in size.

The pilot can control the angle at which the propellers are set; and also, if the machine does what is expected of it, can control his upward, forward and downward flight. Brake action can be produced by controlling the direction in which the series of propellers rotate, one set being worked against the other. By this means and by sloping the wings forward M. Pescara claims for his machine that a landing can be made at the reduced speed of 30 centimeters per second.

AUSTRALIA.

AUSTRALIA'S AIR FORCE

The Australian Air Force, under an Air Council and an Air Board, will consist of 8 squadrons with headquarters at Sydney and Melbourne, says the "Aerial Age" for April 18. Each squadron will comprise 18 machines in war formation, with three flights of six machines each. The Avro will be the standard land machine, and a large number of planes of this type have been presented by the Imperial Government. The suitability of Australian timbers for aeroplane construction is being tested, and it is hoped to obtain wood sufficiently light to replace spruce and to meet the requirements of the British Air Ministry.

ITALY

ITALIAN SEAPLANE SERVICE

The press reports that a seaplane service is about to be started between Brindisi, Corfu, Crete, Derna, and Alexandria. The machines are of Italian manufacture and will carry both passengers and mail.

DENMARK.

COPENHAGEN AN AIR CENTER

A project is now under discussion, says the London "Truth", to make Copenhagen a great air traffic center, and there is much to be said in favor of the Danish capital as well for political as for commercial reasons. Very few people on the continent would wish to see a German city as the aerial center

DENMARK (Cont'd)

in North-east Europe, and yet as Germany revives she will need to take an important part in aerial transport. England, of course, might prefer to see Brussels as the nucleus of the northern air traffic system, as the Belgium capital could be more easily linked up with the British Isles. This development would not prevent Copenhagen from forming another important point. Politically speaking, it would be best for the international air centers to be situated in small countries like Denmark, Holland and Belgium, as less jealousy would then arise between the great Powers. France and Germany, for example, are not likely to have much direct air traffic between them for some time to come, if the business lies in either France or German hands: but both countries could make good use of international aerial facilities afforded by another nation.

SQUADRON NEWS

March Field, Riverside, California

Fifty-nine planes made 263 flights from this field during the past week; total flying time, 115 hrs, 25 min. Preliminary instruction required 101:05 min.; advance instruction, 6 hrs. 05 min.; test flights 2 hrs. 55 min. and miscellaneous flights, 5 hrs. 20 min.; approximate mileage flown, 7500 miles.

Telegraphic instructions from the Chief of Air Service received Wednesday authorized formation of a cadet class and ordered training to begin at once. Thirteen enlisted men, eleven of them recent arrivals from the Philippines and Hawaii, dropped their enlisted rank and are now rated flying cadets. Some few student officers will also start their flying training with this class.

Thursday was "Rotary Day" at March Field. Despite a 45 mile-an-hour gale on the surface some five hundred or more visitors enjoyed the afternoon at this school. Major Yount, commanding officer, issued an invitation to the public in addition to extending a special invitation to members of the Rotary Club, their families and friends. A short flying program was presented; the Post Band gave a concert and the entire command turned out for parade. Officers of the school divided the guests into small parties and conducted them about the Post to the various departments and points of interest.

Captains H. T. Morrison and Chas. B. B. Bubb have been ordered to Post Field, Fort Sill, Okla., for advance training.

Riverside merchants and business men have rallied to the cause of the local War Camp Community Club which provides entertainment for the enlisted men of the command when off duty. Need of funds secured the aid of the chamber of commerce and business men's association with the result that a campaign for \$6,000 was started. By agreement among merchants and business men, three and five per cent of Saturday's gross sales will be given to the Community Service Club fund. Over a hundred signatures were obtained whereby a percentage of the days business will provide this recreational fund for the coming year.

Commissioned officers of the schedule were presented during the week with two books - "The Climate and Weather of San Diego" and "The Aviator and the Weather Bureau" both the work of Dr. Ford A. Carpenter, expert Meteorologist. The books were presented by the Los Angeles Chamber of Commerce and contain valuable data with reference to meteorological reports as compiled in Southern California over a period of the past twenty years.

Two observation balloons escaped Wednesday evening from the battleships Wyoming and Arkansas of the Pacific fleet stationed off San Pedro. An East wind carried the two bags, baskets and all, into the mountainous section near Santa Ana. One of them was carried through the canyon to within a few miles of Riverside city. Enlisted men guarded the big balloon until naval men recovered it the following day. No one was in either basket when the balloons broke their cables.

March Field's baseball team "won two and lost one" during the past week. The Post team has won 11 out of 15 games so far this season.

Flight "B" 12th Squadron, Nogales, Arizona, April 16th

The baseball team of this Flight won its 6th victory in a game with the Patagonia miners, on Sunday, April 10th, on the Patagonia grounds. The weather was perfect, and a large crowd was present, the score being 10 -- 0.

Headquarters Detachment, 1st Observation Group, Manila, P.I., February 26.

The Benefit Ball given for the Aero Club of the Philippines Saturday night was a great success. Prizes were given out during the evening for the best costumes. The Ball was held in the Carnival Auditorium and the music was furnished by Major Loving's Constabulary Band.

Preparations are being made to observe firing in the big shoot the Navy is going to give.

The National Guard Hangars are going up with lots of speed. Guess the reason for the pep is that five new F.5.L.'s are waiting on the beach for a proper home. Several H.S.2-L. Flying Boats have also been added to their collection.

Kindley Field, Ft. Mills, P.I., February 25th.

The Air Service Garrison Baseball Team played three games in Manila this week; lost one game 8 to 2 to the Manila Citys; played to a tie a nine inning game with the Meralco's; and lost in a three to one score with Calambo. Tuesday, February 22, was a post holiday with no work except the necessary guard and fatigue.

The garrison Transportation Department has moved to its new location at Kindley Field.

The Photo Department of the 2nd Aero Squadron has been moved from its former cramped quarters to a spacious portion of the old hangars which has been partitioned off to make a suitable dark room, chemical closet and a main repair and office room.

A Bomb sight and Racks are being installed on H.S.2.L. No. 234 and it will be ready for Bombing practice Saturday. Dummy bombs will be used first then sample live bombs will be tested.

A number of tests and experiments have been conducted this week, in co-operation with the U.S.S. "HART" in command of Capt. Deems. The tests and experiments included short and long distance radio, both phone and spark; visual signalling with the Very Lights and other fireworks; visual signalling with Projector Lanterns; servicing planes on the water at sea, and towing disabled planes back to home base. Also several systems of codes to be used in signalling were worked up and tried out.

During the past few days a number of Naval Officers were given rides in a balloon of the 17th Balloon Company, and a few of them had thrilling rides on February 23, 1921 when the wind velocity was high.

On February 22, being observed as a holiday, a special dinner was given all members of the organization.

Ballooning with the 27th Balloon Company at Fort Mills has many difficult phases, one of which is the care of the balloon. Oftentimes it takes a balloon shipped from the States six months to get here and due to rough usage in shipment is often in poor condition on its arrival. Recently it was necessary to put three hundred and sixty patches on a new balloon before it could be flown. This patched balloon is now in use and gives excellent results.

The 27th Balloon Company celebrated its third anniversary on February 22nd with a real American Turkey Dinner. The mess hall was decorated with tropical palms and planes until it far excelled any Broadway Palm Room. After the dinner a vaudeville show was given by the Army Service Club Troop in the Recreation Hall. Guests from the 17th Balloon Company and 2nd Aero Squadron helped to make this Anniversary an enjoyable affair.

Clark Field, Pampanga, P. I., February 27

Lieutenants John Blaney and Charles L. Webber drove their Dort Chummy Roadster over Northern Luzon during the past six days, the object being a six day hunting pass and incidentally to look over possible landing fields, especially at Vigan and Baguio. They reported the fields to be in good condition, and numberless sites for others all the way from Stotsenburg to Bangui, the northern part of Luzon.

They stated the roads of the northern provinces were the best they had ever driven over, being surfaced with a coral rock and kept in perfect condition. They found the natives of the Illicos Provinces well dressed and industrious, while those of the Mountain Provinces not dressed at all, with the exception of a "G" string and bolo, but all friendly notwithstanding.

They brought back quite an interesting collection of snap shots - the subjects varying from bamboo ferries, ox cart convoys to scenes along the famous Benget and Naguillan roads to Baguio. The actual results of their hunting trip have not been given wide publicity, although it is well known that deer, pig, and wild caribou abound in the regions they visited.

Kelly Field, San Antonio, Texas, April 16

The second week of setting up Spad 220's and of running the First Group through the 1921 pistol practice has gone merrily on. Even if flying had been scheduled it is doubtful whether the tricky rain would have allowed a ship to get off the wet airdrome. In speaking of the Spads, who said "Getting them into commission?" First a propeller is found damaged and then a leaky gas tank comes into consideration, the oil pump is dead, and the air line system is off somewhere, two or three vital parts are missing with the result that it takes two planes for everyone put into commission. And how they do heat in this low Texas atmosphere! But the boys will fly them.

Lieutenant John Benton, who had the fun in the Bristol Fighter at Reno, Nevada during the Transcontinental Flight, tried a new Steve Brodie turn by coming in low over the hangars, whereupon his SE5 crashed through a Spad on a dead-line, ending up as gracefully as you please ten feet beyond the point of impact. He did not mind being cut about the eye a little on account of his goggle, but the man who is shaking hands with himself is Mechanic Archie W. Snodgrass of the 95th Squadron who was sitting in the cockpit of the Spad on the dead-line. He is red-headed which is a lucky thing, for the SE5 sheared off both bands close to the fuselage and raked the length of the fuselage without coming any closer than one inch to the cockpit.

The regular tactical training assignments were carried out by the Second Group (Bombardment) for the week ending April 16.

Camera Obscura operated at 3000 feet upwind from 8:30 to 11:30 A.M. and 1:00 to 4:00 P.M. Major Weaver and Lt. Beery flew at 9:30 A.M. and 2:00 P.M., using plane with three streamers, right wing, left wing and tail.

The following cadets are graduated from the low Bombing Stage and are awaiting assignment to the advanced dummy Bombing stage: 96th Squadron, Danielson, Rutz, Lockhart, Lorenz; 49th Squadron; Breedlove, Bodsén, Davis, Gallup.

Kelly Field is getting down to real business in Baseball. Each group has organized a league of four teams composed as follows: 1st Group, the 17th, 27th, 94th and 95th Squadrons; 2nd Group, 11th, 20th, 49th, and 96th Squadrons; the Air Park Group with Air Park No. 2, Air Park No. 4 and Air Park No. 5; and Wing Headquarters. At the completion of the schedules for the respective groups, the three winning teams will play a Post series for the championship of the Field. The Group champions will each receive a pennant, and the field champion will be presented with a loving cup.

Army League opens April 20, 1921. Kelly Field plays Fort Sam Houston at Fort Sam Houston. Kelly Field team is fast rounded into shape and much new material has appeared and the team has been considerably strengthened.

The pictures at Service Club #3 were unusually good this week, the four shows were all special features and a good crowd was present every night.

The Hop Committee arranged a dance for the officers at the Aviation Club for April 15. The music was fine and all present seemed to enjoy themselves.

The usual enlisted men's dance was given Tuesday night at the Hostess House; a large crowd was present and all had a good time.

Captain William F. Donnelly, Air Service, has reported at this station from Carlstrom Field, Florida, and is assigned to the First Group (Pursuit) for duty and advanced training.

Lieutenant Frederick D. Lynch, Air Service, has reported at this station from Carlstrom Field, Florida and is attached to the Second Group (Bombardment) for temporary duty and advanced training.

Lieutenant William C. Morris, Air Service, has reported at this station from March Field, California and is assigned to the First Group (Pursuit) for advanced training, also Captain William E. Farthing has reported and is assigned to the First Group. Major Blackburn Hall, Air Service, has reported from March Field, California and is assigned to the Second Group (Bombardment).

Major Frederick L. Martin, Air Service, and Lieutenant Merrick C. Estabrook Air Service, have reported at this station and are assigned to the Second Group (Bombardment) for temporary duty and advanced flying training.

Upon completion of his flying training Major Walter R. Weaver, Air Service will proceed to Washington, D.C. and report to the Chief of Air Service for duty.

Lieutenants William J. MacKiernan, Jr., and Jack J. O'Connell, Air Service went by rail to Barron Field, Fort Worth, Texas and returned by airplane for the purpose of ferrying airplanes to Kelly Field, Texas.

Kelly Field - Cont'd

Lieutenants George E. Hodge, T. J. Koenig, and D.G. Lingle, Air Service went by rail to Love Field, Dallas, Texas, and returned by airplane for the purpose of ferrying airplanes to Kelly Field.

Lieutenant H. L. George, Air Service, made a cross-country flight to Laredo, Texas for training purposes on April 9, and returned April 10, Lieutenant F. P. Booker went as passenger.

Cadet Neil R. McCray will make a cross-country flight for practice purposes to Del Rio, Texas on April 16th and return April 17th.

Lieutenant Charles W. Getchell, Air Service, will make a cross-country flight for practice purposes to Sanderson, Texas on April 16th and will return on April 17th.

Cadets Clarence S. Irvine, Edwin L. Preston, Joe Glass, will make cross-country flights for practice purposes, to Marfa, Texas on April 16th and will return on April 17th.

Cadets James L. Johnston and Dolman W. Willis made a cross-country flight to Marfa, Texas for practice purposes on April 14 and will return on April 17.

Cadets Franklin Cole, George C. Pomeroy, and James A. Lee, will make cross-country flights to Laredo and McAllen, Texas for practice purposes and will return on April 17th.

Carlstrom Field, Arcadia, Florida, April 20.

Lieut. John D. Corkille and Lieut. W. E. Goodrich proceeded from this station April 14th to Ft. Dade and while there co-operated with the Coast Artillery in the firing of four problems, returning to this station April 17th. JN4 6HG equipped with two-way telephone apparatus was used, the plane landing and taking off from the new field in front of officers' headquarters at Ft. Dade. All the problems were successful and telephone apparatus was functioning perfectly throughout.

On the afternoon of April 19th the field was visited by the I.O.O.F., who were holding their state convention in Arcadia at that time, about four hundred visitors being present. The visitors inspected the hangars and shops and the different type ships and watched with much interest the flying of Hissos, DeHavilands and Nieuport 28s.

Major Maxwell Kirby inspected the Pilots' training course at this station the past week. From this station Major Kirby flew to Camp Benning, Georgia, with Major Adlai Gilkeson in an Ardmont.

Major H. B. Clagett, Air Service Officer of the 4th Corps Area, arrived at this station Sunday, accompanied by 1st Lieut. John Upsten, A.S., from Montgomery, Alabama, Air Intermediate Depot. They made the trip from Montgomery to Carlstrom in Major Clagett's DeHaviland 4-B "Ardmont Pride".

Col. P. W. Phisterer of the Inspector General Department of the Commanding General of the 4th Corps Area, Ft. McPherson, Ga., was at this station last week, investigating the shooting of Mr. Fred B. Pitts of Punta Gorda, Fla., by 1st Lieut. B. J. Tocher, Police Officer of this station, who was in Punta Gorda in search of two deserters from Headquarters Flight, this station.

Capt. Winchell Rasor, S.C., has reported to this station, having been detailed to Air Service for Pilot Training and duty, as per Par. 37, S.O.#38-0, W.D., dated February 15, 1921.

Major Earl L. Naiden, A.S., has reported this station from Ft. Leavenworth Service Schools for refresher course for airplane pilots. He graduated from West Point Military Academy in 1915 and was attached to the French Army overseas.

The Carlstrom Field Baseball Team is fast rounding into form and from present indications the squad will render a good accounting for themselves. In a practice game of five innings Sunday evening the post team defeated the Arcadia, Florida team 12 to 5. While the boys were a little unsteady in the field, they more than made up for it in their attack at the bat.

Godman Field, Camp Knox, Kentucky, April 23

Rumors that another field would be selected as a flying field were recently substantiated. The old flying field will be used by the Reserve Officers' Training Corps and infantry organizations as a rifle range it is unofficially said. It is not known to what extent the new site will be improved. There are several ditches running through it and these will be hard to overcome. The new field will be much smaller than the one at present and will have clear approach from one direction only. Only one hangar will be moved to the new location which is not far from the present field.

We have been notified that three officers will be the quota from this station to go to Langley Field. This will leave but two officers on the field to carry out the work during the training season of the regiments of Camp Knox, the R.O.T.C., and the National Guard.

The Heavier-than-air Detachment baseball team defeated the 31st Balloon Company Wednesday afternoon, the score being fifteen to three. The game was called at the end of the seventh inning on account of darkness.

The Enlisted Men's dance given Saturday night, April 16th, was a complete success.

24th Balloon Company, Fort Baker, California

19th March. Quiet week. 2 flights, 38 minutes. Purpose liaison with R.O.T.C. of San Francisco and taking pictures for them. Coast defences no firing until April. Undertaking some more work with the R.O.T.C. and training of selected enlisted men. N.C.O.'s. in tracking and observing Coast Artillery fire. Company busy constructing a garage to house transportation. Baseball and basket ball continue successfully.

March 27th. The Twenty-fourth Balloon Company reports no recent observation for the Coast Artillery Corps but the company has been working with the R.O.T.C. of San Francisco and has been continuing the training of selected enlisted men in tracking and observing artillery fire. In addition to this work flights have been made to take photographs for the R.O.T.C. The pictures obtained were used by the San Francisco newspapers. During these operations R.O.T.C. men were camped with the Twenty-fourth Company and several of the men were given flights. Recently Fort Baker was inspected by General Hunter Liggett and Col. Haynes and the troops reviewed. Demonstrations were given by both the 91st Aero Squadron and the Twenty-fourth Balloon Company. The reviewing officers did not take flights.

The Company has been busily engaged in the construction of a garage of late and its baseball and basket ball continue as successfully as do its regular flying activities.

Fort Omaha, Nebraska, March 30

This station reports a free balloon flight in 35,000 cu.ft. balloon. Capt. A. P. McFarland, A.S. pilot, and First Lieutenant R.E. Thompson, A.S., Second Lieutenants R.A. Gibson, A.S., G.G. Lundberg, A.S., A.C. McKinley, A.S., and A.H. Foster, A.S., as passengers. Attempted a landing at Tekamah, Nebraska, but found the wind speed too great. Same at Rosalie, Neb. when three hours out, and at Pender, Nebraska when four hours out, but still no chance to make a landing without ripping. When approaching the Missouri River bottom a down current of air drove the balloon into the tree tops where it hung for several minutes before extricating itself. Start 5:35 A.M. at noon crossed the river and drifted into South Dakota. At 12:45 P.M. landed at Gayville, South Dakota.

Brooks Field, San Antonio, Texas

In addition to a good deal of captive balloon flying Brooks Field reports a free balloon flight made in a 35,000 cu.ft. balloon by the following officers and enlisted men: Pilot Lieut. John S. Crawford, A.S.; Passengers; Staff Sgt. Jesse L. Hodgson, 4th Balloon Co.; Wm. A. Jackson, 4th Balloon Co.; Sgts. Harry E. Madison, 7th Balloon Co., John H. Rautio, 6th Balloon Co., John W. Lee, 11th Bal. Co.

This flight will qualify Staff Sergeant Jackson for pilot's license.

Mather Field, Sacramento, California, April 18.

Visitors to the Field this week included Major H. H. Arnold, Air Officer of the 9th Corps Area, and Governor Ben Olcott of Oregon. Governor Olcott, known as the Flying Governor, is a staunch friend of the Air Service and aviation in general and can be accredited with many hours in the air. He has called on Mather quite a number of times and is one of our most welcome visitors. He is traveling by plane.

Orders have arrived authorizing a detail consisting of Lieut. Grandison Gardiner, enlisted pilots Staff Sgts. Gilbert Eckerson and Cecil B. Guile and six enlisted mechanics, to proceed to Camp Lewis, Wash., for temporary duty in connection with artillery practice at that place. They expect to start on this cross country flight the early part of the coming week. Lieut. Gardner has been kept very busy this Winter reconstructing quarters and barracks in his capacity of Officer in Charge of Post Utilities.

Lieut. Geo. W. Pardy, scheduled for Philippine Island duty and temporarily commanding the 9th Squadron (Obs.), is spending the week end in San Francisco; Lieut. Paul Williams assumes command during his absence. Post Educational and Recreational Officer, Lt. Arthur G. Liggett, is in conference with the Area E. & R. Officer.

The boxing bouts staged weekly by the Post Athletic Officer are becoming quite popular. On Thursday night, April 14th, Pvt. Frank F. Nowaskoski from the 9th Squadron, defeated "Shorty" Richman, Crissy Field's star performer, knocking him out in the second round. This made successive "knockouts" for "Novey". On the following night he met Young Carpentier, the only man who has so far received a decision over him, in the arena in Sacramento, and was given the decision over Carpentier in a four round bout.

On Thursday night a moving picture entitled "Buzzing Around" produced by a local film company, with Phil Ray, Bugler of the A.S. Supply Detachment, this Field, in the leading role, was shown at the Service Club. Other members of the command were in the cast and as each person was recognized on the screen the applause was tremendous. While not quite in the Charlie Chaplin class the play was much more popular than the ordinary "movie" because of the personal interest in the players.

Technical Sergeant Frank Hemmerl, 9th Squadron, received his discharge on the 15th, re-enlisted in the same squadron next day. Sgt. Hemmerl has had charge of the Squadron Transportation Department and again assumed the duties of Sergeant in Charge of Transportation upon re-enlistment.

The first big Service Club dance of the year was very well attended on Wednesday night, April 13th. Young ladies from the Community Recreation Center of Sacramento, chaperoned by friends of the Post, were driven out in huge busses from town, arriving about 8 P.M. The flying field affords a wonderful profusion of poppies and blue bells, and hanging baskets filled with flowers gave the Club a festive air. The Field orchestra dispensed music that would tickle the toes of a sphinx and the evening was voted a great success. Mrs. Jocelyn Gardner, hostess, is planning to have these dances each week.

The Service Club is becoming very popular with the men. There are a number of new games and sheet music, and the reading room has been attractively renovated. Even rumors of a checkers tournament may be heard about the Club.

Pope Field, Camp Bragg, N.C., April 23rd.

During the past week the usual schedule of training was carried out as far as possible and several very successful reconnaissance missions were accomplished. Actual compass courses were flown during these missions and very excellent results obtained.

Thursday of this week two marine planes under the command of Major Turner landed here on their return flight from the West Indies. Directly after they landed three marine planes landed from Washington, D.C. for the purpose of escorting the West Indies flyers back to their home station. All planes were thoroughly inspected, serviced and carefully guarded during the night and placed in first class condition for an early start the following morning. At seven-thirty the next morning all Marine planes left this field in formation headed for Washington, D.C.

Pope Field - Cont'd

Lieutenant Hartman of this field returned from his extended flight through Florida, where he was detailed to supervise all arrangements for the Coney Trans-American Flight. After completing his duties at Pablo Beach, Fla., his temporary headquarters, he flew his plane to Montgomery Air Intermediate Depot, Montgomery, Ala. for repairs, under verbal orders of Major H. B. Claggett, Air Service Officer, 4th Corps Area. While at Montgomery, Lieutenant Hartman received replacement orders on his condemned plane and immediately flew the beautifully built Montgomery DH4-B plane to his home station. During his absence from this field Lieutenant Hartman's flights carried him to Jacksonville, Fla., Arcadia and Miami, Belleair, Tampa and Daytona, Fla., Orlando and Pablo Beach, Fla., also Brunswick, Ga., the home of Lieutenant Coney, and Douglas and Americus, Ga., Montgomery, Ala., Paris Island, S.C., and Columbia, S.C. All flights show a total time of eighty hours without a single mishap.

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The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE MAY 17, 1921.

CLOUD-FLYING INSTRUMENT BOARD

The following article describes the experience of Lt. John P. Van Zandt of the A. S. Engineering Division, Dayton, Ohio in a recent flight from Dayton to Washington in which the value of certain cloud-flying instruments was demonstrated:

One of the problems of the Navigation Branch of the Engineering Division is to make possible regular scheduled flights regardless of weather conditions. On the aerial highway between Washington and Dayton, Ohio unfavorable conditions are often met with over the Alleghenies. Recently, the weather has been so consistently unfavorable that two of the Martin Bombers from Dayton on their way to Langley Field have been held at Moundsville, W. Va. for several days waiting for good flying weather.

A DH-4B from the Navigation Branch, however, was able to complete the flight from Dayton to Washington recently on schedule time regardless of fog and storm, primarily because it was equipped with an experimental cloud-flying instrument board. The instrument board in question does not comprise any new or novel idea but is simply a very compact arrangement of turn indicator, lateral and fore and aft inclinometers and compass mounted directly before the pilot on a special board in the position where the compass is usually mounted. The turn indicator is wind-driven by means of a Venturi tube fastened to one of the center section struts. The particular board in question was primarily designed to enable the plane to be flown straight and level during sextant observations.

On the particular flight when this instrument board proved invaluable the plane left Moundsville in company with the two Martin bombers about 2:30 P.M. and headed southeast in the direction of Washington. After flying about 15 minutes at a ceiling of approximately 1000 feet, the formation ran into wisps of fog and, although the planes were flying fairly close together, they disappeared from each other's sight completely for the moment. The sky ahead was very forbidding and it was obvious that it would be necessary to go up through the storm in order to get across the Alleghenies or else turn back.

At this point the D.H. parted company from the Martin bombers and entered the fog, losing complete sight of the ground and every fixed landmark. The air was very rough and in a few minutes, the plane had swung completely off the course and was found to be pointed almost west when righted again. It was obvious that complete reliance would have to be placed on the cloud-flying instrument board if the plane was to be kept on an even keel or if any pretense was to be made toward following a given course. After some disagreeable minutes getting on to the knack of flying with one's head in the cockpit, the plane was set on its course and headed 20° southeast and at a steady drive with nothing to be seen but the great white fog which completely enveloped the plane. Before climbing very long, the drift wires became loaded with sleet and snow, the air speed meter froze up and indicated 35 miles an hour and the plane became so heavy that it was impossible to climb above 10,000 feet. The plane was actually sinking through the air and still there was no indication that the top of the fog had been reached.

It was decided to motor down slowly for by this time the Alleghenies must have been crossed. After an hour and a half in the fog, the machine at last emerged, fortunately right on the course and a few miles west of the Blue Ridge Mountains which were crossed at an altitude of 500 feet and, picking up the Potomac, followed it into Washington, landing shortly after 5 P.M.

This was the only plane which successfully completed the flight of the four which started out that afternoon. It is safe to say that the trip would have been impossible without the use of a cloud-flying instrument board or at least the instruments which go to make up such a board. There is no question that it is

Handwritten signatures and initials: mec, etc.

impossible to maintain equilibrium long in a dense, bumpy fog without the use of instruments, whereas an attempt to follow a given course is entirely out of the question under such circumstances. It is, however, equally clear that with the proper installation of a turn indicator, bubble inclinometers and adjusted compass, any desired course can be maintained for indefinite length of time in any kind of weather.

The standardization of a compact group of cloud-flying instruments should prove invaluable under general service conditions. It is undoubtedly true that many of the accidents and fatalities which have occurred in aviation have been due to this very same difficulty of flying in an even keel in thick fog. It is not at all unlikely that the recent accident at Langley Field was due to this very thing. Unfortunately, most of the accidents which occur from pilots becoming confused in a fog result in fatalities so that the victims of the situation are not able to testify to the need they had for cloud-flying instruments. It is hoped before long that the Engineering Division will be able to specify a standard group of cloud-flying instruments, and that all pilots who ever have occasion to fly in thick weather will have available means to prevent such cloud-flying accidents as have occurred in the past.

AIRPLANE USED IN PANAMA
IN SANITATION OF MOSQUITO BREEDING AREAS.

Major M. F. Harmon, Jr., recently stationed at France Field, calls attention to the fact that the airplane has added to its record of adaptability by being utilized in Panama for getting rid of breeding places of the anopheles mosquito.

In a recent news item it was announced that a British colony had developed a new use for aviation, i. e., "The airplane as an aid in the sanitation of mosquito breeding areas".

Attention is invited to the fact that for over a year the 7th Aero Squadron at France Field, Panama Canal Zone, has been doing work of this nature. At the specific request of Colonel Henry Greenlief, Department Surgeon, visual and photographic reconnaissance were made of the swamp areas contiguous to the Atlantic entrance to the Canal. Photographs of areas showing main and lateral drainage ditches and points where new laterals were required proved of assistance in the sanitation of anopheles ridden districts.

"THE CRAB-POT"

Vol. 1, No. 4 of "The Crab-Pot", designating itself as "a journal that is lighter than air, inflated at Brooks Field, Texas, every Friday," is the first number of this service periodical to reach the desk of the News Letter.

The "Crab-Pot" announces that it will be on the tables of all the Service Clubs in the Eighth Corps Area; it will be in all the Fields of the Air Service; it will be a weekly letter to the homes of all the men at Brooks Field. "Keep the Crab-Pot alive," an editorial note says, "and it will keep Brooks Field in the minds of Air Service officials, in the eyes of the Army and in the hearts of the home folks."

Success to the "Crab-Pot"!

LIEUTS. VIRGIN AND HARTMAN KILLED
WHEN PLANE DASHES AGAINST TREE.

In descending from an altitude of 500 feet at Pope Field, Camp Bragg, N.C., on April 29, the plane in which Lieuts. Joseph E. Virgin and Harrison J. Hartman of the Eighth Aero Squadron were flying, struck a high pine tree and dashed to earth, killing both officers.

Lieut. Virgin is survived by his mother, Mrs. Jane P. Virgin of 230 West Grey St., Norman, Oklahoma, and Lieut. Hartman leaves a father, John S. Hartman, 204 Douglas St., Reading, Pa.

The service records of both officers follow:

Joseph Edwin Virgin, 24 years of age, unmarried: two years Oklahoma State University: enlisted A.S.S.C. Nov. 15, 1917: flying cadet Jan. 2 to Aug. 3, 1918: S.M.A. at Austin, Texas, Jan. 12 to March, 1918: commissioned 2nd Lt. at Barron Field, Everman, Texas, Aug. 3, 1918: stationed at Barron Field, Kelly Field, Camp Dick, Garden City: Border Patrol at Laredo, Texas, with 8th Squadron: 2nd Lt. Regular Army on Sept. 4, 1920 as of July 1, 1920: promoted from 2nd to 1st Lt. March 26, 1920: duty with Flight "B" 8th Aero Squadron Pope Field, Camp Bragg, Fayetteville, N.C.

Lt. Harrison J. Hartman, aged 32, unmarried: graduate University of Penna., 1912: architect: enlisted Dec. 6, 1917 in A.S.S.C. as private 1st class: attended school of Military Aeronautics at Austin, Texas Jan. 26, 1918: graduated March 23, 1918: sent to Camp Dick for military training: on May 1, 1918 sent to Park Field for flying training: commissioned as 2nd Lt. A.S., July 24, 1918: stationed at Ellington, Love and Eberts Fields: Border duty with 8th Aero Squadron: permanent appointment to regular army Sept. 13, 1920, to date from July 1, 1920: stationed at Pope Field, Camp Bragg, Fayetteville, N.C.

"AND I LEARNED ABOUT FLYING FROM THAT".
THE FIRST FLIGHT

The following story of his first flight is told in a volume of his experiences in the air written by one of the most famous battle fliers of the World War. It is reproduced here because, by reason of the absolute frankness with which it describes that almost indescribable thing, a first experience in the air, it contains a valuable lesson:

"The next morning at seven o'clock I was to fly for the first time as an observer!-I was naturally very excited, for I had no idea what it would be like. Everyone whom I had asked about his feelings told me a different tale. The night before, I went to bed earlier than usual in order to be thoroughly refreshed the next morning. We drove over to the flying ground, and I got into a flying machine for the first time. The draught from the propeller was a beastly nuisance. I found it quite impossible to make myself understood by the pilot. Everything was carried away by the wind. If I took up a piece of paper it disappeared. My safety helmet slid off. My muffler dropped off. My jacket was not sufficiently buttoned. In short, I felt very uncomfortable. Before I knew what was happening, the pilot went ahead at full speed and the machine started rolling. We went faster and faster. I clutched the sides of the car. Suddenly, the shaking was over, the machine was in the air and the earth dropped away from under me.

I had been told the name of the place to which we were to fly. I was to direct my pilot. At first we flew right ahead, then my pilot turned to the left but I had lost all sense of direction above our own aerodrome. I had not the slightest notion where I was! I began very cautiously to look over the side at the country. The men looked ridiculously small. The houses seemed to come out of a child's toy box. Everything seemed pretty. C..... was in the background. The cathedral looked like a little toy. It was a glorious feeling to be so high above the earth, to be master of the air. I didn't care a bit where I was and I felt extremely sad when my pilot thought it was time to go down again.

I should have liked best to start immediately on another flight. I have never had any trouble in the air such as vertigo, but in a flying machine one possesses a feeling of complete security. One sits in an aeroplane as in an easy chair. Vertigo is impossible. No man exists who has been turned giddy by flying. At the same time flying affects one's nerves. When one races full speed through the air and particularly when one goes down again, when the aeroplane suddenly dips, when the engine stops running, and when the tremendous noise is followed by an equally tremendous silence, then I would frantically clutch the sides and think that I was sure to fall to the ground. However, everything happened in such a matter-of-fact and natural way, and the landing, when we again touched terra firma, was so simple, that I could not have such a feeling as fear. I was full of enthusiasm and should have liked to remain in an aeroplane all day long. I counted the hours to the time when we should start out again."

COMPARATIVE VALUE OF FILTERING MEDIUMS FOR GASOLINE

The relative amount of static electricity generated by friction between gasoline and filter in the case of various materials was measured by the Engineering Department of the Air Service, by taking a charge generated in the same way from each of the materials. The relative strength of each charge was measured and tabulated. Chamois skin generated a very large charge, while cotton goods generated a very small charge. Woolen felt did not generate a very large charge in comparison to chamois skin.

Any small capillary filtering medium is impervious to water when wet with gasoline. The two liquids are practically insoluble to each other, and the coefficient of adhesion between their surfaces is very small. However, the liquids are very adhesive to leather, wool, or cotton. Consequently, the capillaries of the filter must be small enough so that the weight of small amounts of water will not overcome the resistance offered by adhesion of the gasoline to filter plus the sum of the resistance offered by surface tension of both liquids.

It is directed that cotton moleskin be used for filtering gasoline instead of chamois. In case moleskin is not available, cotton twill will be substituted.

LANDING FIELD AT STAUNTON, VIRGINIA

Staunton, Virginia has put itself on the aerial map by establishing a municipal landing field in accordance with U.S. Army Air Service specifications. Mr. E. W. Opie of the aviation landing field committee of the Chamber of Commerce has sent, in the Questionnaire which gives the following statistics:

Name of field, Lyle; shape and dimensions in feet, 650 x 400; direction of long axis, North-South; Markers, according to A.S. specifications: Contour of field, hilly on west side, slight rise to north, with level runway in center: landing possible in wet weather: slight rise and rocks at north end, low fence around entire field, telephone wires at south end, ditch on east side, but all at such distance from runway as to be negligible, according to pilots who have used field. Small airdrome would be possible: high grade of supplies available at Beverly Garage, 3-4 mile from field in business section: field located on northern outskirts of town, about one mile north-west of intersection of Chesapeake and Ohio, and Valley Branch of Baltimore and Ohio Railroads: altitude above sea-level, 1,600 feet: Staunton and Augusta Chamber of Commerce operating field: Charles B. Ralston, Secretary, official interested: field open to all pilots: Lynchburg, Air Service Corporation, Lynchburg, Va., now using this field.

BOMBING EVENTS AT ABERDEEN PROVING GROUND

A New Record. In a recent News Letter attention was invited to a record of 25,855 pounds of bombs dropped at Aberdeen Proving Ground by four airplanes on three days, April 4th, 5th and 6th. During the past week a new record was made. "B" Flight with four airplanes and an operating personnel of six officers on April 19th, 20th and 21st dropped 231 live bombs for a total weight of 46,550 pounds. The record day was April 19th when 18,400 pounds of bombs were dropped in spite of the fact that due to delays in loading and fusing the bombs the first ship left the ground at 10:08 A.M.

Fuse Development. Very apparent progress is being made in the development of the .05 delay fuse which is planned will be used in the battleship bombing of Project "B". A large number of bombs are being dropped in the deep water channel of Chesapeake Bay as a test of these fuses.

Confidence of Fishermen in Accuracy of Bombing. In the channel above a white cross has been anchored as a target. After each load of bombs has been dropped a group of fishing boats hasten toward the cross to pick up what fish have been killed. As the next airplane approaches the fishermen withdraw from the cross and the short distance that they withdraw is an index of their confidence in the accuracy of the bombing. A speed boat is kept on the go constantly to prevail upon the fishermen to retire farther in order to preclude any possibility of accident.

New Pursuit Type of Airplane. The Martin Bomber may not be classified as a pursuit type of airplane, but it seems to be able to pursue until the pursuit plane comes. Pilots at this station have recently looped and spun the big bomber. They, however, still draw the line at barrel rolling the Handley Page.

Bombing on Concrete Surface. Work has been started on dropping sand loaded bombs on a concrete surface 200 feet square as a test of the bomb cases. This particular type of work has previously been done entirely by balloons, but the accuracy of the bombing teams has progressed so well that that work is now being expedited by airplanes.

Bomb Fragments Travel 1200 yards. As a matter of mere academic information it may be stated that fragments of a 600 pound bomb dropped from 2000 feet and functioning instantaneously have been observed to travel some 1200 yards. Eight of such bombs were dropped at a ten foot cross in the water on a routine function test and the maximum error from the center of the cross was less than one hundred feet.

REPORT OF CHANGES OF STATIONS OF OFFICERS
FOR WEEK ENDING MAY 3

April 27, 1921 - First Lieutenant Max F. Moyer, Air Service, ordered from Langley Field, Hampton, Virginia, to Aberdeen, Maryland, for duty with Air Service Troops.

April 27, 1921 - First Lieutenant Hugh C. Minter, Air Service ordered from Chanute Field, Rantoul, Illinois, to Mather Field, Sacramento, California, for duty.

April 28, 1921 - First Lieutenant John K. Cannon, Inf., detailed to Air Service, relieved from duty at Columbus, New Mexico, and ordered to Carlstrom Field, Arcadia, Fla., for pilot training.

April 28, 1921 - First Lieutenant Joseph W. Benson, Air Service, ordered from Ross Field, Arcadia, California, to Camp Knox, Kentucky, for duty with 31st Balloon Company.

April 28, 1921 - First Lieutenant Dache M. Reeves, Air Service ordered from Ross Field, Arcadia, California, to Army Balloon School, Lee Hall, Virginia, for duty.

April 28, 1921 - Captain William E. Kepner, Air Service, ordered from Ross Field, to Camp Benning, Georgia, for duty with the 32nd Balloon Company.

April 28, 1921 - Major Arthur R. Christie, Air Service, relieved from duty as Commanding Officer, Mitchel Field, Long Island, New York, and directed to report to Director of Military Intelligence, General Staff, Washington, D.C., on temporary duty: thence to Tokyo, Japan, reporting to Military Attache, American Embassy, for duty.

April 28, 1921 - First Lieutenant John P. Temple relieved from further duty at Godman Field, Kentucky and ordered to Ross Field, Arcadia, California, for lighter-than-air training.

April 29, 1921 - First Lieutenant James H. Howe relieved from duty with Air Service at Carlstrom Field and returned to duty with the Infantry.

April 29, 1921 - Captain Chilion F. Wheeler, Air Service, relieved from further duty in Supply Group Office, Chief of Air Service and ordered to McCook Field, Dayton, Ohio, for duty.

April 29, 1921 - Following Air Service officers ordered from March Field, Riverside, California, to Mather Field, Sacramento, California, for duty: 1st Lts. Alfred E. Waller, George A. McHenry, Faye S. Gullet, Robert S. Worthington, Eugene B. Bayley, Benjamin S. Catlin.

April 29, 1921 - Major Thomas J. Hanley, Jr., Air Service, who has been on duty as student at the Field Officers' School, Langley Field, Hampton, Va. has been assigned to duty as instructor at that school.

April 29, 1921 - Captain Truman W. Allen, Air Service, relieved from duty in Supply Group, Office Chief of Air Service, and ordered to Mitchel Field, Long Island, New York, for duty.

April 29, 1921 - First Lieutenant Junius A. Smith, Air Service, ordered from Lee Hall, Virginia, to Langley Field, Hampton, Va. for course of instruction at the Airship School.

AERONAUTICAL NEWS FROM OTHER COUNTRIES

Canada

MERGER OF TWO COMMERCIAL COMPANIES: PUBLIC CUSTOMS AIR HARBOR PROVES CONVENIENCE

The following account of the establishment of Public Customs Air Harbors and the merger of two commercial aerial companies is taken from the "Aeroplane and Auto Age" of March:

The beginning of the flying season in Montreal is undoubtedly an event of great importance in the history of the city, in so far as commercial aviation is concerned. Being one of the first cities in the country to inaugurate a Public Customs Air Harbor, it has already proved its enthusiastic and practical interest in aeronautical endeavor.

This Harbor was operated very successfully by the R. & W. Air Service, last season, but in order to obtain greater efficiency and reliability, this company's interests have been amalgamated with those of the Canadian Aerial Services, Limited. The merger of these two companies, marks an important step in commercial aeronautics, and assures that flying operations in the province of Quebec will be on a much larger scale than previously. The name of Canadian Aerial Services, Limited, will be used, and the pilots of the two companies amongst whom are A. Raymond, H. D. Wilshire, R. B. Danville, J. H. St. Martin, and L. R. Charron, are the pioneer commercial flyers in Eastern Canada. Seven machines will be kept constantly in perfect flying condition, under the expert direction of E. W. Warner, in charge of engine repairs, and A. B. Smith in charge of rigging. A. E. Walford, who as Secretary-Treasurer of the Canadian Aerial Service during the past year, made an extensive study of Aircraft Accountancy and costing, is to be Secretary-Treasurer of the merger.

A number of tenders for reasonably large contracts have already been submitted, and are under favorable consideration by the parties interested. Aerial photography will be carried on extensively, and as soon as additional equipment has arrived from England, production of photographs will commence. A marked improvement is expected over last year's results, which were largely experimental.

Flying instruction will be in the competent hands of H. D. Wilshire, and J. H. St. Martin, the former having passed many cadets in the Royal Air Force for their wings, and the latter in addition to a great deal of instructional duties, acted as a test pilot in England. Pleasure flying, for those desirous of obtaining the wonderful view of Montreal from an aeroplane, will be carried out from the main aerodrome at Lazard, and from the aerodrome on St. Lawrence Boulevard, close to Aluntsic.

Montreal, therefore, one of the first cities to operate a Public Customs Air Harbor, and with the combined experience of its two pioneer aviation concerns is in a unique position to become the most important center on the Continent. Its geographical position, as the gateway to Canada, affords it many opportunities to make as rapid strides in aerial transportation as it has in shipping and marine matters, and for these reasons its progress is being watched by the largest and most progressive aeronautical enterprises in the world.

AIR BOARD STATISTICS

The Director of Flying Operations for the Air Board shows the completion of a successful and encouraging season's operations. Flying began the latter half of August, and the "Aeroplane" gives the tabulated summary of the extent of flying carried out during the year, and the number of accidents and fatalities that have occurred:

Number of flights made	398
" " hours flown.....	48,010
approximate mileage.....	33,612
Number of accidents - slight crashes only-	3
" " persons killed.....	0
" " " injured (slightly).....	1

The summary of civil aviation follows:

Number of Firms engaged chiefly in manufacturing Aircraft --Nil	
Number of Firms engaged chiefly in Jobbing Aircraft-----	2
Number of Firms engaged chiefly in Operating Aircraft-----	30
Number of Firms employing aircraft as auxiliary service----	3
Number of machine-flights made-----	18671
Number of machine-hours flown-----	6506
Approximate machine-mileage-----	422462
Average duration of each Flight in Minutes-----	21
Number of Passengers Carried-----	15265
Approximate Passenger-hours Flown -----	5164
Total Freight carried in lbs.-----	6740

GRANTS FOR RESEARCH WORK

The following grants, amounting to \$4,500 have been made by the Air Board up to the end of the year 1920, for aeronautical research work, which is being conducted under the Associate Air Research Committee of the Honorary Advisory Council for Scientific and Industrial Research:-

1. To Mr. Stanley Smith of Edmonton, Alberta, \$500, for work in connection with his experiments on the improvement of barograph diaphragms.
2. To Professor Angus, University of Toronto, \$3,000, for the investigation of carburetor operating at low temperatures.
3. To Professor Robb, University of Alberta, \$1,000, for the investigation of the operation of water-cooled engines in low temperatures. In addition one Aero engine complete with propeller and other accessory gear, has been issued to Professor Robb free of charge.
4. To Prof. McKergow, McGill University, \$200 for work to be carried out on anti-freeze mixtures.

Venezuela

OIL PROSPECTING WITH FLYING BOATS

According to "Aeroplane" of April 6, the announcement appeared in certain of the London journals of March 19 to the effect that a British oil concern was sending two flying boats to survey the delta of the Orinoco River in Venezuela.

The actual work of carrying out the survey is being undertaken by the Bermuda and West Atlantic Aviation Co., Ltd., on behalf of the Oil Company and two special Submarine flying boats have been fitted out for the purpose. It appears that oil-bearing lands in this part of the earth are distinguished by the partial destruction of the vegetation, and it is believed that an aerial photographic survey of the region will afford a rapid method of both locating oil-fields and of discovering the most suitable forest paths and waterways for an approach to the fields. The only alternative methods of exploration involve great dangers and the expenditure of much time. The district to be explored has never been covered by white men, and it is to be hoped that the survey will be completed in a month or two.

The flying-boats to be employed are standard Mark 2 "Channel" type Supermarines, fitted with Siddeley "Puma" engines, and equipped with special camera gear. The forepart of the hull has been modified for this purpose. An opening is cut in the boat bottom to allow the camera lens a view, and this hole is fitted with a water-tight manhole cover secured by a kind of breech block action. The camera itself is arranged to be lowered into position or raised, and the man-hole closed by very simple movements and in a very short time. Special racks for the photographic plates, insulated against vibration, are fitted.

The photographer's compartment is divided off from the after part of the hull by a water-tight bulkhead, so that even if the closing gear for the camera port fails the hull remains seaworthy. The two machines have now passed acceptance tests, and are on their way to the scene of the operations.

Italy

CONTEST AT VENICE IN JULY FOR JACQUES SCHNEIDER CUP

The contest for the Jacques Schneider Cup for seaplanes is to be held in Venice at the end of July.

Great Britain

SPORT IN THE AIR

The prospects of British Flying, almost desperate a few weeks ago, are now brighter. The Air Ministry has taken the requisite steps to restore the London Farisservice, says the "Times" of London, and now the Royal Aero Club, a voluntary body, have overcome financial difficulties and have arranged a programme of sport in the air for this season. An "Aerial Derby" is to be flown around London on July 16. This great contest will attract large numbers to Hendon, the beginning and the end of the circuit. But millions will have a free view of at least some part of the flight. Cowes is to add to its attractions a race for seaplanes, flying boats and amphibians. The University Boat Race is to have a rival in the air, and teams of four aeroplanes representing Oxford and Cambridge are to compete in each of three events. We are a sporting people, and there can be no surer way than these competitions to stimulate public interest in flying. But their utility is more than advertisement and propaganda. The flying prizes given since 1907, notably by the proprietors of the Daily Mail, has done as much for the improvement of engines and aeroplanes as similar competitions did for the motor-car in its earlier stages. The aircraft have to be designed and tuned, for fixed conditions, the performance improving and the competition being keener each successive year.

The verdict of impartial judges guarantees the value of the test, and public interest gilds the laurel wreath of victory. The criticism that cup races lead to freak designs is not substantial. In the first place there is much to be learned from the performance of a model designed with disregard for all factors not deemed essential. Moreover, merely erratic efforts are soon weeded out by their own failure, or frustrated by a change in the conditions which they may have evaded too cleverly. But in actual fact, the cost of constructing aeroplanes and their engines is too great to encourage extravagant experiment. There is a heavy loss on the production of a model for which orders cannot be subsequently obtained. Manufacturers cannot now be content with the glory of winning competitions, and in drawing their designs we may be assured that they will have in mind not merely the race for which they propose to enter, but the probability of future adaptation to commercial or military use. We can take our pleasure in sport in the air and yet be confident that we are assisting in the real progress of aviation.

MASTER OF THE AIR

The Air Ministry gave notice at the end of March that the compulsory technical examination of applicants for pilots licenses will not come into operation until after the convention relating to international air navigation has been ratified.

According to the Birmingham Gazette of April 29, the "Aerial Master Navigator", as a licensed M.A. flier is to be officially designated, will need to be a veritable Admirable Crichton. It is planned that he shall have done not less than a hundred hours flying, be able to accomplish a five hours' test flight over land and sea, possess a sound, practical knowledge of astronomy, meteorology, tides, electricity, international air law, and mathematics, and shall show marked ability in the reading of compass and maps and the use of the sextant. The position will be the aerial equivalent of the captaincy of an ocean-going liner.

Iceland

AIR TRANSPORT IN ICELAND

Press reports now indicate that there is growing aerial activity in Iceland. A fleet of British machines was purchased last summer by an Icelandic air transport company, and rendered good service during the winter to improve inland communications which are unsatisfactory by land methods by reason of climatic and topographical conditions. The airplanes have also been employed in locating schools of fishes for the fishing fleet.

The Icelandic air transport company is now reported to be enlarging its fleet, and is said to have purchased several Curtiss flying-boats. It is proposed, this summer, to open a regular air service from Reykjavik to Copenhagen, Denmark by way of Leeds, England, a total distance of 1600 miles. The hop from Reykjavik to Leeds, in Yorkshire, is 960 miles, thence to Copenhagen, 640.

Holland.

FIRE-PROOF AIRSHIP TO CARRY 300 PASSENGERS

An airship fitted with the "three-chamber" system, using hydrogen, nitrogen and air, which will, it is claimed, eliminate the danger of explosion, has been invented by Mr. A. Boerner, a Dutch airman. The airship, it is stated, needs no ballast, and is not subject to loss of gas.

The design of the airship, as described by the aeronautical correspondent of the London "Times", is most interesting. The balloon proper consists of a large number of individual gas cells attached to a bridge chassis made of duralumin. All the machinery is carried in the latter. There is a passenger deck with space for state-rooms, dining-rooms and so forth, for passengers and crew.

The airship is to be fitted with what is called the "three-chamber" system using hydrogen, nitrogen, and air. This is the device that provides protection against explosion, ignition and lightning.

It is to be fitted with a new propeller system which should make it possible to use all the dynamic forces of the vessel for forward, upward, backward, and downward drive. Not the least important result it is hoped to obtain from this equipment is that of reliable landing without assistance from the ground.

The hydrogen in the envelope is separated on all sides from the atmosphere air by a wall of nitrogen, these are the means used to eliminate the danger of fire. Should the outer envelope catch fire, the flame, it is claimed, will be extinguished by the nitrogen escaping as soon as a small hole is burned in the envelope.

The Boerner airship is about 950 ft. long, and is to be propelled by 32 gasoline engines, to each of which an air screw is attached. The total horsepower developed will be 6,400. On half its power the airship is to fly at a speed of 72 miles an hour. The suggested number of passengers that the airship will be able to carry is 300.

Germany.

GERMANY PRODUCING HUGE AEROPLANES.

Germany is rapidly producing many excellent commercial aeroplanes, says the London Standard. A short while ago a big monoplane fitted with four engines

installed in the plane of the machine was built at the Zeppelin works. This monster has a speed of about 150 m.p.h., and carries 18 passengers in an enclosed cabin. Its motors total 1040 h.p.

Now an even larger machine is being built at the Siemens-Schuckert works. It is fitted with four engines totaling 2400 h.p., and has accommodation for 24 passengers. One of the biggest passenger carriers is the Handley Page W.8, which has about half the accommodation of the German machine, though even the latter cannot compare with the wonderful Caproni flying-boat, which had accommodation for 100 passengers.

NEW GERMAN SPORTING PLANE ✓

A new racing aeroplane was tested at the Johannisthal flying ground. It is designed as a sporting machine for amateurs, and its dimensions have been calculated so that it can be housed in a motor-garage of moderate size.

The machine is 22 ft. across the wings, and the body is 16 ft. long. The weight of the whole, without petrol or pilots is about 310 lbs. The motor consists of two horizontal air-cooled cylinders developing 28 h.p. The propeller has a diameter of 7 ft. 2 in. and a pitch of 1 in 5. With a consumption rate of six gallons per hour, an average of between 60 and 65 miles per hour was obtained. The machine climbed easily and made a smooth landing.

SQUADRON NEWS

France Field, Cristobal, C.Z., April 9

The remodeled DeH4 plane in which Lieut. Charles E. Austin made his attempt at a mail-carrying flight to the States last fall was put to good use on Sunday last when a telegram from David, Republic of Panama, brought the information that Colonel Mejia, hero of the late trouble between Panama and Costa-Rico, was in a critical stage of tetanus and that only the prompt administration of serum would save his life. In record time a flight was made to Fort Clayton and return by 1st Lieut. H. S. Chandler, pilot, and Capt. A. C. George, observer, and the serum transferred to Lieut. Austin, who made the 265-mile trip to David in two hours and eight minutes, arriving in time for the successful administration of the serum and the saving of Colonel Mejia's life.

The latter part of the week a luncheon was given at the Union Club at Panama City by Doctor Morales, Secretary of Government and Justice, and Doctor Garay, Secretary of Foreign Relations of the Republic of Panama, in honor of Lieut. Austin. As a mark of appreciation of his services a gold wrist watch was presented Lieut. Austin. Hon. William J. Price, American Minister to Panama, Major Raycroft Walsh of France Field, and Major R. D. Prescott, S.O.R.C., Inspector General of Telegraphs for Panama, were among the officials who were guests at the luncheon.

Reconnaissance flights were made to Porvenir on Tuesday by 1st Lieut. H. S. Chandler and 1st Lieut. Odas Moon, pilots, and Majors R. D. Prescott, S.O.R.C., and Raycroft Walsh, A.S., the flights being made to select a route for a telegraph line from Maira Chiquitta to Porto Bello and an attempt - which proved in vain - to locate a large sail boat reported as anchored near the Gulf of San Blas.

Continuing the string of victories with which the France Field ball team is finishing the league schedule, Fort Sherman was easily taken into camp Wednesday and a seven inning game and a 7 to 0 score convinced the coast defense players that France Field can come back strong.

Although finishing the season in the middle of the league France Field was well content in giving the Sub-base team, until this week at the tip-top of the league, a decisive defeat in Saturday's game when the submarine men were downed 5 to 1. The rivalry between the organizations came to the fore and officers and men were keenly delighted when France Field outhit, outfielded, and outplayed the Sub-base team, pulling the navy team from their perch as the pennant winners to a tie with the Naval Air Station.

Spring cleaning struck the post the past week and all barracks went through a most thorough overhauling. Flying was suspended from Thursday through the remainder of the week and fatigue details policed barracks and the post.

1st Lieuts. H. S. Chandler and R. C. W. Blessley; pilots, with Major Walsh and Corporal Childers made cross country flights to Fort Clayton on official business Wednesday.

March Field, Riverside, California, April 23.

Sixty-three planes made a total of 338 flights from this field during the past week. Total flying time - 110 hrs. 35 min. Preliminary instruction of student pilots required 69 hrs. 65 min.; advance instruction, 16 hrs. 15 min.; test flights 8 hrs. 35 min.; miscellaneous flights 15 hrs. 15 min.; approximate mileage, 7,185.

Class-room instruction in radio, meteorology, military subjects and machine guns for the new cadet class is already under way. Nine additional enlisted men from Rockwell Field, San Diego, will be added to the class the first of next week. Major George N. Peabody is officer in charge of training. Capt. F. I. Eglin is the new officer in charge of flying vice Captain Ernest Clark, who left for Chanute Field, Rantoul, Ill.

March Field - Cont'd.

By letter from the Adjutant General of the Army, Major B. K. Yount, commanding officer of this school, has authority to plan for a big anniversary celebration at March Field in the near future. The affair will be under the direction of Lieut. F. B. Weiners and be in the nature of a big carnival participated in by the entire personnel of the field yet entirely for the purpose of acquiring funds for education and recreational purposes at the Service Men's Club. Exact dates and the program of events will be made public within the next week or ten days.

Capt. Arthur H. Bessee has been relieved of duty with the Air Service and following a ten day leave will report for duty with the First Cavalry at Douglas, Arizona.

March Field's baseball team continues to win ball games. Two have been added to the list of victories in the past week. Colton Colts were defeated 8 to 0 and the Riverside Junior College nine was again defeated 5 to 0. The aviation team will play at Santa Monica Sunday afternoon and on Wednesday will meet the Fort Mac Arthur team at the southern army camp.

Enlisted men of the command under the direction of the recreational officer and the Enlisted Men's Service Club Board of Directors will give a May Day Masquerade dance at the Service Club next Friday evening. Over a hundred young ladies from Riverside and community have been invited by the camp hostess. Among the many unique costumes to be worn will be that of Miss Maude Myers who will be "The Fly Leaf Girl". Her costume has been made entirely of recent issues of the Camp newspaper.

First Lieut. Chas. A. Horn has been relieved of duty with the Flying Department and the Pilots School Detachment and is now commandant of the Signal Corps Detachment, vice Lieut. John A. Laird, who has been ordered to Kelly Field, Texas for bombardment training.

First Lieutenants James Flannery and Henry E. Wooldridge have been ordered to Chamute Field, Rantoul, Ills., for duty at the Air Service Mechanics School.

Capt. Frederick R. Lafferty and First Lieutenants Roland A. Hicks, Thomas Gilbert, John E. Lynch, Park Holland and Aubray Hornsby have been ordered to Kelly Field, Texas for bombardment training.

Lieut. Col. Theo. A. Baldwin, commanding officer of Ross Field, Arcadia Balloon School, and Mrs. Baldwin, were guests for a short time of Major Yount on Wednesday of this week.

Airdrome, Nogales, Arizona, April 23.

The ball team of this flight lost its first game this year to the Regimental team of the 25th Infantry, in a score of 5 -- 0, with Jasper pitching and Johnson catching, for the Regimental team, this being the first game lost out of nine played. Another game will be played with the Regimental team in the near future.

Ross Field, Arcadia, California, April 23.

While on duty in the Bombing and Flashing Department on Wednesday, April 20th, Nathan H. Sobul, Private, Balloon Company No. 25, was severely burned on face, neck, arms and ankles. Private Sobul was standing about four feet away from the box containing the supply of smoke bombs when a piece of burning paper landed in the box. Private Sobul was unable to move away from the box before the explosion occurred. While Private Sobul is severely burned it is not thought that his burns are dangerous.

First Lieutenant Joseph P. Bailey, Q.M.C., has received orders to proceed to Fort Casey for duty. Lieutenant Bailey was on duty as Motor Transport Officer at this Field.

Promotions were received by officers of Ross Field this week from Washington, D.C., as follows: Second Lieutenant Horace W. Mooney, A.S., to Captain; First Lieutenant George D. Watts to Captain; and Second Lieutenant Dache M. Reeves to First Lieutenant.

Ross Field - (Cont'd)

First Lieutenant Clarence H. Welch, A.S., has returned from San Pedro, where he had been taking notes on the observation work in connection with artillery practice of the Battleship Arkansas.

Lieutenants Physioc, Neely and Schofield have reported during the past week for the new class for Balloon Observers which is to begin at this field on May 15th; Lieutenant Neely as Instructor and Lieutenants Physioc and Schofield as officers.

The following named officers and ladies motored to Santa Monica April 18, and enjoyed dinner and dancing at the Sunset Inn; Captain and Mrs. Warner B. Gates, Captain and Mrs. Horace W. Mooney, Captain Ivan B. Snell and Miss Annabel Parker of Cleveland, Ohio, Lieutenant Clarence H. Welch, Miss A. Flora, and Lieut. C. M. Brown.

Colonel Baldwin, Commanding Officer, Ross Field, and Major M.F. Davis, paid an official call on the Commanding Officer at March Field, Riverside, California on Wednesday, April 20th. Major Davis has been detailed as member of the final examining board to examine candidates for commission in the Regular Army which meets at Fort MacArthur Monday, April 25th.

Mr. and Mrs. Dean B. Gregg were the guests of Major and Mrs. R.M. Jones, A.S., for dinner on Tuesday evening. Mr. Gregg was an Air Service Officer during the war, serving in Washington and Houston prior to being ordered overseas and is now in business in Los Angeles, California.

Colonel and Mrs. T. A. Baldwin, Jr., Major M. F. Davis and Mrs. Benedict were the guests of Major and Mrs. R.M. Jones, A.S. at the Novak-Steebe Musicale in Monrovia on Thursday evening.

Kelly Field, San Antonio, Texas, April 23.

The First Group (Pursuit) has not been doing its customary amount of flying because of the adverse weather and the diminished flying training class. The impossibility of new enlistments during the period of army personnel reduction and the temporary lack of funds to cover troop travel expenses combine gradually to reduce the class undergoing advanced flying training. The class contains Captains V.B. Dixon, W.J. Farthing and W.F. Donnelly; First Lieutenants W.C. Morris, L.P. Hickey, and Lieutenant G. Carrasco and Lieutenant H.Z. Cooper, Chilean Army, in addition to twenty flying cadets. It was considered necessary to consolidate training under one squadron so that there would be enough pilots to co-operate in large formations and the work could be directed by one officer. The 94th Squadron is now the instruction squadron and Lieutenant S.G. Frierson as Operations Officer is the official traffic cop. Gratifying progress is being made.

The number of reconnaissance and practice cross-countries flown from the First Group (Pursuit) the last week are as follows: 17th Squadron-- Lieutenants R.W. Camblin and H.W. Sheridan flew to McAllen Saturday and returned Sunday, flying in a D.H. from the 95th Squadron. They flew direct. It does not appear proper to suggest that this flight was exceptionally straight on account of luck alone but something must be done, for these two officers are causing considerable annoyance through looking for an extremely sharp pointed pencil with which to draw their flight line on maps preparatory to hops in the future, this being, they assert, the only remaining way to gain further preciseness in their cross-countries. The 95th Squadron -- Cadets G.C. Pomeroy and J.A. Lee, flew to McAllen via Laredo, Texas. This flight was one of the famous "Steve Brodie" kind. Cadet Pomeroy's motor squandered all of its oil in the unappreciative upper air, causing a landing, good though extemporaneous. He was duly rescued from the hordes of redbugs that stalk in the Texas wilds and on the return trip the spirit of justice was much praised, at least by Cadet Pomeroy, for Cadet Lee erased his landing gear in a dust storm at Laredo. Cadet Pomeroy later returned to the rescue.

Lieutenant Richard T. Aldworth has returned from leave. Lieutenant Getchell, for some time Operations and Engineering Officer of the 95th Squadron has been transplanted to the Eighth Corps Area Air Office where, it is rumored, he will have charge of operations and supplies. Lieutenant H.W. Sheridan, late of the Operations Office of the 17th Squadron is now practicing right and left

Kelly Field - (Cont'd)

hand turns in the swivel chair in the Operations Office of the First Group (Pursuit). He would like to remark that he prefers an actual instead of a verbal flying job for you don't have to talk in an airplane and nobody crowds you out of your seat. Lieutenants C. W. McDermott and G. P. Tourtellot, orphans of the First Group (Pursuit), are being cared for by the 11th Squadron of the Second Group (Bombardment). The assignment of these two officers is wholly temporary and they are taking over some of the necessary duties, thus releasing Bombardment Officers for more thorough participation in the present intensive bombing practice being held.

This week is San Jacinto Fiesta week in San Antonio. The celebration is held in commemoration of Texas freedom from Mexico and the anniversary of the famous Battle of the Alamo where noble Texans spilled their blood that the future generations might live in peace from Mexican tyranny.

In order to take part in the celebration and as a tribute to the noble deeds of yore, Kelly Field has arranged formation for each day to fly over the Alamo Plaza so that the large number of tourists may view the flying and war practices for their entertainment and knowledge of this rapidly advancing and extremely important science.

Lieutenant Lawrence P. Hickey, Air Service, has reported at this station from March Field, California and is assigned to the First Group (Pursuit) for duty and advanced pursuit training.

Major Henry J. F. Miller, Air Service, has reported at this station from Mitchel Field, New York and is assigned to the Second Group (Bombardment).

Lieutenant Henry Zuniga Cooper, Chilean Army, has reported at this station from Carlstrom Field, Florida and is attached to the First Group (Pursuit) for advanced pursuit training.

The Army Base Ball League opened up in this Corps Area, Wednesday, April 20th. Kelly Field met Fort Sam Houston for the opening game. The game was fast and full of pep, Kelly held the edge from the beginning to the eighth inning; in the eighth Adams, Kelly's pitcher, weakened and Fort Sam came from behind and tied the score.

The picture shows were unusually good this week, every show night was a real feature and a good crowd was present in spite of the Fiesta going on in San Antonio.

A Barn dance for the enlisted men was held at the Hostess House Tuesday, April 19th; the girls came dressed in gingham aprons and the boys in overalls. The dance was a regular old time country affair and everyone seemed to enjoy the change.

Flight A, 90th Aero Squadron, Del Rio, Texas, April 23.

On April 15th, Col. Pruneda, in command of the Mexican troops at Villa Acuna, Mexico, visited the Airdrome at Del Rio, Texas. Col. Pruneda requested that the pilots at this station be his guests at a Bull Fight in Villa Acuna, Mex., on Sunday the 17th.

All the criticism that was made of the Air Officer for only sending thirty gallons of paint with which to paint two hangars is hereby revoked. For the last twelve days red paint has been arriving by freight, express, parcel post and wireless. It is believed the heart of every Air Service Station in this country was touched. The K.O. is contemplating the installation of a six inch sewer-line, through which to run this paint from the Depot to the field, then attach a hose at this end and squirt it around. This station hasn't enough men to use up the paint even if they threw it at the hangars.

At last the 'Hisso' is set up and flying beautifully; the Engineering Officer and Supply Officer are the only ones who have dared to ride in the pesky little thing so far. The other two officers went down, got in, shook their heads and got out. It takes nerve to fly this little kite, and it was decided to wait for a nice cool morning, no sun, or bumps and about a 30,000 foot ceiling.

Colonel Sedgwick Rice, commanding the 12th Cavalry rode as a passenger to San Antonio Friday and returned Sunday. Lieut. James H. Doolittle piloted the D.H.4-B. Battle Plane which took the Colonel up and back safely.

First Surveillance Group, Aerodrome, El Paso, Texas, April 23.

The Maneuver which was staged on the night of Wednesday, April 20, did not include the Air Service activities on account of the high winds. However in the practice battle on the night of Monday, April 18, the Air Service participated with two Curtiss H Planes which were used as observation planes and carried on a liaison with all the ground troops. This turned out as successful as could be expected, the radio detachment supplying the lights for the landing. Captain Harvey and Lieut. Liebhauser were pilots while Lieuts. Hinkle and Gaffney were Observers.

On Wednesday, April 6th, the first of the regular practice bombing formations took off for the range and bombed the target with a favorable number of hits being registered, Major Heffernan, Commanding First Surveillance Group, leading the formation.

Athletics are going at top speed with the baseball team off to a good start to the winning of the Post Pennant, as they are now heading the league with no defeats. The First Surveillance Group is well represented on the Post Team, there being six men selected.

Brooks Field, San Antonio, Texas, April 22.

The Commanding Officer has designated Wednesday, April 27, as Field Day, the purpose of which is three-fold: To provide a day of activities entirely different from the regular routine; To build up the entire personnel physically; To build up the morale and esprit de corps.

1st Lieut. William Turnbull, A.S., has succeeded 1st Lieut. Ernest L. Hurst, A.S. in the Adjutant's chair. Lieutenant Hurst has been Adjutant of Brooks Field for more than two years and he might easily have said, "Commanding Officers come and go, but I go on forever". Lieutenant Hurst left for station at the Aviation Supply Depot in Kelly Field last Tuesday and took with him the best wishes of his many friends.

1st Lieutenant E. J. Ethelridge, Air Service, left Wednesday evening for Ross Field, Arcadia, California. Lieutenant Ethelridge is also an 'old timer' of Brooks Field, having been engineer officer since this station was a heavier-than-air field. Lieutenant Ethelridge has been succeeded in the Engineering Department by 1st Lieutenant E. L. Fernsten, Air Service.

There are also rumors of other changes in officer personnel on the post but as yet orders have not been received.

A military surveying party of the Construction Quartermaster Department is expected at the Field the coming week to make a topographical survey of the Field and the placing of property line instruments.

Kelly Field is making a photographic mosaic of the Field also. This has surely been needed for a long time as there are no accurate maps of this vicinity, which makes observation chiefly guess-work without the use of aerial photographs.

A new class in Airship Motor Repair will be organized on the 2nd of May. Special requirements are necessary for entrance, in that one must be a graduate of the Motor Repair Class, or its equivalent, and a recommendation from the company commander.

Graduates with high standing in the Motor Repair Class will receive training in the Airship Motor Repair Class. You had better enter the Motor Repair Class at once if you desire to be an Airship Engineer.

A New Motor Repair Class will also be started on May 2nd. Get your name on the list. It means money to you; rank to you; an opportunity not to be passed up easily.

A new class has been organized for training men in tire vulcanizing. The enrollment has not been completed but will be closed after next Friday. Any man who desires to learn the trade of tire vulcanizing should enroll at once if not learning a trade at the present time. It is a well-paid trade and Private Tufford can give the necessary instruction.

A.S. Detachment, Crissy Field, San Francisco, California.

The new hangars, shops and barracks are rapidly nearing completion. Supplies and equipment have been arriving daily for the past week. Both the seaplane and airplane hangars lack only the finishing touches to be completed. The cement apron extending from the seaplane hangar to the bay and the boathouse which is to house three speedboats belonging to the field have been ready for some time. Crissy Field has been lengthened at the east end by over one hundred yards. This work has taken considerable time as all foundations had to be blasted and the ground then ploughed, scraped and leveled off.

Major H.H. Arnold has just returned from a cross-country trip to Washington State, where he was in consultation with the Commanding General of Camp Lewis concerning next year's maneuvers in connection with the Air Service liaison with the field artillery at that post. On the return trip Major Arnold stopped at Portland, Oregon, to consult with Governor Olcott concerning the coming season's Fire Patrol for the state of Oregon and fire protection for the fallen timber in devastated area caused by a cyclone. This area covers a considerable portion of Northwestern Oregon, and it is thought by the Federal and State forestry that the only feasible plan for protecting this area is by airplane patrol, as it is an utter impossibility to patrol in the usual manner by lookouts and rangers. On taking off for the return trip to San Francisco carrier pigeons from San Francisco were turned loose. These pigeons starting at the same time as the plane arrived in San Francisco in eleven hours. The plane's time from Portland to San Francisco was five hours and thirty-five minutes.

During the last week the Coast Artillery requested airplane observation on two different occasions. On both occasions the observation was for the six inch rifles. The observation by the airplane was more for a test as to the accuracy in observing deflections as the land station could check on the deflections reported by the airplane. Wireless communications and deflections were one hundred per cent successful on both occasions. This work is preparatory to the firing of the big twelve inch rifles and has proven that the training pilots received in observing two former shoots made them expert to a high degree as they are not using instruments but their own judgment in sending deflections. In every case the observations sent in by the plane have closely paralleled the mechanical observations of the land stations.

On Sunday April 17th while returning from a cross-country trip a DH-4B piloted by Lieutenant H.A. Halverson, accompanied by Staff Sgt. Whitefield, caught fire over Alcatraz Island. The fire started when the plane was at an altitude of 2100 feet. Lieutenant Halverson succeeded in slipping the plane to within 50 feet of the ground after which he made a perfect landing at the Marina Aerial Mail Field. The fire was extinguished before the plane was completely burned. The pilot and observer escaped without injuries. This seems to prove that the fire hazard in DH-4B has been much exaggerated and that in case of fire a pilot by keeping his head and using good judgment has every chance of getting his plane to the ground without injury to himself.

Two hundred Mark I flares, 150,000 candle power, recently received at this field are to be used shortly in connection with night artillery target practice in which some interesting experiments were made last winter. The flares are to be dropped by the planes from an altitude of 4,000 feet in such a position as to keep the target in illumination as long as possible. The planes dropping the flares, sending the deflections by the same illumination. Night firing by this method proved very successful in the last shoot and profiting by this former experience, the coming practice is expected to be almost perfect.

Selfridge Field, Mt. Clemens, Michigan, April 30.

The fencing and installation of gates and cattle-guards along the right-of-way of the road leading to Selfridge Field was started during the past week. It is expected that this work will be completed well in advance of the stipulated date, May 31, 1921.

France Field, Cristobal, C. Z., April 16.

An inspection of the field was made on Wednesday by a group of visiting officials, including Hon. William J. Price, American Minister to Panama, Doctor Morales, Secretary of Government and Justice, Doctor Garay, Secretary of Foreign Relations of the Republic of Panama, and Major R. D. Prescott, S.O.R.C., Inspector General of Telegraphs for Panama. Brought to the field from Fort Clayton by planes, the visitors arrived shortly before noon and were tendered a luncheon by Major Raycroft Walsh. An informal reception by the officers and ladies of the post was followed by an inspection of the field, in which the guests were deeply interested. The return cross-country flights to Fort Clayton were piloted by Capt. Thomas Boland and 1st Lieutenants J.D. Barker, R.C.W. Blessley, and S.M. Connell.

In landing at Fort Clayton, Captain Boland who had the American Minister as passenger, overshot the narrow landing field and on striking the rough ground the plane went on its nose, hung for a moment with the tail in the air, and then slowly tipped over on its back. The occupants of the plane were uninjured and damage was limited to upper wings, rudder and propeller. Two men from the engineering department were supplied with extra parts from the field and made short work of repairing the plane which was flown back by Capt. Boland on Saturday.

The assembly of a flying boat of the HS2L type was completed the past week and test flights were made by Capt. Thomas Boland and 1st Lieut. Kenneth Garrett. The seaplane will be kept in commission in anticipation of possible coastwise reconnaissance flights.

A bit of excitement stirred the field on Tuesday when a report of a plane down outside of the harbor breakwater sent all available planes into the air to scour the waters for the missing machine. The scurry was at its height, a boat was on its way to the open water, and the naval air station had been asked for aid, when it was discovered that the alarm had been caused by a naval seaplane settling on the water to cooperate with submarines in torpedo practice. The fact that the waters outside of the breakwater are almost never calm enough to light upon made the observer of the landing think that it was an accident.

A transport is due to arrive in port the last of next week with two replacement officers and six enlisted men for the photo section expected.

France Field ended the league season on Sunday by trouncing the 14th Infantry ball team with an 8 to 2 score.

Six men were selected from the post baseball squad to join with other army ball players of the Canal Zone in forming an all-army team which will play the navy in a post season series of five games. The players selected are: 1st Lieut. Harlan W. Holden and Pvt. 1/c John Eisel, pitchers; Sergt. Roscoe Chrisman and Corp. Linden Pugh, outfielders; Pvt. John Radzinski, third baseman; and Corp. Theodore Sandford, shortstop. Special trains will carry the crowds that have arranged to go to the games and keen rivalry will mark the series.

Flying was suspended at the beginning of the week while the completion of spring cleaning was under way. The hangar crews were all assigned with the other men of the departments to the work of policing the post and the cleaning operation was completed Monday. Tuesday the daily routine work was resumed.

Mather Field, Sacramento, California, April 23.

Mather Field is glad again to welcome Lieut. Ned Schramm who reported here from March Field on the 18th and who has been assigned to the 9th Squadron (Observation). Lieut. Schramm was commissioned at this Field, was transferred in 1918 and then during the 1919 Forest Patrol Season was again placed on duty here.

Mather Field - Cont'd.

With the departure of officers on detached service and transfers to other stations, Mather Field is feeling a shortage in commissioned personnel. Lieut. Delbert E. Jones of the 9th Squadron, left for Langley Field, Va. on the 19th, where he is scheduled for a course of instruction in Aerial Photography.

A detachment of Flight "B" of the 91st Squadron left by plane on the 19th for Artillery practice at Camp Lewis. Lieut. Grandison Gardner in command of the detachment, Sgts. Eckerson and Andert, piloted the three planes, each carrying an enlisted mechanic.

Carlstrom Field, Arcadia, Florida, April 23

Night flying is being conducted at this station each night. The student officers and cadets are required to solo in night flying, first in Curtiss JN6H-Training Planes- and afterwards in the advanced type of planes to which they are transferred at this station.

Capt. Clinton F. Woolsey, A.S., was assigned to Hdqs. Flight and has assumed command of the Flight this week.

There are 13 men before the board appointed at this station, taking the examinations for Second Lieutenants in the Regular Army.

Carlstrom Field's baseball team defeated the fast Ft. Myers baseball club last Saturday by the score one to nothing. The game was one of the cleanest and fastest exhibitions of baseball ever staged in the state. The feature of the game was the pitchers' battle between Angell of Carlstrom and Blouht of Ft. Myers; Angell having the advantage, striking out 13 men and allowing only one scratch hit. Carlstrom's run came in the 7th inning, as a result of a two basehit by Terrill followed by sacrifice hit by Hardaker and a squeeze play by McLaughlin, scoring Terrill.

Kindley Field, Fort Mills, P. I., March 7th

For the third time since the formation of the Air Service Garrison there is an opportunity open for men to be picked by the respective Company Commanders, to take a pleasure trip to China. The Air Service Garrison is allotted fourteen men to take the trip. Lieut. Royal B. Lea is in charge of the excursion which leaves March 7th on the U.S.A.T. "Warren".

Wednesday evening Lieut. and Mrs. R. B. Lea entertained at a large dinner party and dance at the Nipa Club.

Tuesday evening Capt. and Mrs. Ervin entertained at dinner in honor of the officers of the "HART".

All the officers of the Destroyer "Hart" were given flights by the 27th Balloon Company this week.

Tests were made with parachutes, using "Lieut. Deadweight" as passenger. Ten drops were made and all were successful. Parachutes of both French and American makes were used which had been in this climate from four to five months. It is very rarely possible for parachute tests to be made on Corregidor on account of the strong prevailing winds, which blow the chutes into the sea or bay when they open up.

The Commanding Officer of the 17th Balloon Company, Lieut. William D. Mayer, with his wife and Bill, Jr., have gone to Baguio, the great mountain resort, for a couple of weeks.

Our Company has cooperated with the 27th Balloon Co. in the Parachute Tests and Flights.

All week the 2nd Aero Squadron has been working on communication and flight tests in cooperation with the Destroyer "Hart". These tests and flights have been made in continuation of those started last week and the object of them is: "To determine the best methods of destroyers to cooperate with the Army Seaplanes". Reports of all the tests, etc. are given in the Weekly Operations Reports and in Special Reports on same.

Sergeants Cook, O'Brien and Jones, Privates Hunt and Kelly have been selected to take the China trip, from this Squadron.

Kindley Field, March 12. (Cont'd)

All activities remain greatly reduced on account of the short allowances in gasoline. Many changes are felt, but principally in transportation between Kindley Field and the Docks and Barrío. The men of the 2nd Aero Squadron, which is quartered near the Scout Garrison, used to come out to Kindley Field in trucks, but now they have to march to the South Dock and come over to the hangars in the launch "Geary", which makes it very inconvenient, and much time is lost.

The weather conditions here now are undergoing a change from the Monsoon to the hot season, and for the past week the winds have generally been very high and somewhat changeable. Even on a smooth day very sudden and disagreeable wind-storms of short duration occasionally occur.

The Kindley Field Base Ball Team is not doing so well during this series of games in the Manila Bay League. They are weak in hitting, but they play hard and all are hoping to see them break even by the end of the season.

This week a conference was held with officers on board the U.S.S. "Huron", and plans made to observe the Firing Practice of the "Huron" during the Annual Tests next week. Tests were made of radio communications and codes Wednesday, when several practice shots were observed.

The 2nd Aero Squadron will soon be able to move from its old quarters from near the Scout Garrison, out to new quarters at Kindley Field, which are rapidly nearing completion.

The construction on the steel hangars is gradually moving along and it is hoped that they will all be completed before the rainy season starts. Two are now complete and are being used; another is almost complete, and the framework of two others is going into place.

Men from the 17th and 27th Balloon Companies have installed a telephone central and lighting plant in this Garrison and in every way are trying to make Kindley Field an up-to-date Air Service Post. At present they are aiding construction on the trunk line from the Coast Defense Power House, which goes around Malinta Hill out to Kindley Field.

A new balloon has been filled and put in shape and every day for the past week it has been raised into the wind in order to test the cordage and fittings.

A.S. Mechanics School, Chanute Field, Rantoul, Ill., April 28.

The first heat of the Bridge Club ended April 5th with Lieutenant Langhorne W. Motley some 3000 points in the lead. The heat was an exceedingly busy one for every member. Lieutenant Motley played a very good game of Bridge throughout the four sessions, and everyone was glad to see him modestly accept the trophy, which was a silver cup.

The Prehn-Cannon bout held at this Post, April 7, was one of the best exhibitions of wrestling that has been witnessed in this part of the country. Prehn won in three falls, total time 34 minutes. J.C. Prehn is the Instructor of Wrestling and Boxing at the University of Illinois, and has an established reputation which he certainly upheld when he threw Tommy Cannon. Cannon has several victories to his credit over real wrestlers and did his best but Prehn was too foxy for him.

The sequel to this event was the smoker given under the auspices of the A.S.M.S. Social and Athletic Club, April 14th, which featured two excellent bouts. The first, a boxing bout between Mackey and Halvorsen, was good from start to finish. Mackey won on points. The men fought at 170#, and when "two big boys" that are both in earnest get together in a fistic encounter the fur is bound to fly. The crowd received a decided surprise when Lundagren stopped Morgant, the light weight champion of the French Army, in the 7th round of a ten round bout, after some battle. The men fought at 133#. The first round was Morgant's by a shade, but Lundagren took all the rest, and then some. The Frenchman couldn't stop him. The next series of bouts is scheduled for May 13, and everyone is looking forward with interest to this event.

Students from the R.O.T.C. Unit of the University of Illinois, under Captain J. A. Whitesides, have made several visits to Chanute Field. They also received several lectures on airplanes and motors while on these visits. They are very much interested.

A. S. Mechanics School - Cont'd

The work on the Consolidated Mess is progressing satisfactorily. This Mess promises to be one of the finest of its kind in the country, and the officers of the A.S.M.S. see no reason why it should not operate most successfully.

Lieutenant Henry E. Wooldridge has arrived at this Post, and will be assigned to duty as Procurement Officer, Employment Officer and Agent Finance Officer, vice Lieutenant J. L. Stromme, who will leave for Washington shortly after May 1st. The loss of Lieutenant, who has an enviable record at the A.S.M.S., is very much regretted by the entire personnel of the Command.

Mrs. Elizabeth C. Lowry arrived at this Post April 10, to take up her duties as Hostess. The old Y.M.C.A. Building at this Post is being fitted as a Hostess House and promises to be very good.

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The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE MAY 24, 1921.

HUNDREDS OF THOUSANDS OF DOLLARS
SAVED TO THE PUBLIC BY AERIAL SURVEY

CAPT. LOWELL H. SMITH'S REPORT OF
RECONNAISSANCE EXPEDITION, OLYMPIC PENINSULA

The report of Capt. Lowell H. Smith, commanding the detachment from the 91st Aero Squadron which was detailed to co-operate with the U. S. Forestry service in making a survey from the air of the cyclone-swept district of the Olympic Peninsula in the State of Washington, shows that by this one performance the U.S. Army Air Service has saved the public from \$125,000 which, it is estimated would have been the cost of a ground survey, to possibly millions of dollars by reason of information obtained which will be invaluable for use in fire prevention in this wind-blown region.

The total time required for making this aerial survey was 68 hrs. 20 min.: the total cost was \$2524. It is estimated that a ground survey would have required from two to three years, at an expense of \$125,000. Meanwhile the menace of fire would have been an ever-increasing one, likely at any moment to become a reality, and so to add millions more to the work of destruction.

Capt. Smith's report in full follows:

Pursuant to S.O. No. 67, Par. 21, Headquarters Ninth Corps Area dated March 22, 1921, a detachment from the 91st Aero Squadron consisting of Captain Lowell H. Smith, First Lieutenant E.C. Kiel, Staff Sergeant Alva DeGarmo, pilots; Master Sergeant Ephraim Cornish, Staff Sergeant Burman, Mechanics; and Sergeant Thomas, Photographer, left Mather Field, Sacramento, California, for the Olympic Peninsula of Washington at 12:15 P.M. March 23rd, flying in three DeHaviland 4-B planes.

Severe rain and snow storms were encountered in the Trinity and Scott Mountains, making it necessary for the formation to turn back and land at Red Bluff at 2:10 P.M. on a very muddy field. A stop was made here over night.

March 24th: It was raining in Red Bluff but the clouds began to break about 10 A.M. The flight was resumed at 11:15 A.M. It was necessary to fly through the canyons, flying around rain, hail and snow storms until the formation landed in Eugene, Oregon, at 2:25 P.M. It began as our landing was made and continued to rain until nine A.M. the next day.

March 25th: A great deal of trouble was experienced in the take-off at Eugene, all three planes being mired in the mud several times. The planes finally took off at 11:30 A.M., dodging rainstorms until a landing was made in Portland at 12:50 P.M. The remainder of the day was spent in consultation at the District Forester's Office. Mr. G.H. Cecil, the District Forester, was in Olympia but had left instructions in his office to telephone him as soon as the detachment arrived.

March 26th: Mr. Cecil returned to Portland and the planning of our best method of operation was continued. It was decided to take Mr. Cecil on one flight over the devastated area and that the Forest Service would secure the services of Mr. Pendell, an observer of the Oregon Patrols of last year, to do the sketching.

At 10:50 A.M. all three planes took off for Camp Lewis. After flying about for about fifteen minutes, Staff Sergeant DeGarmo turned back to Portland with a leaky radiator. The two remaining planes landed at Camp Lewis at 12:15 P.M. The post was closed for the day and considerable difficulty was experienced in getting gasoline, etc. for the planes.

March 27th: Sunday was spent in preparing the planes for the mapping flights over the Olympic Peninsula.

March 28th: Two planes piloted by Capt. Lowell H. Smith and Lieut. Emil C. Kiel, left Camp Lewis at 11:45 A.M. and with Mr. Cecil and Mr. Pendell, who was sketching, covered the entire devastated area, returning at 2:35 P.M. Staff Sergeant DeGarmo arrived from Portland after repairing his radiator at no government expense.

March 29th: Two airplanes flew with Captain Smith and Staff Sergeant DeGarmo as pilots, and Sgt. Lamar Thomas, photographer, and Mr. Pendell of the Forest Service, as passengers. Fifty-three photographs were taken and Mr. Pendell completed seventy per cent of the sketching. Flying time totalled seven hours and five minutes.

One dozen of the exposed plates were taken to a studio in Tacoma and developed by Sgt. Thomas. The results were fair.

March 30th: Three airplanes flew over the devastated area, piloted by Capt. Smith, Lieut. Kiel, and Sgt. DeGarmo, the passengers being Mr. Pendell, Master Sgt. Cornish, and Sgt. Thomas. Two hundred and eighty-one photographs were taken, most of them with the K-1 Mapping Camera. Mr. Pendell, with the assistance of Lieut. Kiel, completed all of the sketching. Flying time eight hours and forty minutes.

The ends from each roll of exposed films were rushed to a studio and developed with excellent results.

Mr. Cecil, the District Forester, having decided our work finished to his complete satisfaction, plans were made to start the return flight the next day. Excellent co-operation was received from the personnel at Camp Lewis.

March 31st: Return flight in formation started from Camp Lewis at 10:30 A.M. and arrived in Eugene with a flying time of 2 hours and 25 minutes. Remained over night in Eugene.

April 1st: Return flight resumed after a heavy fog had cleared at 10 A.M. A landing was made at Red Bluff for fuel and the formation landed at Mather Field and reported to the Commanding Officer at 4 P.M. Flying time 4 hrs. 35 min.

SUMMARY OF RECONNAISSANCE

1. The general damage was caused by a South-west wind, having an estimated speed of one hundred and eighty miles per hour. The devastated area spread over about one thousand square miles of very valuable timber land. As a rule the trees were laid flat to the ground over a spot of from five to a hundred acres, then the wind would be deflected, striking again a mile or two away. The timber on the south side of all the ridges was 100% destroyed.

2. Sketches and photographs have been turned over to the United States District Forester, whose headquarters are in Portland. All official figures relative to the actual damage should come from his office.

3. The Olympic Peninsula and the remainder of the area covered on the reconnaissance flight has very few inhabitants; it also has a small number of roads, or trails, and most of them were impassable, due to fallen trees. It is firmly believed that this flight of three airplanes has accomplished in three days, actual work which would have required from two to three years, if undertaken by any other method. The Air Service has also saved the public from \$125,000, the cost of a ground survey, to millions of dollars, or the amount that should be saved by Fire Prevention, due to aerial information furnished the United States Forest Service.

The cost of the flight is, as follows:

E S T I M A T E

Airplane depreciation	\$1000.50
One propeller	90.00
Gasoline, commercial, 466 gal. @ \$.255	118.83
Oil, commercial, 148 qts. @ .10	14.80
Gasoline, govt., 644 gal. @ .355	215.74
Oil, 231 qts. @ .1325	30.16
2 faucets,	1.00
Grease, 3 lbs. @ .50	1.50
Telegrams	3.25
Per Diem, etc. for personnel	192.92
Army pay for Personnel, 91st Squadron	328.30
" " " " 15th Photo Section.	359.28
Photo Material	167.75
Total estimated cost	<u>\$2524.03</u>

Flying Time:

Pilots	To Camp Lewis, Wash.	From Camp Lewis, Wash.	Reconnaissance	Total
Capt. L.H. Smith	470	420	550	1440
Lieut. E.C. Kiel	470	420	335	1225
Stf. Sgt. DeGarmo	<u>490</u>	<u>420</u>	<u>525</u>	<u>1435</u>
Total hrs.	23-50	31-0	23-30	68-20

AVIATION MEET AT LOS ANGELES JULY 16 and 17.

The Manufacturers Aircraft Association announced that the following has been received from the Aero Club of Southern California, relative to the two-day aviation meet at the Los Angeles Speedway at Beverly Hills, California July 16th and 17th.

Special racing airplanes, designed and built in California, are to be the leading features of a two-day aviation meet which the Aero Club of Southern California announces will be held on July 16th and 17th, the last two days of the Elks' Convention. This meet will be held at the speedway at Beverly Hills, which is being especially fitted up for aviation events, making it one of the most advantageous flying fields in the country.

The tentative prize list, which those in charge of the meet intimate is subject to material expansion, calls for \$5000, which will be divided among the winners of probably a dozen different flying events.

At least half of this sum will be awarded to the winners of a special race for local planes, powered exclusively with Curtiss OX-5 motors of 100-h.p. To qualify in this event the planes must be capable of attaining a speed of at least 100 miles an hour. This will eliminate all of the fat and comfortable "Jennies" and other two-passenger planes, few of which have done more than ninety miles an hour under even the most favorable circumstances, and clear the atmosphere for the special racers which are to be constructed for the event.

Prominent local sportsmen, a number of whom have recently become members of the Aero Club and who are getting all excited at the prospect of owning their private racing craft, are definitely known to be arranging for the construction of at least three tiny flying machines.

The designs have already been approved and construction started on one of these machines at the shops of the Pacific Airplane and Supply Company in Venice. The backers of the plane, whose names will not be announced until its completion, are known to be two of the city's most prominent business men and sporting enthusiasts.

Contracts for the second and third planes have not yet been given, although it is understood that they will be signed in a week or ten days, and that construction will immediately be started by two other local manufacturers. Other negotiations at present under way point to a total entry list of ten or more locally built racers.

The Army and Navy will be invited to participate in the Speedway program, and it is possible that one of the two days will be devoted exclusively to events for the service aviators.

A tentative proposition is being submitted to the Government, and basing conclusions on the splendid co-operation afforded in the recent Long Beach meet, it is hoped that planes from Rockwell, March and Mather fields will play an important part in the program.

Secretary Wagner of the Aero Club is also compiling all available records for altitude flights by planes of different types and variously powered engines so that attempts may be made to shatter as many of these records as possible. Wagner is especially anxious to send the Kinner Airster after an altitude record for planes equipped with sixty h.p. motors, as it has already reached more than 15,000 feet in official tests, and is said to be capable of several hundred feet more.

CHANGES OF STATION OF OFFICERS
FOR WEEK ENDING MAY 10, 1912

May 3, 1921. - First Lieut. William C. Farnum, A.S., ordered from Brooks Field, San Antonio, Texas, to Godman Field, Camp Knox, Ky., for duty with 31st Balloon Company.

May 5, 1921. - Capt. Hubert S. Steenberg, M.C. ordered from Carlstrom Field, Arcadia, Fla., to Langley Field for temporary duty during bombing maneuvers, then to Bolling Field for duty.

May 5, 1921. - Capt. Clarence W. Dresser relieved from duty with Air Service at March Field and returned to duty with the Coast Artillery at Fort McArthur, California.

May 5, 1921. - Lieutenant Donald F. Stace, C.A.C., detailed with Air Service, relieved from duty at Fort Monroe, Virginia, ordered to Carlstrom Field, Arcadia, Fla., for pilot training effective August 12, 1921.

May 6, 1921. - Lieut. John D. Barrigar, F.A. detailed to Air Service, relieved from duty at Camp Benning, Ga., and ordered to Carlstrom Field, for pilot training effective July 28, 1921.

May 6, 1921. - Orders previously issued ordering Capt. Ira C. Baker, A.S., to duty at Kelly Field upon his return to the U.S. from foreign service tour at the Philippines, amended so as to order him to Mitchel Field for duty.

May 7, 1921. - Major Lawrence S. Churchill, A.S., ordered from Americus Air Intermediate Depot, Americus, Ga., to Walter Reed General Hospital for observation and treatment.

May 7, 1921. - Capt. Arnold W. Shutter relieved from duty with Air Service at March Field and returned to duty with Field Artillery at Camp Pike, Ark.

May 9, 1921. - Capt. Harold E. Sturcken, A.S., ordered from Air Service Mechanics School, Chanute Field, Rantoul, Illinois to Carlstrom Field, Arcadia, Florida, for duty.

May 9, 1921. - Lieut. Willard S. Clark, A.S. ordered from Carlstrom Field, Arcadia, Fla., to Kelly Field, San Antonio, Texas, for duty with First Pursuit Group.

May 10, 1921. - Following Air Service officers ordered from March Field, Riverside, Cal. to Carlstrom Field, Arcadia, Fla., for duty as flying instructors.

Capt. Charles E. Rust
Lieut. William H. Bleakley
Lieut. Elmer D. Perrin
Lieut. James G. Taylor
Lieut. William W. Welsh.

THE OLD GENTLEMAN "PITCHES IN".

In San Francisco the other day a white-haired elderly gentleman dressed in blue denims entered a building being converted into a club-house for the American Legion. He looked around curiously and then accosted the man in charge of the volunteer workers.

"I hear you are trying to fix things up a bit for your opening party", he said. "Can I help?"

"Sure, pitch in", was the answer, whereupon the elderly gentleman "pitched in" and for more than an hour labored with hammer, saw and broom.

Suddenly there was a new arrival and the elderly gentleman was interrupted in his work with "Why General, how long have you been here?"

Former soldiers, sailors and marines looked wonderingly at the man in blue denims, later to be introduced as no other than Major General Hunter Liggett, former field commander of the First American Army overseas and, until his recent retirement, Commander of the Ninth Corps Area.

VISITORS AT McCOOK FIELD

The Aeronautic Section, Professional Division of the American Society of Mechanical Engineers will visit McCook Field, Dayton, Ohio on May 21 as a preliminary to the spring meeting of the A.S.M.E. at Chicago, Ill. The officers at McCook Field will endeavor to give the visitors a general idea of the aeronautical problems which are being worked out by the Engineering Division, Air Service.

The guests will be escorted through the laboratories and shops of the field, and through the hangars where standard types of airplanes in use by the Air Service and those being developed for future use will be explained. A technical session will be held in the Auditorium where talks will be given by members of the McCook Field organization and moving pictures will be shown.

The members will be entertained at dinner as guests of the Dayton section of the Society of Automotive Engineers. Mr. Charles F. Kettering will make a short talk at the end of the dinner. A Military Ball, to be given at the Miami Hotel, will conclude the day's program.

The American Society of Mechanical Engineers has appointed the following men to act as an executive committee of the Aeronautic Section: Joseph A. Steinmetz, Chairman; Thurman H. Bane, Major, A.S., Vice-chairman; Edwin E. Aldrin, 1st Lieut., A.S., Secretary; Ralph A.D. Preston; Elmer A. Sperry; Edward P. Warner.

PILOT INJURED AND OBSERVER KILLED IN AIRPLANE CRASH AT DAYTON

Reserve officer, Jas. G. Ware, employed in the A.S. Engineering Department at Dayton, Ohio, was seriously injured while piloting a plane which crashed at that station on May 4th, while Albert G. Pendleton, a civilian employe, acting as instrument observer was killed.

AIRPLANE CRASH AT CARLSTROM CAUSES DEATH OF LT. BLOOM AND SGT. KELLING.

Telegrams received from Major Ralph Royce, C.O., at Carlstrom Field, Arcadia, Florida, announce the death of Lt. George B. Bloom and Sergeant Harry J. Kelling, the result of an airplane accident at that station May 11.

Lt. Bloom's service record follows:

George Barnett Bloom, age 24, unmarried; graduate degree of B.S. Missouri School of Mines; School of Military Aeronautics, University of Illinois, March 16, 1918 - June 15, 1918; Flying Training June 21, 1918 - Sept. 27, 1918; Cadet at Scott Field, Belleville, Ill.; first commission, A.S.S.R.C., Sept. 28, 1918; 2nd Lieut. R.M.A., Oct. 11, 1918 - Jan. 9, 1919; took Bombing Instruction - 83 hours - at Ellington Field; discharged from Service Jan. 9, 1919; Accepted commission in Regular Army Dec. 2, 1920; 2nd Lieut. Inf. transferred to Air Service; transferred from Camp Pike, Arkansas, to Carlstrom Field, Florida, March 9, 1921; Flying Training April 1.

Lieut. Bloom's father, I.H. Bloom, resides at Maysville, Missouri.

"AND I LEARNED ABOUT FLYING FROM THAT"

STARTING FROM STRANGE FIELDS.

The length of the grass and the condition of the field will determine the run required before getting into the air. For instance, short grass and hard surface will make a fast field, that is, enable the pilot to get into the air much quicker than grass, say, a foot long and soft ground.

The only way to determine the length of the run required to get into the air is to experiment in different fields. For instance, start at one end of the field, station a man or two men, one at about 200 yards and the other at about 300 yards from the starting point. His instructions will be to observe the machine as it runs along the ground and mark the place or exact spot where the machine leaves the ground. This distance should be paced off or measured. These tests should be made in fields other than the regular airdrome, for instance take a field with a hard turf, then take an ordinary farm with soft ground, then try a field with long grass, and I am quite sure that variations of several hundred feet in the initial run will be noticed.

The present custom is for pilots on cross-country trips to take a look at a field, make a guess which oftentimes results in disaster. If the ground is rough, rolling over the ground will cause the float of the carburetor to shut off the flow of gas for an instant and cause missing motor on the take-off. It is believed that each pilot could make tests for his own personal benefit.

Getting Lost.

Pilots frequently lose their way on account of their lack of faith in the compass on cross-country trips in thick weather. It is believed that an instrument board consisting of two compasses - one placed in such a position as not to be attracted by the other - a turn indicator, a banking indicator, an angle of incidence indicator and an air speed indicator are necessary. The chances of the air speed indicator failing in thick weather are very good, that is, rain and fog at high altitudes will stop up the venturi on account of freezing. As a rule, in being caught in bad weather the first thing a pilot does is to decide that the compass is wrong and becomes lost. It is very much the same as the experience of a young hunter on his first trip in the woods. If the machine is equipped with two compasses and both compasses read about the same, the pilot will have more reason to believe that compass is correct, and have a chance of finding his way. It is believed that it is impossible to fly in clouds for a length of time without the above mentioned instrument board. The undersigned has been lost at least half dozen times and will probably be lost on his next cross-country trip if flying machine is equipped with only one compass, that is, in thick weather, on account of his lack of faith in the compass. Each compass should have its own correction card. An excellent way to find the error in the compass is to fly parallel to streets running north-south, east-west, northwest-southwest, northeast-southeast and note the error.

W. C. Ocker,
Captain, A.S.

VICTOR HUGO A PROPHET OF AERONAUTICS

The most widely known and oft-quoted prophets of the airship and the airplane are, of course, Jules Verne and Lord Tennyson. It is a well-known fact, however, that Victor Hugo was a lover of the spherical balloon, and took great interest in all aeronautical experiments.

A letter from the great French poet addressed to Gaston Tissandier in 1869 is reproduced in "La Conquete de L'Air" for April 15, of which the following is a translation:

"I believe, Monsieur, in all progress. Navigation of the air follows naturally the navigation of the ocean: from the water, man should pass to the air. Wherever in creation there is anything to be desired, man penetrates in search of it. Our only limit is life itself. Where ceases the column of air, where the pressure prevents his machine from flying, there alone man will be stopped. But he can, he should and he will go that far.

You can do it. I take the greatest interest in your useful and brilliant voyages. I, also, have the taste for scientific adventure. Certainly the future will see aerial navigation, and the duty of the present is to work for the future. This duty you are performing.

I, alone, but attentive, I am eyes for you, and I cry, courage!
Victor Hugo.

Guernsey, April, 1869."

A half century has passed away, and the faith of the great writer has not only been realized but surpassed. The thought expressed is equally applicable today, however. What will be the state of navigation fifty years from now? Will it still depend upon the use of an actual motor and of actual fuel, or will a new force be found to direct our flight? Time and science will answer these questions.

AERONAUTICAL NEWS FROM OTHER COUNTRIES

Canada.

SURVEY BY AIR

In two hours and a half, Major McLaurin, head of the British Columbia Air Station, completed an aerial survey of the Fraser Valley that produced photographic results and afforded data that could not have been obtained in many weeks in the field, says the "Aeroplane and Auto Age" for February. This should be a decided argument in favor of the development of flying for commercial and departmental purposes throughout the land.

AEROPLANE FLIGHT AS LAGNIAPPE

A good old custom, practiced from time immemorial by the retail merchants of New Orleans, but grown somewhat decadent since the war, was to give lagniappe - something free - with each and every purchase, however small. The system has its merits, as was amply proven by its long usage in the Louisiana City. A merchant in the City of Montreal evidently thinks so, for he is offering an aeroplane flight free with every purchase amounting to \$50 or more.

India

RULER OF MORVI BUYS AN AIRPLANE

The Thakur Sahib, ruler of Morvi, a small native state in western India is reported to have bought a Handley-Page for his private use. The machine has been painted pink, and makes a bright spot of color in the Indian sky. The internal arrangements, for the comfort of twelve passengers, are very elaborate, and an excellent aerodrome, for housing the plane has been built at Morvi.

France

FLYING TORPEDOES

Flying torpedoes directed by Hertzian waves are to be a feature of the next war, according to Le Petit Journal. It is said that the latest experiments of the French aviation service have proved that five or six small and inexpensive bombing planes, without a pilot or a mechanic, can successfully be guided by a "shepherd" in a larger plane by means of the Hertzian. It will be recalled that according to reports, Herr Fokker had, during the last year of the war, received from the German War Office an order for a similar device. At that time, however, such an apparatus had not been developed to a practical point, but in the winter following the armistice the Voisin company began a series of experiments at the aerodrome at Grotay.

At that time the flying torpedo employed was too light to be controlled by its shepherd. While it maneuvered satisfactorily during the first half hour, it soon got too far away for control, and fell into the sea. The present achievement of a flock of little planes under perfect control, points to the supposition that within a year or two it will be possible accurately to direct the former from a land base at a distance of a hundred miles or more.

In this connection, "La Conquete de L'Air" for April 15 quoted from a recent number of "L'Auto" with reference to the "Tele-Avion", as follows:

Lt. Ageorge experimented in 1916 with a machine whose control was furnished from stations on the ground: the pilot occupied a position at one side so that he might observe, but did not touch the controls. Along this line it may be useful to recall that in 1913 the inventor, Detable, constructed a flying machine which by means of stabilizing cones maintained perfect automatic equilibrium. This invention, left so long in oblivion, has been brought to mind recently by several articles in which the aviator, Lecerf, has recalled the result of these past efforts.

Meanwhile, Lt. Ageorge, after having experimented with his machine in the air, began with enthusiasm to study the subject of ground-control flying devices, the results of his study being of extreme value for the carrying on of his experiments. Unfortunately Lt. Ageorge himself, following a series of experiments, fell ill and died in March, 1920.

At present the study of controlling machines from the earth, is being carried on at Villacoublay. It may be noted, however, that working for a long time in the neighborhood of the electric currents seems to have an ill effect, and several officers and men have been made sick by it. The effect produced is said not to be destructive to the flesh as is the X ray, but rather attacks the nervous system. Means will be found, however, to overcome this difficulty, and it is predicted that the war of the future may count upon one more effective arm.

Spain.

SPANISH AIR ROUTES FOR 1921

Ambitious routes are proposed in Spain for air traffic in 1921. Among them are: Madrid to Paris via Soria and Logrono; Madrid to Barcelona; Madrid - Valdepenas - Cardoue - Seville - Tangiers; Madrid to Lisbon via the valley of the Tagus.

NO OFFICIAL ENTRIES FROM U. S. ARMY
IN NATIONAL ELIMINATION BALLOON RACE
TO BE HELD AT BIRMINGHAM MAY 21.

Owing to the lack of funds, by reason of the shortage of appropriations for the Air Service, the United States Army will make no entries in the 1921 National Elimination Balloon Race to be held at Birmingham, Alabama, May 21. It is interesting to note, however, that the Secretary of War has authorized the individual entry in the race of a balloon which will be piloted by Col. Frank P. Lahm, U.S.A., War Plans Branch of the General Staff, and well known as winner of the First International Balloon Race, held at Paris in 1906, with Major Oscar Westover, Chief of Balloon and Airship Division as aid.

The race will decide the United States championship for entry in the Gordon Bennett International Balloon Race which will be held at Brussels, it is hoped, on Sept. 18.

In 1920, by reason of the fact that the Aero Club of America held the international trophy, Ralph H. Upson of Akron being the defender, having won the race in 1913 - the date of the last preceding event - Birmingham was the starting point for both the National and International races. In the National, held on Sept. 25, with a start of 12 balloons, the "Kansas City II", Homer E. Honeywell, pilot, and Dr. Kingsbury, aide, won first with a distance covered of 700 miles. Lieut. Richard E. Thompson, with Lieut. Harold E. Weeks, aide, took second place for the U.S. Army, covering 690 miles in the "Omaha No. 1", while the international champion, Ralph H. Upson in the "Goodyear II" came third with 620 miles.

These three balloons constituted the United States entries in the International which followed on Oct. 23, three foreign countries, Belgium, France, and Italy competing, the championship going to the Belgian balloon, "Belgica", piloted by Lieut. Ernest De Muyter, with Lieut. Matthieu Labrousse, aide, the distance covered being estimated at 1,100 miles.

Neither of the 1920 events set up any new record either for endurance or distance covered, but the winning of the race by the entry from Belgium carried the International to that country for 1921.

The National Elimination Race will be held under the auspices of the Aero Club of America, with the co-operation of the Aviation Club of Birmingham. National interest should be stimulated by this event which will crystalize attention on the value and importance of the lighter-than-air side of aeronautics.

SQUADRON NEWS.

Headquarters 12th Observation Squadron, Douglas, Arizona, April 30.

Lieut. R.N. Pond of the Naval Air Station, San Diego, was a visitor at this station on the 28th. Lieut. Pond is flying a D.H.4-B and is in search of one of the three "sausages" that broke away from its ship in the Pacific during the heavy gale about the 15th. The balloon has a 600 foot steel cable attached which has been picking off chimneys, etc. as souvenirs in its path. In the Imperial Valley of California it hooked on to a Canal gateway, causing considerable trouble. The last heard of the lost balloon was that it landed in the Gila Valley the evening of the second day out due to the gas contracting but the next morning the heat from the sun expanded the gas sufficiently to allow it to take off.

Due to the target season the Squadron has been unable to do much liaison with the Infantry and Cavalry. On Wednesday the 27th, one team flew to Fort Huachuca for a liaison with the 10th Cavalry.

Three of the Air Service Officers of this flight, in addition to their other duties, are shooting the rifle range with either the 48th Infantry or 1st Cavalry. The fourth officer is possessor of a sharpshooter's medal now and considers it sufficient.

After about a month of experience with our recent transportation facilities, we find they are economical on gas and rubber, are reliable and help us to make friends with the speed cop. They also have good lungs and the "skinners" find theirs are improving too as well as their vocabulary. Poor mules! Their ears always give them away!

Flight "A", 12th Squadron, Nogales, Arizona, April 30th.

On Wednesday, April 27th of this month, 1st Lieuts. Prosser and Knapp made the first border patrol from this station that has been made in several weeks, to Douglas, Arizona, spending the night in Douglas and returning to Nogales the following day. The weather conditions were perfect, and the officers reported that no changes had been made along the border since last patrolled.

Lieut. Pond of the U.S. Naval Aviation, who has been searching for the captive balloon that escaped from San Pedro, California, in the early part of the week, landed at this station on Wednesday, the 27th, in a D.H.4-B plane. While landing his plane the right tire blew out, and it being late in the evening he spent the night in Nogales. The last report of the balloon it was seen in this vicinity. Lieut. Pond left this station early Thursday morning for El Paso.

The tennis court and base ball diamond which were begun about the 20th of the month have been completed, and the men of this organization seem to appreciate them very much, as, during hours for athletics, they are kept very busy.

Air Intermediate Depot, Wilbur Wright Field, Fairfield, Ohio, April 30.

The cold rainy weather has cut down activities in the Flying Department during the past week. Excellent progress is being made on the bombing planes which are now practically complete, except for certain articles of special equipment which still remain to be installed.

Friday evening, April 22nd, the civilian employees of the Post gave a very delightful dancing party at Side-Slip-Inn. Major George E.A. Reinburg, and the other officers of the command with their families, were guests on this occasion. The hall was very prettily decorated with apple blossoms and toy balloons. Excellent music and light refreshments contributed to the pleasure of the occasion.

The Officers Club gave a dinner dance at Side-Slip-Inn, Tuesday, April 26th. About forty places were laid at the tables which were very prettily decorated with candelabra and sweet peas. Individual bouquets were provided as favors for the ladies. The music was furnished by the Post orchestra. Arrangements were in charge of the Club Entertainment Committee, headed by Benj. G. Weir, Commandant of the Stock-keepers' School. Decorations and an

Air Intermediate Depot (Cont'd)

excellent menu, were arranged by First Lieutenants, Charles W. Steinmetz, and Charles E. Thomas, Jr. The dinner was served by the personnel of the Post Exchange Restaurant, and under the supervision of the very efficient Post Exchange Officer, Captain Charles C. Thrasher, Q.M.C.

A very successful dancing party was given by the personnel of the Stock-keepers' School and the two Supply Detachments at Side-Slip-Inn, Friday, April 29th. About 350 guests were present. The entertainment was organized by Lieut. Merrill D. Mann, E. & R. Officer. Lieut. Mann was assisted by Miss Georgia Watts, the hostess, who, although she has only been at this station a short time, has rendered very valuable service to members of this command. Excellent music was furnished by the Post Band of 50 pieces, under the direction of Mr. Heffner, Musical Instructor of the E. & R. Department.

The ladies of the Officers Club met at Side-Slip-Inn, Friday afternoon, April 29th, Mrs. Benj. G. Weir, and Mrs. Chas. E. Thomas being hostesses for the afternoon. Light refreshments were served.

Hq. Detachment, 1st Observation Group, Manila, P.I., March 19.

2nd Lieutenant John Blaney, formerly of the 3rd Aero Squadron, Clark Field, Pampanga, P.I., has assumed command of the Headquarters Detachment, First Observation Group relieving 2nd Lieutenant Wendell H. Brookley. Lieut. Blaney is occupying quarters at Camp Nichols, Rizal, P.I.

2nd Lieutenant Wendell H. Brookley having been relieved from command of the Headquarters Detachment, First Observation Group expects within a few days to enter the Sternberg General Hospital for treatment.

Work on the Detachment's new camp at Paranaque Beach, Rizal, P.I., is rapidly nearing completion and before the end of the month the Detachment should be occupying these new quarters.

Clark Field, Pampanga, P.I., March 19.

The Third Aero Squadron feels that a great misfortune has befallen the organization in the form of orders which deprive it of the old Commanding Officer, Major Roy S. Brown. He has been with the Squadron since November 23, 1919 during which period Clark Field has been constructed. When he arrived only two planes were on the field, they having been flown here by Captain Charles T. Phillips from Paranaque Beach. Now there are planes a plenty, hangars to house them, and a field to make them useful. A school for observers was successfully carried on under his direction. Target practice at Lingayen Beach as well as aerial co-operation with the annual staff ride are numbered among his achievements.

He leaves the islands before his foreign service tour is completed. His old command and the many friends he has made in the islands wish him "bon voyage".

Kindley Field, Fort Mills, P.I., March 21.

The Air Service Garrison Base Ball Team divided the two week end games played with the Manila Bay League. In the first game, played with the Meralco's the Air Service Team won by a score of 10 to 3. Sixteen hits were made during the game by the A.S. In the second game, played with Calamba, the A.S. lost in a tight game with a score of 2 to 0 as a final result.

The temporary electric generating plant in the Air Service Garrison has been replaced by a direct line from the Post Power Plant.

A Board of Officers consisting of Captain Ervin and First Lieutenants Eaker and Gray is convening for the purpose of determining the fitness of a number of enlisted applicants for Flying Cadets. This is the third meeting of this Board in a nine month period.

Lieutenant Colonel Tilton is Post Commander vice Colonel Davis who left for the States aboard the U.S.A.T. "Thomas" on Tuesday, March 15th.

The removal of the Second Aero Squadron from "Middle Side" to their permanent location at the "Tail of the Island" greatly facilitates the functioning of the Air Service Garrison, in that the former boundaries of the

Kindley Field, (Cont'd)

Garrison extended to "Middle Side" and the Provost Guard and Fire Zones had to be arranged accordingly; but now all three organizations composing the Garrison are located within five hundred yards of Garrison and Headquarters.

The Second Aero Squadron moved to their new modern and convenient Barracks on Friday, March 18th. This has been a long looked for event and was greeted with a good deal of enthusiasm by all the members of the organization.

Four planes were sent out to greet and escort the transport "Thomas" out of the Bay on Tuesday afternoon, March 15th, and bid a last farewell to Colonel R.P. Davis, former Post Commander, who is aboard the transport bound for the States. The Photo Plane made several photos of the Transport and returned to the station where the plates were developed and printed. The prints were placed in sand bags and dropped on the deck of the ship. The total time involved was forty-five minutes. The Photographer was greatly handicapped by a drizzly rain that was falling at the time the photos were taken. Under these adverse weather conditions and also the fact that a Graphlex camera was used - the results were altogether favorable.

An N.9-H, Seaplane was used to drop messages of congratulations from friends on Corregidor to parties leaving on the "Thomas".

Three enlisted men of this organization are being examined by a Board of Officers to determine their fitness for Flying Cadets.

A new Type "R" Observation Balloon was inflated today by the 17th Balloon Company.

Lieutenant and Mrs. Mayer have returned from their sojourn in Baguio.

The 27th Balloon Company is slated to go on the range for Target practice about June 21 - As this is the first time this organization has fired the past week has been devoted to a severe course of instruction in small arms firing. Two non-commissioned officers recently graduated from the school of Musketry at Fort McKindley are being used as assistant instructors. Such interest has been shown by the men in the various sighting and rifle exercises that it is believed a good showing will be made when the record "Shoot" takes place.

Ellington Field, Houston, Texas.

The two Capronis stationed at Kelly Field, were flown over here this week, piloted by Lieutenants Dunton, Palmer, MacIver and Morton. The flight from San Antonio was made in two hours and twenty-five minutes.

The baseball team of Ellington Field is beginning to win laurels for itself. Out of the six games played, four have been won by the home team. Saturday afternoon the team journeys to Fort Crockett to play that nine.

Headquarters "B" Flight, 13th Squadron, Marfa, Texas, April 30.

Recently this Flight was honored by a visit from Major General Dickman. On Thursday Lieut. Smith, one of the old time flyers of the Air Service and late of Bolling Field, now stationed at Sanderson, made the hazardous patrol in the Big Bend District, southwest of Sanderson, visiting the Station en route.

Pope Field, Camp Bragg, N.C., May 2.

During the past week the regular schedule of training was carried out with very good results. Several reconnaissance missions were flown. One altitude test flight, one formation, and command missions, were also carried out.

Friday afternoon one marine plane landed at this station on its way from Paris Island to Langley Field, Va.

A.S. Pilots School, March Field, Riverside, California, April 30.

Sixty planes from this school made a total 289 flights during the past week covering a distance of approximately 8,850 aerial miles. Total flying time - 126 hrs. 10 min. Preliminary instruction required 93 hrs.

A.S. Pilots School, (Cont'd)

30 min.; advance instruction, 2 hrs. 10 min.; test flights 7 hrs.; and miscellaneous flights 33 hrs., 30 min.

Arrival via airplane on Friday of Colonel Frank H. Lawton, Corps Area Quartermaster, and Major H.H. Arnold, Corps Area Air Service Officer, occasioned inspection of troops and quarters at this school Saturday morning. Major Arnold will also outline plans for inauguration of forest fire patrol from this base within the next few days.

"Although the Ninth Aero Squadron has been detailed to carry out this work in the Ninth Corps Area, personnel from this field will be selected to patrol the Los Angeles and Cleveland reserves," Major Arnold stated Friday evening. Landing Fields will be available for the patrol planes at Santa Barbara and San Diego, the patrol being carried out much in the same fashion as was in vogue last season. It is probable that graduate cadets who have received instruction in flying DeHavillands will be detailed to this work along with commissioned officers who have been assigned this work in the past. Both radio and wireless telephony as well as carrier pigeons will be used as means of communication between pilots in flight and the forestry ranger stationed at this base.

Friday April 29 was the third anniversary date of the arrival of troops at March Field. Incidentally the temperature tarried around the 100 mark most of the day while the wind-loft report at the meteorological station failed to register a wind velocity of more than 9 miles an hour at various altitudes up to 10,000 feet.

First Lieutenant Charles A. Horne was married last Sunday afternoon to Miss Marguerite Reardon of New York City. The ceremony took place at Saint Francis de Sales church in Riverside, following which the young couple left for an automobile honeymoon to various points in Southern California.

The engagement of Miss Helen O'Dell of Los Angeles to Lieut. Harry Colliver was announced at a prettily appointed luncheon at the Ambassador Hotel in Los Angeles recently. The wedding, it is announced, will be an interesting event of early June.

First Lieut. N. R. Laughinghouse has been appointed E & R Officer at this station vice First Lieut. Frederick B. Weiners.

Kelly Field, San Antonio, Texas, April 30.

Kelly Field Base Ball Team is not showing the pep that it should this week. The material for a good ball team is here but it doesn't seem to be functioning just yet. The team played Camp Normoyle at Fort Sam Houston, Texas, Wednesday, April 27, but was overwhelmingly defeated by a score of 10 to 3.

The Squadrons' Base Ball Teams are all in very good shape in spite of the fact that they have not had very much time to practice on account of target practice which has precedence over everything else. The 17th Squadron seems to be blazing the way in Pursuit Group while the 20th Squadron in the Bombardment Group is leading there, and Air Park No. 5 seems to hold the edge in the Air Park Group.

The usual enlisted men's dance was held on Tuesday at the Hostess House and everyone enjoyed it.

The 13th Cavalry will entertain the boys of Kelly Field on Saturday night, May 7, with a Minstrel show. The 13th Cavalry is stationed at Fort Clarke, Texas and claims to have the best show talent of any Army Unit in the Eighth Corps Area.

Major Henry C. Pratt, Air Service, has reported at this station from Headquarters Eighth Corps Area and is assigned to the Second Group (Bombardment) for duty and bombardment training. Major Carl Spatz, Air Service, is now Air Officer of the Eighth Corps Area.

Lieutenants Park Holland, Aubray Hornsby, Thomas L. Gilbert, John E. Lynch, and Ames S. Albro, Air Service, have reported at this station from March Field, California, and assigned to the Second Group (Bombardment) for duty and bombardment training.

Captain Frederick R. Lafferty, Air Service, has reported at this station from March Field, California, and is assigned to the Second Group (Bombardment) for duty and bombardment training.

Kelly Field -(Cont'd)

Captain Ernest F. Harrison, Medical Corps, is relieved from further duty at Kelly Field, Texas, and has proceeded to Brooks Field, Texas.

Captains Victor Parks, Jr., and Vincent B. Dixon, Air Service, made a cross-country flight on April 23, and returned April 24 to Eagle Pass, Texas for the purpose of practice in cross-country training.

Captain Lawrence P. Hickey, Air Service, and Cadets T.O. Robinson, Eugene Roberts, and Lawrence Farnell made cross-country flights to McAllen, Texas, for practice purposes on April 23rd, and returned April 24th.

Some of the new Orendo D 300 horse-power pursuit airplanes have reached the First Group (Pursuit). They have received a detailed and critical inspection by all pilots here that would put to shame the methods of the ancient gossip gushers when a prim new maiden fresh from Paris arrives in a small town. Everyone liked the appearance of this aerial debutante. The motor spoke its lines well and kept as cool as a society shoulder. The various pilots of the First Group polished up their nerve and their goggles and fought with a verbiage barrage for an early placement in the waiting line.

To Captain Arthur R. Brooks fell the rollicking honor and impressive responsibility of escorting the first service 300 Horsepower scout around the cloud lanes. Upon descending Captain Brooks reported that the plane flew very well and was satisfactory with a few exceptions.

Captain Arthur R. Brooks has assumed command of the First Group (Pursuit). Captain Brooks had commanded the Group for a considerable length of time before Major Spatz recently took over the duties of C.O., but Major Spatz is now Air Officer for the Eighth Corps Area.

Beginning the 2nd of May, bombing training for pursuit pilots in the Second Group will be inaugurated. All these pursuit pilots may not be used for bombing work against the navy, but no chances are being taken and all will be rapidly trained in bombing practice. The training will consist at first principally of flights in DH4's to the Camp Stanley bombing target and the dropping of dummy bombs. The pilots are paired in teams and each alternates with his team-mate as pilot.

The training in the First Group for the week ending April 30th consisted of the regular advanced pursuit course conducted by the 94th Squadron under the personal direction of its Operations Officer, Lieutenant S.G. Frierison. In addition there were ground classes in motors and airplane rigging given by Lieutenants White and Whitehead, respectively. In addition to that, the Group Cadets and Group Officers followed an Operation schedule covering offensive patrols and combat information. These patrols were designed for the dual purpose of training the flying personnel in formation attacks on enemy aircraft and for the perfection by experimentation of the methods and tactics used in each combat attack work. It was thoroughly successful in spite of the plane and personnel shortage and the necessity for assembling cadets from the various squadrons under one squadron each day for this work. Attacks were made against both single and two-seater planes.

On Monday, Tuesday and Thursday, the 95th, 27th and 17th Squadrons respectively flew an offensive patrol of three or five SE5A's over the sector from Kelly Field to New Braunfels, Texas, from 9:00 A.M. to 10:15 A.M. Enemy territory (friendly to the target ship) was to the west. At 9:05 A.M., the target plane crossed the simulated front exposing itself to attack. The offensive patrol attacked the target plane, using the best possible tactics.

Bolling Field, Anacostia, D.C. May 4.

On Monday, April 25th, Lieutenants Smith, Wolfe and Burgess made a trip to Camp Vail, N.J., for some radio supplies. The trip was made in DeHavilands.

On Tuesday, six SE 5's and Fokkers from this Field, flown by Lieutenants Ames, Wolfe, Smith and Ramey of this station and Captain Hartney and Lieutenant Crumrine of the Office of the Chief of Air Service, made a flight to Charleston, W. Virginia, in connection with the Washington-Dayton Model Airway.

Major B. Q. Jones of the Office of the Chief of Air Service left here in a DeHaviland on the 28th on a trip to Louisville, Ky., but on account of engine trouble was forced to land at Mt. Braddock, Pa.

On Saturday, April 30th, the graduating class of the High School of Waverly, Massachusetts, were guests of the field.

Fort Baker, California.

The Twenty-fourth Balloon Company after being without the hydrogen required for flying for sometime has again received gas and is flying valiantly. In four days the company managed to keep the balloon in the air for a total of 19 hours and 38 minutes. All this time was used in drill in tracking targets for the Coast Defenses of San Francisco and instruction of Non-Commissioned Officers in this work. After this period of activity a heavy wind struck the balloon while it was being put away causing it to crash into the windbreak and resulting in a puncture which required a few days of repair work.

Lieutenant James T. Neely has left the Twenty-Fourth Balloon Company to act as instructor at the U.S. Army Balloon School at Ross Field, Arcadia, California. Lt. Neely has been with the Company since April 7, 1920 when he was assigned at Fort Omaha, Nebraska, for work with the Coast Artillery during the present assignment of the Twenty-fourth Company.

The activities of the Twenty-fourth Balloon Company are continually being extended over a wider field. A Post Orchestra has been organized at Fort Baker, and at present consists of four members, all from the Twenty-fourth Balloon Company. Additional talent is expected from the Eleventh Company, C.A.C. stationed at Fort Baker. The Balloon Company baseball team continues successful, having won four out of five games during April.

KINDLEY FIELD, CORREGIDOR ISLAND, P.I.

Vocational training at Kindley Field is now well under way. The training work started with an enrollment of twenty men from the 17th Balloon Company in the Grammar school course, six men attending the high school course, six men attending the machinists course, ten men in aero and auto mechanics course, nine men taking the music course, and one man in the vulcanizing course.

Classes are being held daily for the enlisted men in drafting, map reading, rigging, fabric work, radio telegraph and telephone and machine gunnery. The entire 17th Company drills one and one-half hours daily.

During the month of February the 17th Balloon Company made a total of 26 flights for a total flying time of 25 hours and 3 minutes. The Twenty-seventh Balloon Company is doing calisthenics, infantry drill, small arms firing, machine gun practice, visual signalling. The company has been firing and rigging balloons, installing and operating its own switch-board, making its own gas, operating two electric generating sets and carrying out a definite training schedule.

On February 22nd the 27th Balloon Company celebrated its third anniversary by a full day spent in athletic sports, contests and vaudeville entertainment. The full details of this day of glory have not yet reached the States, but it may safely be assumed that the event was a most glorious one. Lieut. W. A. Gray is now in command of the Company and Lieut. E. J. Bowling is acting as Operations Officer.

Clark Field, Pampanga, P.I., March 26.

The Third Aero Squadron is proud of its achievement in having developed an embryo band. From a command of less than two hundred, have been gotten together twenty men who are willing to lend their best efforts toward the accomplishment of the impossible. Sergeant Tompkins of the 31st Infantry is loaned to this Squadron for one month, in which period it is incumbent on him to organize a band that can play.

Hq. 1st Surveillance Group, El Paso, Tex., May 2nd.

Major Heffernan and Lieut. Liebhauser made the border patrol and inspection trip to Douglas. The weather was favorable, and good time was made both ways.

The enlisted personnel of the First Surveillance Group gave a dance Saturday night which was a great success. At intermission, lunch and punch was served and a delightful program was rendered by the Fort Bliss Quartette. Music for the dance was furnished by the Eighth Cavalry Orchestra.

Hq. 1st Surveillance Group, El Paso, Tex., May 2nd, (Cont'd)

The First Surveillance Base-Ball Team leads the Fort Bliss League by having won one hundred per cent of the four games played, which goes to show the type of men in the Air Service. Much interest is aroused in the coming game with the Eighth Cavalry Team. The heaviest hitters in the League are on the Aviators Team. Home runs are a regular feature of their playing. The batteries, Rohn and O'Donnell are hard to beat even in the big leagues.

Mather Field, Sacramento, California, April 30.

On Monday, the 25th, a detachment of 26 enlisted men of the 91st Squadron left for detached service at Camp Lewis, via motor transportation to Fort Miley and thence by U.S.A. Transport "Buford". An unfortunate accident occurred enroute when a trailer broke loose from one of the trucks and three men were injured. They were left at the Letterman General Hospital for treatment. Lieut. G. Gardner, who left for Camp Lewis on the 19th by plane, will be in command of the detachment.

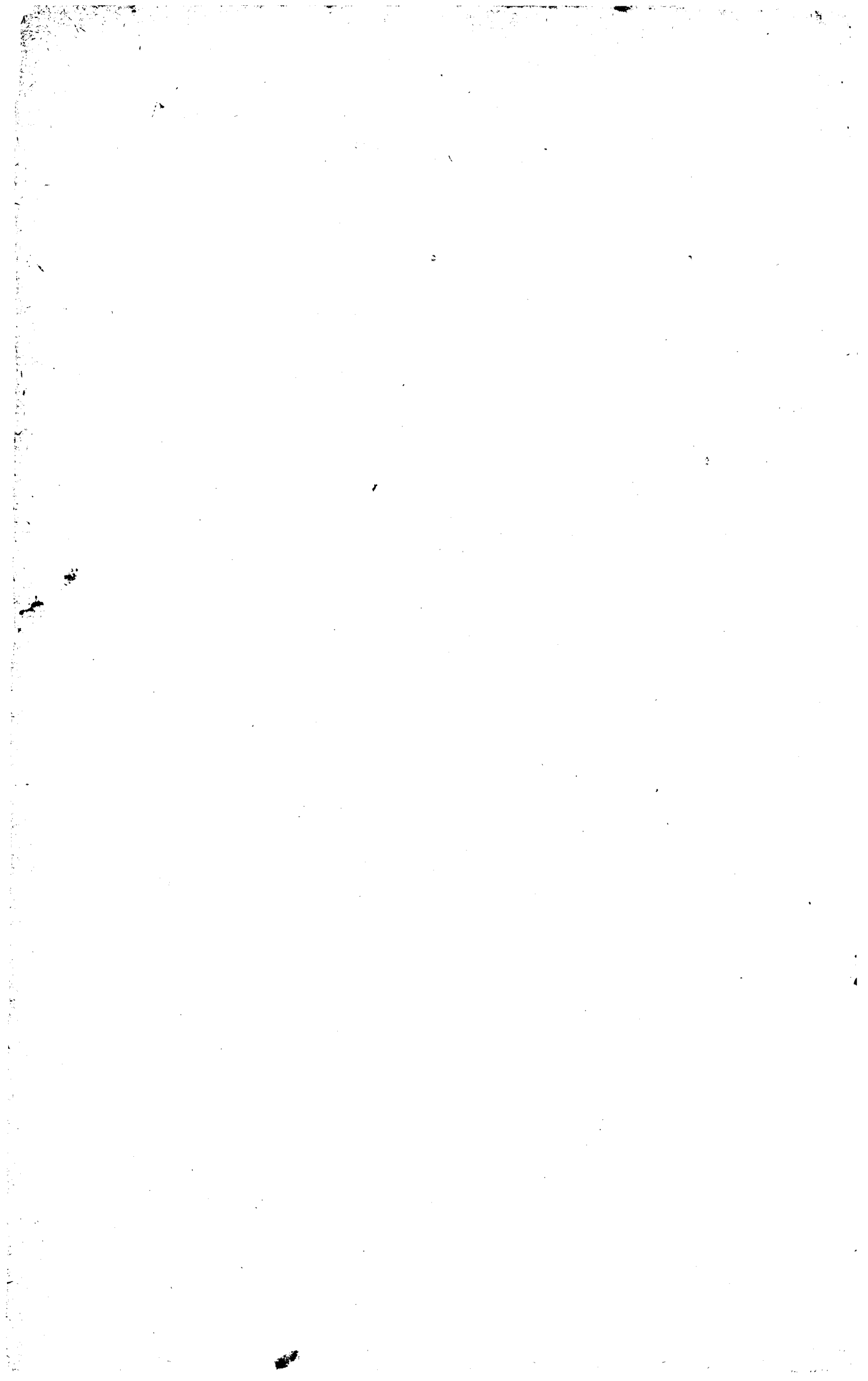
A formation of ferry pilots consisting of Lieuts. Frank D. Hackett and William S. Sullivan, Cadets Arndt and Clegg, Staff Sergeants DeGarmo, Guile and Helpman made a return trip to Rockwell Field the past week to get new machines for forest patrol work this summer. On the return trip Sgt. Woodgerd joined the formation, making eight planes in all. The flight was an entire success, with no trouble of any kind.

A Service Club dance for enlisted men and their friends was given at the Post on Wednesday evening, chaperoned by the Post Hostess, Mrs. Gardner, and matron members of the Community Club of Sacramento. New hangings and curtains, large flags and huge bouquets of flowers gave the hall a very festive air. The Mather Field Jazz Orchestra was most generous with their music, playing with scarcely any intermissions from 8:30 to 11:00 P.M. Delicious punch, made by one of our mess sergeants, was served. These dances and movies and talks by interesting speakers, are making the Service Club the most popular place on the Post.

Bishop Moreland of Sacramento gave a most interesting discourse at the Service Club on Monday evening. Amusing and instructive instances from his recent trip to England, the battlefields of the World War, Belgium, Switzerland and Italy held the close attention of the audience. This is the first of a series of meetings scheduled to be held every Monday night, to be conducted by members of the Church Federation. The Field musicians provided excellent music and Private Beckstead led the singing.

A new arrival at Mather is 1st Lieut. Ralph W. French, Q.M.C., who is attached to the 91st Squadron for duty.

For the last week time has been taken up in getting ready for the coming Forest Patrol season, in the way of planning the personnel for various detachments, repairing and issuing equipment, and the various other details connected with a contemplated change of station.



The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE MAY 28, 1921.

COMPARISON OF COST OF TRANSPORTATION
BY LAND, SEA AND AIR

It was Theodore Roosevelt who said: "Transportation is Civilization." A good many people have said it since and a good many more thought it before it was said.

Rome in the height of her power built roads that are in existence today, not only models of road construction but monuments to the civilizing influence which reached to the remotest limit of her domination. Per contra, bad roads - the lack of means of transportation - have ever been the sign of a low form of civilization. They are the most potent factor in the success of the Red Revolution in Russia; the chief cause of the famine and desolation in the isolated districts of that and other countries today.

The Government of a country cannot carry on effective administration without passable roads along which people, troops, posts, supplies and news may travel. The greater the transport facilities, the easier the difficulties affecting the social order may be ameliorated and overcome.

All means of transportation are necessary for the increasing commerce of the world, and the time cannot long be delayed when the air will have to sustain its share as a burden-bearer by conveying its own special kinds of freight. Each existing form of transport has its own sphere, of course - that of road, railroad, and water - and the air transport, while it cannot take the place of any one, can and will supplement all of them to a constantly increasing degree.

As with every other utility, of course, all methods of transport must be judged by their cost of operation taken in connection with the revenue produced; the cost of ton-miles as well as that of vehicle, train, ship or air miles must be considered, and; above all, the factors of speed and the completeness of the service from the point of view of the user must be taken into account.

Broadly speaking, the actual cost of transport does not matter, nor is it necessary to consider whether one form of transportation is more costly than another, provided the particular type has some inherent qualities which appeal to the public who use it and will pay enough for its use. For example, such qualities are a high speed, such as air transport can provide, and comfort and convenience as in trains or boats for which passengers will pay a price far beyond that for mere conveyance.

In considering the first of these, speed much in excess of the normal or economical always demands a high price, whether the transportation be by land sea, or air. From the standpoint of science, this is inevitable, of course, because increased speed by land, sea or air involves more resistance of the medium traversed, as well as greater friction in the propelling and power-transmitting machinery, requiring, therefore, more expenditure of power. In most cases, also, increased speed means the employment of more skilled and therefore more highly-paid labor, though not necessarily a greater number of laborers. Speed, it must be borne in mind, is a relative and not an exact term: the fastest sea speed, for instance, would be considered moderate on land, while the speed of the fastest train is slow compared with the latest achievement of the airplane.

In the case of air transport, high speed is the greatest asset, and for special purposes and certain kinds of goods, will always be in demand. Moreover, the longer the journey the greater the advantage to be conferred by high speed. Nor, in many cases, do the ordinary economic conditions as expressed in formulas such as the cost of ton-miles, apply. The fastest trains, motor cars and ocean liners are used largely because they save time, for time, in most cases and to most people, is money. For instance, the return flight across the Atlantic of the R-24 was made in 74 hours and 56 minutes, a tremendous gain over the fastest liner that has ever sailed this much-traveled water-way. An air transport company,

M.E.C. J.W.

therefore, that would provide trans-Atlantic passage for passengers or goods would be selling not only carrying power, but the very considerable saving in time as compared with the only other means of conveyance.

In the absence of any regular air transport line in operation in this country it is impossible to establish a basis of comparison in the cost of transportation by means of road, rail, water and air in so far as the United States is concerned.

In this connection, however, some figures compiled by Lord Montagu of Beaulieu and set forth by him in a paper presented at a meeting of the Royal Aeronautical Society of London on January 20, 1921, will be of interest. The "Aeronautical Journal" of April gives this paper in full, from which the tabulations that appear below are quoted. Lord Montagu explains that the horse and the tramway are left out of his calculations because the latter is used to so limited an extent for any transportation save that of passengers, and the former is so rapidly disappearing as a bearer of burdens. In his calculation of cost he includes depreciation, insurance, rent, fuel, oil, waste, grease, wages, bonuses, repairs and renewals but no interest or capital. Nor does he fail, of course, to point out that, in the cases of the air and of water, no permanent road-ways are required to be kept up, saving, therefore, an enormous expense for these two modes of transportation.

As regards the lighter form of transport, the private car, char-a-banc, and the motor-bus, Lord Montagu points out, it is difficult to transform passenger service into ton-miles, though as an average about 15 passengers are reckoned to the ton. He stated that the present cost of conveying passengers by means of motor-bus varies from 15 d. to 24 d. a mile, and assuming 16 passengers, an average of two-thirds of a full load - 24 passengers - the cost works out at 20 d. or $1\frac{1}{4}$ d. a passenger ride. If the weight of the vehicle, $3\frac{1}{2}$ tons, be included also, then the cost of the ton-mile will be much reduced. In the case of private cars, assuming the average running cost of the moderate powered car without a private chauffeur as about 6d. per vehicle mile, at this cost at least four persons can be conveyed, which would mean a cost of about $1\frac{1}{2}$ d. per mile per passenger. The cost of large cars run with paid drivers is now anything between 8d. to 1s.6d. a mile.

"As regards railways," Lord Montagu stated, "the rise in all outgoings especially in rates, taxes and labour has been so great of late that it is difficult to give accurate particulars. I am informed on good authority, however, that about 1.6d. per ton-mile was a fair figure until a year ago. But this figure does not include recent rises in costs or labour. The expenses of collection and delivery also in the case of goods not carried in large direct consignments which have also to be added to this 1.6d. so far as the real cost for purposes of comparison between origin and destination, has to be ascertained. Two most serious features in railway expenses are the rise in labour and local rates, and British railways will have to pay upwards of £10,000,000 this year for this latter charge. Owing to this and other causes it is probable that the cost of transport by rail will continue to rise. Indeed, an average of about $2\frac{1}{2}$ d. per ton-mile will probably not be an excessive calculation, a figure which would have been thought impossible to charge as an average a few years ago. Considering that this figure only includes the bare cost of transit between station and station, and except very rarely from origin to destination, it is probable that the tendency of all kinds of traffic, except coal, iron and heavy goods in large quantities, to leave the railways and go to the road, will become more pronounced as years go on. Then again, a new, disquieting and expensive feature is the evil of stealing and pilfering which is now a very common complaint, increasing the average cost of freight to the merchant or consignee. It should be remembered that the railway and the ship only convey from fixed points of collection to fixed points of delivery, and not from the point of origin to the ultimate destination. The exact theoretical cost of conveyance is not therefore always the only test by which the trader judges and decides what kind of transport to use.

"As regards transport by sea, this is naturally the cheapest of all kinds of transport. There is in this case, as in the air, no permanent way to maintain and the tonnage of goods or number of passengers carried at the same time by the same power and by the same labour is as a rule infinitely greater than by any other means of transport. In the form of which I have been able to obtain the cost of ocean transport, I have had to take into account the gross weight of the steamer besides its contents, for it is almost impossible to give the cost of the conveyance of the cargo and passengers apart from the ship with her engines, coal

stores and all equipment. And as regards the cost of a voyage, this too must include the time and expenditure not only on the voyage, but in ports of call, allowances for delays at destination, as well as for loading, storing and discharging goods and the cost of depreciation and insurance. I have obtained a few typical figures of voyages from London to the East, returning to London. But as the cost per ton-mile by sea is such a small fraction of a penny, the following costs are shown per 100 ton-miles, calculated on the gross weight of the steamer and its contents.

Route.	Cost per 100 ton-miles.		
	Fuel Pence	Other items, Pence	Total Pence.
London-Australia (via Canal) _____			
16 knot mail steamers ...	3.3	3.3	6.6
14 knot intermediates ...	2.4	2.7	5.1
London-Australia (via Cape) _____			
Cargo liners	1.6	2.2	3.8
London-Bombay (via Canal) _____			
16 knot mail steamers ...	3.8	3.4	7.2
London-Calcutta (via Canal) _____			
14 knot intermediates ...	1.4	3.6	5.0
London-Japan (via Canal) _____			
12 to 14 knot intermediates..	2.9	2.9	5.8

The estimated cost, on the other hand, of conveying saloon passengers per ship mile, exclusive of food, but assuming that the whole accommodation for passengers is occupied through the entire journey, is given below:-

Routes (via Canal).	Pence.
London-Australia, mail steamers	1.44
" intermediate type	1.11
London-Bombay, mail steamers	1.80
London-Calcutta, intermediate type	1.20
London-Japan, intermediate type	1.42

At 1½d. average per passenger per mile and allowing 15 passengers to the ton, then the cost of ton passenger miles is about 22½d. a mile, about the same figure as a motor-bus or a char-a-banc.

ROUGH ESTIMATED COST OF CARRYING CARGO PER 100 TON-MILES
EXCLUSIVE OF LOADING AND DISCHARGING EXPENSES

London-Australia, mail steamers	10.10
" intermediate type	8.2
" cargo liner (via Cape)	6.7
London-Bombay, mail steamers type	12.0
London-Calcutta, intermediate type	9.7
London-Japan, intermediate type	9.8

Coming to the cost of conveyance by aircraft, figures with regard to the airplane were based on the London-Paris transport line, while those relating to the airship were taken from Air Commodore Maitland's report of the trans-Atlantic flight of the R-34.

As to the airplane, it was stated that it had been estimated that a machine could be flown in the Paris-London transport service at about 38d. per airplane mile, though events having proved this figure to be too low, a basis of 44d. per ton-mile would represent the cost at the present time if a reasonable profit were made. The D.H.18 has lifted and flown with a weight of 2,200 lbs., but such a machine designed solely for goods carrying, and at the reduced speed of 75 m.p.h., would probably lift 2½ tons, or well over 5,500 lbs., and the cost per ton-mile would, therefore, be correspondingly reduced.

In the case of the R-34, the cost was ascertained to be approximately 23s.6d. a mile flown. To take the concrete case of England to Cairo and India, and allowing 100 hours for the full journey in laps of 50 hours each, the expenditure, according to Commodore Maitland's figures, would be as follows:

	s.	d.			
Interest on capital expenditure ...	7	0	per mile over land and sea.		
Cost of operating the airships ...	23	5	"	"	"
Cost of running the bases ...	<u>11</u>	<u>0</u>	"	"	"
	<u>41</u>	<u>5</u>			

Or an "all in all" cost of 497d, per mile made good over the ground. If the airship could carry, as a conservative figure, 15 tons of commercial load for a journey occupying 50 hours, this would make the "all in all" cost per ton-mile 35½d. for such a journey. Not a formidable figure in comparison with other methods of fast transport.

Allowing seven passengers to the ton, which for practical purposes amounts to each passenger being allowed 1cwt. of baggage free, and one ton of mails at 6d. per oz. for each stage of 50 hours, the following table is of interest:-

	Airship.	Steamer.
England to	Approximate Time of Transit.	Approximate 1st Class Steamer Pas- senger fare.
Egypt	2½ days	£45 to £50
India ...	5 "	£65 to £70
South Africa	6½ "	£70
Australia	10½ "	£115 to £128
	Mails (1 ton Passengers carried).	Now increased about 20% beyond these figures.
	6d. oz. £50	
	1s.oz. £100	
	1s.3d.oz. £120	
	2s.oz. £190	

The above figures are based on airships actually under construction (R.38 class), showing a profit of 15 per cent, and are based on the carriage of 75 per cent of the possible passengers.

The passenger ton mileage in this case would work out at about 34d. but no doubt these costs will be reduced later on. And while the cost is in this case moderate, there would be a great saving in time on a non-stop run for at least 2,500 miles to 3,500 - say London to Egypt or London to America.

COST OF TON-MILES BY LAND, SEA AND AIR

Land.		
From station to station.		
Per train - Passengers, 15 to ton at 3rd class fare of 2d. a mile	30d.	B
Goods, average (1919)	1.6d.	B
From origin to destination.		
Per motor lorry - goods in not less than 3-ton lots	10d.	B
Per bus or char-a-banc - 15 pas- sengers to ton	22½d.	B
Per average motor car	8d.	A
Per motor cycle	2d.	A
Sea,		
From port to port.		
Mail ship066d. to .072d.	A Calculated on
Passenger ship (intermediate)	.050d. to .058d.	A gross weight of
Cargo liners038d.	A steamer & contents
Air		
From Aerodrome to Aerodrome.		
Airplanes for mails and passengers, D.H.18	30d.	A
Airplanes for goods, D.H.18 (special type)	14d.	A Estimated
Airships for mails and passen- gers, say 10 tons in all	36d.	B
Airships for goods (R.38)	35½d.	B Excluding insurance
Airplane, 2-engine Vimy type	126d.	B

per machine mile.
A weight of vehicle included.
B weight of vehicle not included.

TRANSPORT IN ORDER OF SPEED.

	Average speed in m.p.h.
1. Airplane for mails and passengers	100
2. " goods	80
3. Airships for mails and passengers	60
4. " goods	50
5. Express and fast trains	40
6. Ordinary passenger trains	25
7. Motor cars and motor cycles	20
8. Mail or fast passenger ship	16
9. Motor bus or char-a-banc	15*
10. Average goods train	14
11. Motor lorry for goods	13*
12. Ordinary passenger ship	12
13. Ordinary cargo ship	10

* The road motor vehicle is the only vehicle which can collect and deliver without intermediate handling between origin and destination.

"AND I LEARNED ABOUT FLYING FROM THAT".

The following communication from the Commandant of ----- Field tells its own story:

May 12, 1921.

From: The Commandant -----Field.
To: The Chief of Air Service.
Subject: I Learned About Flying From That.

1. Yesterday there occurred at this station a very regrettable accident when an airplane crashed, caught fire and burned up. The observer was imprisoned in the plane and was burned to death. The pilot extricated himself and lived for about five hours. During the first three hours he talked in a very rational manner suffering practically no pain as a result of the hypodermics that had been given him and gradually sank until he died. About an hour after the accident he asked to see the Commandant and talked with him about twenty minutes. In the course of the conversation he said: "Major, please tell the boys if they want to play around to get their altitude first." He had previously explained that he was flying rather close to the ground doing steep turns when he side-slipped into the crash. No doubt every flier in the Air Service has had this fact impressed upon him by his seniors and his instructors. It is a matter of common knowledge to all in the Air Service, yet accidents such as these happen time after time. I think this is an excellent opportunity to impress upon all the truthfulness of the statement, especially when made by a man who has now passed to the great beyond.

Commandant,

It is a regrettable fact but nevertheless a fact that it requires an accident such as this to impress upon us a realization of a thing that all of us are aware of. We all know that sooner or later stunting close to the ground will get us. We know this but we do not realize it. This officer, a splendid pilot has given up his life for the advancement of flying. Let us see that he has not sacrificed it in vain.

In war and even in training for war during peace, it is necessary that pilots fly close to the ground and that they take chances which require an absolute trust in the motor. Some flying close to the ground is undoubtedly necessary, but it should never be indulged in except for a definite gain.

Stunting close to the ground is exhilarating, and pilots who have exhausted the thrills of stunting at a safe altitude are often tempted beyond the dictates of their better judgment. While boldness and courage are essential qualities of every pilot that must be developed and kept alive, there is a limit beyond which we should not go. Stunting for pleasure at low altitudes is beyond this limit.

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MORE ABOUT PARACHUTES

The News Letter of May 6 contains an article by Major Follett Bradley, headed - "When to use a Parachute". Will you please publish this in reply?

In addition to the circumstances mentioned, which are certainly sufficient to justify the use of parachutes, it may sometimes be advisable to use a parachute:

- (a) When engine failure occurs while flying at night over rough country, without landing light equipment. Lt. Coney would have very properly jumped had his engine stopped during his night flying.
- (b) Sometimes when caught in rough thunder or other storms when ceiling is low.
- (c) Sometimes when in fog near the ground, perhaps out of control.
- (d) There are probably other occasions which have been overlooked.

Any aviator's life is worth more than any airplane, and it is not proper to leave the impression that any pilot should save an airplane at the cost of his life. It usually turns out that both aviator and airplane are lost.

Suffice it to say that Major Bradley's deduction, that "if Pilots are required to wear parachutes, etc., it will lead to many crashes, etc., and will encourage faint-heartedness," is not borne out by experience, either here or abroad. Most all pilots here wear parachutes and have for the past year or more, and they are considered indispensable.

Rickenbacker said "had he a parachute on the front, he believes that several more 'Huns' would have been on his record."

When very crude parachutes were proffered pilots on the front, they unanimously approved them.

The matter of the benefit of parachutes has been the subject of very exhaustive study by the Air Service, and I feel certain that as time goes on and the Air Service becomes more familiar with parachutes and airplanes, all of the older pilots will change their ideas on this subject.

It might be of interest to these officers, as well as the Service in general, to know that there are now being built for the Air Service- 250 Seat Type Parachutes, 75 Lap Type Parachutes, 25 Double Type Parachutes, delivery on which should commence within two months.

Edward L. Hoffman,
Major, A.S.,
McCook Field.

CHANGES OF STATION OF OFFICERS
FOR THE WEEK ENDING MAY 17.

May 12, 1921 - First Lieutenant Clyde V. Bell, relieved from duty with Air Service at March Field, Riverside, California, and returned to duty with the Cavalry.

May 14, 1921 - First Lieutenant Carl F. Greene, Air Service, ordered from March Field, Riverside, California, to Letterman General Hospital, San Francisco, California for observation and treatment.

WRIGHT MOTOR PERFORMANCES AT CARLSTROM FIELD

Flight "A", Carlstrom Field, boasts of a Wright Motor with 415 hours and 50 minutes to its credit. It has been used exclusively by solo students during its entire life in the plane. This is a remarkable record for flying time on a motor without overhauling. Flight "B" at this station, sometime ago had a motor to go 407 hours before it was ordered taken down by the Engineering Department for inspection. The pilots and mechanics at this station have been handling their motors to perfection, according to above records.

PRIVATE SIMMONS DROWNED, FOUR MEN NARROWLY ESCAPE WHEN SAILBOAT CAPSIZES IN COLON HARBOR

A Sunday afternoon pleasure trip in a sail boat ended disastrously with the drowning of Private Loyal L. Simmons and the narrow escape of four other enlisted men when the boat capsized in Colon Harbor the week of April 22nd. In swinging the boom around to tack, the boat capsized and emptied the men into the water, where they clung to the keel for over two hours, expecting help from shore or from a navy vessel that lay anchored quite near the scene of the mishap.

When the men realized that their plight had passed unnoticed, two of the number, Private Simmons and Zellers, volunteered to swim to the nearest point of Colon, a distance of about a mile and a half, and struck out, leaving privates Ascensio, Anderson and Lawhead by the boat. The pull for shore proved harder than expected and little more than midway Private Simmons had to drop back, intending to float while Private Zellers swam on to bring back help. The arrival of a police launch was too late by a matter of seconds and the rescuers caught only a glimpse of Simmons as he sank for the last time. The men on the bottom of the sailboat were taken off, tired by three hours of battling the waves, and Private Zellers was exhausted by the hard swim for aid.

The unfortunate death of Private Simmons leaves a wake of sorrow among the many men of the post who knew him, while his clean-cut character and distinctive personality make the loss greater to his companions and friends.

Simmons was born in Rossville, Indiana, October 28, 1900, attended the public schools there, and enlisted in the Air Service at Indianapolis on July 16, 1919. Assigned to the Speedway at Indianapolis he worked at the Aviation Repair Depot for a month and from there was transferred to the A.R.D. at Dallas, Texas. After a year in Texas he was drafted for the Canal Zone and arrived at France Field on August 31, 1920. Since his assignment to the 7th Aero Squadron Simmons had been in the motor transportation department as motorcycle driver. Although search parties organized by the Cristobal police, naval stations, and the post have sought the body for the past week it has not been recovered.

BODY OF AVIATOR FOUND IN BEE RIVER, ARIZONA

The body found in the Bee River, 60 miles below Yuma, Arizona, recently has been identified as that of Lieut. Charles F. Bell, U.S.A. A.S. who was lost April 22, 1920 when an airplane he was piloting fell into the Colorado River after colliding with an unseen telegraph wire. Identification was possible by means of the officers uniform, fragments of which were intact.

At the time of the accident Lieut. Bell with Corporal Cobble was returning from Los Angeles to Yuma where his squadron was engaged in border patrol and aerial photography. Cobble was able to reach the river bank but Lieut. Bell drowned before aid could reach him. The plane had been gassed and oiled at March Field, enroute to the border town.

HARTFORD HAS FIRST MUNICIPAL LANDING FIELD
EAST OF NEW YORK

The first municipal landing field in any Eastern City has now been completed at Hartford, Conn., and has already been visited by a number of fliers. The city has so far expended more than \$15,000 to put the field in condition and, aside from providing supplies of gasoline and oil, the field also offers to fliers the accommodations of a club house. An attendant is kept constantly on guard. The Hartford municipal aviation commission wishes it understood that fliers from any place, at any time, are welcome to "drop in" on the field.

Recently several army fliers from Framingham, Mass., visited the Hartford field and pronounced it one of the finest they had flown on. There is a total space of 100 acres and the aviator has a straight away run across the field of 2,000 feet in one direction and 1,800 in the other. Markers are now being installed and, aside from the usual symbols for the information of the flier, the word HARTFORD will be spelt out in white concrete. The customary wind direction bags and other safety appliances are provided.

Hiram Percy Maxim, inventor of the Maxim silencer, is chairman of the municipal aviation commission in Hartford and is also president of the Aero Club of Hartford, established in 1909. Other members of the commission are S.A. Miner, commodore of the Hartford Yacht Club and C.M. Knox, well-known engineer in that city. Mr. Maxim is himself the inventor of the various silencers bearing his name, and his father, Sir Hiram Maxim, in 1894 experimented with a huge steam driven air-planes, which marked the beginning of practical attempts to solve the problem of air navigation.

Aviators visiting Hartford should phone Mr. Maxim or one of the other commissioners named. They will find a cordial welcome. Mayor Brainard of Hartford and other municipal officials are decidedly friendly toward flying and are cordially assisting the aviation commission. Recently several unemployed men were set to work completing the grading of the field, which is centrally located, a mile from the center of Hartford and within a few hundred yards of a main line trolley.

Plans are now being discussed in Hartford for a permanent Hartford-New York Air Service, which may be in operation within a short time.

Fliers intending to visit Hartford whenever possible should drop a line in advance of their arrival addressed to "Aviation Editor - Hartford Courant," and that newspaper, the largest morning paper between New York and Boston, will see that their coming is heralded.

AERONAUTICAL NEWS FROM OTHER COUNTRIES

Canada.

OFFICIAL STORY OF THE DIFFICULT FLIGHT
FROM PEACE RIVER TO FORT NORMAN, WHICH FAILED

The official story of the attempted March flight of two monoplanes from Peace River to Fort Norman was made public by the Toronto office of the Imperial Oil Co., says the "Ottawa Citizen", May 11. The planes are owned by the company and will operate for the sole benefit of that concern. The narrative of the pilots gives a vivid idea of the climatic difficulties encountered.

Leaving Peace River at 8:45 on the morning of March 24, the two all-metal monoplanes of the J.L. type carried three men each over the first leg of the journey, viz: to Vermilion Chutes, a distance of 250 miles, in three hours. Pilot George Gorman, Navigator W.H. Waddell, and Mechanic P. Derbyshire, were in one machine, while in the other were E.G. Fullerton, pilot and navigator; W.J. Hill, mechanic, and Sergeant Thorne, of the Royal Canadian Mounted Police. The machines were equipped with skis for landing and hopping off in the snow. There was two feet of snow at Vermilion and on account of bad weather the aviators did not leave that point until 2 P.M., March 27. The route lay across country to the Hay River, and down that waterway to the Hay River post on Great Slave Lake, a distance of 175 miles. They arrived at 4:30 P.M., and landed in two and one-half feet of snow, badly drifted.

Blizzard Encountered

At 3 P.M. on March 28, both machines took the air for Fort Simpson, 250 miles away. Shortly after starting, a terrific blizzard was encountered and after covering 90 miles, the pilots brought their planes to earth twenty miles beyond Fort Providence. When the visibility improved sufficiently they flew back to Fort Providence for the night, landing about dusk. They stayed until March 30, when they left at 11 A.M. for Fort Simpson, where they arrived at 12:40.

In landing Gorman's machine was damaged. One landing runner encountered soft snow, while the other struck crust. The result was a tilt sideways which broke the propeller and did other injury.

On April 3 the other machine with Pilot Fullerton at the helm, endeavored to "hop off" for Fort Norman. Unfortunately the take-off was very rough ground and the result was that Fullerton's machine was badly damaged. Repair work on Gorman's machine was gone on with under the direction of Mechanic Derbyshire. Oak boards from a dog sled were fashioned into propellers. Moose hide was used to bind the blades and the Hudson Bay's store provided glue.

The Second Blizzard

Finally, on April 20, the Gorman plane was ready to try for the upper blue once again. Then another blizzard came. For three days it was impossible to see more than a few yards on account of the driving snow. When the storm let up it was decided to return to Peace River, rather than to push on to Fort Norman. The chief reason for this was that Fullerton's plane would have to be furnished with wheels in order to get it out of the field where it crashed and where the rapidly disappearing snow made its skis useless.

On April 24 Gorman's machine left Fort Simpson with Gorman, Fullerton, Hill and Waddell on board and returned to Peace River (510 miles) in a single flight at an average speed of 85 miles an hour against a head wind.

Holland

PULLMAN AIR SERVICE TO HOLLAND AND DENMARK

The Royal Dutch Air Service Co. - a State-aided concern - has commenced operating a luxurious airplane service between Croydon (near London), England, and Dutch cities. These flying "Pullmans" provide softly cushioned armchairs, with writing tables for each passenger, and the interior of the cars are fitted with satinwood panels, mirrors, etc. The arrangements include one departure each day from Croydon at 10 A.M., halting at Rotterdam for 15 minutes, and continuing to Amsterdam. The fare from Croydon to Amsterdam is £10 10s. Between the latter place and Copenhagen air connections are provided. The through fare to Copenhagen is £34 6s.

Japan.

JAPAN ESTABLISHES FLYING HARBOR

It is reported in an issue of Shipping and Engineering that the Japanese Government contemplates the establishment of a great flying harbor at Urawa, Saitama Prefecture, in view of the coming expansion in aeronautics in Japan.

SQUADRON NEWS

Crissy Field, San Francisco, California

Observation for the different batteries at Fort Barry was continued during the week. Co-operation between the planes and the batteries has become almost perfect. The planes are observing for the 6" rapid fire, as well as for the big guns. On April 25th, the C.A.C., requested airplane observation for the 12 inch rifles on the fourteen thousand yard range. Sgt. Thomas J. Fowler, pilot, Sgt. Dotta, observer, directed the shoot from the plane. A low strata of fog made other sources of observation impossible, so the plane was forced to observe from an altitude of one hundred feet. Corrections were sent in for the first two shots, the third shot destroying the target. The next seven shots fired were direct hits, making a total of eight direct hits out of ten shots fired. It is claimed that this shoot is the best in many years and it also goes to prove the value of airplane observation, when other observation fails.

On the following Wednesday the artillery again requested airplane observation, this time for the 6" rifles. Sgt. Fowler, pilot, and Pvt. Lawrence, observer, were sent out to correct their deflections. After observing four shots, the motor began to slow down until it stopped completely. At that time the plane was fifteen miles from the tug and fifteen hundred feet high. Their predicament was wirelessly in by the operator, and was picked up by three stations, the tug, Fort Barry, and Crissy Field, at ten o'clock A.M. The waves were seven to ten feet high, and on landing the plane hit one squarely and was completely submerged. It came to the top again, but started to settle slowly again. The tug cut the target, reaching the plane in ten to fifteen minutes. By that time all that was left floating of the plane was the rudder. The plane itself had sunk. The men suffered no ill effects from their ducking.

Crissy Field had its first night flying for sometime, when 1st Lieut. W. C. Goldsborough, and 1st Lieut. H. A. Halverson, observed for 12" mortars. The night flying planes at the field are equipped with four electric lights, one green light on each upper wing. The electrical current is generated by a 120-130 volt 200 watt 900 cycle, A.C. fan-driven radio generator. The plane can be followed in all its movements by means of these lights. The plane was also equipped with six mark 1 airplane flares. Three shots were fired by the battery and correct deflections sent in for each shot. The shoot lasted one hour. The observation and radio communication was 100%.

Airdrome, Sanderson, Texas, May 1.

The weather at this station has been exceedingly clear and warm for the past week. Several special missions to Del Rio have been made by the commissioned personnel, which now includes only Lieutenants Stenseth, Smith, Woodruff, and Selzer. Lieut. Stenseth and Sgts. Kolinski and Jackson carried out two bombing problems in compliance with our training schedule. Lieut. Smith and Sgt. Dorcy also carried out one bombing problem and the monthly patrol to Marfa, the former being reported as the most successful drop made here in some time. On this problem some trouble was experienced with the bomb release mechanism functioning improperly, but this difficulty was quickly located and repaired by the Armament Department.

Corp. Turner of the 90th is again in training for a wrestling match, this time with one Mr. Stevens, of Dryden, Texas, known to some as the "Texas Wildcat."

The entire commissioned strength were invited guests at Mrs. Ford's informal dance, given at the Bohlman Hotel last week.

Air Intermediate Depot, Wilbur Wright Field, Fairfield, Ohio, May 7.

Flying activities have been greatly restricted, due to an unusually large amount of rainfall which has occurred during the last week.

First-Lieut. Caleb V. Haynes, in a Fokker Airplane, started for Bolling Field Sunday, May 1st. He was forced down at Columbus, Ohio, by a broken oil pump and was detained at Moundsville, West Virginia, by stormy weather. His arrival at Bolling Field has not yet been reported.

A triple motor, Caproni Biplane, has been completed and will be ferried to Langley Field within the next few days for use in the naval bombardment project.

Wilbur Wright Field, Ohio - (Cont'd)

It is expected that work will be commenced soon on six SE-5's, which will be ferried to Langley Field for use in connection with maneuvers to be carried out with the naval vessels.

The E. & R. Department gave a dance at Side-Slip Inn, May 6th, under the supervision of Miss Georgia Watt, the Post Hostess. Music was furnished by the Post band and a large number of soldiers and their friends were present.

First Lieutenant Geo. V. McPike, who has been sick in quarters since undergoing an operation at the post hospital, has returned to duty.

First Lieut. Merrill D. Mann, is now on sick report and marked quarters.

A number of officers, soldiers and civilian employees from this Field, attended the annual inspection of New Carlisle Lodge, Free and Accepted Masons, Thursday, May 5th, on which occasion First Lieut. Charles W. Steinmetz received his first degree in Masonry.

France Field, Cristobal, C.Z., April 23.

The opening of the rainy season was marked by torrential downpours on Thursday with a total precipitation in twenty-four hours of 3.60 inches. This is a greater rainfall for a single day than has occurred within the memory of any officers now stationed at this post. The storm of last week, which extended over the best part of three days, was marked by the hard showers which are typical of tropical storms and these intermittent downpours left close to five inches of rain. While the Atlantic side of the canal was being deluged the other end of the Canal Zone had fair weather, for invariably the Caribbean storms leave all the rain along the Atlantic Coast Line.

A number of former theatrical men among the enlisted personnel at the post are working hard toward the production of a local talent play which will be given the first of next month. The play, which was given in France and met success with the A.E.F. will probably be shown at neighboring posts.

Extensive changes in the service club are nearing completion and when the work is finished the post can boast of as fine a playhouse as many a larger command. Several painters have designed and produced excellent curtains, the proscenium has been rebuilt and decorated, and a force of carpenters and electricians have been working back stage to install equipment in time for the coming play.

The first number of a monthly magazine makes its appearance next week in the "Airco News", a bright little sheet detailing the field news and activities of the post. Edited by enlisted men and supported by advertisements the magazine promises success as the first garrison publication of France Field.

The transport "St. Mihiel" arrived on Thursday bringing one replacement officer, four air service recruits, and one man from furlough. 1st Lieut. Arthur L. Foster is the officer arriving for foreign service duty and is accompanied by his wife and two children. He has been stationed at March Field for about three years.

Lieut. A. W. Redfield, A.S.R.C., made a practice flight at the field on Thursday. Lieutenant Redfield, formerly stationed at Hazelhurst Field, is now employed on the Canal Zone.

After winning the first two games in a post season series between picked Army and Navy baseball teams the all-army players lost three straight games and the championship. Peaseley, pitching for the Navy, showed unexpected skill in the final games and held the soldiers to ineffective hits. Service men thronged to the games by special trains and rivalry ran high at the hotly contested victories.

Flight "B", 12th Observation Squadron, Nogales, Arizona, May 7th.

On Monday May 2nd a large smoke was noticed from this Airdrome, about five miles west of the city of Nogales, Lt. Prosser flew over the smoke at a low altitude and discovered that a prairie fire was getting well under way and was burning towards this field. He notified the forest rangers in this vicinity, and before very much damage was done they had the fire under their control.

The Officers and enlisted men of this organization have had approximately thirty hours instructions on the Colt's 45., automatic pistol, since April 1st and are ready for the range. All have made excellent scores during practice, and a good record is expected for this organization.

Headquarters Detachment, First Observation Group, Paranaque Beach, P.I., April 2.

Lieutenant Ira C. Eaker, Executive Officer, with Major Parfit, P.S., as passenger flew recently over Volcano Taal. Starting at Paranaque Beach, Lieutenant Eaker proceeded to cross the narrow neck of land between Manila Bay and Laguna de Bay, thence along the shores of the Laguna to the Calamba Sugar Mills, thence to Lake Taal. Taal is in the center of the lake. This island has been the scene of terrific explosions during the past two centuries. Its last eruption in 1911 resulted in the loss of much life and property. The crater's huge bowl formation, some four hundred feet deep and four hundred yards in diameter, has partly filled with water. This appears as a deep green in striking contrast to the clear waters of the surrounding lake. Taal is still on the active class as volcanoes are listed. Lieutenant Eaker reported the shores of the lake as appearing suitable for beaching a Seaplane.

An additional Buoy is being anchored at Paranaque Beach for mooring H.S.2-L's from Kindley Field.

Kindley Field, Fort Mills, P.I., April 2

Friday an interesting Reconnaissance Patrol and Communications Problem was held in co-operation with the Navy and Coast Defense Communications. During Thursday night Destroyers proceeded out to sea and separated; then just before daylight they proceeded towards Corregidor and the entrances of Manila Bay. They represented enemy vessels trying to make a surprise attack upon the Coast Defenses and force an entrance into Manila Bay. At daylight four H.S.2-L flying boats all equipped with radio spark sending and receiving sets, were sent out to locate the enemy vessels, observe their movements, actions, etc., and report all information to the Coast Defense Radio Station. The Coast Defense Radio Officer immediately relayed all messages to the Dept. Commander's office in Manila; phoned them to the Coast Defense Air Officer, and delivered them by orderly to the office of the Coast Defense Commander. All messages were sent in code from the planes and immediately translated when received at the Radio Station. The planes were assigned prearranged intervals during which to send messages, and, notwithstanding interference from the various vessels and from other radio stations nearby, practically all messages from the planes were received correctly. The planes located the Destroyers in different sectors at distances between forty and sixty miles from Corregidor and reported their movements, etc., until the vessels had arrived at Corregidor. The Destroyers changed courses, speed, retreated, etc., doing everything possible to represent the attack of enemy vessels. The planes were able to follow them easily and to give all necessary information by means of the code and method used.

The Observation Balloon was in ascension and as soon as the "attacking vessels" came within view the Balloon observers reported their approximate ranges and locations with respect to the different Fire Control Stations. This information was reported regularly throughout the operations and the Observers were therefore in position to "spot" fire for Coast Defense Batteries had it been necessary. This problem was a continuation of a series of problems arranged by a Joint Army and Navy Board for practice in co-operation between the Navy, Army Air Service, and Coast Defenses of Manila and Subic Bays.

The Air Service Baseball Team lost one and won two games in the past week. They broke even with the Calamba Sugar Estate and beat the U.S.S. "Huron". Capt. Ervin, Manager, Captain and Short Stop on the Air Service Team, has been elected President of the Manila Bay League, in which there are six teams as follows: The Manila Citys; the Cavite Navy Yard; Meralco (Manila Electric Ry. Co.); the U.S.S. Huron; the Calamba Sugar Estate, and the Air Service.

Lt. Royal B. Lea, his wife and baby son, have just returned from a detached service trip of a month to China. They report a very enjoyable time and the acquisition of "tons" of souvenirs.

Lt. John B. Patrick, Kindley Field Adjutant, Personnel Adjutant, Provost Marshall, Airplane Pilot, starts Monday for a month's leave to visit the "Land of the Sun". Lt. Bernice R. Dallas will fill his chair during his absence. Lt. Chas. G. Ellicott, in addition to his other duties, takes over the squadron supplies, relieving Lt. Dallas.

Men of the 17th and 27th Balloon Companies will start their Small Arms Firing Practices in the near future.

Col. Burford and Pvt. Prevost of the 2nd Aero were among the successful applicants in recent examinations for Flying Cadets.

Carlstrom Field, Arcadia, Florida, May 6th

On the morning of May 3rd orders were received for twenty members of the last class of Cadets to proceed to Langley Field on temporary duty in connection with the bombing of that station. As they were to arrive at Langley not later than May 6th there was considerable hurry and bustle, but the cadets succeeded in clearing the Post and leaving on the evening train for their new station. The transformation work and night flying for these men had just started at this station.

The non-commissioned officers gave a dance in one of the large steel hangars the evening of May 4th, music being furnished by Collins' orchestra of Tampa. The hangar was very prettily decorated with moss and streamers and the lighting effect was unique. Unfortunately, just as the dance had started the airplane on night instruction work broke the main electric lines leading from Arcadia to camp which cut out the lighting system at this Post for about two hours. With the aid of the spot lights from some of the cars the dance was continued. The personnel of the Field repaired the lines in very quick time allowing the dance to proceed and the unique lighting effects to be restored. The steel hangar used has been designated as the gymnasium and is equipped with all sorts of athletic appliances. A very fine floor has been laid which makes a wonderful pavilion for the dances.

On Friday, April 29th, the officers gave a sport dance at the Officers' Club. The College Five of Stetson University furnished the music. The committee in charge of the dance are to be complimented upon the fine manner in which the Club was decorated and the ladies for the excellent lunch that was served.

On Wednesday evening, April 27th, the non-commissioned officers' club staged a "fight night" in the athletic hangar. Two boxing bouts and two wrestling bouts were the main events of the evening. This Club is now proving a great feature in the social entertainment at this Post. At present they plan to stage two fight nights and one dance a month. Everything possible is done by them to promote social activities on the Post.

The following named officers were guests of the Field on May 1st, 2nd and 3rd on official business: Col. William R. Sample, Inf.; Lieut. Col. Frank S. Long; C.A.C.; Lieut. Col. James D. Watson, C.A.C.; Major Clarence B. Roass, C.A.C.; Major Robert W. Clark, Jr., C.A.C.; Captain Franklin P. Shaw, J.A.

On Monday, May 2nd, the volunteer Post Band made its first appearance when it played at retreat. The Band is to be complimented on its work. Two months ago most of the men in the Band knew little or nothing about music. They are now drilling and will soon be able to take part in the ceremonies at the Field. The Band consists of about twenty-five members of whom about sixteen are now qualified to play at public performances. This work is all being done solely by the men, under the direction of the Post Educational and Recreational Officer and all the instruments and music being furnished by that department. Carlstrom Field prides itself on being the only Air Service Post that has a reveille gun and a band, and believes that it is really getting to be quite military.

Two more of the bachelors of the Field have joined the ranks of the married men. 1st Lieut. Edward M. Haight was married to Miss Buena Langford at the latter's home at Fort Myers. Chaplain Maurice Reynolds officiated, Lieut. Paydoe Martin acting as best man. Lieut. Hez McClelland was married at Tampa on May 6th to Miss Marks of Philadelphia. Chaplain Reynolds officiated, the groom being ably supported by Lieutenants Straka and Patrick.

The new concrete road has now been completed from the new gate half way through the Post and makes things look about fifty per cent better. Unfortunately the shipments of sand have been held up during the past two weeks and the completion of the road has been delayed for that reason. The shipments have been again resumed and work will start in the near future.

March Field, Riverside, California, May 7th.

Fifty planes made a total of 232 flights from March Field during the past week despite weather which for two days prohibited flying. Total flying time consumed - 131 hrs. 45 min. Preliminary instruction required 11 hrs. 15 min.; test flights, 3 hrs. 35 min.; miscellaneous flights 27 hrs. 55 min. Approximate mileage flown, 8,563.

March Field - (Cont'd)

March Field's baseball team recovered its winning style last Sunday and defeated the Chino City Team 2 to 1. The Soldier Team will play at Ontario this coming Sunday afternoon.

The Post Band participated in a "home-coming" celebration at Covina last week and returned with the assertion that "Covina is the best little city in Southern California". Certainly its citizens know how to treat Uncle Sam's soldiers.

The Dramatic Club recently presented two short skits at the Ft. McArthur Service Club and the March Field orchestra provided music for dancing.

Six pilots from this school have been ordered to Mather Field, Sacramento, presumably for forest fire patrol duty during the summer months. They are: Lieuts. Waller, McHenry, Gullet, Bailey, Catlin and Williamson.

First Lieut. Audrey B. Ballard has been appointed assistant officer in charge of educational and recreational activities at this station.

First Lieut. Robert S. Worthington has been appointed assistant officer in charge of flying vice First Lieut. Geo. McHenry, ordered to Mather Field, Sacramento.

Capt. Paul Perigord, an instructor at the California School of Technology recently decorated by the French Government for meritorious service during the World War, will be the principal speaker at the annual banquet of the Riverside Chamber of Commerce to be held at the Mission Inn next Monday evening.

Riverside Post 79 American Legion is making plans for a military funeral to be held on Memorial Day. The body of Private Wesley Nabors, who was killed in action in Belgium, will arrive about May 24th. It will be held in state until May 30. The March Field band will be asked to play the funeral march.

Hdq. 12th Observation Squadron, Douglas, Arizona, May 7th.

The members of the 12th Squadron were sorry to hear of the death of Mail Pilot, Walter M. Bunting, who was killed in Cheyenne, Wyoming, May 5th, 1921. Mr. Bunting was formerly a 2nd Lieut. with the 12th Squadron from Ellington Field in August, 1919, and remained at Douglas with them until that organization was relieved in January, 1920 by the 12th Squadron. Then Lieut. Bunting transferred to this Squadron. He remained with it as Operations Officer and Adjutant until he was transferred to Fort Sill, Oklahoma, for a supplementary course in Observation. Lieut. Bunting was an excellent pilot with several hundred hours to his credit. He was also an excellent officer.

On May 6th all Airdrome fire equipment was inspected by camp fire Marshall Col. Gaujot. A false alarm was sounded and the Airdrome equipment was turned out and the alarm was also sent to the camp department. Time was kept on the run from camp and the department made 3.4 miles with the LaFrance truck in 4½ minutes. A pressure of 50 pounds was found at the hydrant without the LaFrance engine and 140 pounds with it.

Flight "A", 90th Aero Squadron, Del Rio Texas, May 10.

On April 28th a party composed of Lt. Col. C.O. Thomas, 12th Cav., Lieut. James H. Doolittle; A.S., Ex. Col. Barger, and two Mexican guides, in three autos, started by road through Mexico to try and reach Lt. Pearson's plane, which is resting peacefully in Mexico. On the 28th of April, at 1:00 P.M., a plane flew over into Mexico and checked up on the little expedition force. The party signalled back all O.K.

At 4:15 P.M., same date, another plane left to check them up again. While about 110 miles in Mexico and just past the foot-hills of the Siebelo Mountains, a connecting rod broke, knocking two large holes through the crank case. In spite of this, a good landing was made. The pilot and mechanic were found the next day by planes from Del Rio, and later were picked up by the ground party and brought back to the U.S. in one of the cars belonging to the expeditionary force.

Two motors, pack-train, three escort wagons, four mechanics from the Airdrome, under Capt. Atwell, 12th Cav., and Col. Baeger as guide, left for the two planes down in Mexico. A motor was installed in the Del Rio plane which was flown back to the United States, arriving at the Airdrome at noon of May 7.

The other motor was sent on for Lieut. Pearson's plane, and it is expected that the plane may be flown out of the mountains about the 12th of May.

Flight "A", 90th Aero Squadron - (Cont'd)

A great deal of credit is due that little Expeditionary Force. They have been compelled to do without water and food, at times while on their journey across the desert stretches of northern Mexico. By means of D.R. signals their wants were made known and canteens of water, food and even ice was dropped them. The liaison between the plane and ground was exceptionally good. The Sanderson planes have flown between the hills and mountains and through rain and thunder storms to check up on their brothers on the ground. The little party has fought on and on, shooting game for food. At present it is in the Mugias Territory, and it is not known whether the bandit chief is aware of their presence or not.

Col. Sedgwick Rice, C.O., the 12th Cavalry, has endeavored to interest the Air Service Officers in Polo.

A.S.M.S., Chanute Field, Rantoul, Illinois, May 11.

Authority has been received from the Chief of Air Service to put on an Aerial Exhibition at Chanute Field May 30th. The purpose of this is to raise funds for a swimming pool, tennis courts, and other things which will tend to make Chanute Field a completely self-contained unit inasmuch as recreational activities are concerned.

From 9 o'clock in the morning to taps in the evening there promises to be something doing every minute. The Flying Exhibitions are going to be good; there is no doubt of that, but they will form only a part of the activities which are to take place. Each course of instruction will be polished up for exhibition. There will be a "Midway", which, according to Lieutenant Weddington, who is in charge of concessions, will be worth while.

The Officer in Charge of Trade Test and the Chief Instructor of Advance Field Training, have become fight promoters over night, and are working on two boxing shows, which, judging from the amount of thought and labor put forth, should be worth the price.

The Officer's Mess will be converted into a cabaret. The genial host thereof will be Lieutenant Russell R. Fox, who will furnish entertainment of a very high class. The big consolidated mess will be a Cafeteria at odd hours where the hungry pleasure seekers can refresh themselves with a cup of Java and a pot of slum from time to time. There will be accommodations for those who wish to motor in Sunday and spend the night at Chanute Field. This is only a part of the program for Circus Day. Suffice to say, every person attending will get 100 cents in pleasure on every dollar spent.

Chanute Field developed a new heavyweight champion, Irvin Mackey, who was discharged last week, and picked up as a Civilian Instructor in Airplane Motors, showed conclusively Saturday night that he could handle his fists as well as a Jet Wrench when he whipped Jack Ketchel of Indianapolis in a ten round bout at the Post Gymnasium.

Captain Ernest Clarke and Lieutenant James Flannery reported for duty at March Field. Captain Clarke is at present Provost Marshall and Police Officer and Lieutenant Flannery, Supply Officer of the Post.

Lieutenant J. L. Stromme left for Washington May 10th for duty. Lieutenant H. C. Minter left for Mather Field May 7th.

A farewell dance in honor of J. L. Stromme and Mrs. Stromme and their son George, was held at the Officer's Club May 4th. Lieutenant Stromme, after being on duty with the School for more than three years stepped up a peg when he received orders to report to the Chief of Air Service for duty as Assistant Chief of Materials. Lieutenant Stromme is one of the best liked officers on the Post, and one of the most efficient. Every one regrets his leaving, but all wish him every success in his new undertaking.

On May 7th a number of officers attended the baseball game between the University of Illinois and Ohio, and with glee saw Illinois step on Ohio 7 to 4. Among those present were Major and Mrs. Geo. E. Stratemeyer, Lieut. and Mrs. Shovlin, Lieut. and Mrs. C.W. Sullivan, Lieut. and Mrs. Warren R. Carter, Lieut. and Mrs. Owen Spruance, and Lieut. and Mrs. James S. Eldredge.

France Field, Cristobal, C.Z., April 30.

A reconnaissance flight of three planes on Monday was made in order to give the new commanding officer, Major Raycroft Walsh, an idea of two landing fields in the interior of Panama. The trip was made to a field between Bejuco and Chame, these towns lying near the Pacific coast and about sixty miles from France Field, where the population of the two towns turned out to meet the flyers. Major Walsh was presented with a unique gift of three guinea hens by the officials of Chame, who also turned over a carrier pigeon, from the Quarry Heights loft, which had taken refuge in Chame when lost. Excellent landings were made despite the roughness of the field and on the return trip a stop was made to look at the smooth field at Chorrera. The trip out took 30 minutes and the planes returned in 43 minutes. The pilots were R.C.W. Blessley, J.D. Barker, and Kenneth Garrett, while the passengers were Major Raycroft Walsh, 1st Lieutenant Harlan W. Holden, and Major R.D. Prescott, S.R.C. Flights are being arranged so that Major Walsh may have an opportunity to visit the excellent natural landing fields at Antone, Aguadulce, and possibly Santiago.

Two photographic flights were made during the past week by 1st Lieutenant Charles B. Austin, pilot, and 1st Lieut. Harlan W. Holden, observer, at the request of the coast artillery for mosaics of the coastline adjacent to the Atlantic defenses. While clouds seriously handicapped the work on Wednesday a total of 48 plates were finally exposed and all were successful except one. Excellent atmospheric conditions were encountered on Friday and about forty miles of coast line was taken in 26 exposures. On both flights the photos were taken from an altitude of 11,000 feet.

With the end of the baseball season attention turns to basket ball, the great wet season sport on the Canal Zone, and prospects are good for a strong post team in the Army and Navy League. An inter-department league will also be organized and post games played nightly. With the best players of last seasons' crack quintette lost - Major Harmon having left, Sergt. Stevens having been discharged, and 1st Lieutenants Charles B. Austin, Harlan W. Holden, and R.C.W. Blessley due to leave before the season is under way - the team will have to be entirely made over. 1st Lieut. Odas Moon will coach the new material, having had three years of intercollegiate experience.

Carlstrom Field, Arcadia, Florida, May 12.

Two ships have been equipped at this station for night flying. They have been fitted with wing tip lights and flares - also parachute flares are being carried.

A Baseball League known as the "Thursday League" has been formed, consisting of teams from Arcadia, Bartow, Carlstrom Field and Wachulia. The opening game will be played this Thursday with Arcadia in Arcadia. The Carlstrom team seems to have the jump on the other teams of the league, as they have played together the past several weeks.

On Saturday afternoon Carlstrom Baseball team journeyed to Fort Meyers and defeated that team in the final game of the five-game series, 4 to 2. Carlstrom boys are beginning to be regular demons with the willow.

Air Intermediate Depot, Fairfield, Ohio, May 14.

The Engineering Department at this Station is as busy as ever. From the looks of the fuselage and final assembly departments, one would think it a German factory, as there are a large number of Fokkers being rebuilt.

The Handley-Page Langley has been rebuilt and will be tested shortly. Two Martin Bombers are also ready for test. The rebuilding of a three motored Caproni was completed this week, and the plane delivered to McCook Field.

Great pride is being manifested by all personnel in a Liberty engine under the process of being sectionized, for the French War Museum at Paris.

The Radio Department has just rebuilt and sent out fifty G.N. 4A, air driven radio generator sets.

The Post baseball team from Fort Thomas, Kentucky, will play the local team known as the Fairfield Pilots, at Wilbur Wright Field, Sunday May 15th. Both teams are in excellent condition and have a number of first-class players. It is expected that a close and interesting game will result.

Air Intermediate Depct - (Cont'd)

The Post Athletic Officer, First Lieut. Malcolm N. Stewart, has completed the re-surfacing of the tennis courts, and is getting the golf links in shape for the summer season. A number of enthusiastic followers of both games have turned out and begun practicing for the tournaments to be held late in the season.

The first class in Equitation has acquired the necessary proficiency in horsemanship, after several weeks of instruction under First Lieut. Paul R. Turpin, and has been relieved by another class of five officers. Remarkable progress was made by the Officers who composed the first class, in view of the fact that although all of them are qualified airplane pilots, very few of them had ever attempted to solo on a horse and some had their first joy-ride in this type of ship, under the supervision of Lieut. Turpin. It is reported in this connection that after his first ride, one of the Engineering Officers was seriously considering issuing plans for improved shock-absorbers to be attached to his equine aircraft.

Plans have been prepared by the hostess, Miss Georgia Watt, and Utilities Officer, Lieut. Geo. V. McPike, to install a thoroughly modern playground for the benefit of the children living on the Post. The establishment of this play-ground will afford the children at the Post the same facilities for wholesome recreation that are available at the best educational institutions and will relieve their parents and the officers of the Post, from much anxiety by keeping them off the roads and out of mischief.

An attractive feature of the social program during the month was a dance given on May 6th at the Side-Slip-Inn for the enlisted personnel of the Post. The Inn was beautifully decorated with flags and spring flowers. More than seventy-five young ladies from Dayton and the surrounding towns were in attendance and the evening was a great success from every point of view. Music for the dancing was furnished by the post orchestra under the direction of Mr. Henry Heffner. Miss Watts, the Camp Hostess, was assisted in receiving by Sergeants Clark, Thresher, Weir, Edwards and Shannahan.

The regular semi-monthly meeting of the ladies of the Officers' Club, was held on Friday afternoon, May 13th, at the Officers' Club Rooms. Mrs. Geo. E. A. Reinburg, wife of Major Reinburg, acted as hostess, assisted by Mrs. Steinmetz, wife of Lieut. Charles W. Steinmetz. About twenty-five ladies were in attendance. After the business meeting and installation of new officers for the ensuing quarter, the afternoon was spent in reading and discussing "Gosta Berling", a very interesting Swedish story by Selma Lagerlof. At the conclusion of the reading, delicious sandwiches, coffee and confections were served by the hostesses. Mr. E. A. Johnson of Dayton, and Mrs. Hoffman, wife of Major Hoffman of McCook Field, were guests of the club for the afternoon.

Mothers' Day was observed by a special program given by the children of the Post under the direction of Mr. Caswell of the Y.M.C.A., Dayton.

Mr. and Mrs. Mann of Chicago, parents of Lieut. Merrill D. Mann, have been guests on the Post during the past week.

Captain Robert W. Horton, Post Surgeon, has received orders to report to Henry Barracks, Porto Rico, to take up new duties. Captain Horton is completing arrangements for himself and family to sail from Hoboken on the government transport that leaves that port on June 10th.

Lieutenant Merrill D. Mann, Post Recreational Officer, has been confined to his quarters by illness during the past week.

Mather Field, Sacramento, California, May 7.

Eight ferry pilots were sent to Rockwell Field on the third to bring back more new planes for Forest Patrol work this summer. The fliers went down by rail and bad weather has prevented their return but they are expected early next week. Both rain and wind storms were reported near Los Angeles, making flying out of the question for several days.

Captain Robert L. Walsh, A.S.; commander of the 9th Squadron (Observation) and Post Operations Officer, returned from a two months' sick leave on the 5th. He has again resumed his former duties and is now working out a schedule for the coming Forest Patrol season. The 9th Squadron has been assigned to duty covering forests of California, the 91st Squadron will patrol the forests of Oregon and Washington.

Ross Field, Arcadia, California, May 7.

The next session of the Balloon Observers course for Ross Field begins May 16. The following officers have been assigned to duty as School Instructors and are now compiling data to be used in the course. The school will open with a staff of nine instructors, and ten enlisted men.

Captain L. F. Stone was selected as Executive Officer in Charge of Training on April 25, 1921.

First Lieutenant Clarence P. Kane, A.S., Supply Officer.

First Lieutenant James T. Neely, A.S., Secretary of School, and Instructor in Artillery and General Observation.

Captain Hawthorne C. Gray, Instructor in Winch, Motor Driven Vehicles and Gas.

Captain Harold E. Weeks, Director of the Ground Course and Instructor in Aerial Photography and Panoramic Drawing.

Captain Raymond E. O'Neill, A.S., Instructor in Organization and Administration, Machine Guns and Assistant to Director of the Ground Course.

Captain Charles P. Clark, Instructor in Captive Balloons.

First Lieutenant C. H. Welch, Instructor in Free Balloons and Assistant in Captive Balloons.

First Lieutenant William M. Clare, A.S., Instructor in Radio and Telephony Pigeons, Signal Communication and General Communication.

Captain Laurence F. Stone, Instructor in Meteorology.

Flight "B" 12th Squadron, Nogales, Arizona, May 14.

On Monday, May 9th, 1st Lieut. H. W. Prosser, accompanied the Commanding Officer, Capt. Stephen D. Little, on a visit to Tucson, Arizona, to confer with the Chamber of Commerce in regard to the fire patrol of the Coronado National Forest. A letter recommending that this flight make a daily patrol, was forwarded by the C.O. Camp Stephen D. Little, to the Commanding General, 8th Corps Area. Orders to carry out this patrol are expected in a few days. The area to be covered includes the Santa Rica, Huachuca, and Santa Catalina Mountains.

This Flight has been allotted a team of mules, Kate and Beck, to do the necessary hauling in this camp. The use of these Hay-Burners will reduce the consumption of gas at this station.

The base ball team of this flight won its twelfth game of the season, on Wednesday, May 11th, from the Nogales National team, in a score 7 - 3. This ball team has a good record so far, winning twelve games out of fourteen played. The two games that were lost, were won by the Regimental team of the 25th Infantry, first games score, 5 - 0, second, 4 - 1.

The tennis court has been re-rolled during the week, at this flight and it is reported that this is the best tennis court on the Border.

Headquarters Twelfth Squadron (Observation), Douglas, Arizona, May 14.

Lieut. Shankle of this organization left Friday, the 13th for Kelly Field, where he will join the rest of the officers that will go to Langley Field for the Army and Navy Bombing test in June.

Hdq. Flight "B" 13th Squadron, Marfa, Texas, May 14.

Lieutenants Charles Douglas and D.R. Goodrich have left for Langley Field in connection with experiments in bombing naval vessels from aircraft.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE JUNE 11, 1921.

MEMORANDUM OF INFORMATION CONCERNING APPOINTMENTS IN THE REGULAR ARMY.

After the selection of the successful candidates who took the examination April 25, 1921, for appointment in the Regular Army there will remain more than 3,000 vacancies in the commissioned personnel of the Army. After promotions under the reorganization law have been completed a number of these vacancies will be in the grade of first lieutenant, the remainder being in the grade of second lieutenant. While it is not proposed to fill all vacancies at present, the necessity for more officers for the Army requires that a portion of the vacancies be filled without delay. An examination for appointment as second lieutenant will, therefore, be held August 22, 1921. The exact number of vacancies for which examination will be held will be announced later. Appointments will be made in each of the following branches:

- Infantry
- Cavalry
- Field Artillery
- Coast Artillery
- Engineers
- Air Service
- Signal Corps
- Quartermaster Corps
- Ordnance Department
- Chemical Warfare Service
- Philippine Scouts

As a result of this examination no appointments are to be made in branches of the service other than those named above.

The date announced is that of the final examination. Prior to that date applications must be submitted and applicants must undergo a preliminary examination. All applications are to be received and acted upon by corps area commanders who are also charged with conducting the preliminary and final examinations. Details of information concerning examinations for appointment are contained in regulations now being distributed, and application blanks may be obtained at any military post or station. Applications should be submitted by the applicant at the military post or station nearest his place of residence. Writing to The Adjutant General for information or for blanks will only cause delay.

It is contemplated that successful candidates will be announced and appointed, or nominated for appointment, about two months after the examination.

All successful candidates will be arranged in their order of merit as determined by the final examination and will be appointed in the Army in such order. They will also be placed on the promotion list in such order without regard to the branch of the Army in which appointed. Those candidates who attain the highest marks on examination will, therefore, have priority in advancement to the vacancies existing as first lieutenant. To be informed of the full detail concerning examinations and appointment, it is necessary that candidates consult the regulations which are being sent to all military posts and stations. However, the prospective candidate's attention is directed to the following important points:

1. Eligibility for appointment is fixed by law and requests for exceptions cannot, therefore, receive consideration by the War Department. The age at the time of appointment must be between 21 and 30 years, and a candidate must be a citizen of the United States. At the time of the final examination each candidate must be in one of the following classes:

- (a) A warrant officer or enlisted man of the Regular Army having had not less than two years' service as such.
- (b) A member of the Officers' Reserve Corps or the enlisted Reserve Corps.
- (c) A member of the National Guard.
- (d) A graduate of a technical institution approved by the Secretary of War.

Any civilian of the required age who passes the preliminary examination may readily become eligible to take the final examination and to be appointed by entering either Class (b) or (c) above.

2. The preliminary examination consists merely of an inquiry into the physical, moral and mental qualifications of an applicant to determine whether or not he has the requisite qualifications to justify his proceeding with the final examination. Such a preliminary examination will avoid inconveniences and unnecessary expenses to both the applicant and the government in many cases. Facilities for conducting these preliminary examinations at selected educational institutions prior to graduation will be provided by Corps Area Commanders.
3. The final examination is the same for all candidates and to insure strict justice to all, the examination papers will be marked by central boards convened in the War Department. The scope of the mental examination is such as to insure the Army getting men of the requisite educational foundation to satisfactorily follow a career as an Army officer. The elementary part of this examination embraces the subjects of history, grammar, geography, arithmetic, algebra, geometry, trigonometry and physics. The advanced part of the examination consists of a large number of subjects including mathematics, languages, literature, electricity, chemistry, law and minor tactics. Examination is required in but three of the subjects of the advanced group to be selected by the candidate.
4. Candidates for appointment in the Air Service, Engineers, Signal Corps and Ordnance Department are required to satisfy certain technical requirements, either by examination or by having graduated from technical schools.
5. The regulations provide liberal exemptions from examination in various subjects according to the education, training and experience that the candidate has had. The granting of exemptions has been placed entirely in the hands of the examining boards and requests for exemption cannot, therefore, be considered by the War Department.

6. Each candidate is permitted to express one or two choices of the branch of the service in which he desires to be appointed. In making appointments, however, while the preferences of candidates will be given due consideration the War Department reserves the right to assign them to such branches of the service as may be necessary.

In consideration of all of the facts it is apparent that the present offers an exceptional opportunity for appointment in the Army. The candidates making the highest mark will be at once promoted to the grade of first lieutenant and will thus receive a base pay of \$2,000 per annum in addition to the prescribed allowances; those appointed as second lieutenants will receive a base pay of \$1,700 per annum in addition to the prescribed allowances.

Should a number of candidates, in excess of those for which the examination is held, receive a passing mark on examination, those making the lowest mark will not be selected for appointment nor will they be placed on an eligible list for future appointment, as the experience of the War Department has been that such eligible lists are unsatisfactory both to the Government and to the individual.

TWO MAN ALTITUDE FLIGHT ✓

What is believed to be a new world's altitude record for pilot and passenger was made on May 6th, 1921, by Lt. J. A. Macready with Roy S. Langham as observer, when he reached a corrected indicated altitude of 34,150 feet above sea-level in a Lepere biplane equipped with a Moss supercharger. This airplane is the same one in which Major Schroeder made his world's altitude record, both for pilot alone and for pilot and passenger. The preliminary calibrations of the instrument and the computations were performed by the Flight Test Branch at McCook Field.

The instrument and data gathered on the flight will be forwarded to the Bureau of Standards for final checking before a world record is claimed. It will be remembered that on the occasion of Major Schroeder's altitude flight the Bureau of Standards computation of the results gave a figure more than a thousand feet higher than the preliminary computation performed at McCook Field. In view of this it is considered very probable that Lt. Macready has set a new record.

No difficulty was experienced by the pilot except the discomfort caused by the extreme cold at this high altitude and by the frosting of his goggles. Upon removing his glove in order to attempt to wipe ice from his goggles, his left hand became so stiff from cold that he lost the use of it until the warm air at low altitude restored the circulation. The engine and supercharger functioned very satisfactorily.

It should be noted that while the figure given above does not represent the true altitude above sea-level actually attained by the airplane, it does represent the figure upon which altitude records are granted. The corrected indicated altitude is dependent solely upon the pressure of the atmosphere in which the airplane is flying, and if two airplanes attain the same corrected altitude on different days, which of the two airplanes reaches a higher true altitude depends on the temperature existing in the atmosphere between the airplane and the ground, and which is, of course, a matter of luck. It is for the purpose of eliminating the element of luck that the International Aeronautic Federation disregards true altitude in determining records, since it is obvious that, if one airplane reaches a higher corrected indicated altitude than another (which means lower air pressure) it could out-climb the first airplane provided both were flown under identical atmospheric conditions. In order to obtain the correct indicated altitude, all the temperature and pressure corrections of the barograph used must be accurately known and carefully applied to the observed readings obtained on the flight. For this purpose elaborate temperature and pressure calibrating apparatus is required.

For purposes of comparison it will be remembered that Major Schroeder's corrected indicated altitude for the one man record was 38,180 feet by the Bureau of Standards computation, and for the two men record was 33,350 feet computed by the Flight Test Branch at McCook Field.

FIRST FLIGHTS ON TWO NEW AIRPLANES AT MCCOOK FIELD.

On May 12, 1921, two new airplanes built for the Air Service were given their initial flights at McCook Field, Dayton, Ohio. The Loening PW-2, single seater pursuit airplane was flown by Lt. J. A. Macready, who reported that the airplane handled very well, was quite pleasant to fly and possessed excellent visibility. He experienced no difficulties on the flight, which lasted about half an hour, during which time he tried very thoroughly the various flying qualities of the airplane. The airplane is equipped with a 300 H.P. Wright engine with a four bladed propeller and carries full military equipment for the single seater pursuit airplane developed during the war, being a monoplane with the wing attached to the upper longerons and braced by diagonal struts to the lower longerons of the fuselage.

The G. Elias TA-1 training airplane was flown by Lt. George B. Patterson who reported that the airplane balanced perfectly and seemed very light and responsive to the controls. It appears to land very slowly and stops after an unusually short run. The TA-1 is a two-seater training airplane equipped with the 170 Wasp ABC Air-cooled radial engine. It is the first military airplane which has been flown with the U.S.A. 27 wing curve, which has given remarkable results in the wind tunnel tests. With this wing section only one pair of struts on each side is required for bracing, which greatly simplifies rigging and maintenance in the field. With the exception of the strut arrangement the general design of the airplane follows orthodox practice.

PACKARD ENGINE TEST

The Engineering Division at McCook Field has recently completed a 50-hour test of the first Packard Model 1237 engine delivered under a recent contract for twenty-five engines. This engine is a 12-cylinder, "V" type, having a bore of 5-in. and $5\frac{1}{4}$ in. stroke. The cylinder banks are set at an angle of 60 deg.

An interesting feature of this engine is the use of $6\frac{1}{2}$:1 compression ratio which requires that the engine be throttled somewhat at sea level in order to prevent pre-ignition. As the altitude increases, the throttle is gradually opened until an altitude of 6,000 feet is reached, when the throttle may be wide open. This arrangement gives a constant power output up to 6,000 feet altitude.

The engine ran very well during the 50-hour test and no major difficulties were encountered. The only points which seemed to require correction were the magneto coupling and the valve stem guides; the former appeared to be too flexible for satisfactory operation and the latter showed excessive wear in some cases.

This engine appears to be very well adapted to pursuit work as its power to weight ratio is very good and its operation appears exceptionally smooth and free from vibration.

THE COURSE OF AIRCRAFT ARMAMENT AT CHANUTE FIELD

One of the most valuable courses in the Air Service Mechanics School, and one of the most interesting, is the course for Aircraft Armament. There are two curriculums; one for officers, which covers a period of ten weeks, and the enlisted men's which covers a period of four months. The Officers' course is slightly more technical and is laid out with a view to its practical value to the pilot and executive. The work is carried on in two reconstructed Mess Halls and on a large Machine Gun Range. A synopsis of the course follows:

1. Marlin Aircraft Gun.
 - (a) Nomenclature.
 - (b) Practical Shop work.
 - (c) Range Work.
 - (d) Stoppages and jams.
 - (e) Cleaning and maintenance.
2. Lewis Aircraft Machine Gun.
(Same as with Marlin).

3. Browning Aircraft Machine Gun.
(Same as with Lewis).
4. Fire Controls Gears and Ring Sights.
 - (a) C.C. Fire Control Gear.
 - (b) Nomenclature.
 - (c) Practical shop work.
 - (d) Maintenance.
 - (e) Timing of gear.
5. Nelson Fire Control Gear.
(Same as with C. C. Gear).
6. A large proportion of the work on fire control gears is used for the repair and field maintenance of these gears.
 - (a) Ring sights.
 - (b) Method of mounting, base sighting and checking alignment.
7. Wind Vane Sight.
(Same as above).
8. Explosives, ammunition testing, pyrotechnics.
 - (a) Testing cartridges.
 - (b) By weight.
 - (c) By length.
 - (d) By diameter.
 - (e) For thickness of rims.
 - (f) Kinds of cartridges.
 - (g) Their use.
9. Parachute flares.
 - (a) Wing Test flares.
10. Bombs.
 - (a) Bomb releases, sights, fragmentation bomb.
 - (b) Mark II, A and B - operation, packing, precautions in handling and assembling, nomenclature, detonator.
 - (c) Safety Spring.
 - (d) Safety wire.
11. Mark I and III.
 - (a) Demolition bomb.
(Same as above.)
12. Bomb release mechanism.
13. Bomb Sights.
14. U.S. Rifle Calibre #30.
15. U.S. Pistol calibre #45.
16. Camera Gun
17. Two weeks of advanced training.
 - (a) Gun testing mounting final adjustments.

It can be seen that the course is complete in every detail. It is equipped with a capable corps of instructors, headed by Lieutenant Owen E. Spruence, Director, and Master Sergeant Holtzman, Senior Instructor. Lecture rooms are especially well equipped. A good part of instruction is given by means of cutaway guns so that the operation of each part can be very easily studied. The work is presented in the simplest possible manner, and is a great benefit to any man taking the course as well as to the service.

ENLISTED MEN'S PRIZE ESSAY CONTEST

For the purpose of stimulating interest in the Citizens' Military Training Camps, and to be used in the publicity and advertising campaign incidental thereto, the Adjutant General's Office is offering cash prizes of, first \$50: second, \$25: third, \$15: fourth and fifth, \$5 each, for the best essays written by enlisted men upon the subject; "Benefits to the Nation and to The Public of One Month's Training in Citizens' Military Training Camp, Red Course."

Rules governing the contest are as follows:

Contestants:

Any enlisted man of the Regular Army is eligible to compete.

The Essay:

A statement in the soldier's own words of not less than 200 or more than 500 words. The composition may be in any form, such as a letter or correspondence; a conversation, dialogue, or argument; an article for a daily paper or periodical; copy for an advertisement, etc. Writing to be on one side of paper, sheets pinned together at top and signed, giving name, rank and organization.

Merit:

Merit will be given for sincerity, expression, originality, knowledge shown of the subject, and for the reaching power and convincingness of the composition. Slight errors in spelling, grammar or rhetoric will not debar meritorious composition.

Information, general assistance:

Contestants may secure individual assistance in the way of verbal or printed information from Company Commanders and other officers, but no assistance will be given in the preparation of their written composition nor will the draft or finished copy be corrected by officers.

When submitted:

Essays will be submitted to Company Commanders, collected by these officers and turned in to designated Judging Committee by (date) Commanding Officers of Posts, Camps and Stations will mail essays on or before (date to be supplied by C.O.)

Judging and Elimination:

Commanding Officers of Camps, Posts and Stations will appoint a judging committee composed of one or more officers or enlisted men, or both, to judge essays submitted by their commands. In larger garrisons subcommittees will be appointed for subordinate commands. Approximately one Prize Essay will be forwarded to Corps Area Headquarters for each 100 (50) men or fraction thereof, in the command. Additional essays will be forwarded when in the opinion of the company, intermediate or Post Committees their merit warrants consideration or may prove of value for publicity purposes.

Local Awards:

Local awards are encouraged. These may be given for the best essay in the company garrison or intermediate command, including the essays forwarded to Corps Area Headquarters. Cash prizes will not be paid from company or regimental funds. No single local cash prizes will exceed \$10.00, except those offered by a service periodical conducted in the interest of an organization or garrison, in which case the total cash prize will not exceed \$50.00.

Local publicity:

Prize essays may be used for local publicity on and after, but not before the date set for their collection by Company Commanders.

REDUCTION IN AIR SERVICE PERSONNEL

In compliance with the government policy of economy the Army Air Service has, progressively for over a year, reduced its civilian personnel so that by July 1st, 1921, it will have reached an irreducible minimum.

The following table shows the strength of the civilian personnel of the Air Service on respective dates:

July 1, 1920 - - - - -	860
January 1, 1921 - - - - -	732
May 1, 1921 - - - - -	628
July 1, 1921 - - - - -	309

The last figures are made necessary by the L.E.J. Bill for the Fiscal Year ending June 30, 1922, which will provide about \$350,000 for civilian personnel in the office of the Chief of Air Service as against \$948,000 available a year ago.

SERGEANT BLOOMQUIST KILLED IN AIRPLANE
ACCIDENT AT POST FIELD

On Wednesday, May 11, Sgt. Algot I. Bloomquist was killed in an airplane accident at Post Field, and a civilian passenger, Mr. C. E. McCullough, was so badly injured that his death resulted a few hours later.

Sergeant Bloomquist completed his Cadet training about two months before the accident, and was considered one of the most reliable, best disciplined, ablest fliers on the field.

This is the first death due to airplane accident at Post Field for a year, and only one accident resulted seriously during that period. Strange to say, Sgt. Bloomquist was a passenger at the time the accident referred to, but was unhurt in the crash. His death is a shock to officers, cadets and enlisted men at Post Field.

AIR SERVICE OFFICERS RECEIVE CERTIFICATES
MENTION FROM ROYAL AIR FORCE

Six Air Service Officers have been accorded Certificates of Mention from the Royal Air Force of Great Britain.

The letter of transmittal of date, May 25, 1921, from General Charleton, Air Attache of the British Embassy, to Major H. M. Hickam, Chief of Information Group, U. S. Air Service reads as follows:

"I have pleasure in transmitting herewith six certificates of Mentions - in - Despatches, received from the Air Ministry, and due to the undermentioned:

- Lieut. Artemas L. Gates, D.F.C.
- 1st Lieut. August L. Grimme,
- Lieut. Charles F. Heater, D.F.C.,
- Lieut. David S. Ingalls, D.F.C.
- Lieut. Sherwood Hubbell
- 1st Lieut. Sidney R. Simmons.

Will you kindly re-address them to the recipients with my compliments, returning those in the case of lost address or identity."

The certificate reads, with change of name and date to suit the individual and the circumstances:

The War of 1914 - 1918,
Royal Air Force.

First Lieutenant Sidney R. Simmons, U. S. Air Service
was mentioned in the London Gazette, dated
3rd August, 1918,
for gallant and distinguished services.

I have it in Command from the King to record His Majesty's high appreciation of the services rendered.

Winston S. Churchill,
Secretary of State for Air.

Air Ministry
Kingsway,
London, W.C.C.

ELEMENTARY DISCUSSION OF AIR SERVICE,
AIR FORCE AND AIR POWER

In compliance with Par. 2, Page 4, Air Service News Letter of April 12, 1921, the following views have been submitted:

All aviation that applies force from the air should belong to the AIR Force wherever it is operated. However, when same is used in limited areas, supplementing the local work of ground troops it should be directly under the orders of the commander of the ground troops, if troops engaged are a tactical division or larger unit in order that the work may be co-ordinated in the same manner that additional cavalry, artillery, tanks, etc., are attached when conditions require same.

H. W. Gregg, A.S.
Air Intermediate Depot,
Little Rock, Ark.

"AND I LEARNED ABOUT FLYING FROM THAT" ✓

WHEN SHOULD AN AVIATOR USE A PARACHUTE?

The discussion which started some weeks ago in the News Letter regarding conditions under which an aviator may, properly, make use of a parachute is arousing interest, and should be productive of excellent results.

The following letter to Major H. M. Hickam, Chief of Information Group, from Waldemar Kaempffert, editor of Popular Science Monthly, brings into the discussion points which are extremely well taken and worthy of serious consideration on the part of all who may be interested in the future of flying.

"I read with great interest the letter that Major Bradley addressed to you on the conditions under which a parachute may be properly used by an aviator.

Major Bradley makes the point that 'a pilot who leaves his ship by means of a parachute' except under certain conditions, does not endeavor to save a very valuable piece of property.

I think that if we are to base the justification of the parachute's use on purely cash basis, it would be more economical for the Government to lose the machine than to lose the pilot. During the war it was repeatedly stated before Congressional Committees that it cost the U.S. Government \$15,000 to train a flier. Assuming that this estimate is correct, the cost of preparing a man to fly and fight for his country in the air is slightly greater, if anything than the cost of the machine. On that basis, I would rather see the Government lose the machine than the pilot.

You can build new machines, but it is not so easy to find and train a Lufberry, a Gugnemer, or a Fonck. Parachutes must be likened to life preservers on shipboard. Sailors do not rush for life preservers at the first sign of a ship's sinking; they wait until death stares them in the face. So it must be in the air, I think. I question if parachutes encourage faint-heartedness as Major Bradley claims.

Faithfully yours,
Waldemar Kaempffert."

AERONAUTICAL NEWS FROM OTHER COUNTRIES

Japan

VICKERS AIRSHIP FOR JAPAN

The first airship built for the Japanese Government was launched by Vickers April 28, says the Times of London, from their airship shed at Barrow. She is of the sea-scout class, carrying one gondola and a small crew. The ship made a satisfactory trial flight, carrying several Japanese officers. She is the only aircraft now on hand at the Walney aircraft factory.

Siam

AVIATION IN SIAM

Now that the discussion of the future of aeronautics is uppermost in the minds of those who concern themselves with national and international affairs, it is of interest to know that H.S.R. Major Prince Fridi of Siam - cousin of the present King of that country - is in England for the purpose of gathering information to assist Siam in the formation of an Air Force.

During his stay he took the first opportunity of visiting the Napier factory at Acton, where the 450 h.p. Napier "Lion" aero engine is manufactured, as well as its big brother, the 1000 h.p. Napier "Cub".

Holland

FRESH FLOWERS BY AIR TO ENGLAND

Recently nearly a quarter of a ton of tulips cut in Holland, still wet with dew, were brought by aeroplane from Amsterdam to London and then sent by rail to Manchester where they were on sale in the morning market.

ANGLO-DUTCH AIR SERVICE, WITH CONNECTIONS TO COPENHAGEN

Under the auspices of the Royal Dutch Air Service Company, Limited, a regular daily aeroplane service between London and Holland commenced operations on April 15, according to the London Financier. The London terminal is the Croydon aerodrome, and passengers leave Greener House, Haymarket - the West End offices of the company - by the service motor-cars, one hour before the departure of the aeroplane from Croydon. The machines are luxuriously equipped and comfortable arm-chairs are provided for the passengers.

Leaving the Haymarket at 9 A.M. and Croydon at 10 A.M., Rotterdam is reached by 1:20 P.M. to land passengers, and the journey resumed at 1:35 P.M. for Amsterdam, the terminal, which is reached at 2:03 P.M. Aeroplane connection at Amsterdam is made for Paris, Brussels, Hamburg, and, subsequently, Copenhagen.

The fare from London to Rotterdam or Amsterdam is 10 guineas; for goods 1s 3d per lb. The morning aeroplane from England to Holland connects with the afternoon train to Germany - and the night train from Germany connects with the afternoon aeroplane from Holland to England. The time-saving effected by this new service for passengers, goods and urgent business papers should ensure the success of the enterprise.

France

PARIS-WARSAW AIR SERVICE

The Paris-Warsaw air service was successfully put in operation on April 12, by the extension to the Polish Capital of the Paris-Strasbourg-Prague service, which has been running for some months.

The first aeroplane to be employed on the new airway left Warsaw at 8 o'clock yesterday morning with a passenger and courier and mails. Alighting at Prague, the machine picked up a second passenger and additional mails. Le Bourget was safely reached at 6:30 in the evening. The machine thus accomplished a flight of 875 miles in 10½ hours, as against a minimum of 60 hours required for the train journey.

England

LONDON-MOSCOW ROUTE

The news from Paris, says the Evening Mail of London, April 14, that an air service has been commenced between that city and Warsaw adds yet another link to the network of airways now spreading over Europe.

Tomorrow the London-Amsterdam service, with extensions to Copenhagen and Berlin, will be inaugurated, and an air service between Paris and Amsterdam, via Brussels, will also commence.

Negotiations are now nearing completion for an airway from Berlin via Riga to Moscow, and when this service is running it will be possible to travel by air right through from London to Moscow, a distance of nearly 2,000 miles.

The existing London-Paris air service connects at Paris with the airway to Warsaw, which goes by the way of Strasbourg and Prague, while the Franco-Roumanian Air Service Company, who are responsible for this airway, have obtained concessions from the Austrian and Rumanian Governments and hope shortly to open an airway that will connect London through Paris with Constantinople.

Austria.

STANDING STILL IN THE AIR

A machine, invented by Lieutenant Stefan von Petroczy, of the Austrian Army Balloon Corps, is acknowledged officially to be the first helicopter in the world, which after making an ascent, has remained for any time hovering in the air.

The distance it has risen from the ground and its maneuvering while aloft have been controlled, so far, by a series of cables attached to the machine.

It has, one might say, gone straight up under its own power, like a sort of "aerial lift" or elevator, several men being in a circular metal chamber, or cabin, fitted to the top of it.

In a recent test of the machine, conducted under the auspices of an official commission, the machine rose straight up into the air till it was at a height as great as 160 feet. Here it remains stationary-providing, as its inventor claims, a wonderful machine for observation work in connection with artillery fire.

In this connection attention is called by the London Daily Mail to the "hoverplane", the invention of Louis Brennan:

Secretly constructed, both in regard to research and design, it represents an advance on the Austrian machine invented by Lieut. Petroczy. That craft, so far, has merely the power of directly upward flight. The Brennan machine, if the accuracy of research is verified in full-scale tests, should be able not only to rise straight up but also to travel in a controlled flight from point to point, hovering or moving forward just as the pilot desires.

SQUADRON NEWS

1st Surveillance Group, Fort Bliss, Texas, May 14.

Reserve Officer Miller, an ex-aviator now interested in Mexican mining, visited the field Monday, May 9th, after presenting the necessary credentials, and old DH was rolled out and Lieut. Jones piloted Lieut. Miller over the city and vicinity.

Tuesday morning, May 10th, four planes equipped with four forty-seven pound demolition bombs each flew in formation about forty-five miles northwest of the airdrome, where a standard size battleship was outlined with lime on the ground. The line-up was No. 1, Captain Lloyd L. Harvey, Pilot, Major L. G. Heffernan, Bomber; No. 2, 1st Lieut. Edgar A. Liebhauser, Pilot; 1st Lieut. Leo F. Post, Bomber; No. 3, 1st Lieut. Gale V. Gaffney, Pilot, 1st Lieut. Burton F. Lewis, Bomber. One bomb was released each time over the target and had she been a real battleship it is believed the first time over would have sent her down. Out of four trials Major Heffernan registered two hits, one almost dead center and one on the hull, all other shots fell very close. The wind was very high and the planes purposely flew about 45 degrees cross wind.

Private (Chauffeur) Marcus W. Coyle was honorably discharged per expiration term of enlistment, May 10th. Private Coyle has completed his second enlistment with this group. The entire Group extend to him their best wishes in civil life and regret very much the loss of such an efficient soldier. His services have been excellent, he has always been faithful to duty and a true American. Private Coyle expects to enlist in the Air Service at Chanute Field, Rantoul, Illinois, which is near his home.

The Group Baseball team still leads the Fort Bliss League with an average of one thousand per cent having won all games. Five of the Group players are members of the Fort Bliss Post Team which has only lost one game.

There is quite a shake-up of the commissioned personnel of the 1st Surveillance Group. The following officers are ordered on temporary duty to Langley Field, Hampton, Virginia, for duty in connection with the bombing maneuvers:

McAllen: Lieut. Edward R. McReynolds, Lieut. Peter E. Skanse, leaving only Lieut. Vincent J. Meloy at this station.

Laredo: Lieut. Harrison G. Crocker, leaving only Lieut. John R. Glascock at this station.

Del Rio: Lieut. Lewis A. Dayton, Lieut. James H. Doolittle and Lieut. Robert M. Moore, leaving only Lieut. Edward V. Harbeck at this station.

Sanderson: Lieut. Lotha A. Smith and Lieut. James A. Woodruff, leaving Lieut. Martinus Stenseth and Lieut. Edgar T. Selzer at this station.

El Paso: Captain Lloyd L. Harvey, Lieuts. Stacy C. Hinkle, Leo F. Post, Edgar A. Liebhauser to Langley, Captain Thomas W. Hastey to Nogales, Arizona in connection with Forest Patrol leaving at this station Major L.G. Heffernan, Lieuts. Burton F. Lewis, Charles B. DeShields and Edward D. Jones.

Douglas: Lieut. Clarence E. Shankle to Langley Field, Lieut. Alex Pearson, Jr., to Nogales, Arizona in connection with Forest Patrol, leaving at this station Lieut. Frank M. Paul and Raymond C. Milyard.

Nogales: Captain Thomas W. Hastey and Lieut. Alex Pearson, Jr., to join Lieuts. Robert D. Knapp, Morton H. McKinnon and Harvey W. Prosser.

Fort Baker, California, May 1

The twenty-fourth Balloon Company is now operating two balloons, one at Fort Funston and one at Fort Barry, Calif. This of course requires an additional number of men but this difficulty has been overcome by sending just enough men from this company to handle the technical details and securing a detail from the C. A. C. to maneuver the balloon. This makes it possible to handle the Fort Barry balloon with the remaining man of the Twenty-fourth Company.

Interest in the Twenty-fourth Company Baseball Team took a decided drop recently. The Post Team forfeited a game because of injuries to two players and it appears as if the team will be disbanded. However, the Twenty-fourth Company is endeavoring to select a team from its ranks to compete for local honors.

Kindley Field, Fort Mills, P.I., April 9.

Colonel Barth has assumed command of these Defenses vice Lieut. Colonel Tilton relieved. Colonel Barth inspected the Air Service Garrison Friday, April 6.

The Air Service Garrison Base Ball Team won by a score of 7 to 5 in their game with the 4th Philippine Infantry. This is the first game of an eighteen game series to be played by the "Army League". The winner at the close of the season will make the Annual Tour of China playing teams of organizations stationed there.

Lieutenant Richter, Information and Operations Officer of the 2nd Aero Squadron, who just returned from the hospital after undergoing an operation, has left for a two weeks sick leave at Camp John Hay, Baguio, P.I.

Lieutenant and Mrs. Franklin are on a thirty day leave of absence to China.

Private George Kelly, Coxswain of the Air Service Launch "Baxter" returned from a trip to the Celestial Empire, where, in Peking, he experienced the many pleasures derived from the excessive exchange rate of our American Dollar.

During the recent maneuvers with the Navy, complete communication was maintained by radio telephone with temporary shore camps. Type S.C.R. 67 A. was used, and at no time was there a break or interference that could not be overcome or remedied. Radio Spark communication between the flying boats and the destroyer "Hart" was most successful. The most recent test was conducted last Friday, when planes were sent out to locate and advise the home station of the speed, direction, range, etc. of the several hypothetically hostile ships. All planes were sending their reports ad lib., and the destroyers attempting all manner of interference in order to garble the messages sent from the air to the shore. The maneuver was a decided success, and the information sent from the air and received on shore checked so closely with the log of the "hostile ships" that this is deemed the greatest achievement of the Second Aero Squadron during its stay in the Philippines.

First Lieutenant Mayer, Company Commander of the 17th Balloon Company, has been promoted to the rank of Captain.

April 10.

During the past week the Air Service Garrison Base Ball Team has played three games in the Army Service League, which resulted in the winning of two games from the Post team, by scores of 9-0 and 2-0, and the losing of one to the 62nd Reg. of Inf., 5-1.

A despedida was held at the Manila Hotel on Saturday, April 10th, for Major and Mrs. Canady. A large attendance of Air Service officers and their many Manila friends were present for the final fling.

Lieutenant Hine spent Friday in Manila bidding farewell to his wife and baby son, who leave aboard the Transport Logan for the States.

Silver Bars in place of gold are quite noticeable in the Air Service Garrison since the receipt of a radiogram announcing the promotion of Second Lieutenants B.R. Dallas, E.W. Franklin, N.R. Wood and C.G. Ellicott; also First Lieutenant Cole to the rank of Captain.

The construction of a concrete tramway at sea level is under way at present. This has been a necessity for sometime, as the present method of launching planes is a crude and painstaking affair, and when completed will eliminate a great deal of unnecessary work as well as being a time saving factor.

Clark Field, Pampanga, P.I., April 11.

An Air Service dinner was given at the Manila Hotel Saturday night, April 9, in honor of Major Earl Canady, Department Air Officer, who leaves on the next transport for the United States. The delegation from this field included all officers present for duty with the exception of one. Most of the officers flew down to Manila Saturday afternoon. Those attending with their wives motored to Manila Saturday morning.

Clark Field - Cont'd April 11.

The party was a big success. One large table seated all present, and the decorations were distinctly those of aviation. Ships of all descriptions stunted in the breeze blowing off Manila Bay, and the captive kite balloons were a constant menace to the heavier-than-air craft. The architectural design of the pavilion necessitated low flying, which fact precluded any possibility of altitude records. The dinner itself was a masterpiece of epicurean art.

As a number of new officers have recently arrived in the Department, the dinner not only served as a tribute to Major Canady, but likewise served as a general introduction to all Air Service officers in the Philippine Department.

April 16.

Four Second Lieutenants and one First Lieutenant have been promoted on this Field. It is not necessary to look at their shoulders in order to determine the fortunate ones. The look of anxiety on the faces of other expectant ones is all but provocative of copious tears.

Lieutenant C.L. Webber has just returned from a six weeks' leave spent in China. He reports having visited Hong Kong, Peking, Canton, Port Arthur, the Great Wall, old tombs, and many other points of interest. He states that the trip is well worth all expense incurred by reason of it, and that the cold weather there is a pleasant relief from a torrid variety prevalent in the Islands.

Headquarters Detachment, First Observation Group, Manila, P.I., April 16.

The Orient is backward in many things, but it mixes the white man's world up considerably by the custom of driving its caribaos, calesas and cars on the left side of the street. Everyone is out of place to the driver who gets his Ford or Cadillac off a transport and starts toward the Escolta. Instinctively taking the right side of the street has introduced more trouble in the Orient than disregarding a "T" on a war time flying field.

Promotions of Air Service officers arrived during the week. Captains Eaker, Midcap and Cole are added to the list of captains. All "Seconds" are now wearing silver bars.

1st Lieutenant Wendell H. Brookley has been transferred to the Letterman General Hospital, San Francisco. He has been suffering for the past six months with ear trouble incurred in flying. Lieutenant Brookley was one of the most popular officers in the Islands and his many friends hope he will meet with speedy relief back in God's country.

Lieutenant Webber was a visitor at Group Headquarters having returned from a six weeks tour of China.

Major Canady, Air Service officer, Philippine Department, for the past two years, completed his tour of duty and left for the States on the "Logan". A ~~despedida~~ was given Major and Mrs. Canady at the Manila Hotel. Practically every Air Service officer attended. The affair was a most enjoyable one. A dinner dance in the open air pavilion of the Hotel occupied the evening. The committee in charge of decorations arranged them as symbolic of a ship leaving Port. The scheme included a miniature ocean, an Army Transport, Bancos and fishing craft, and oodles of air craft overhead. The hum of these small craft added a unique effect to the whole. The lighter-than-air were not forgotten as several toy balloons floating above the table made flying dangerous over that area. All joined in wishing Major and Mrs. Canady an enjoyable trip, though regretting very much their loss to the Islands.

A formation composed of Captain Eaker, Lieutenants Longfellow and Blaney flew over the Logan as she headed out towards Corregidor. Lieutenant Sweeley and Major Staples took an aerial photo of the Logan leaving dock, which ~~they~~ developed at Stotsenburg and dropped on her deck before she was half way out of the Bay.

Fort Omaha, Nebraska, May 1.

On April 26th an interesting free balloon flight was made by the following personnel of this station: Pilot Captain McFarland; Passengers Captain Gibson, Lieut. Hall, Lieut. Jordan, Sgt. LaChance and Sgt. McNally.

A landing was effected a few feet east of the Missouri River. Here Captain McFarland left the basket and the rest of the party proceeded. In making this landing the drag rope threw a perfect clove hitch around the limb of a tree and retained a piece of this limb some six inches in diameter and eight feet in length.

After Captain McFarland left, the balloon rose about 7000 feet with this piece of wood still attached to the end of the rope. At this altitude it was noticed that in getting out of the woods with the pseudo anchor in tow all but two bags of ballast had been used and anxiety was felt for fear the balloon would descend too rapidly and get out of control. The descent was made at a very normal speed, however.

On Thursday, April 22nd, a track and field meet was held at Fort Omaha in which the Ninth and Twelfth Balloon Companies tied for first place.

Camp Bierne, El Paso, Texas, May 3.

In spite of the severe and frequent sandstorms that have prevailed here during the past two months the personnel of the Eighth Airship Company are still very enthusiastic about the possibilities of lighter-than-aircraft. Operations are carried on with the C-1 whenever the weather is favorable enough for such work. However, during the period above mentioned it was extremely difficult to carry out a regular schedule of flights and problems in tactical training. Bad weather flying, however, is part of a good airship pilot's training, and Camp Bierne personnel is learning to fly under conditions which give some fine bad weather flying training.

The men of the Eighth Airship Company have constructed a spherical balloon of about 30,000 cubic feet capacity. The work was done in the cordage and fabric school with material from unserviceable Caquot balloons. This balloon is now being used as a nurse bag for the C-1, but it is expected to carry out free balloon flights with it as soon as the wind direction permits. Flights in free balloons cannot be carried out at Camp Bierne with North winds blowing because landings in Mexico are not contemplated.

Two night flights were made on April 18 with the C-1 and a total of six flights were made during the day time on that date in connection with the maneuvers and horse show at Fort Bliss.

During the limited time available the two officers at Camp Bliss are working out tactical problems in airship work. A field telephone line was recently laid from the ship. On one occasion cases of supplies and ammunition were dropped from the ship with regulation sized parachutes, vertical photography carried on in co-operation with the Photographic Section of the First Surveillance Group, Fort Bliss, and rifle and machine gun target practice conducted from the ship.

Rifle drills are being carried on in the Eighth Airship Company in preparation for target practice. Thirty men are going to the range which is located six miles from camp. Target practice must be completed by this company on or before May 31. The prescribed course requires the firing of 170 rounds by each man and owing to the limited range facilities available this will interfere seriously with the program for air service training.

March Field, Riverside, California, May 14.

Forty-five planes made three hundred and eighty-one flights from March Field during the past week. Total flying hours - 180 hours 55 minutes. Preliminary instruction required 150 hours 35 minutes; test flights 3 hours; and miscellaneous flights 27 hours 20 minutes; approximate aerial mileage - 11,750 miles.

March Field - Cont'd.

Pursuant to instructions from the Air Service Officer, Ninth Corps Area Headquarters, San Francisco, about 30 graduated cadets at this school who have volunteered for forest fire patrol duty during the summer months, will proceed at various intervals to Mather Field, Sacramento. The instructions suggest that these men be ferried via airplane aboard such planes as are being repaired at the Rockwell Field depot and flown to Mather Field, via March Field, where they land for gas and oil. They may also make the trip in any other manner which does not obligate the department for travel expenses.

Telegraphic information from Washington indicates that the Senate Naval Affairs Committee has agreed upon an appropriation of \$2,500,000 for the construction of a large hangar to house a rigid dirigible and for other improvements at Camp Kearney, near San Diego. This undoubtedly means that the R-38 now under test in England will eventually reach the Pacific Coast after its flights across the Atlantic sometime during the summer months.

Capt. F. I. Eglin, officer in charge of flying, has been placed in charge of the Post Baseball team. Together with Major Geo. H. Peabody who will play in the outfield and several new cadets to strengthen the team the soldier aggregation will journey to Ontario Sunday afternoon to play the second game of a three-game series. The Post will accompany the team.

Captain Clarence W. Dresser has returned to the line and reported at Fort Mac Arthur for duty with the Coast Artillery.

Captain A. M. Shutter has been ordered back to the line and will report to the Third Division at Camp Pike, Arkansas.

A.S.M.S., Chanute Field, Rantoul, Ill., May 17.

The plans for the circus to be held at this post on the 30th are being materialized now. Every department on this Field is working to make its stunt a success. Profiting by the experiences of circuses in the past, every possible precaution is being taken to insure an honest-to-goodness show. Something that the public will appreciate and remember on Decoration Day. The advertising campaign has started and is being pushed to its limit. Every newspaper, motion picture show and sign board in a radius of 300 miles has something to say about Chanute Field.

The officers and ladies of Chanute Field attended en masse the dance given by the Intercollegiate Flying Club of the University of Illinois, Saturday evening, May 14th, at the Kappa Sigma Fraternity House. There were many of the old timers present and the dance was a reunion as well as a good time. Major and Mrs. George E. Stratemeyer, Commandant of Chanute Field, Captain John G. Whitesides, commanding the Air Service R.O.T.C. Unit of the University of Illinois, Lieutenant and Mrs. L. N. Eller, Lieutenant and Mrs. C. W. Walton, Lieutenant and Mrs. C. W. Sullivan, Lieutenant and Mrs. H. E. Wooldridge, Lieutenant and Mrs. James S. Eldredge were among the guests.

Monday, May 16th, Lieutenant O. K. Robbins entertained at a delightful theatre party at Champaign. The guests motored over from Chanute Field. After the show a light lunch was served at Clauses' cafe. Among those present were Lieutenant and Mrs. James S. Eldredge and Mrs. Elizabeth C. Lowry.

Captain Harold E. Sturcken, who has been with the School so long that he has become almost a fixture, was ordered away very suddenly last week to Carlstrom Field. Captain and Mrs. Sturcken left for Carlstrom via San Antonio, Texas, where they intend stopping for a short visit. Captain Sturcken was Commandant of students at this Post, a position which he filled very efficiently. The entire Field looks upon his departure with regret.

Kelly Field, San Antonio, Texas, May 14.

The training for the week ending has consisted of very little besides the regularly scheduled course for the student pilots taking the pursuit course, occasioned by the lack of available pilots since the discharge of the graduating class of cadets. The new class is not expected to arrive until the first of July, and in the interim the active operations scheduled cannot be on a very large or impressive scale. Notwithstanding this handicap there have been during

Kelly Field - (Cont'd)

the week numerous practices not involving large concentrations of airplanes, such as camera gun combats, rapid reconnaissance missions, mapping missions, cross countries, surprise approach practices against single and two center planes, transformation on Spads, Orenco's, DeHavillands, Curtisses, and our one Fokker, acrobatics, precision landings, et cetera.

The student pilots continue their course of training with the 94th Squadron under the direction of Lieutenant S. G. Frierson, and the whole are making quite rapid progress. The ground course for the week ending May 13th, covers lectures and practical work in compass orientations, motors, aerial navigation, and meteorology. The flying includes improvement of individual deficiencies, formation take-offs and landings, and acrobatics. It was contemplated that considerable Spad formation and acrobatics would be done, but the engineer department has found it advisable to order these planes not to be stunted because of their rather aged condition. It is fondly hoped that very soon it will be possible to replace these ships with the new type 300 H.P. pursuit planes, a few of the Orenco type having already been received.

This station proudly boasts a motor that has found the fountain of youth in the 94th Squadron. This motor is so old that it can remember when a dollar was money and the days before blushes were extinct -- indeed Pearl White has nothing on this piece of machinery. The motor is the Wright (Hispano-Suiza) Model E, 180 H.P., used in SE5A pursuit plane #8147. Two hundred and twenty sixtieths hours ago this motor started motoring, and it is hoped it will continue for at least that much longer. It has been raised right, and although it has associated with all kinds of pilots in its work of training, it has not developed any bad habits, such as smoking, stammering, etc., and today is apparently as good as when first introduced to the upper strata. While this time has been beaten by the 150 H.P. type, so far as can be discovered it has not been exceeded before by the 180 H.P. Type, and there is no end in sight. Lieutenant E. C. Whitehead is the proud guardian of the gasoline guzzler. Would it be altogether facetious to suggest that it is just possible that the youthful tendencies of this aristocratic machine-steel rake arise because some medical pilot has been monkeying with it?

On May 5, 1918 in the sunny (?) fields of France where the smell of chlorine mingled with and mangled the smell of wild flowers, the first order was issued by the newly born First Pursuit Group, the organization that was destined to retrieve such a large measure of glory to American arms, and upon whose future as the first line and the last line of defense the country waits with confidence and respect. What could be more fitting and proper then, that peace having been secured with so many daring sacrifices, those who remain should erect a mental monument to that fact, and celebrate by holding the first holiday in honor the Organization Day.

Thursday, May 5, 1921, saw the first Organization Day held in the First Group. In the morning all squadrons assembled in a hangar that had previously been cleared where an address was delivered by Captain Brooks covering the organization and history of the famous First Pursuit Group, now known as the First Group. That the substance of the talk held exceptional interest for all, even for the newest of our recruits, was evidenced by their rapt attention at all times. Clearly Captain Brooks unfolded, event by event, the history of the Group, which he colored as he went along with those heart-interest bits of unusual experience as only could be related by one who has personally experienced them. After the address, there is no doubt but that every man retained a larger and more real conception of the work he must carry on, of the honors which have been entrusted him.

After the talk, an athletic contest was held that topped off the affair in a manner most proper considering the combative spirit of the organization. Competition was keen. There were races of all kinds. Everything ran but the stop watch, and it simply lived up to its name. Anyway, it couldn't have kept up with the bunch without bending its hands in the effort. There were shot puts and hammer throws, relays, high, broad and thick jumps, pole vaults, and a tug of war. There would have been boxing contests, but the rules prohibited hitting any of the judges.

Kelly Field, May 14 - Cont'd.

The 49th and 96th Squadrons (Bombardment) will leave Kelly Field, Tex. Monday, May 16, for Langley Field, Virginia, where they will work in conjunction with other units in the test between the Air Service and the Navy to be held sometime in June. This project will consist of forty-six officers, forty-three cadets and two hundred and ninety enlisted men, under the command of Major Henry J.F. Miller, present Commanding Officer of the Second Group (Bombardment). Twenty-one officers and eleven cadets were attached from the Pursuit Group. This leaves Kelly Field crippled in flying personnel as about 80% of the experienced fliers are in this flight. This flight consists of the following named officers:

Major Henry J. F. Miller, Commanding.

Captain B. V. Baucom	Captain Victor Parks, Jr.
Captain B. A. Doyle	Captain H. Pascale
Captain J. G. Colgan	1st Lieut. R. T. Aldworth
1st Lieut. L. S. Andrews	1st Lieut. L. L. Deery
1st Lieut. J. W. Benton	1st Lieut. R. Birnn
1st Lieut. F. S. Borum	1st Lieut. J. T. Curry
1st Lieut. R. B. Davidson	1st Lieut. R. A. Day
1st Lieut. J. R. Drumm	1st Lieut. D. H. Dunton
1st Lieut. W. A. Frederick	1st Lieut. S. G. Frierson
1st Lieut. H. L. George	1st Lieut. C. W. Graybeal
1st Lieut. E. A. Hillery	1st Lieut. S. F. Landers
1st Lieut. M. S. Lawton	1st Lieut. T. K. Matthews
1st Lieut. J. A. Mollison	1st Lieut. B. R. Morton
1st Lieut. D. N. Meyers	1st Lieut. C. W. McDermott
1st Lieut. C. C. Nutt	1st Lieut. G. N. Palmer
1st Lieut. J. J. O'Connell	1st Lieut. J. N. Pennewill
1st Lieut. M. J. Plumb	1st Lieut. D. G. Lingle
1st Lieut. L.E. Sharon	1st Lieut. H. W. Sheridan
1st Lieut. H. L. Speck	1st Lieut. G. P. Tourtellot
1st Lieut. F. E. White	1st Lieut. S. L. Ellis
1st Lieut. E. C. Whitehead	1st Lieut. S. T. Smith
1st Lieut. W. C. Morris	1st Lieut. E. W. Raley
1st Lieut. S. L. Van Meter, Jr.	

On account of the above project Headquarters has almost completely changed hands, Lieutenant Mollison has been relieved as Post Adjutant by Lieutenant T. J. Koenig; Lieutenant Rowland, as Post Executive Officer by Captain Jacobs; Lieutenant Lingle's office has been taken over by Lieutenant Koenig, personnel adjutant and the Utilities department; Captain Parks as Operations Officer by Lieutenant Rowland; and Captain Parks as E & R Officer, by Lieutenant McDermott; Lieutenant Whitehead as Athletic Officer, by Lieutenant Gilbert; Lieutenant Van Meter as Engineering Officer, by Lieutenant Koontz. In the Bombardment Headquarters, Captain Hayes relieves Major Miller as Commanding Officer; Lieutenant Laird relieves Lieutenant Frederick as Adjutant; Lieutenant McKiernan relieves Lieutenants Palmer and Sharon in Operations.

Kelly Field's three giant bombing planes will take the air this morning for Langley Field, Hampton, Virginia where they will take part in the bombing exhibition. The Handley Page will be piloted by Lieutenants Palmer and Dunton and will carry four mechanics; one Caproni will be piloted by Lieutenants Morton and Plumb with three mechanics; and the other Caproni will be piloted by Lieutenants Nutt and Lawton with two mechanics. Their first stop will be at Dallas, Texas, from Dallas to Memphis, Tennessee, from Memphis to Cincinnati, Ohio, on to Gallipolis, Ohio, thence to Hampton, Virginia.

Captain Early E.W. Duncan, Air Service, has reported at this station from March Field, California and is assigned to the Second Group (Bombardment) for duty and bombardment training.

Lieutenants Ray G. Harris and Levi L. Beery, Air Service, went by rail to Love Field, Dallas, Texas and returned by airplane for the purpose of ferrying airplanes from that field to Kelly Field.

Kelly Field, - (Cont'd)

Captain Benton A. Doyle made a cross country trip to McAllen, Texas for training purposes, leaving this field on Saturday, May 7, and returning on May 8.

Lieutenant W. J. McKiernan, Jr., made a cross country trip to Laredo, Texas for training purposes. He left the field on May 7, and returned on May 8.

Cadets Tyrao O. Robinson and George H. Holmes made cross country flights to Laredo, Texas for practice in cross country training. They left the field on May 7, and returned on May 8.

Lieutenant Latha A. Smith, Air Service, has reported at this station from the 90th Aero Squadron, Sanderson, Texas and is attached to the 96th Squadron, (Bombardment) for temporary duty in connection with Project "B". He has been granted a 10 day leave of absence and will report at Langley Field, Virginia for duty.

Saturday night, May 7, the 13th Cavalry Minstrels entertained Kelly Field. The show was the best seen on this field; some wonderful talent was displayed in singing, dancing and comical sayings. The house was filled to its capacity and everyone enjoyed the show.

The usual enlisted men's dance was held at the Hostess house on Tuesday evening. Kelly Field's Band furnished the music; refreshments were served during the evening and everyone had a good time. Dancing is the most popular form of entertainment on the field and Tuesdays do not come often enough. The crowd is becoming too large for the ball room and everyone is asking when there will be an open air floor.

Everyone had a good time at the swimming party Friday afternoon; several families came in their own cars, supper was very good. The bus leaves the end of the field every Friday at 4:00 P.M. for the benefit of those who want to take part in the swimming parties and it returns to this field at 7:00 P.M.

The 17th Squadron (Pursuit) gave a swimming party at New Braunfels Sunday, May 8th, which was attended by the majority of the squadron. Some very good swimming and diving was exhibited. Everyone enjoyed themselves as it was so different from the regular routine of army life that would grow monotonous if it were not for a day of total relaxation and recreation once in a while.

Ross Field, Arcadia, California, May 16.

The course for the Balloon Observers started Monday morning, May 16, at eight o'clock, with an enrollment of two officers with the grade of Major and eighteen officers with the grades of Captain and First Lieutenant. A number of the officers encountered a surprise in their first calisthenics period. Unused muscles were brought into play and a general reduction of waistlines was begun.

The special regulations governing the interior economy of school operation were issued to all school personnel on Friday under the name of School Memorandum No. 7, U.S Army Balloon School. Student officers drew their class supplies and were assigned lockers on Friday, May 13th, and the outlines of the work to be covered in the ground course together with the schedules for the first two weeks of instruction were issued.

The School has aroused considerable interest among the citizens of Los Angeles County and the point has been reached where a visitor may say a visit through the various departments has added to his stock of knowledge. The new radio telephone set has been installed under the direction of Lieutenant Brown, Post Signal Officer. By means of the equipment the chart-room operator will be able to carry on conversations with the Bombing and Flashing Officer in the field and with the balloons in the air. It is probable that not much use will be made of this equipment until the completion of the ground course, thirteen weeks from now. The scheme of signal communication is simple and yet practical. The metallic circuits from the target five or six miles distant in the field are brought into the balloon exchange where a telephone operator connects with the chart-rooms and the balloons. Should anything happen to the metallic circuits, communication can be immediately restored by means of radio telephone.

The artillery material composed of sectionalized fuses, shrapnel, shells and instruments has not yet arrived. As soon as available this will complete the last department in the School for active operation.

Ross Field, May 16 - Cont'd.

This school is not only going to be prepared to give a thorough course of instruction leading to the rating of Balloon Pilot and Observer, but is keeping in view the possibility of future development toward the goal of airship training.

On Friday evening, May 13th, a dance was given by the bachelor officers stationed at Ross Field in honor of the married officers of the post and their wives, the occasion being for the purpose of enabling student officers who were mostly recent arrivals at the post to become acquainted with the various officers their families and friends from neighboring localities.

The dance was given at the Santa Anita Officers and Enlisted Men's Club, the building being appropriately decorated for the occasion. Arrangements were made to accommodate two hundred people, and buffet supper was served. The affair was attended by approximately seventy-five couples and was thoroughly enjoyed by all present. The dance lasted until one o'clock and at the end of the festivities the Commanding Officer, Colonel Baldwin, and Mrs. Baldwin, expressed to the bachelor officers on behalf of the married officers and their families their hearty appreciation.

Colonel and Mrs. Baldwin entertained at tea at their quarters, Ross Field, on Sunday, May 15 from four to seven o'clock P.M. In addition to the officers of the garrison and their families, guests were present from Los Angeles and Pasadena.

Captain Stone and his mother, Mrs. L. G. Stone, entertained at dinner Major and Mrs. Jones of this post, Dr. R. L. Nourse and son Norman C. Nourse, and Captain Stone's aunt, Mrs. R. W. Faris of Boise, Idaho on Monday evening, May 9th.

Carlstrom Field, Arcadia, Florida, May 20.

Capt. Hubert S. Steenberg, Flight Surgeon at this station, has been ordered to temporary duty at Langley Field, in connection with the Army Bombing tests and upon completion of this duty will proceed to Bolling Field, Anacostia, D.C. for permanent duty.

1st Lieut. Willard S. Clark, A.S., has been ordered to Ft. Sam Houston, San Antonio, Texas, for duty with First Pursuit Group.

1st Lieut. John K. Cannon, A.S., has reported to this station for pilot training, having been transferred from the Infantry at Columbus, New Mexico.

The Carlstrom Baseball Team in the opening game of the Thursday League defeated Arcadia 11 to 8. The feature of the game was Carlstrom's heavy hitting. Arcadia's runs were scored by erratic pitching.

Mather Field, Sacramento, California, May 14.

The formation of eight ferry pilots arrived from Rockwell Field May 8, in good shape, with overhauled planes for Forest Patrol work. Five other ferry pilots left the 13th, by rail, to bring more planes from Rockwell.

Col. Guy Carleton, Ninth Corps Area Inspector, made a two-day stay at the Field during the past week for the purpose of inspecting finance and other records; Capt. Derby and Lieut. Halverson, of the Corps Area Headquarters, visited the Field on the 14th.

The Wednesday afternoon baseball game was a hot one this week, and it was not only the atmosphere that was hot. The teams of the 9th Squadron and the A.S. Supply Detachment were very evenly matched and the score was successfully held down.

Wednesday night brought a group of happy dancers from the Community Club in town and they were met by an equally happy group of partners at the Service Club of Mather Field. There were four huge busses in use to carry the visitors back and forth to Sacramento. The music was the sort that tickle toes easily and all the dancers pronounced this affair the nicest of all held at the Field. The floor was in excellent condition, the evening breezes cool and the orchestra always in generous mood. Lieut. Liggett, Recreational Officer, Mrs. J. Gardner, Camp Hostess who was in charge of the dance, and their corps of enlisted assistants surely deserve a vote of thanks for their untiring efforts in making the Post affairs for the enlisted men such pleasant ones.

Six officers have recently reported from March Field for duty here:

Mather Field, May 14 - Cont'd.

First Lieutenants A.E. Waller, F.S. Gullet, E.B. Bayley, B.S. Catlin, Jr., G.A. McHenry and Robert S. Worthington.

First Lieutenant John R. Morgan of the 9th Squadron, who returned from Border Patrol duty last week is off again with Mr. Hess of the Forestry Service for Fresno, Madero and Rockwell Field, in connection with obtaining information on landing fields for Forest Patrol work.

Forest Patrol plans are about complete. Travel orders are in to move the 91st Squadron (Obs.) to Eugene, Oregon. As this goes to press, freight and baggage are being loaded at Roseville, Calif., preparatory to shipment north to the new headquarters at Eugene, Oregon.

With the acceptance of their reserve commissions by two former cadets, Jack M. Clegg and Edward D. Arndt, Mather Field has lost the last of its Cadet Detachment. Clegg will resume civilian business and Arndt reverts to his former enlisted status of Staff Sergeant.

12th Squadron (Observation) Douglas, Arizona, May 21.

Another recruit has been added to this Flight. On May 14 a young American eagle was caught by a ranchman about 30 miles from Douglas. The 12th Squadron is now possessor of the bird. A suitable cage has been built and much interest is shown in the eagle, as he is a model for the Squadron insignia.

Major Spatz, the 8th Corps Air Officer and Capt. Hasty from El Paso, were visitors at the Airdrome this week. The two officers went to Nogales and then to Tucson investigating the proposed Forestry Patrol for Southern Arizona. On his flight from Tucson to Douglas, Major Spatz' motor had a stoppage in the gas line causing a forced landing, which was made in the few possible fields near Benson, Arizona. A good landing was made in a plowed field and after the gas line was cleaned the Major took off again for Douglas.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE JUNE 17, 1921.

TRIBUTE TO MAJOR MAURICE CONNOLLY BY BURTON E. SWELT, REPRESENTATIVE IN CONGRESS FROM IOWA, AT THE MEMORIAL SERVICES OF THE NATIONAL PRESS CLUB POST NO. 20, OF THE AMERICAN LEGION, HELD AT THE NATIONAL PRESS CLUB, WASHINGTON, D.C., ON TUESDAY EVENING, JUNE 7, 1921.

Mr. Chairman, Members of the National Press Club Post of the American Legion, Members of the National Press Club, and friends:

In behalf of the National Press Club and the members of the Iowa delegation in Congress, I pay the following tribute to the memory of Major Maurice Connolly of Dubuque, Iowa.

It was on an evening in the latter part of May. An army plane, like a white winged ship, was joyously sailing the ocean of the sky. A threatening cloud, a storm, a gust of wind, a crash, and seven of nature's noblemen - seven of the nation's best - passed from the bloom of life to the repose of death. The inevitable summons came to them quick as the lightning's flash. In the tumult of the elements they found the serenity of death.

My friend, Major Maurice Connolly, was one of them.

A hundred times I have heard men say, "When my time comes I hope that it will be sudden and without warning." Many worthy and noble men have expressed a desire, that the transition from life to death be instantaneous.

For my part, I do not quite understand why a man should fear to die any more than fear to live. The normal man clings tenaciously to life, but this does not mean that he is constantly haunted by the fear of death. Birth, life and death, are a part of the Divine plan, and come to all living things. There has been no exception since time began.

Major Maurice Connolly did not take his existence lightly, but he did not fear death. His life from its inception to the fateful moment of departure had been replete with splendid endeavors, high resolves, kind deeds and worthy achievements.

He sprang from a sturdy, honorable, industrious, and God-fearing ancestry. Intellectually he was alert and keen. He possessed a wonderful personality. He was honest, sincere and kind. He was a loving son and brother. He was a generous neighbor. He was a faithful friend. He was a genuine American.

These words alone build a monument of glory above the grave of any man who is worthy of them.

In the prime of manhood he reached his journey's end. "Night has fallen upon noon." He was a courageous man. He dared to take chances in the development of a great service. He possessed a heroic soul. He was not daunted. Others may falter, but for him it was to do and dare. He died a martyr to aerial science.

In his early manhood he enjoyed unusual educational advantages in this and other countries, and he improved them.

He first came into national prominence in the fall of 1912, when he was nominated and elected to Congress from the Third Congressional District of Iowa. He served the people of the District one term in Congress ably and well.

He was a member of many civic organizations of his city, state and nation. He looked upon public office as a public trust, and performed his services faithfully and without regard to personal aggrandizement. When our nation entered the World War he voluntarily enlisted in the Air Service, and rose to the rank of Major. After the war his interest in aviation continued. He became an expert in the handling and maneuvering of planes. He was a member of the Curtiss Airplane Company. He studied this great question not only from a commercial standpoint, but

from the standpoint of being an important factor in our National Defense program. It may be truthfully said that he sacrificed his life in the furtherance and development of the airplane service in America.

Death comes to every man. From the hour of birth we are condemned to death. The same inexorable fate awaits us all. The decree of death has been enforced since creation's dawn. There is no escape; there is no new trial. We pass this way but once. There is no clemency shown. There is no parole or pardon. There is no law's delay. All the science, art and skill of the ages are as nothing in its mighty presence. When death beckons us to depart we must go. All are swallowed up in the great Ocean of Eternity.

My friends, there is no consolation in the thought that the dead cannot be disturbed. The elemental fires may rage within the bosom of Mother Earth; the volcanoes may pour their red hot lava, and the gas and steam may stream up to Heaven; the earthquake may rend the earth, and its shock may shake cities to ruin, and cause the land to sink down to the level of the sea; the lightning may shatter the oak and the deep-toned thunder may roll at a distance; the cyclone may leave devastation and destruction in its path; the hurricane may howl music and the cataract may fill the air with its constant and solemn roar, but the dead sleep on. The living may be terrorized, but the dead are undisturbed. The body returns to the elements from which it sprang, and the spirit to God that gave it.

Reverently I lay this leaf upon his grave.

MEMORIAL DAY ADDRESS
A TRIBUTE TO HEROES OF THE AIR,
WHO DIED ON THE FIELD OF FRANCE.

In the address of Captain Harold E. Hartney, Chief of Civil Affairs Division of the Air Service, delivered at the Memorial Day exercises at Grafton, West Virginia on May 30, he paid a beautiful tribute to the memory of that brilliant group of heroes of the air who, in the full flush of young manhood gave, their lives so gallantly on the battle fields of France. Captain Hartney's address follows:

In accordance with a custom that has prevailed in this country since 1865, we meet again today to render homage to the nation's chosen few who died on the battlefields that your fathers and mine - that you and I and our children - might live to make this great country flourish, and that it as a nation might make the world a fit place in which to live. What a privilege, what an opportunity, and indeed what a pleasure it is to appear today in this modest assembly on an occasion so shorn of ceremony, but oh! how pompous! So lacking in display of purple, but oh! how royal and magnificent!

To you silent but illustrious members of the Grand Army, who have crossed over and pitched your tents on the other side of the river, we raise our hand in reverent salute; to you few veterans who sojourn a few more years with us as an inspiration and an ideal, we do honor, for you are the noblemen of our democracy. You have made us love the flag, our race and our country, and you are an ever-abiding inspiration for all that is good and pure in the union you fought to preserve.

"If not a drop of blood were spilled
For thee, proud land, nor life were given,
Our hearts were not one-half so filled
With love of flag, or home, or Heaven."

"God of the land and of the sea
Thou witnessed all, to thee I cry;
And must our best and purest die
To set the suffering millions free?"

Every Memorial Day service helps to inculcate love of country, to encourage loyalty, and establish better citizenship. It is a day when we forget our regular routine of labor; when we lay down our tools and look upward towards the ideals of our nation - for we as a nation must endure for all time - revering constantly the spirit that dominated those of you, Grand Army of the Republic, who gave your lives or suffered that a cause might prevail.

No American, no lover of humanity, can stand in the presence of these graves without the most profound emotion. I try to picture to myself the individual history of each one of these heroes, as I bow here in their presence. Had he love, ambition, pain, sorrow, grief, or wealth? Was he compassionate, long-suffering, gentle, filled with love for his fellow man - I can only answer "Yes", for they belong to the army of those who bled for their country. They fell in full bloom - in the flush of perfect manhood, and, in the high noon of life, they made a more fitting sacrifice, a worthier offering for this great nation, destined to play such a great part in the making of world history.

These men belong to the same class of those who heard the call of service in the last war, and crossed the water that freedom of creed, of thought, of speech - that liberty might live, and civilization might not perish; that the autocratic force of the Hohenzollerns might be forever stripped from the old world, lest its crushing influence pollute the entire spirit of the new. I know those men. I flew with Luke of Arizona, with McArthur of Buffalo, with "Cap" Elliott of Missouri, Fred Norton of Ohio, with Collidge of Massachusetts, and Roosevelt of Oyster Bay. I heard them talk, I know their individual ambitions, their anxiety and their love for home, mother, sisters and country. I witnessed their young enthusiasm, their ardor; I know that they felt that you people here at home might better be dead than dominated by an autocratic form of government that ordered and enforced action rather than prompted it by a constitution based on the will of the people.

Let us for a moment reflect on the heroes of the Civil War, the Spanish American War and the World Wars, and from a standpoint of one hundred years hence. Come with me to a point in the firmament in the year 2021, and from that pinnacle let us look down upon the old earth. What matters it that the men who fought died young? What difference between the heroes of these different struggles? All of us here today will have passed away and there still remains a nation, flourishing economically and industriously, and a leader in world politics yet dominated as now by the spirit of a few who lie buried in national cemeteries such as this. Those who bled and died, and whom we now mourn with reverence and with pride, are dedicated forever to the nation in hallowed spots such as this. You mothers of '61 and '98 gave your sons freely with you brave women of 1917. How fortunate you were, after all! What a privilege to have sealed the union by your own flesh and blood!

And now come back again with me to consideration of some of the heroes of the World War, for in them we find a replica of each and every one of those heroes of 1861. Frank Luke of Arizona, that full-blooded, blond-haired youngster who for the sake of this country of ours flew through a hail of bullets and swarms of enemy aircraft each seeking to bring him down in flames; that gray-eyed, shall I say wild-eyed, sinewy youth who never flinched until he shot down his prey, and who finally died in full defiance of the whole German Army, hopelessly and helplessly stranded and wounded far behind the enemy lines; who freely gave up his life rather than be taken prisoner, that the conception in the Hun mind might be a true one; that they might know the spirit of the Yank and understand that he and millions like him back here meant business, and were not afraid to prove it with their lives. He now lies, like those heroes yonder, buried in a national cemetery under a monument that for all time will stand in memory of that conquering spirit. I was with him as he perished, taken from me as he whispered, "Major, mother doesn't know I am on the battle front; and it is for her only that I am thinking. If the Huns get me, don't worry or let anyone else . . . I am satisfied." His spirit passed out before any of his young, boyish ambitions had been frustrated, and a real, live American eagle collapsed by the side of his trusty Spad.

but after all, how glorious a death, how wonderful! Let us say with Robert Louis Stevenson: "Is there not something brave and spirited in such a termination, and does not life go down with a better grace, foaming in full body over a precipice, than miserably straggling to an end in sandy deltas? When the Greeks made their fine saying that those whom the Gods love die young, I cannot help believing that they had this sort of death in their eye. For, surely, at whatever age it overtakes the man, this is to die young. Death has not been suffered to take so much as an illusion from his heart. In the hot-fit of life, a tip-toe on the highest point of being, he passes at a bound to the other side. The noise of the mallet and chisel is scarcely quenched, the trumpets are hardly done blowing, when, trailing with him clouds of glory, this happy-starred, full-blooded spirit shoots into the spiritual land."

But when we gather on an occasion such as this to assemble with the great company of the flower and youth of our nation, what does it avail us materially - what practical lessons for our everyday life? It serves to remind us that these men gave us one country, one constitution, one destiny - a land that in itself blesses you and me with a great expanse of territory - the whole United States with facilities for the acquisition and consolidation of wealth. The single state of Texas alone could produce more cotton than all the other southern states put together were it necessary, yet its vast domain is but a small part of the great United States. Our commercial potentialities, both domestic and foreign, who can measure them; who can conceive them? Our railroads, our highways, our steamship lines, our mines of wealth - copper, coal, iron - our magnificent forest areas, our water power projects, all of untold and unexploited wealth, that we have but to tickle and they will laugh in a return of gold, spread over millions of acres of territory destined to increase a thousand-fold until their everyday treasures

" familiar grown,
Shall realize Orient's fabled dream."

And you, Grand Army of the Republic, are the price we paid. Who dare say the expenditure was in vain? These are the material gifts you gave us. They hold out for us the grandest future reserved for any people, but there goes along with them, side by side, a lurking danger that we may forget the spirit of the donors, and on the lap of luxury feel that it is we, ourselves, and not you brave men of the Blue who brought this life of fairness and ease, and so forgetful of your sacrifice, become unworthy of it, deteriorate, degenerate.

And so we gather together in the hope that we may be better citizens, truer Americans, and that the union may grow stronger through the inspiration given by the heroes whose names we today revere. In the words of the greatest American - "that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion."

NATIONAL BALLOON RACE HELD AT BIRMINGHAM, ALABAMA, MAY 21st, 1921.

Lt. Col. Frank P. Lahm's own story of his flight in the National Balloon Race, on Saturday, May 21st, 1921, appears below:

With the very complete weather reports, I decided the thing to do was to try and get as far west as possible in the beginning, and as I found the lowest current the best for that purpose, staid very low the first night, part of the time on the guide-rope. We crossed into Tennessee at 4:50 A.M., and by that time were headed north, gradually turning east of north. I fought the tendency to rise with the sun and by a judicious use of the valve and ballast, was able to stay down pretty well. And let me call attention to the vertimeter which I used for the first time. It is one of the best instruments ever devised for a balloon pilot and I would never go without it. You can gauge your rise and fall with it as you cannot in any other way.

We reached the vicinity of Columbia, Tennessee at ten A.M. and struck a calm. I tried every altitude from the ground up to 15,600 feet, the only variation being a slight drift toward the south at the higher altitude, so decided to go down, preserve ballast and wait for the wind. I let the balloon down to the ground from the maximum altitude and held it on the guide-rope, having expended 32 out of 41 sacks of ballast and no equipment.

My maneuver worked very well until 3 P.M. We stood on the guide-rope making little hops of a mile occasionally but never getting far from Columbia. Then a local rain-storm struck us and as we were very heavy, forced us to the ground in a ditch about ten feet deep. It was then pouring so we put on our rain coats and started to lighten up. I let over a bucket of water then noticed we were caught on a small stump. As soon as I worked loose, the wind which had become very strong, threw us across the ditch a couple of times, then started to drag us across the field. I did not want to give up as we still had so much ballast, but after dragging through a fence and heading for some trees at the rate of about thirty miles an hour, I realized we were not going to get up so started to pull on the rip, getting it just about the time the balloon ended up against three trees, in a farmer's yard. The wind threw us so hard that the balloon envelope burst from top to bottom and into several parts, the trees making numerous punctures in addition. It was ten minutes past three when we climbed out of the

basket. We had been becalmed for five hours and then forced to land by the storm, not of our own volition.

Upson has been in today and has shown me his records. He beat us all selecting an altitude the first night about 1000 feet greater than ours, made speed and gained ground, so that he was ahead of the calm that caught the rest of us, finally landing near Stuart, Va., when the wind began to turn them south-east and finally back slightly toward Birmingham. He deserves full credit for his victory as he won it with his head and his skill in handling the balloon.

My aid Major Oscar Westover, proved all that I could desire. He will make a reputation some day in this game.

Sgd. Frank P. Lahm,
Lt. Col. U.S. Air Service.

RAILROAD RECONNAISSANCE BY AIRPLANE

In the News Letter under date of Aug. 21, 1920, there appeared mention of a reconnaissance flight undertaken by the 3rd Aero Squadron in the Philippine Islands for the purpose of locating an extension of the line of the Manila Railroad Company:

Locating a railroad by airplane is the latest venture of the Third Aero Squadron, Camp Stotsenberg, Philippine Islands, and one long flight has enabled a railroad engineer to determine which one of the three general routes will be utilized for the new road. The saving of many months and thousands of dollars has resulted. Instead of three parties of locating engineers being sent out to make the preliminary survey only one will now be necessary.

The Manila Railroad Company has planned the extension of its line from Cabanatuan through parts of the provinces of Nueva Ecija and Nueva Vizcaya to Bayombong. Parts of the two provinces are very thinly settled and no comprehensive maps or surveys were available. The Military authorities are vitally interested in the extension of the Manila Railroad Company line, and accordingly permission was obtained from the Commanding General, Philippine Department to use a government airplane on the preliminary reconnaissance trips.

The first trip was made by Mr. E.S. Von Piontowski, Chief Engineer, in a D.H.4 piloted by Lieut. W. C. Maxwell, 3rd Aero Squadron. Lieut. Maxwell, with the railroad official in the gunner's cockpit passed over Mt. Arayat and then followed the Pampanga River until he picked up the railroad line at Gupan. He followed the river from Cabanatuan on to Pantabangan and over Mt. Pangloriahan, thence to Bayambong. The railroad engineer on the return was enthusiastic over the trip, declaring that the single flight has saved him months of tedious work in running lines through difficult territory. Before his surveying party is sent he plans at least one additional reconnaissance trip.

In this connection the account of the survey by Chief Engineer, E.S. Piontowski will be of interest as it bears testimony to the inestimable value and the immense saving of time and money of the aerial reconnaissance in engineering projects. Mr. Piontowski writes:

"The flight was in the nature of a trial trip as I had never been up in the air before and had no idea whether any information of real value could be obtained or not. The trip was a revelation to me and I cannot understand why airplanes were never used before in reconnaissance surveys, for as much can be accomplished in one day with a plane as would take months of time and thousands of dollars to do by instrument surveys. The flight was taken at the beginning of the rainy season and shortly after our arrival at the pass the clouds came down and covered the summit of the mountains rendering it impossible to obtain any idea of the other side of the range and the outlets thereto. However, I obtained enough information on this side to demonstrate how much could be done by flights in the dry season; as it was, I can now eliminate two lines on this side that the engineers on survey would necessarily have had to try, and which would have taken many months and great expense to make.

At present the Manila Railroad has constructed the Cabanatuan branch as far as Cabanatuan and contemplates prolonging this line north through the mountains into the Cagayan valley, and eventually to Aparri on the extreme north end of the Island of Luzon.

There is no question but that in mountainous and heavily timbered country of which no accurate maps exist, the saving that could be effected by several flights over proposed lines would be enormous, and I anticipate in a short time all railroad surveys through unknown country will be preceded by airplane investigation."

REPORT OF CHANGES OF STATION OFFICERS
FOR WEEK ENDING MAY 24.

May 19, 1921 - Captain Donald R. McCombs, relieved from further duty with the Air Service at March Field and returned to duty with the Cavalry at Ft. Brown, Texas

May 20, 1921 - The following Air Service Officers relieved from flying instructions at Carlstrom Field, Arcadia, Florida, and directed to report to the Commanding Officer, for duty:

Captain Donald McRae,
1st Lt. Hjalmar F. Carlson,
1st Lt. Charles R. Forrest.

May 23, 1921 - Lieutenant Eugene R. Cowles, detailed to Air Service and directed to proceed from Camp Devens, Massachusetts to Carlstrom Field, Arcadia, Florida, for duty and pilot training effective July 1, 1921.

May 24, 1921 - First Lieutenant Richard Derby detailed to Air Service and directed to proceed from Fort Baker, California, to Carlstrom Field, for duty and pilot training, effective July 1, 1921.

May 25, 1921 - Major Earl L. Canady, Air Service, relieved from further duty at Langley Field, Hampton, Virginia, and ordered to Washington, D.C., reporting to the Commanding Officer, Walter Reed Hospital, for observation and treatment.

May 26, 1921 - Major Floyd C. Hecox, detailed to Air Service and directed to proceed from Camp Sherman, Ohio, to Carlstrom Field for duty and pilot training, effective July 1, 1921.

May 26, 1921 - First Lieutenant Howard W. Trefry, relieved from further duty with Air Service at Carlstrom Field, Arcadia, Florida, and returned to duty with the 38th Infantry at Camp Pike, Arkansas, effective July 1, 1921.

May 27, 1921 - Major James A. Mars, Air Service, is relieved from further duty at the General Staff College, Washington, D.C., and ordered to Ft. Leavenworth, Kansas, for course of instruction at General Service Schools.

May 28, 1921 - Captain William D. Wheeler, Air Service, relieved from further duty at Carlstrom Field, Arcadia, Florida, and ordered to Washington, D.C., for duty in the Office, Chief of Air Service.

May 28, 1921 - First Lieutenant Harry S. Fuller, detailed to the Air Service and directed to proceed from Camp Boyd, Texas, to Carlstrom Field, Arcadia, Florida, for duty and pilot training, effective July 1, 1921.

May 31, 1921 - Captain Edward J. Ralph, Air Service, is relieved from further duty in the Office of the Chief of Air Service and directed to report to the Assistant Secretary of War for duty.

FLYING CIRCUS AT CHANUTE FIELD A SUCCESS

The Flying Circus held at Chanute Field May 30, was successful in every way. It is estimated that 30,000 people were present. A large grand stand was erected on the Flying Field on the most favorable spot. Spectators were afforded an excellent opportunity to see the flying. Among the events of interest were the acrobatics by Lieut. Hyndshaw, Lieut. Lundell and Lt. 1/c Little who recently returned from the Pilot School at March Field. These pilots gave a good exhibition with Curtiss "H" planes. The next event was a formation of scout planes led by Lt. W.R. Carter, Operations Officer, who flew a LePere, Lieutenants Gates, Wooldridge, Hamilton and Eldredge flew S.E.5's. After the passing of the Grand stand the formation broke up and performed acrobatics. This was followed by a triple parachute jump.

In the afternoon a formation of DeHavilands led by Captain Clark successfully bombed a fort set out in the flying field. The fort was completely demolished. The next feature was an air race around a 6-mile rectangular course

between a Fokker, piloted by Major George E. Stratemyer, a Spad, Lt. E.L. Eubank, pilot SE5, Lieut. Henry Wooldridge pilot, DH4B, Lieut. B. E. Gates, Pilot, and a LePere piloted by Lt. W.R. Carter. The race was 5 laps. Lt. E.L. Eubank piloting a Spad won, time 19 minutes. Lt. B.E. Gates with a D.H.4B. was close on his tail. The race was one of the most interesting events of the day.

This was followed by an Air Parade in which 20 planes were entered. The planes passed low in front of the Grand stand in single file. The afternoon programme ended with a triple parachute jump in which "Bing", the A.S.M.S. mascot performed. From 8:30 to 10:30 in the evening Lieuts. Weddington, Wooldridge and Eubank gave a good exhibition of night flying. The planes were covered with small electric lights run by a storage battery in the cockpit. The lights could be switched off and on by the pilots. The effect was very good.

The various educational exhibits on the ground were well attended. The purpose of this circus was to raise funds for a swimming pool for Chanute Field. The circus was financially successful and at the present time a tidy little sum is reposing in the bank, and it is expected the new pool will be ready by July 1st.

THE MORGANTOWN ACCIDENT

CRASH OF THE CURTISS EAGLE CAUSING DEATH OF SEVEN

"Many have perished that others might not perish," said a great Frenchman of an earlier day. It is with this thought uppermost in mind that we must regard the tragedy which took place at Morgantown, Maryland, on Saturday, May 28, when the Curtiss Eagle piloted by Lieut. Stanley M. Ames, in a storm crashed to earth, causing the death of seven persons, five of whom were Air Service Officers and non-commissioned officers. Like the other pioneers of the air, who have given their lives in the line of duty that the airways might be made safe for those who in future may come to fly them with better understanding, with more perfect knowledge, with more security because these brave men have perished that others might not perish.

"The loss of these men is a great blow," Brigadier General William Mitchell, Assistant Chief of Army Air Service is quoted in the press as having said. "They are among the best aeronautical men that we have in the country. All of them knew the various phases of aviation as few others in the country did. They were all keenly interested in the progress of flying. Mr. Amos G. Batchelder, executive head of the American Automobile Association, who lost his life in the accident, was particularly interested in the development of air routes. Mr. Maurice Connelly, formerly representative from Iowa, another victim, was most interested in aviation and during the war made good as a flier. The officers of the Air Service who perished, Lieut. Col. Archie Miller, Lieut. Stanley M. Ames, Lieut. Cleveland W. McDermott, Lieut. John M. Pennywell, and Sergt. Richard C. Blumenkranz were among the best men in the Air Service, which has the finest personnel in the world. We shall feel their loss keenly."

Lieut. Col. Miller, whose service record follows, was buried at Arlington, the funeral ceremony taking place at St. John's Church, 16th and H Sts. at 2 P.M. Wednesday, June 1.

A native of Illinois, in which state he was born Sept. 23, 1878, Col. Miller was formerly Adjutant at Ft. Meyer. Appointed from Missouri to West Point he graduated in 1901, being assigned to the 2nd Cavalry. From Captain of Cavalry, commissioned as Lt. Colonel, Signal Corps, A.S., Oct. 1, 1917; Colonel A.S., Nov. 26, 1918, as of Sept. 29, 1917; C.O. Waco, Texas, Dec. 10, 1917 to May, 1918; C.O. Camp Green, Charlotte, N.C., May 25, 1918 to July 10, 1918; C.O. Aeronautical General Supply Depot and Concentration Camp, Long Island, July 15, 1918, Oct. 22 1918; Assistant Director Military Aeronautics, Nov. 1918 to March 1919; C.O. Mitchel Field, L.I., N.Y., March 27, 1919 to Feb. 20, 1920; C.O. Kelly Field, San Antonio, Texas, March 3rd to Aug. 15, 1920; J.M.A., Sept. 8, 1919; Student Officer General Staff College, Washington, D.C., Aug. 15, 1920 to have graduated June 1, 1921.

Services for Lieut. Ames, were held at St. John's Church Tuesday afternoon, May 31, interment at Arlington following. His service record is:

Aged 29, married; after 2 years with Canadian Expeditionary Forces, 1914 - 1916, enlisted in U.S. Army as private 1st class Sept. 12, 1917; attended A.G.S.

at M.I.T. Nov. 11, 1917 - Jan. 19, 1918: flying training at Gerstner Field, Lake Charles, Louisiana, Jan. 25, 1918 - May 13, 1918: commissioned 2nd Lt. May 13, 1919: ordered overseas Aug. 25, 1918; arrived Sept. 21, 1918; completed Pursuit Course at Issoudun, France, Oct. 29, 1918 and Aerial Gunnery Course at St. Jean de Monts, France Nov. 17, 1918; duty with 148th Squadron at Toul to Dec. 10, 1918; with Army of Occupation at Coblenz April 12 to May 21, 1919; transferred to 141st Squadron and ordered home June 15, 1919; graduated in special Motor Course at Kelly Field Feb. 20, 1920: Kelly Field from Sept. 5, 1919 to Aug. 4, 1920; Bolling Field from Aug. 4, 1920 to date of death: commissioned Regular Army on Sept. 11, 1920 as of July 1, 1920; promoted from 2nd to 1st Lt. March 17, 1921; had flown all types of planes. His father, Frank T. Ames, resides at 206 Common St., Walpole, Mass.

The body of Lieut. Cleveland W. McDermott, of Langley Field was sent on May 30 to the home of his brother at Syracuse, N.Y. With 3½ years of law study at Syracuse University; Lieut. McDermott enlisted at Mineola on Aug. 15, 1917: trained with R.F.C., Toronto, Canada, 9/10/17 to 10/12/17: School of Military Aeronautics, Toronto, Canada, 10/14/17 to Nov. 1/1917: Fort Worth, Texas, flying training, Nov. 1 to Dec. 10, 1917: A. P., Kelly Field, San Antonio, Texas: Commissioned Feb. 5, 1918: arrived in France March 16, 1918, 147th Aero Squadron: trained at Issoudun, France; service on Toul, Marne, St. Mihiel and Argonne fronts: cited for extraordinary heroism in action near Bautheville, France, Oct. 18, 1918: D.S.C. and Croix de Guerre: three enemy planes to his credit: returned to U.S. Feb. 3, 1919: duty at Kelly Field: 2nd Lt. Regular Army on Sept. 15, 1920 as of July 1, 1920.

Lieut. John M. Pennywell's body was sent on May 30 to his father, J.W. Pennywell, at Silver City, New Mexico. His service record is:

Age 24, single: three years at Columbia University: enlisted as cadet Aug. 31, 1917: graduate of Ground School, Princeton, N.J., Dec. 7, 1917: flying training at Rich Field, Waco, Texas, Dec. 15, 1917 to May 3, 1918: commissioned 2nd Lt. A.S.S.C. May 3, 1918: Camp Dick, Dallas, Texas, May 3 to Aug. 20, 1918: ordered overseas Aug. 21, 1918: completed advanced training at Issoudun, France, Nov. 15, 1918: duty with 185th Squadron: returned to U.S. June 19, 1919: graduate special motor course at Kelly Field Feb. 20, 1920: appointed 2nd Lt. Regular Army Sept. 16, 1920 as of July 1, 1920: graduated from A.S.M.S., Kelly Field, as Aircraft Armament Officer, Sept. 4, 1920: assistant Group Operations Officer, Kelly Field.

A military funeral at Arlington for Sergt. Richard C. Blumenkranz was held June 1st at 11 A.M., members of his squadron at Bolling Field acting as pall-bearers.

CADETS THOMPSON AND BOWEN KILLED
IN BOMB EXPLOSION AT LANGLEY FIELD

Flying Cadets, Noel R. Thompson, and C.A. Bowen were killed instantly at Langley Field Tuesday afternoon, June 7, when a De Haviland 4-B Plane in which they were making a bombing test struck a tree, exploding the bombs in the carriage and blowing the plane into bits.

AERIAL PHOTOGRAPHY IN FARM MANAGEMENT
AND AGRICULTURAL DEVELOPMENT

For the purpose of demonstrating the many uses of aerial photography in farm management and agricultural development, First Lts. George W. Goddard and Howard K. Ramey, Air Service, were ordered, on May 18, to proceed by airplane from Bolling Field, Anacostia, D.C. to Amherst, Mass. for the purpose of making mosaics of the territory in the vicinity of the Massachusetts Agricultural College.

The itinerary of the flight was: Bolling Field to Mitchel Field, Long Island, thence to Amherst, thence to Boston, thence to Portland, Maine.

The flight from Washington to Portland was made in five hours, and the total time consumed in performing the photographic reconnaissance was nine days from time of departure to return.

Mosaics were made from an altitude of 12,000 ft. for the Agricultural College at Amherst of 175 square miles of territory, the time consumed in shooting the photographs being two hours. Mosaics were also made of Portland and of Boston showing the docks at both points.

This work was done by the U.S. Army Air Service in co-operation with the Agricultural Department and Amherst College, and of the Shipping Board, and in the short time consumed in performing the work and the completeness of detail as shown by the mosaics produced, demonstrate conclusively the value of aerial photography in agricultural development and in engineering enterprises of every kind.

MY FIRST SOLO FLIGHT

"Luck to you old boy," they wished me as I buckled my belt and smiled with a grin that I'm afraid only half concealed the tremors of my heart. Of the mission upon which I was being sent, of the task ahead of me, my comrades were well aware. In its performance many a young life had been snuffed out. In its fulfillment one naturally took pride, sensed achievement and felt thankful.

With throttle thrown forward I was soon up and away. The invigorating freshness of that Spring day dawn comes back to me across the months between as a morning of singular splendor. It was one of those first fine days of early May when you fall in love with life, and realize with quickened consciousness that God's in His Heaven, even though war is bringing hell to earth and all seems to be wrong with the world.

Along I sailed, when with a sudden flush the golden grandeur of the day disappeared. For suddenly, from out of nowhere, out from everywhere, above and on all sides, ships seemed to be speeding, headed straight towards me. For a moment all was confusion and just what happened I but vaguely recall. Two planes I remember seeing dive downward and vanish from my sight. One turned to the left and fled. With me something was distressingly wrong. Gushes of air rushed madly against my cheek. I was slipping without intent. Across my mind there flashed the sickening thought of control wires being severed. My motor seemed to roar with added fierceness and then again to miss.

Ah, good ship of mine! She soon was bouncing along over the ground, leaping like a giant kangaroo. Bad landing to be sure, but what of that? The task had been accomplished. It was my greatest victory in the world war, perhaps my most thrilling experience in the famous battle of Texas. - It was my solo flight.

x x x
Kelly Field.

AERONAUTICAL NEWS FROM OTHER COUNTRIES

England.

FLYING HOLIDAYS

Major W. T. Blake, aeronautical correspondent of the London Daily Mail writes in a recent issue of that Journal:

"This year I propose taking my holidays by air. It is not that I am particularly anxious to spend my time rushing through the atmosphere over one hundred miles an hour, but there are many places which I wish to visit which are far too distant to be reached in the normal time at one's disposal in a short holiday, but which can be reached in comfort and ease on the established airways. I propose taking two holidays of a week each, and in that time I hope to visit Poland, Spain and Morocco, and when I say I hope to visit these places I am sure that under normal conditions I shall do so.

On my first trip I shall leave England for Paris, say, on a Saturday, and arrive in Paris the same afternoon. After a week end in the French capital, I shall on the Monday continue to Prague, the capital of Czecho-Slovakia, arriving there the same evening and continuing my journey from Prague to Warsaw on the Wednesday. Thursday I shall stay in Poland, and Friday make a journey back to Paris, or possibly only to Strassburg, if I feel I want to visit that town.

England - Cont'd.

On the Saturday I shall return to England. All this traveling will have been accomplished in three or four hours' actual flying a day. The rest of the time I shall have to explore new towns, and places which I have not previously visited.

I expect to take my second holiday a little later. This will be done on exactly the same lines as my trip to Poland, but on this occasion I shall go south through sunny Spain to Morocco. Again taking Saturday as a starting point I shall go to Paris and stay there until Monday, thence going by easy stages to Toulouse, Madrid, and Casa Blanca. The journey can easily be made in three or four days by flying about four hours a day. By what other method could I hope to travel so far afield, to see so many foreign countries and to get such value for my money as in touring by air?"

INCREASED LONDON-PARIS AIR SERVICE

It is announced that the air service between Paris and London operated by the Compagnie des Grands Express Aeriens has been increased to four services weekly in each direction, airplanes leaving Paris on Mondays, Wednesdays, Thursdays and Fridays, and London on Tuesdays, Thursdays, Fridays and Saturdays. It is intended ultimately to run a daily service. The foregoing is in addition to and has no connection with the Handley-Page and Instone London-Paris service.

The De Haviland Co. intends to run a third 18 D.H. passenger airplane capable of carrying 8 passengers on each journey at a speed of 100 miles per hour, the operating cost of which, including all overhead charges, will amount to a fraction of over 3½d. per mile per passenger, or no more than the present railroad first-class fare.

AIRWAYS WHERE NO ROADS EXIST

BELGIAN KONGO

It is reported that the directors of the Forminiere Diamond Mines Co. have suggested the inauguration of an air service by seaplane, which would operate between the mines of Djoko Punda, on the Kasai (a tributary of the Kongo), and Kinchassa, on the Kongo, from which latter point the railroad runs to Matadinoki, a steamer port on the lower Kongo. The directors offer to defray the greater part of the initial cost of the scheme. In the meantime a survey of the route is being undertaken. The distance from Kinchassa to the mines is approximately 500 miles, which could be covered in two days, as contrasted with over a month by the existing river transport.

French Guiana.

From French Guiana comes another lesson. Along the River Maroni are valuable gold and forest workings, which have hitherto been handicapped constantly by the slowness and discomfort of the river transport, effected mainly by canoe. Passengers and goods, owing to the rapids, have to be handled frequently on the river banks, and then re-embarked. Now, however, by a service of French seaplanes, a voyage up the Maroni, which takes some 20 days by canoe, can be accomplished in a few hours by air.

Apart from the benefit which the Dominion Prime Ministers can bring to their own territories by the introduction in suitable districts of connecting "airways" says the London Times, "the starting of such services, and the provision of machines and equipment for them, is of vital interest to the aircraft industry. Designers and constructors are in a position to provide seaplanes and flying-boats for coastal, river, or inter-island flying. There is being developed a new school of design in comparatively slow-flying, big-load transport aeroplanes which would be particularly useful for work overseas; and a newly developed craft like the "amphibian", capable of rising from or alighting on, either land or water, should be especially interesting to some of the Dominions.

"It is to be hoped, therefore, that no opportunity will be missed of bringing into the closest touch those who can use transport-aircraft overseas and those who can provide for them."

ANGLO-DANISH AGREEMENT GOVERNING AERIAL NAVIGATION

According to a report by Consul George S. Messersmith, England and Denmark signed on December 23, 1920, an agreement relative to aerial navigation between the two countries. The accord is based on the international convention.

In Denmark airplanes and hydroplanes must descend at Christians Havn; in England airplanes at the present airdromes, and hydroplanes at Felixtowe.

The crossing over the Danish frontiers may be made at any point, but for England airplanes must enter between Folkstone and Dungeness and hydroplanes must enter between Orfordness and the Naxe.

SQUADRON NEWS

France Field, Cristobal, C.Z., May 7

Plans for utilizing the maximum offensive power of France Field at short notice were completed during the past week by the Operations Officer and, with the approval of Major Raycroft Walsh, the commanding officer, these plans will be materialized as soon as practicable. The plans call mainly for the equipment of more planes with machine guns, bombing appliances, and radio apparatus. Once the planes are equipped and tested with machine guns, the guns will be removed and maintained in storage, the pilots and observers to be responsible for their care. Spare guns and a sufficient supply of ammunition for them are to be kept in readiness for use by the Armament Officer. All service planes will be wired for radio sets and after sets are tested in the air they will be removed and kept in readiness for installation on short notice. Under the care of the Armament Officer a supply of bombs will be kept in constant readiness for use and bombing appliances on the planes maintained in working order. A field lighting set is to be installed under the direction of the Officer in charge of Flying for use in connection with night flying and a remodeled plane, equipped for use of a K-1 camera, will always be kept available. With the completion of the work called for in this program and the training of details to efficiently handle the material it is believed this field can be placed on a War Operations basis within a few hours.

Extensive alterations now being made on the Service Club building will, when completed, make the clubhouse far more attractive and comfortable than at present. The club in the past has been entirely inadequate for the command, could seat but a part of the men at the post, and was cramped for athletics. With the building of an addition to house a canteen, lunch counter and soda fountain, a long felt want will be filled and by the extension of the present building the basketball court will more nearly conform with regulation dimensions and the seating capacity will accommodate the entire command for addresses and theatricals. A new moving picture projector has been installed to replace the condemned machine that has had to do for a long time and the work of building and equipping the stage and making and painting curtains has improved the little theater greatly.

The old engineering office at the edge of the flying field is being doubled in size by an addition prior to the moving of the radio station, workshop, and storehouse from the former remote location on the field to the more convenient base near the scene of operations.

Photographic work of the week was limited to one flight made on Thursday by 1st Lieut. Charles B. Austin, pilot, and 1st Lieut. Harlan W. Holden, observer, to pin point three breaks in the 60-mile mosaic of the Atlantic coastline taken the week before for the coast artillery. Adverse weather prevented further photographic flights.

A schedule has been issued for the radio test flights of the coming month that the Radio Officer may make frequent tests of the apparatus installed in the planes.

1st Lieut. F. P. Albrook has completed his refresher course in a JN 4 under the instruction of 1st Lieut. Odas Moon and during the week made several transition flights in a DH4B. Lieut. Albrook expects to complete his transition work in about another week. Pvt. Jesse M. Windham, formerly 2nd Lieutenant in the Air Service, and later a commercial pilot, is taking a refresher course in a JN4H under the direction of Master Sergt. Joseph Grant, pilot.

1st Lieuts. Odas Moon and Samuel M. Connell made a cross country flight on Friday on official business.

24th Balloon Company, Fort Baker, California, May 14.

The 24th Balloon Company made 13 flights this week with a total duration of 5 hours and 51 minutes. All of this time was used in drill in tracking targets and instructing the non-commissioned officers in this work. There has been no flying by the Fort Funston balloon so far on account of waiting repairs for the Winch.

24th Balloon Co. - Cont'd.

The week was entirely uneventful except for one little incident which occurred on Monday, May 10, 1921. While hauling down the balloon a 50 mile wind struck it at an altitude of 800 feet, causing it to dive to and fro for some time and causing much discomfort to its passengers. It was hauled down in safety with no accidents.

Air Intermediate Depot, Fairfield, Ohio, May 21.

The Handley-Page took off in the last afternoon of the 19th. Every one who could be there was present to see it. Lieut. C. V. Haynes piloted, and was accompanied by Lieut. Gerald E. Ballard and Mr. James A. Bishop, 1st Lieut. A.S.R. The big plane slowly circled the field and climbed to an altitude of 1200 feet, and after about 30 minutes in the air Lieut. Haynes side slipped the big plane in, making a fine landing. He reported the plane to be perfect, and credit for this is due to the untiring efforts of Lieut. Ballard and Mr. Bishop. Lieut. Haynes intends to fly the Handley-Page on a non-stop flight as far as Bolling Field, and possibly to Langley Field, in the near future.

Bomb racks have been installed on two Martin Bombers, which will soon be ready to be flown to Langley Field. New landing gears have been built for Fokkers a large number of which are being recovered and rebuilt.

The sectionalizing of a Liberty motor for the French War Museum in Paris has been completed and the crate for shipping it is also completed.

Six wind cones for Ft. Sheridan have been turned out for the Fabric Department and will be shipped the early part of next week.

Sunday, May 15, the post ball team from Ft. Thomas, Kentucky, gave the base ball team from this field a well deserved drubbing.

Saturday, May 21st, the Delco Company base ball team from Dayton will play at this post, while Sunday the team will go to Middletown, Ohio. A game with Ft. Harrison is scheduled for May 29th, and at present it is hoped the Martin Bomber transport will be in good condition to take the team to Ft. Harrison. The team as a whole is looking forward to the unique journey.

Tennis has been resumed and every evening crowds are seen upon the courts, both players and spectators. A great deal of enthusiasm is being evinced and tournaments are planned for the near future.

Work on the golf course is progressing with a rush. It is hoped that the motor power will be in condition soon in order that the fairway may be cut as closely as is necessary. A mine hole course has been laid out and all the officers and their families have developed the golf spirit.

Polo ponies have been on requisition and it is thought that polo will be commenced sometime in July or August. The field has already been chosen and work will be commenced as soon as it is an assured fact that the ponies will arrive. Classes in equitation among the officers have been made compulsory and a decided improvement in the saddle has been noted on all sides.

With the completion of the swimming pool it is thought that adequate provision will have been made for the athletic education of the post.

Wilbur Wright Field was never more beautiful than it is today. Even during those days in 1917-18 when "all roads led to Fairfield", and the smartest and wealthiest concentrated their efforts on this one spot, it could not have been more attractive than it is at this season. The vegetable and flower gardens are prepared for the planting of the seeds and in many places the earlier spring vegetables can be seen peeping through the ground. It is no exaggeration to say the entire post is covered with flowers - they are in every nook and corner and others are still coming. The faithful post gardner has been working early and late preparing the ground and planting flowers. But the attraction that is most appealing to the golf enthusiasts is the making of the "greens" on the rolling ground west of the Side Slip Inn, which is so well known to the habitues of the post.

The headliner of this week's social program was the Bridge Party given by the officers of the Post on Friday evening at the Side Slip Inn. The Inn was beautifully decorated with spring flowers. More than fifty guests were present, including all officers stationed on the post and their wives. Major Hoffman, McCook Field, and Mrs. Hoffman were the guests of Major Reinburg and Mrs. Reinburg for the evening. At the close of the game delicious ices and confections,

Air Int. Post - Cont'd.

especially molded and carrying out very artistically the card colors and designs, were served. A lady's prize and a gentleman's prize were awarded for the two highest scores and a consolation gift for the lowest.

Mrs. Merrill D. Mann, wife of Lieut. Mann, and her little son Henry, accompanied Lieut. Mann's mother to her home in Chicago, where they expect to remain for several days.

Captain R. R. Horton, Post Surgeon, who recently received orders to go to Henry Barracks, Porto Rico, to take up new duties, has just been notified that his orders have been rescinded and that he is to remain at his present post, to the great satisfaction of all concerned.

The old Post Exchange Building in the Second Unit has been converted into an attractive chapel, which was turned over to the Chaplain by the Commanding Officer, Major Geo. E. A. Reinburg, at retreat Friday, May 20th. The Chapel will be available for religious services of all denominations, and will also furnish a home for the Post library, for which suitable accommodations have been lacking for some time.

First Lieuts. Floyd A. Lundell and Henry E. Wooldridge, A.S. arrived here Thursday, May 19th from Chanute Field, Rantoul, Ill. in a DH-4B, for the purpose of obtaining supplies urgently needed at Chanute Field and to ferry another DH to that station. Mrs. Geo. E. A. Reinburg and Major Reinburg, together with a number of other officers from this station, were the guests of the Officers' Club at McCook Field, at a hop in the ballroom of the Miami Hotel at Dayton, Saturday evening, May 21st. The party was an unqualified success and was greatly enjoyed by the guests from this field.

A number of officers from Wilbur Wright Field attended the summer meeting of the American Society of Automotive Engineers which was held at Dayton during the week ending May 21st. The convention closed with a banquet on Saturday evening at which music was furnished by the Wilbur Wright band.

A large number of officers, soldiers and civilian employees from Wilbur Wright Field attended the meeting of New Carlisle Lodge Free and Accepted Masons on Thursday evening, May 19th, on which occasion Captain Charles O. Thrasher, Q.M.C., 1st Lieut. Chas. W. Steinmetz and Master Sergeant William Blackman, A.S., were among the candidates who received the Second Degree in Masonry.

Post Field, Fort Sill, Oklahoma

On April 25th, 1921, the big course in the Air Service Observation School started. All students in the present class, with practically no exception, come here with the firm belief that Post Field was the place the Lord forgot when he made the world, and that the D.H. with the Liberty Motor is made up of all the scrap odds and ends that could be picked up around a lumber yard and a pig iron factory. They are beginning to change their tune now, and apparently like both the place and the equipment.

The school is kept going with 50 commissioned students and 16 planes in continual operation every day - five days a week. These planes are kept in the air with an average of 55 enlisted men in the Engineering Department, including all overhead, such as stock-keepers, motor over-haul, aero repair, inspection, etc. 60 D.H. 4 B's are in commission and continually kept so, although as stated above but 16 are in constant daily use. Some days, however, there will be as many as 24 planes flown.

Recently Major Follett Bradley piloted by Lt. James V. Givens, fired some demonstration problems for the Field Artillery School - the weapons used were the 155 Howitzer, firing at ranges between 8,000 and 10,000 yards. All commands to the battery were given by Major Bradley from the air, using the radio. The results obtained by this method were very satisfactory, but the great distance between the O.P. and the guns, and the great range, with correspondingly long time of flight made the show far less spectacular as far as time is concerned, than would have been obtained with a battery of 75's with O.P. at the guns.

During these shoots the battery commander was in ignorance as to the point of fall of the projectiles, except as he observed them himself. Commands to the battery and not sensings of the "bullets" were sent by Major Bradley.

Post Field - Cont'd.

Every Wednesday night the Post Field Officers Club gives a dinner dance. Practically all members of Post Field with their wives and guests attend the dinner from seven until eight, and then dance from eight to ten. These dances are becoming quite popular, and are largely attended by members of the Field Artillery garrison.

Ross Field, Arcadia, California, May 21.

Friday, May 27th, has been designated as Field Day at this post. Various entries have already been received which indicate many spirited contests.

Colonel Bishop, Inspector of Service Schools arrived on the post May 19th, and after inspecting the Schools here left by aeroplane for March Field.

Doctor Dexter, civilian E. & R. Director from the Ninth Corps Area arrived May 19th for an inspection of the E. & R. activities.

Colonel Guy Carleton, Corps Area Inspector arrived on the post May 18th on his annual post inspection. Colonel Carleton is accompanied by Army Field Clerk William R. Coyne.

Captain Stone and his mother, Mrs. Stone, entertained Doctor Ford A. Carpenter and Captain Harold E. Weeks at dinner on Friday evening, May 20th. Doctor Carpenter is to receive his degree of Doctor of Science from Occidental College on June 1, 1921. Captain Stone and Captain Weeks have been asked to act as sponsors when he receives this honorary degree.

March Field, Riverside, California, May 21.

89 pilots quartered at this station made a total of 305 flights during the past week. Total flying time 151 hrs. 20 min., despite fog, rain and clouds which hung low over the field and surrounding country most of the week. Preliminary instruction of cadets required 127 hrs. 10 min.; test flights, 1 hr. 40 min.; and miscellaneous flights, 22 hrs. 30 min. Approximate aerial mileage - 9,120 miles.

Special telegraphic correspondence to the Los Angeles Times, from Washington, and thence to the Riverside Morning Enterprise, states that definite decision has been reached by the War Department to close March Field. The news came as a big surprise to the community, which seemed to take it for granted that March Field was a permanent fixture. It is understood, however, that the field will be retained in an inactive state and that 25 caretakers will be quartered at the Post after July 1st. Most of the present personnel now at March Field, it is reported will be transferred to Carlstrom Field, Fla.

Two high ranking officers of the Army made inspections of March Field during the past week. Colonel H. G. Bishop of the General Staff was at this station on Tuesday while Colonel Guy Carleton of the Inspector General's Department was here on Friday and Saturday.

Dr. Edwin G. Dexter, corps area educational consultant, was a visitor at March Field over Wednesday and Thursday. After an inspection of the E. & R. Department he was ferried via airplane to Ross Field, Arcadia, Calif.

Capt. Eddie Rickenbacker is at Rockwell Field, San Diego inspecting the remodeling of a De Havilland 4-B - similar in fact to the ship flown by the late Lieutenant Coney on his transcontinental flight - in which the noted American Ace will attempt a record flight on May 29 from San Francisco to Indianapolis, Ind. Rickenbacker plans but one stop, at Omaha, and expects to reach Indianapolis in time to referee the motor speed events on Memorial Day.

Five officers, Capt. Chas. E. Rust and First Lieutenants William H. Bleakley, Elmer D. Perrin, James G. Taylor and Wm. F. Walsh have been ordered to Carlstrom Field, Florida.

Capt. A. M. Shutter has been transferred to Camp Pike, Ark. Lieut. Clyde B. Bell has been ordered to Fort Sill for assignment to duty.

Ten flying cadets were ferried via airplane during the past week to Mather Field, Sacramento, for forest fire patrol duty. They were: C. R. Hedrick, H. Johnson F. Kelley, H. E. Paige, H. W. Hantsche, C. S. Draper, C. W. Hillman, A. K. Morrison, R. C. Fisher and D. Bartlo.

A preparatory school for competitive examinations for the grades of technical sergeants and staff sergeants will be conducted at this station beginning Monday, May 23.

Flight "B", 12th Squadron, (Obs.) Nogales, Arizona, May 21st.

Major Spatz, of Ft. Sam Houston, Texas, and Captain Hasteley of Ft. Bliss, Texas, landed at this Airdrome on Thursday, May 19th, in a DH-4B plane, spending the night in Nogales, and Friday, Major Spatz, accompanied by Captain Hasteley, 1st Lieut. Prosser and 1st Lieut. Knapp paid a visit to Tucson, Arizona to arrange maps for the Forest Patrol that is to begin in the early part of next week. It is stated that there will be two patrols each day.

The ball team of this flight won another victory on Sunday, May 15th in a fast game with the Nogales Grays, score 7 - 1; this being the second game won from the grays by this team.

Balloon Company No. 31, Godman Field, Camp Knox, Kentucky, May 21st.

On Monday, May 16th, 1921, 1st Lieutenant W. C. Farnum reported for duty with the Balloon Company number 31, and will assume command, relieving 1st Lieut. John P. Temple. Lieutenant Farnum comes from Brooks Field, Texas. Lieutenant Temple is relieved from duty with this organization and will travel to Ross Field, Arcadia, California to take up a course in free ballooning. This makes the second officer relieved from this company within the last few weeks. 1st Lieutenant Arthur Thomas who was formally in command left in the last week of April and is now at Langley Field, Hampton, Va., taking a course in dirigible air ships.

A new balloon was inflated on May 16th. This balloon had been in storage for a long time and considerable amount of patching was necessary to put it in flying condition. Approximately one hundred small patches were applied on the inside. On the trial flight it was found to ride nose low, and corrective measures were taken by applying eight inch grommets on the rear cable suspensions.

Heavier-than-Air Detachment, Godman Field, Camp Knox, Kentucky, May 21

The base ball team of the Heavier-than-Air unit has been highly successful during the past week, having defeated the teams of the Camp Utilities, Balloon Company No. 31. Service Battery, 81st Field Artillery, and the Camp Quartermaster Corps. As the Camp Base Ball League begins within the next three weeks, the detachment team is going through strenuous training with a view of repeating last year's performance--winning the pennant.

Surveyors are now surveying land about the Air Service flying field and adjacent terrain. It is believed that improvement on the field will begin in the near future. At first it was contemplated that a new location would be used for the flying field, but later it was decided that the present field could be improved to a degree which would render it better than a new one.

Kelly Field, San Antonio, Texas, May 21.

Twenty officers and eleven flying cadets were attached to Project "B" from the First Group. This has reduced the flying personnel to about the irreducible minimum. Fourteen officers and three cadets constitute the complement upon which the burden of maintaining the functions of the group rests.

Among those who were left behind, however, there appear to be no heart-aches. What with no family transportation forthcoming and the reported dearth of quarters at Langley, the married members at least had come to view the situation philosophically.

The officers remaining for duty and their assignments are: Captain Arthur R. Brooks, Group Commander; Lieut. A. S. Heffley, Adjutant; Lieut. W. J. White, Engineer Officer; Lieut. G. H. Burgess, First Wing Headquarters, temporarily attached as Operations and Communications Officer; Lieut. R. W. Camblin, C.O. of the 17th Aero Squadron and Officer-in-charge of Training; Lieut. Aubrey Hornsby, Second Group, temporarily attached to 17th Aero Squadron; Lieut. Lloyd C. Blackburn, C.O. of the 95th Squadron and temporary C.O. of the 94th Aero Squadron; Lieut. Harold McGinis, C.O. of the 27th Aero Squadron. In Air Park No. 4, assigned to the First Group are Lieuts. John M. Davies and Roy B. Mosher. In Air Park No. 5, attached to the group are Lieuts. Richard O. Hunnam, Leonidas L. Koontz, Richard K. Le Brou, and Norman D. Brophy. Enlisted strength this date is nine hundred and twenty, including attached members, of which six hundred and fifty-seven were present for duty.

Kelly Field - Cont'd.

Training for the week has comprised the work laid down for the fifth week of the organized training schedule consisting of practice in formation flying, squadron rendezvous practice and the memorizing by each student of a prescribed battle sector twenty miles by ten miles. A sector was designated by Lieut. Camblin a short distance southwest of the reservation which contained many excellent features for this important phase of the course and some excellent reports were returned by the students, that of Captain Farthing being exceptionally good in detail and accuracy. The lectures on Pursuit Tactics for the individual, the flight, squadron and group were given by Captain Brooks and a lecture on Meteorology was given by Lieut. McGinnis. The present class of students consists of Captains Dixon, Donnelly, Farthing and Hickey; Lieuts. Hicks and Yeager; Lieuts. Carrasco and Zuniga, Chilean Army. An officer of the Peruvian Army is due to arrive in the near future for advanced training.

The big planes that left Kelly Field Saturday, May 14, for Langley Field, Va., made a most successful flight to Memphis, Tennessee. At Memphis, Lieutenant Lawton, pilot of one of the Capronis, got his hand hit by the propeller and badly broken. He was unable to resume the flight. A request was sent to Kelly Field for Lieutenant McIvor to relieve Lieut. Lawton. Lieut. McIvor left Friday for Memphis, upon his arrival, the third "hop" of the flight will be resumed from Memphis to Cincinnati, Ohio.

Monday, May 16th, Kelly Field looked as it did in the days of yore when hundreds were leaving each day for ports of embarkation to meet the blood-thirsty Huns on other shores. The 49th and 96th Squadrons (Bombardment) were in readiness to depart for Langley Field, Virginia, where they become a part of Project "B". At 4:30 P.M. the train backed in on the Kelly Field switch and at 5:00 P.M. the Kelly Field Band came down to give the boys a final send-off. The two squadrons were formed, consisting of about 65 officers, 45 flying cadets, and 290 enlisted men, all of whom were from Kelly Field with the exception of about 18 officers from the Border section. After an inspection by Commanding Officer, Major Reynolds, the detachment was turned over to Major Miller who took command. As they marched to the train, the band played a peace-time melody and all bade them God speed.

Monday night about 8:30 P.M. while the whole camp was in silence, the fire whistle blew. The northwest corner of Hangar 21 belonging to the 11th Squadron (Bombardment) was in flames. Of course everyone rushed to the place of excitement, but before the Fire Department had time to make any headway against the fire one or two gas tanks exploded and the high tension gas was adding greatly to the fire. There was comparatively no water pressure and the wind was carrying the flames on through the hangar. The door at the east end was fastened and before it could be opened the fabric on the wings of the plane nearest the door was in flames. All that could be done was to put what water was available on the nearby buildings and let Hangar 21 burn. The Post Exchange and Hangar 20 were both in jeopardy and several times it looked as though they would catch fire in spite of all that could be done, but good work by the fire department and all present kept the fire from gaining further headway. The Hangar, 2 U.S. Army Trucks, and six airplanes were totally destroyed.

Captain Lawrence P. Hickey, pilot, and Lieutenant Ronald A. Hicks, Air Service, passenger, made a cross-country flight to Ellington Field, Texas for the purpose of practice in cross-country training. They left Kelly Field at 9:00 A.M. Saturday, May 14th and returned Sunday, May 15th.

The pictures were very good this week. Tuesday night the usual enlisted men's dance was held at the Hostess House, a large crowd was present and all had a good time.

There was quite a bit of baseball practice during the week but no regular scheduled games. The team is rounding into shape for a game with the 16th Cavalry to be played on Kelly Field next week. This promises to be one of the best games of the season, and the birds are going after the Cavalrymen's goat.

Carlstrom Field, Arcadia, Florida, May 25.

During the past week two Lieutenants from China have been added to the student officer's body. They are Lieut. Tsiang Kwei and Lieut. Shen Te-hsien; the former being assigned to Lieut. F.I. Patrick of "A" flight for flying training and the latter to Sgt. Wm. A. Winston of "B" flight.

Sgt. Wm. F. Erkelens reported to this station as band-leader. He has had more than four years' experience in Army Band work, having been a member of the famous A.E.F. Band "General Pershing's own" band at G.H.Q., and with his assistance the Post band will be materially helped as a marked improvement has already been noticed in the daily drill.

Mrs. Arthur I. Ennis and Mrs. Wm. E. Vecqueray entertained the officers' wives at afternoon tea on Friday.

Forty-four planes made a total of 309 flights from this field during the past week. Total flying time 266 hours and 25 minutes. "A" Flight's preliminary instructions 102 hours 20 minutes; "B" Flight's 120 hours 40 minutes; Hdqs. Flight's 32 hours and 25 minutes.

Two Curtiss JN6H planes were dispatched from this station the past week, with Lieut. John Corkille and Lieut. Russell MacDonald as pilots and Lieut. W.E. Goodrich as Observer, to Ft. Dade, Fla., reporting to Lt.-Col. Mitchell, Commandant, for the purpose of artillery reglage with Coast Defense Guns. This practice was ordered for Brig. General Johnson Haygood, District Coast Artillery Commandant. Radio Telephone sets were used for adjusting the Coast Artillery fire and the problems consumed showed the ease with which the fire can be observed by airplane, and also giving the personnel of both branches practice and a chance to become more familiar with each other's work. Col. Mitchell was thoroughly satisfied with the results of the airplane observation and corrections which tallied with the tug towing the movable target, and proved its reliability in longer ranges where base line observers would be unable to function, due to being unable to see the target; as aerial observers can spot fire as accurately and oftentimes more accurately than the most precise methods used by Coast Artillery Corps.

Lieut.-Col. R.M. Mitchell, C.A.C., Commanding Officer of Fort Dade, Fla., was a week end visitor at this station.

Mather Field, Sacramento, California, May 21.

The majority of the enlisted men of the 91st Squadron (Obs.) left on the evening of the 17th, traveling by motor transportation to Roseville, California, and thence by train for Oregon. The squadron headquarters will be at Eugene and a detachment of about twenty-five men will be at the sub-base maintained at Medford, Ore. The officers and cadets of the squadron who have not already left by plane will leave within the next few days, if the weather is clear enough. The 91st Squadron will cover the forests of Oregon and Washington during the 1921 forest patrol season.

First Lieutenants Worthington, Bayley, Cullet, Waller and Staff Sergt. Helpman made airplane trips to Bakersfield on the 17th, ferrying cadets back to Mather. Five cadets arrived from March Field on the 18th, five more on the 19th and four on the 21st. They will be attached to the 9th and 91st Squadrons for forest patrol duty.

First Lieutenant Hugh C. Minter, A.S., transferred from Chanute Field, Rantoul, Ill., reported on the 16th to Mather Field.

Major H.H. Arnold, Air Officer of the 9th Corps Area, visited this station by plane on the 19th, returning to San Francisco the same day.

Fort Omaha, Nebraska, May 24.

Two baseball games were played by the post team with a team from Fremont, Nebraska, the result being a tie, each having won one. During the last game our team made two home runs and the Fremont team three.

Fort Omaha - Cont'd.

A staff-corps team has been organized and has won its only game to date.

A captive balloon has been flown whenever the weather permitted and several of the flying enlisted personnel who are new at the game have been receiving instruction.

Mr. Burton, who has been the Chief Engineer at this station since early in 1917, has left for McCook Field, Dayton, Ohio and is to be followed by practically the entire experimental department, which is to be consolidated with similar activities of the heavier-than-air at McCook Field under the Chief Engineering Division, Air Service.

24th Balloon Company, Fort Baker, California, May 23.

The 24th Balloon Company did very little flying during the past week on account of the inclemency of the weather. The entire week's flying amounted to 3 hours and 23 minutes. Fog and rain accompanied by big winds comprised the weather that is typical of this section of California.

The new hangar at this station was completed recently and it is thought that Mother Nature will have a more difficult time wreaking vengeance upon the balloons than in the past, when they were kept upon an open bed. No balloon, however, could withstand some of the terrific assaults of the weather in this country, while being kept on an open bed.

90th Aero Squadron, Sanderson, Texas, May 22.

The flight has been reduced to a total of two Air Service Officers, therefore there has been little flying of any nature done in the past week, although Lieut. Stenseth has carried out some bombing problems with enlisted men. Weather has been 100 per cent suitable for flying, however.

Mr. C. W. Miller of El Paso, former pilot at Rantoul, Chanute Field, Ill., visited Lieut. Selzer, a buddy of ground school days, at this station during the week past. Mr. Miller is with the Sullivan Mining Machinery Company of El Paso.

Mr. Hurt, also of El Paso and a former flyer at Park Field, was another visitor to the Airdrome last week. Mr. Hurt is a traveling salesman and evinced great pleasure at getting another close-up of Air Service activities.

Major Carl Spatz, Air Officer Eighth Corps Area, was through en route to Tucson, Arizona. The Major expressed great pleasure at the various improvements that have been made to the station since his last visit.

Lieuts. Woodruff and Smith left for Kelly Field in connection with Project "B" of the Air Service, the detail being of a temporary nature. The loss of these two officers has considerably impaired the active functioning of the flight and their early return is hoped for. Lieut. Woodruff's vacancy as Engineer Officer is being filled by Lieut. Selzer, and the Post Exchange Office is being sand-bagged by Capt. DuFrenne, the local dispenser of iodine and CCs who has injected various principles, principally Hebraic, into his business which is now thriving wonderfully.

Kindley Field, Fort Mills, P. I., April 23.

Monday, Tuesday and Wednesday were full of activities due to a cloud of imaginary war that hung over the Post and Garrison. Planes were humming overhead all day and the Balloon was a silent sentinel of the night. Great flood lights played over the bay, illuminating pretty scenes in its elevating and depressing moments. The Army claimed the Manila Bay impregnable and the enemy cruisers found it so, for in each attempt to enter they were easily spotted.

The Garrison organizations have received a number of saplings; gardening details are numerous, for a great deal of grubbing is necessary before anything can be planted if it is to have successful growth. All are rather sorry that prospects are uncertain that the present personnel will enjoy the shade of their future stateliness.

Kindley Field - Cont'd.

Lieutenants Dallas and Lea, who spent the best portion of two days on Capones Island where they were forced down in an H.S.2-L Boat, are unanimous in their opinion that Robinson Crusoe didn't have such a snap after all.

Tests are to be made on planes to determine conditions of linen and also accessibility of ants to interior wing structure.

Lieutenant Gray, Commanding Officer, 27th Balloon Company, has returned from a fifteen day leave of absence spent in Baguio.

Clark Field, Pampanga, P.I., April 24.

On Sunday, April 17th, at 5:37 A.M., Captain Ira C. Baker and First Lieutenant Newton Longfellow left the ground at Clark Field in a remodeled DH-4B on an endurance flight.

Two gas tanks had been installed in the plane which gave it a capacity of 160 gallons, plus the emergency tank of eight gallons, totaling 168 gallons. A seventeen gallon oil tank was placed in the plane. The gas tanks were filled up, but only fifteen gallons of oil were taken on.

The officers hoped to remain in the air eight hours in order to convince authorities that a non-stop flight to Zamboanga was feasible.

The plane remained at an altitude of less than two thousand feet for the first hour, and at no time during the entire flight did it reach 5,500 feet. The maximum r.p.m. was 1550 as the plane was taking off and after the first hour the average r.p.m. was 1350. The oil pressure after the first hour was 26 pounds and gradually decreased to 23. The ammeter showed a charge of 2 during the entire flight, and the motor temperature after the first hour varied from 70 to 73 degrees centigrade.

The flight was in every way successful, the plane remaining in the air, 10 hours and 25 minutes, and it is hoped that the flight to Zamboanga will be approved with a flight to China as the goal later on.

First Observation Group, Paranaque Beach, Manila, P.I., April 23.

Ten hours and twenty-seven minutes in a De Haviland 4 was the record recently set by Captain Eaker, acting Air Officer, in a Standard DeHaviland 4 which had been equipped with extra gas and oil tanks. Captain Eaker as pilot and Lieut. Longfellow as observer took the air at 5:30 A.M. and did not land until 3:57 P.M. Test was made by Captain Eaker in preparation of a cross-country flight to Zamboanga, Mindanao. To those who have followed our occupation in the Islands it will be remembered that some six hundred miles separate Manila and Zamboanga; also that the Island of Mindanao is the home of the Moro who has long been famous for his expert use of the bolo, his daring raids as a pirate, and last but not least, his ability to handle women. It is prophesied Captain Eaker will find them just as enthusiastic over flying, tho' even the unemotional Moro may be forced to register surprise when he sees the first liberty-motored Eagle sweep down out of the azure sky and hover over the open fields of Mindanao in quest of a landing.

Staff Sergeant Roeser recently appeared before a board of officers to determine his fitness for promotion to the grade of Master Sergeant. Sergeant Roeser held the grade of M.S.E. during the emergency.

The Philippine Air Service made their first flight in an H.S.2-L from Paranaque Beach on April 22. Mr. Croft and Doty, both ex-U.S. Air Service aviators, were pilots.

New tables of organization for the Air Service have been received. The First Observation Group will be organized in accordance with these tables. The Headquarters have been functioning with but two officers and twenty-five enlisted men on duty. Detachment will probably be brought up to full strength by the new Air Officer, who arrives on the May transport.

8th Surveillance Squadron, McAllen, Texas, May 28th.

The Eighth is probably the only squadron in the service so broadly distributed, Headquarters and Flight "A" being here, a Detachment of Flight "A" at Laredo, Texas, "B" Flight at Camp Bragg, N.C., several officers on temporary duty at Langley Field, Va. and one officer on D.S. at Kelly Field, Texas. Nevertheless, the squadron is making a valiant attempt to carry on at the border stations.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE JUNE 23, 1921.

MOTORLESS FLIGHT

For one of the new high-lift airplane wings a more than 100 per cent increase on the previous best "lift coefficients" is claimed. Does this bring us nearer, one wonders, to the "aviette - to that dream of the past never yet realized - a real "flying machine", one in which sustained flight, may be accomplished without engine propulsion?

One or two small prizes are to be won in France and Germany for man-power flight: and since little more than a long hop is required to win them it is not unlikely that efforts will continue until success is obtained. While failure has so far been the result of all attempts in this direction, the performance of Gabriel Poulain, who, it is said, kept off the ground for a distance of twelve yards one day in last August, must not be forgotten.

Nevertheless the situation a year ago was one of defeat unless there should appear a man of ordinary weight who would, however, be capable of exerting two or three horse-power, or unless the science of aerodynamics should offer a solution of another kind. At that time, the latter seemed to the conservative aeronautical student quite as improbable as the former. But the invention, within the past few months of wing forms giving a very much greater lift, size for size, than ever before attained, revives the long-existent interest in man-power flight and with greatly improved prospects of success.

Efforts to attain flight by man-power have been attempted upon a basis of propelling an airplane of about 200 square feet of wing area at a speed of not less than twenty miles an hour. This is far beyond the strength of the strongest man, and those who have attempted it, making use of apparatus running on light bicycle wheels, failed to get off the ground. A combination of man-power flight with gliding, as practiced by the Wright brothers, Lilienthal, Pilcher, and many other experimenters is, however, a different matter, and with the improved apparatus now made possible by the new high-lift wing is worth trying.

Major C. C. Turner in the London "Observer" points out that at the present time with an aviette of nice design, the problem of man-power flight does not seem insoluble. The total weight being small and the required speed being low, a very light structure can be designed. It is not unreasonable to hope, he suggests, for a machine that would be able to maintain flight at an air speed of 16 or 17 miles per hour whose total weight, including the pilot, would be about 280 or 300 lbs. and whose wing area would be about 140 or 150 square feet. Such a machine would probably be of the bi-plane type, according to Major Turner.

It is not suggested that such a craft would take off from the ground without gaining momentum from a glide or without the aid of a head wind. What is needed in the way of conditions is a down slope facing the wind: a rounded hill with slopes in all directions - such as the Lilienthals constructed for their experiments - would be ideal, and a breeze of 10 to 20 miles an hour.

It will be recalled that Mr. Orville Wright on one occasion maintained a glide for over 15 minutes. With the improved wing forms now available, it is predicted that a smaller apparatus would lift a greater total load. It is, therefore, admissible to consider the addition of a propeller and also light transmission gear from the pilot's legs. Following the example of the bird, the pilot should be able to rest at times, ceasing all operation while his machine would simply act as an ordinary glider. Experience would develop the art of taking advantage of winds, especially ascending currents: and although low altitudes would be the rule, some very interesting sport, if nothing else, might be obtained.

M&C

Gliding has already taken its toll of victims through the collapse of the apparatus. Such mishaps could now be provided against with the greater knowledge of aircraft manufacture, but with the greater scope now suggested, the possibility of other kinds of accidents will increase. The flier will get off the ground gradually ascending from a down-slope and may soon find himself 50 or 100 feet above the ground. The machine should, therefore, be strong and reliable. The control surfaces should be ample, strong and effective: in view of the low air speed, it is pointed out, the area of the control surface is a matter for very careful calculation.

In line with the above, C.A. Oldroyd, in Popular Science Monthly asks: "Shall we ever be able to sail through the air like the birds, sustaining ourselves by the power of our hands and feet? Not unless we can produce a wing equal to or superior to the wonderfully designed wing that nature gave to the birds, which is far more efficient than the stiff, rigid surfaces of our airplanes." "To alter the tilt, or the 'angle of inclination' of an airplane wing, the pilot has to incline the whole machine. The bird alters only the tension in a few muscles, the position of a few bones, and gently the whole of the wonderfully flexible wing warps accordingly, increasing or decreasing the angle of inclination. If less span is required, the wing muscles are tensed, the span decreased; a sudden gust cannot harm the bird's wing: it can at the most change the inclination a little. As soon as the pressure becomes too great, the wing flexes and lets the wind pass harmlessly."

"But if we cannot fly like the birds, we can at least glide just as they do, if only for short distances. In this we are greatly helped by the disturbances in the air. These are always present even if our senses are not fine enough to detect them.

The inventors of the airplane, the brothers Wright, were expert gliders before they installed an engine in their bi-plane-glider, and carried out hundreds of glides. As soon as the airplane developed, more speed was demanded, and yet more speed. Heavier wings and sturdier fuselages were required to lift and support the more powerful engines: more fuel had to be carried, until, at the end of the war, we had the most uneconomical type of airplane, equipped with a 300 horsepower engine and lifting just one pilot."

"Peace-time demands a different machine, an airplane that will carry a great weight, with great safety at a moderate speed. Some aeronautical engineers have gone back to the glider to study gliding first and low-power flight afterward. Great efforts are being made in Germany to bring out an efficient glider and later a low-power airplane, as gasoline is very dear and the supply uncertain."

The Literary Digest of June 4 in an article "The Motorless Flier", comments as follows: "Oddly enough, some of the latest experiments in aviation have returned to the primitive gliding flight. Some workers have extended this to "sailing flight", in which the force of the wind is used for propulsion as in a sail-boat. Others would add a small motor, like the auxiliary motors used on such boats. These researches seem to have taken place largely in Germany where a society has been formed to further them and to hold meets at which gliding flights and sailing-flights are to be a feature.

Klemperer, a German engineer, in a lecture before the Wissenschaftlichen Gesellschaft für Luftfahrt stated that the 1920 trial flights in the northern part of Bavaria were, with one exception, gliding-flights and not sailing-flights: but from experiences gained during this first meet it may be expected that sailing-flight, using the force of the wind, will play an important part in 1921.

Luftfahrt, a German aeronautical journal, mentions several societies which have taken up sailing-flight, among them the Verband Deutscher Modell und Gleitflugvereine, under whose supervision a competitive flying meet will be held this year. The purpose of this association is the "development of a typical small flying-machine, and of the motorless sail-plane, bringing into close contact, for concerted efforts, active workers in the flying field."

"Plane to fly like a bird" is the caption of a story along the same line appearing in Engineer and Iron Trades Advertiser of Glasgow of April 19. According to the story, the new "pulsating" wing of the Austrian scientist, Professor Raimund Nimfuhr promises a vista so wonderful that our whole conception of the place of aircraft in the scheme of transport may have to be altered.

The basis of the theory, it is stated, has just been investigated by experts of such reputation as Herr Schwengler, Chief of the Zeppelin works, and Herr Skopik head of the designing staff of the Fokker works, and both believe that Nimfuhr is going on the right lines.

To come to details, the Nimfuhr principle is to imitate mechanically the methods of nature in the wings of birds and insects. The Nimfuhr "pulsating wing" relies upon an extraordinarily rapid vibrating or stroke action upon the cushion of compressed air which is formed in flight beneath a sustaining plane.

The actual Nimfuhr wing as constructed for a full-sized machine will, it is understood, be hollow with a flexible membrane on the under side. By pneumatic mechanism this membrane is set pulsating or vibrating with such rapidity that waves of atmospheric pressure are generated which, it is intended, will not only sustain but also propel the machine. There is also a system whereby the extremities of the wings can be extended or contracted by pneumatic action to produce results such as are obtained by birds in stretching or folding their wings. Another feature is an automatic stabilizer, in which disturbances of balance set in motion levers which counteract, by their movement of the wings, any tendency of the machine to lose its equilibrium. Experts are looking forward to the building of the full-sized machine on this principle.

Even more significant, it is pointed out, is the interest financiers are taking in the promise the Nimfuhr method offers of so reducing the power necessary to drive aircraft that aerial transport can be made cheaper than earth transport. If Professor Nimfuhr's claims are substantiated in large-scale work, it is calculated that a trans-ocean craft built on this principle, and carrying several people would be so economical in power that passengers could be carried by air between Europe and America cheaper than in a steamship.

AEROMARINE TYPE U.S.D. ENGINE COMPLETES 50-HOUR TEST.

The Aeromarine, Type U-S-D, 8 cylinder engine has just completed a successful 50-hour test by the Engineering Division at McCook Field. This engine has a bore of $4\frac{1}{4}$ " , a stroke of $6\frac{1}{2}$ " and a total piston displacement of 738 cu. in. The weight is 567 pounds dry. The normal power output is 190 horse-power at 1750 R.P.M. but the engine will be choked down to 160 horse-power at 1600 R.P.M. for training purposes. This engine possesses several original features of design. The water jackets of the two cylinder blocks are cast integral with the upper half of the crank-case. The cylinder sleeves are steel tubes which are inserted in the jackets from the top. A removable head is used for each cylinder block consisting of an aluminum casting with cored water passages and steel inserts for the valve seats. The removable head will, undoubtedly, prove a great convenience in the maintenance of this engine, as it can be removed for valve grinding in a very few minutes. It will also be possible to remove the head and replace it with another in which the valves have been ground without removing the engine from the airplane or keeping the airplane out of flying condition for more than two hours.

LANDING FIELD AT DALLAS, TEXAS

The Curtiss Aeroplane and Motor Corporation announces that the McGraw Aviation Company have leased a landing field at the end of the city viaduct, less than a mile from the heart of Dallas, Texas, where they expect to carry on various flying activities, including aerial transportation, flying instruction, aerial photography, etc.

The field is in charge of Pilot McGraw, former Army pilot at Mitchel Field, and under the supervision of the Southern branch of the Curtiss Aeroplane and Motor Corporation, which furnishes inspection.

REPORT OF CHANGES OF STATION
OF OFFICERS FOR WEEK ENDING JUNE 8.

June 1, 1921 - Major Adlai H. Gilkeson relieved from duty at Carlstrom Field, Arcadia, Florida, and ordered to Manila, Philippine Islands, to sail on August 5th transport.

June 2, 1921 - Lieutenant Franklin O. Carroll ordered from Massachusetts Institute of Technology, Cambridge, Massachusetts, to McCook Field, Dayton, Ohio, for duty.

June 2, 1921 - Lieutenant Harry J. Martin ordered from Carlstrom Field, Arcadia, Florida, to Langley Field, Hampton, Virginia, for bombing training.

June 3, 1921 - Major Archie W. Barry, A.S., relieved from command of Barron Field, Everman, Texas, and ordered to Ross Field, Arcadia, California, for balloon training.

June 4, 1921 - Lieutenant Colonel Paul W. Beck, relieved from duty as student officer, Air Service Observation School, Post Field and ordered to assume command at that school.

June 6, 1921 - Major Walter W. Vautsmeier ordered from March Field, Riverside, California, to Ross Field, Arcadia, California, for balloon training.

June 6, 1921 - Lieutenant John C. Kennedy relieved from duty in Office, Chief of Air Service, effective July 1, 1921 and ordered to Post Field, Ft. Sill, Oklahoma, upon expiration of leave.

June 6, 1921 - Following Air Service Officers ordered from Massachusetts Institute of Technology, Cambridge, Massachusetts, to McCook Field, Dayton, Ohio, for duty, effective July 1, 1921:

1st Lieut. Samuel P. Mills,

1st Lieut. Louis P. Moriarity.

CIVIL NON STOP TRANS AMERICA AIRPLANE FLIGHT TEST

The linking of the Atlantic and the Pacific in a single non-stop flight is to be attempted by two flyers in an airplane during June or July. This plane was specially designed for this flight by the Davis-Douglas Co. of Los Angeles, David R. Davis and Eric Springer, a veteran pilot, will make the trip.

To complete the flight from Los Angeles to New York, a distance by direct airline of approximately 2500 miles it will be necessary for the flyers to break the world's record for distance in a non-stop flight made by Alcock and Brown on their trans-Atlantic flight, a distance of 1940 miles. It also seems evident that the world's duration record of 24 hrs. 19 mins. 7 secs., held by the Farman Goliath, will have to be broken in order to complete the flight. These two records, with the straightaway speed mark, are the three most coveted marks in the world of aviation and, inasmuch as all three are at the present time held by foreign machines, the breaking of two of them by a single plane of absolutely American design and construction would be an encouraging event in aeronautical development in the United States.

The plane in which the flight will be attempted was designed by Donald W. Douglas. The plane, which has been christened the "Cloudster", is unique in that it was designed for the purpose of this flight alone and is not an adaptation of any other type previously built.

It is a tractor biplane of standard construction and is remarkable chiefly for refinements of design rather than anything radical. It is one of the largest single engined machines ever built, having a wing spread of 56 feet, a length of 35 feet and a total area of 800 square feet. It stands 13 feet from the ground and weighs 3800 lbs. empty.

The Cloudster is equipped with huge tanks holding 660 gallons of gasoline, weighing a trifle over two tons. Tanks holding 50 gallons of lubricating oil are also carried. This is sufficient fuel to carry the plane on a sustained flight of 33 hours at cruising speed of 85 miles an hour, or a total distance of over 2800 miles. From these figures it is perfectly plain that the Los Angeles-New York flight, which is only 2500 miles by airline, is perfectly possible barring adverse weather conditions or mechanical difficulties.

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LIEUTENANT GOODRICH MEETS UNTIMELY DEATH IN ACCIDENT

Carlstrom Field News of June 13, contains the following account of the accident at that station on the morning of June 10, which resulted in the death of Lieut. Wendell E. Goodrich:

Friday morning, June 10th at about 11 o'clock word was received that a plane had crashed about a mile southeast of the R.M.A. Field. Lt. J. G. Williams at once took off in the hospital ship and was soon at the scene of the wreck. Meantime Lt. Claude and Sergeant Savage with others had landed and removed the unfortunate pilot from the wreckage, identifying him as Lt. Goodrich, one of the present class of student officers. He was at once placed in the hospital plane and was at the Post Hospital in a few moments. There everything that was humanly possible was done for Lt. Goodrich but the shock and injuries sustained were too great and human skill was unavailing. Mrs. Goodrich was summoned and arrived shortly before her husband died at 1:25 P.M.

A board of officers was at once appointed to investigate the accident and report as to the cause. The members of this board are Capt. C.W. Ford, A.S., Capt. Logan L. Evans, M.C., 1st Lieut. W.H. Bleakley, A.S.

An impressive military funeral was held at the entraining station at the Field. Chaplain Reynolds conducted the ceremony. Taps was sounded by Lt. Vaquerie, the Post band playing fitting selections during the march from the hospital to the station. "B" Flight acted as escort of honor and all the officers of the Post paid tribute to Lt. Goodrich as they followed the casket from the hospital to the station.

Lt. Goodrich was a graduate of Dartmouth College and enlisted in the Signal Corps within a month after the outbreak of the war, being sworn in at Camp Devens, Mass., May 11, 1917. He was commissioned a second lieutenant July 29, 1918.

Lt. Goodrich attended the Ground School at Cornell University and graduated at Columbia University. He had served at Barron, Gerstner, and Rockwell Fields, and on the Border patrol, at Camp Benning and at Carlstrom Field where he reported for pilot training on March 25, of this year. Lt. Goodrich was an apt student, and soon passed the required tests and was ready for advanced training. He recently participated in an artillery school at Fort Dade, Florida, acting as observer for the shoot.

Lt. Goodrich was born in Norwich, Vt., 25 years ago and his body has been shipped to his paternal home for interment. He leaves a wife and two small children and this fact adds to the sadness of the accident. The Air Service has lost a most efficient officer and all mourn his untimely demise.

AERONAUTICAL NEWS FROM OTHER COUNTRIES

Mexico

COMMERCIAL AIR SERVICE FOR CIUDAD JUAREZ AND CHIHUAHUA CITY

Plans will soon materialize for a commercial air service between Ciudad Juarez and Chihuahua City. The distance between these two points is 226 miles by rail, and the journey takes 10 hours. The wagon roads are so bad that a long detour through Fabens, Tex., is necessary and even with a good automobile it takes about 12 hours to make the trip. The airplanes of the new service will easily make the journey in two hours. It is proposed later, states Consul J. W. Dye, to make special flights throughout the State of Chihuahua for the accommodation of mine owners and others. American planes piloted by Americans will be used, and pending the selection of a landing field at Juarez, permission has been granted for the use of Fort Bliss, near El Paso, Texas, across the border from Juarez.

Bolivia

COMMERCIAL AVIATION IN BOLIVIA

Bolivia was among the earlier South American supporters of aviation, especially for commercial purposes. Towards the end of last year the Government formed the first school of aviation, contracting with Lieut. Donald Hudson, an American aviator, to act as director of the Institute. Since then, the Administration, although having been changed from one political side to the other, has

Bolivia - Cont'd.

maintained its interest in aerial transportation. A recent action has been the recognition of, and support for, a new aviation society known as La Sociedad Boliviana de Transportes Aereos, which has been formed upon an ambitious scale to promote commercial aviation throughout the country. The Government has given to the new undertaking the right to operate an air-line between Cochabamba and Santa Cruz. For this purpose there will be put into use four triplanes of the newest type, capable of carrying 10 passengers and 1,000 kilos of cargo, the journey between the two points mentioned being estimated to occupy six hours. The headquarters of the new aviation society will be established at Cochabamba. It may be recalled that in the month of May, 1920, the first public exhibition of flying was held in Bolivia, upon which occasion, Lieut. Donald Hudson ascended 1,000 meters above La Paz, thus reaching a height above sea-level of 5,180 meters.

Colombia.

REPUBLIC OF COLOMBIA

The adjoining Republic of Colombia is also commercially interested in the regulation of aviation, in which a number of foreigners are taking active part. The Government has now issued a decree which classifies privately-owned aircraft into two sections according to their use, either as touring or commercial aircraft. All flying machines entering the country are registered, and the utmost care taken to see that no flights are undertaken until the machine has been thoroughly tested. Aircraft which are the property of the Government are to be employed exclusively for military purposes, carrying the mails, for the Customs, and police forces. Private aviation companies already established or to be established in the territory of the Republic will be considered as national, while all private aircraft, whether used for touring or commercial purposes, will bear the same designation. Private aircraft companies will be obliged to give a declaration to the Ministry of War to the effect that they will comply with the rules for aviation now accepted.

German capital has already been interested in connection with commercial flying, a company subscribed to by local Teutons having a capital of 100,000 dollars. It is proposed to extend the local service, which hitherto has not done very much in the direction of practical flying, from Barranquilla as far as the Dutch Port of Curacao, opposite the territory of Venezuela. Each machine is destined to carry five passengers and 1,000 kilos of cargo. Planes have been purchased upon the recommendation of Herr Kamerer, an aviation engineer, under whose instruction also hangars and workshops have been partially completed at Barranquilla. In the meantime arrangements are being made to inaugurate an aeroplane service between Barranquilla and Girardot, about 700 miles up the Magdalena River, a journey which is expected to occupy nine hours, including a number of short calls at various towns passed en route. This service will be for both passengers and cargo.

Brazil.

AERIAL TRANSPORT IN BRAZIL

An important aerial transport company has just been formed at Rio Grande de Sul, for the purpose of assuring a regular transport service for passengers and freight between Rio Grande and various centers in the neighboring states. The machines for this service are of French manufacture.

Peru.

NEW FLIGHT "RECORD".

The Peruvian Andes were crossed by aeroplane for the first time on May 2, when Giavanni Ancillato, an Italian aviator, left Lima at 10:45 and reached Cerro de Pasco at noon, crossing the Andes at an elevation of 16,000 ft. in an Ansaldo machine equipped with a 300 h.p Fiat engine. Ancillatto made a previous attempt yesterday, but after reaching the high plateau region, was turned back by fog.

SQUADRON NEWS

Fairfield Air Intermediate Depot, May 28.

The first Handley-Page built in America - the Langley - after being rebuilt and fully equipped at this station has, we believe, set a new record in flying from Fairfield to Washington, and Langley Field. Lieut. C. V. Haynes took off with this plane at 10:30 A.M. Monday, May 23rd, and landed at Bolling Field three hours and fifty minutes later. After a short stop at Bolling, he again took the air and landed at Langley with a total flying time of five hours and thirty minutes. No trouble was experienced in the trip, except that he ran into a storm just within sight of Langley Field. The motors, turning up 1400 R.P.M., worked perfectly, and the plane was apparently rigged perfectly. Sgt. Shanahan and Pvt. Jordan accompanied Lieut. Haynes.

Some special radio telephone transmitting sets made at this post were sent to Langley in the Handley-Page.

The sectionalized Liberty engine for the French War Museum in Paris was shipped last Monday. Work is being started on another for the Belgian Government.

The semi-monthly meeting of the Ladies of the Officers' Club was held on Friday afternoon at the Side Slip Inn. Mrs. Thrasher, wife of Captain Chas. O. Thrasher, and Mrs. Stewart, wife of Lieut. Malcolm N. Stewart, were the hostesses for the afternoon. More than twenty ladies enjoyed the hospitality of Mrs. Thrasher and Mrs. Stewart. Mrs. L. T. Rorer, Gilman, Illinois, the mother of Mrs. Thrasher, was the honor guest of the afternoon. The entire afternoon was devoted to sewing. At the close of the meeting delicious ices and cakes were served.

The Wilbur Wright Field Band participated in the Memorial Day parade at Troy, Ohio, where their excellent music and the soldierly bearing of the men created the most favorable comment.

A Rest Camp has been established at Russell's Point on Indian Lake, as a part of the summer recreation and athletic program of the Post. An ideal camp site has been secured, situated on high, well-drained ground, in a grove of large trees fifty feet from the shore of the lake, which affords excellent facilities for fishing, boating and swimming. The camp is established primarily for convalescents from the Post Hospital and as a reward for the faithful service of enlisted men at the Post. The camp was established May 26, 1921, by 1st Lieutenant Charles W. Steinmetz, Commanding Officer of Air Service Supply Detachment No. 2 and will be under the immediate supervision of a non-commissioned officer of over twenty years service. Major Geo. E. A. Reinburg, Commanding Officer, Captain Robert W. Horton, Post Surgeon, and First Lieut. Charles M. Leonard, Adjutant, inspected the camp Sunday, May 28th, accompanied by their families, and believe the camp will prove to be an unqualified success, and that the pleasures derived from short visits there will be of inestimable value to the health and morale of the command.

First Lieut. Charles W. Steinmetz and family, and First Lieutenant Caleb V. Haynes, attended the automobile races of the Speedway, Indianapolis, Indiana, May 30th, making the trip by automobile.

It was with the greatest regret that the officers and enlisted men of this command received the news that Miss Georgia Watt, the Post Hostess, was to be transferred to Camp Sherman, Ohio. Everyone was pleased to hear that her orders call for temporary duty only, and it is hoped that she will return here in the near future to resume the excellent work that she has been carrying on for the entire command. Miss Watt, in spite of lack of funds and most meager facilities, has succeeded in making the position of hostess at this Field one of great importance.

On Saturday, May 21st, the baseball team from the Dayton Power & Light Company came to this Field prepared to place another game to their credit. After the smoke of battle had cleared away they were holding the short end of a seven to nothing score. A return game has been scheduled with this team at the Depot on July 17th, and it is thought that with all conditions being fair the home team should pile up a score of at least twelve runs.

Fairfield Air Intermediate Depot, May 28, Cont'd.

Owing to the fact that daylight saving is in force at this Post, it is a simple matter to run out to the links after closing time in the afternoon and get in eighteen holes before dark. The golf course being prepared on the Field is progressing favorably. However, the mental hazard of losing balls in the high grass is prejudicing a great number of players. The flying field is being cut and it is thought that when this is done the links will be in excellent shape.

Work on the swimming pool is progressing very favorably and with the advent of the hot weather a great many eyes are turned toward the hole in the ground, which is shaping up quickly under the watchful care of the Utilities Officer. It is expected that the pool will be done in a very short time.

Tennis also has its enthusiasts and any number of them may be seen knocking the ball back and forth across and into the net each evening.

March Field, Riverside, California, May 28.

Despite rain and fog throughout the past week 289 flights were made from March Field - total flying time 136 hours 10 minutes covering approximately 10,890 aerial miles. Preliminary instruction of flying cadets required 93 hours 30 minutes; advance instruction 2 hours 10 minutes; test flights 7 hours; and miscellaneous flights, 33 hours 30 minutes.

Los Angeles and Riverside Chambers of Commerce are endeavoring to establish some means whereby March Field may be retained as an active Army Air Service training school. Official information received by Major B.K. Yount from the Director of Air Service, however, leaves little hope of aerial activity at this school after August 1. The information now at hand indicates that upon completion of training of the present cadet class the personnel of this station will be distributed elsewhere among air service units now understrength. There is a possibility of two aerial forest fire patrols being operated from this base for the summer months and communications from members of Congress from this district indicate that the War Department plans to re-open March Field as soon as sufficient funds and personnel is authorized.

March Field's Pilot School Detachment and the Post Band will participate in the Memorial Day parade and ceremonies at Riverside on Monday, May 30. Lieut. C. R. Melin, commandant of the Pilots' School will be in charge of the detachment.

Lieut. E. H. Tonkin, personnel adjutant, in addition to his other duties has been ordered on duty as flying instructor with the Flying Department.

Capt. Arnold W. Shutter surprised his brother officers last Monday evening, just prior to his departure for Camp Pike, Ark., when he and Miss Verna MacLeod, of the Riverside Enterprise, were married. The newlyweds departed via Santa Fe within an hour after the ceremony for their new home in Little Rock, Ark. Capt. Shutter has been ordered back to the field artillery for duty.

Nearly a hundred enlisted men of the command have been re-graded in compliance with Peace Strength Table 776-P. Examinations are also to be held within the next two weeks for the grade of master and technical sergeants.

March Field's Post Band played the funeral march for Pvt. Wesley G. Nabors, Riverside soldier, whose body was recently returned from France. The services were in charge of Riverside Post 79 the American Legion.

The Post baseball team defeated the Colton Centrals Tuesday afternoon 6 to 1 in an exhibition game which was the feature afternoon event at the Colton Industrial Carnival. Sunday afternoon they will cross bats with the Corona aggregation and on Monday, Memorial Day, will play the San Bernardino Elks.

Flight "B", 12th Squadron, Nogales, Arizona, May 28.

Two officers, Capt. T. M. Hastey and 1st Lieut. Alex Pearson were transferred to this flight in connection with the Forest Fire Patrol which this flight has been ordered to carry on. Captain Hastey, upon his arrival assumed command, and immediately started the patrol into operation. Enlisted men are being used as observers, and they are showing great interest in their new duties.

The detachment lands at Tucson after covering the major part of the patrol, lunch and transportation having been arranged by the Forestry service, and takes off in the afternoon covering the remainder of the patrol on the way back to Nogales. Two homing pigeons are carried on each patrol from this loft and are to be used in case of a forced landing.

United States Army Balloon School, Fort Omaha, Neb., May 31.

During the past week a great deal of the Air Service office furniture and experimental equipment has been packed for shipment to McCook Field where the lighter-than-air experimental station is to be consolidated with the heavier-than-air.

One baseball game was played which resulted in quite a shake-up in the team, causing the first string battery to be dropped.

During the latter part of the week the post was nearly deserted owing to the large number of escorts which had to be furnished for the bodies of some who died in France. The men doing escort duty were gone for lengths of time varying from one to five days.

8th Airship Co., Camp Bierne, El Paso, Texas, May 29.

Firing of the qualification course on the rifle range was completed this past week. Good shooting was done, but it was impossible to qualify the required percentage of the personnel in this command as outlined in Rifle Marksmanship Manual 1920. Arrangements will be made in securing additional practice on the range during the summer for the men who failed to qualify.

Work on the deflated airship envelope is being continued. Parts of two panels, that were sent to Washington and to the Goodyear plant for tests, have been replaced by new fabric and the envelope is being inflated with air for making the necessary repairs on same during the next week.

Another fiercely contested game of baseball was played on the League Diamond Wednesday between this team and the 8th Cavalry nine. The Air Men had to admit their defeat this time, but they were carrying on their practice with grim determination for the next battle this coming Wednesday with the 82nd Field Artillery nine.

Arrangements have been made in trying to get two well known fighters, Frankie McFarland and Kid Buck, from Brooks Field, Texas, to come here to fight on June 16th during the athletic meet. Both of these boys are well known here among the military and civilian athletes. McFarland is the featherweight champion of the army and Buck holds the distinction of being the bantam weight champion of the 8th Corps Area. McFarland fought a fierce battle with "Mexican Kid" at this station in March and he will be matched in the main event with Mike Biquerez in the coming contest.

Headquarters 91st Squadron (Observation), Municipal Flying Fld., Eugene, Ore., May 28

The Airplanes for the Squadron arrived last Sunday in two formations, one of nine being led by Captain L. H. Smith, and one of five being led by Lieut. Worthington. They pulled into Eugene in fine style, and one of the largest crowds on record was at the field to meet them. It is estimated that at least 8,000 people visited the field, and there was a traffic jam between the city and the flying field which would have shocked the most blase New Yorker.

Work on the Flying Field is rapidly nearing completion; the office is about finished, the men's quarters almost fixed up for the summer. The Flying Field, which is occupied by the 91st, is known as the 'Municipal Flying Field of Eugene, Oregon', and is the only one in the whole Northwest. It was recently purchased by the city at an approximate cost of \$20,000 and represents a concrete proof that aviation is rapidly becoming a matter of every-day life. The city of Eugene is to be complimented on its progressive spirit, and undoubtedly other towns will follow her example.

Two new officers joined the Squadron this week. Captain Eugen O. Reinartz, M.C., will be the Flight Surgeon this summer. 1st Lieut., Robert S. Worthington, A.S. is now a member of the 91st. Both of these officers are known to many members of the command.

Amusements and recreation are away below zero this week, with all hands hard at work getting things lined up for the summer, but next week it is hoped the station will be able to put out some real fish stories about this famous Oregon trout fishing, concerning which so much has been heard.

Headquarters Mather Field, Sacramento, California, May 28.

On Sunday, May 22nd, Capt. Lowell H. Smith, Commander of the 91st Squadron (Obs.), left Mather Field for Eugene, Oregon, to rejoin his command, which is on temporary duty in Oregon; his observer was Pvt. R. Nicholas. Three enlisted fliers of the 91st and twelve cadets, recent arrivals from March Field, who had just completed their D.H. training here, left with Capt. Smith for forest patrol duty in Washington and Oregon.

Capt. Eugen Reinartz, M.C., reported on the 22nd and left immediately for duty as Flight Surgeon with the 91st Squadron. He had been one of the Flight Surgeons at March Field and was formerly attached to the 9th Squadron (Obs.) for many months, leaving the 9th for a course of training at Hazelhurst.

Rev. Mr. Warner of the Grace Methodist Church of Sacramento brought a number of young folks to the Field to present an entertainment at the Service Club. The players gave a very clever little comedy which met with success judging from the applause accorded it. Music, singing and an interesting talk by Mr. Warner completed a most pleasant evening. These Monday night occasions, speakers supplied by the Church Federation of Sacramento, are becoming more popular each week and the Service Club holds enthusiastic listeners.

Major Thomas C. Daniels, D.C., reported at Mather from the Presidio of San Francisco for temporary duty, on the 24th. The need of the services of a dentist has been keenly felt for the past several months and now each soldier will have his oral cavity examined and teeth put in the best condition. The men of the 9th Squadron are being treated first, in preparation for their early departure on forest patrol duty at sub-bases in California.

Another Service Club dance was given. These are scheduled for every second Wednesday and members of the Community Club of Sacramento are always very glad to accept invitations. In fact, the dances, chaperoned by the Field Hostess Mrs. Gardner, are becoming eventful affairs. Light refreshments are always served.

Capt. W. A. Boyle, M.C., reported from the Presidio of San Francisco for temporary duty, on the 26th. The shortage of the commissioned personnel which was felt throughout the command during the winter and early spring, is being relieved by the arrival of these new officers. They are especially needed at this time with the forest patrol season starting and every evidence of greater activity.

Plans were completed for participation in the Memorial Day program arranged for by the City of Sacramento. Members of the A.S. Supply Detachment, commanded by Lieut. H. C. Minter, will join with other organizations of the city and state, and march to Capitol Park, where impressive and interesting services will be held.

Chanute Field, Rantoul, Ill., June 1.

Under orders from Chief of Air Service, Lieut. Henry W. Wooldridge left Chanute Field at 5:00 A.M. Friday and arrived Chicago at 6:10, and picked up Capt. Rickenbacker and three suit cases. They left Chicago at 6:40, and arrived at Dayton 2 hours and 20 minutes later. Lt. Wooldridge saw the Captain safely settled in another plane Washington bound and then hied himself back to Chanute Field, arriving there at 3:00 in the afternoon. The return trip took 3 hrs. and 20 minutes. The total flying time was 6 hours and 40 minutes, a distance of over 600 miles.

Kelly Field, San Antonio, Texas, May 28.

The training schedule is being carried out with less difficulty than was first anticipated after the exodus of many of the officers for duty on Project "B". The class has finished the Sixth week of the course which comprises continued practice in formation flying, rendezvous formation, camera gun practice and the memorizing and mapping of a battle sector twenty miles by thirty miles. Progress in all branches of the work during the past week has been most satisfactory. The prescribed lectures covering the various subjects were delivered by Captain Brooks, Group Commander.

The class has been augmented by the arrival of Lieutenant G. A. Gilardi of the Peruvian Army who was assigned to this group for advanced training. Lieut. Gilardi comes from Carlstrom Field where he received his elementary instruction.

Kelly Field, San Antonio, Texas, May 28, Cont'd.

Subtle messages are slowly drifting homeward from the men who left with light hearts and heavy hopes - now established at Langley Field - which would lead one to believe that they had once more discovered the significance of the old truth that, "All is not gold that glitters". Kelly Field is not half bad, after all's said and done.

Captain Brooks took an Orenco type D for another trial this week and reports a very satisfactory performance. He stated, however, that this plane takes an exceptionally long glide in landing and falls off like a Spad and then "rolls on forever".

Lieutenant Clarence R. MacIver, Air Service, went by rail from Kelly Field, Texas, to Park Field, Memphis, Tennessee to fly the abandoned airplane to Langley Field, Virginia, in connection with an experiment in bombing naval vessels.

Major Martin, Major Pratt, and Lt. McDarment, and Cadets Haight and Hall made cross country flights to Airdrome, McAllen, Texas, for training purposes. They left the field Saturday, May 21st and returned Sunday, May 22nd.

Lieutenants Booker, Sessions, Meyer, and McKiernan made cross country flights to Laredo, Texas for training purposes. They left the field May 21st and returned May 22nd.

Lieutenant C. A. Gilardi, Peruvian Army, has reported at this station and has been attached to the First Group (Pursuit) for advanced training.

Lieutenant J. J. O'Connell piloted Captain Dorris A. Hanes, Quartermaster Corps to Taliaferro Field, Texas, on duty in connection with the disposal of Air Service Fields.

Captain M. Arozarena and Lieutenant Edward Laborde, Cuban Air Service, have reported at this station from March Field, California and are attached to the First Group (Pursuit) for advanced pursuit training.

Major E. G. Beurdts of the Inspector General's Department gave this station a visit this week: everything was in tip-top shape and the Major seemed to be pleased with the general appearance of Kelly Field. He made a careful inspection of all the offices, barracks and mess halls.

Tuesday night the usual enlisted men's dance was held at the Hostess House; ice cream, cake and lemonade were served during intermission. The Kelly Field Band furnished the music. A good crowd was present and all had a good time.

Quite a bit of baseball practice has been going on at the field for the past week. Kelly Field Post Team played Camp Travis Wednesday afternoon at Camp Travis. Kelly's pitcher, Adams, held the dough-boys in the palm of his hand during the entire game while Kelly romped away with 13 runs. The final score was 13 to 1. Kelly Field now leads the Army League in this Corps Area in games won.

The boys seemed to be quite enthusiastic over squadron baseball. The 17th Squadron (Pursuit) is showing the way as they have only lost one game during the entire season.

Balloon Company No. 31, Camp Knox, Ky., June 3.

1st Lieut. W. C. Farnum reported from the Fourth Balloon Company, Brooks Field, on May 16, to assume command of Balloon Company #31.

1st Lieutenant John P. Temple left for Ross Field on Friday, May 27th.

1st Lieutenant Joseph W. Benson arrived and joined the company from Ross Field on May 31.

The Company worked with the 2nd Field Artillery on three problems this week. These problems were nicely handled and the Artillery expressed themselves as very much pleased with the results. In one problem the target was unknown to the battery until its co-ordinates were given by the Balloon. The Balloon then adjusted the battery by giving corrections on each shot until the center of impact came within 50 meters of target. At this time all the pieces of the battery were fired in Salvo and then Volley fire. The Battalion Commander called a halt to the shoot after two rounds of volley fire because he wanted to keep the target to use as a reference point, it was actually bracketed.

Next week the company will make preparations for participation in a Brigade Problem lasting two days in which actual warfare will be simulated. The company will move into position, camouflage itself along with the Artillery, inflate its balloon, and work continually with the various batteries.

Balloon Company No. 31, Camp Knox, Ky., June 3, Cont'd.

The regular baseball season started June 2, and resulted in a final inning defeat by the Transportation Department. Up until the last the score was 5 to 1 in favor of the Balloon Company.

Twenty-fourth Balloon Company, Fort Baker, California, May 30

The 24th Balloon Company, operating two balloons, had a moderate time in the air the past week, making nine flights for a total duration of 16 hours and 17 minutes, despite the fact that most of the time the weather was very unfavorable for flying.

Had the balloon been kept on an open bed last week, it is more than probable that there would have been another balloon to survey. Twice during the week there were wind storms that would have torn things up generally but for the hangar.

Wednesday, May 25, the baseball team suffered defeat at the hands of the Presidio of San Francisco, in a score of 14 to 2.

Ross Field, Arcadia, California, May 31.

Captain and Mrs. Warner B. Gates, and Mr. Norman C. Nourse were dinner guests at the home of Captain Laurence F. Stone on Monday evening, May 23, 1921.

First Lieutenant Clarence H. Welch has been granted an eighteen days leave of absence to visit his home, and from there to Bolling Green, Ky., where he will be married on June 7th. After a short visit in the south, Lieutenant and Mrs. Welch will return to California.

The monthly field and track meet held on May 27th developed into a close and exciting contest for the highest honors by the 15th and 25th Balloon Companies. This was the first of a series of monthly Athletic Field Days in which the winners of the various events are awarded cash prizes and their organizations point towards a loving cup. Competition is growing keen among the organizations and it is expected that in the succeeding meets much more new and excellent material will be brought to light.

The winner of the last meet will not be known until the conclusion of the baseball schedule which counts as one event with a total value of ten points, five points for the first place, three points for second place, and two points for third place.

Of the nine completed events the 13th Company led with thirty-three points, and the 25th Company a close second with thirty-one points. Bench of the 13th Company, a former Carlyle student, was the highest individual point winner taking place in the 100 yard dash, the 220 yard dash, and the running broad jump. Others winning honors for themselves and their organizations were Wegner, 25th Company; Debenham, 1st Company, and Pritchard of the 15th Company.

The contests which aroused the greatest enthusiasm were the tug-of-war and the baseball game, which will be installed as regular events in the succeeding meets.

Some interesting boxing events are being arranged as well as some swimming events, with an early opening of the pool expected. With such promising material on hand, it is intended later to stage a large athletic carnival in which outside competition will be invited.

Post Field, Fort Sill, Oklahoma, June 4th.

The Friday Bridge Club, with Mrs. Follott Bradley, wife of the Assistant Commandant, Post Field, as president, is an organization of recent origin, its membership consisting of the officers' wives, their guests and friends. The club meets weekly to play Bridge, after which tea and refreshments are served.

Memorial Day was duly observed at Post Field. Planes participated in the ceremonies at Fort Sill and Oklahoma City, Oklahoma. The planes that went to Oklahoma City encountered rainy weather. However, they arrived at Municipal Landing Field at the time arranged, and assisted in solemnizing the Memorial Day ceremonies by dropping flowers on the graves while a Field Artillery Battery fired a salute.

Post Field - Cont'd.

The work at the school progressed in a satisfactory manner this week. The flying Visual Renaissance missions continued throughout the week. A great improvement is noticeable in the student officers' manner of sending radio in the air. The first time this was attempted satisfactory results were not obtained, but since that time the improvement has been quite rapid. The theoretical work in the class rooms also continues as before, with the following new subjects being taken up: - Photography, Army Regulations, and Tables of Organization. All student officers were checked on their flying this week by the flying instructors and testers. Most of them have demonstrated satisfactory progress, although it was necessary to recommend a small number for additional dual instruction.

Last Wednesday evening a pretty wedding was solemnized in the Baptist Church at Lawton, Oklahoma, when Miss Grace Holt of Providence, R.I. was given in marriage to Captain Alfred F. King, Jr., A.S. A large number of officers from the Post witnessed the ceremony. The married officers seemed glad to welcome another member to their clan, while the bachelors looked on with stoic resignation, feeling that the pillars of the old Bachelor Barracks were tottering.

Major Lanphier reports that the thrills of flying are indeed mild compared to those of motoring. He had a narrow escape Wednesday evening about 10:00 o'clock when the automobile in which he was driving overturned just north of Lawton. The car struck a Ford which had stopped at the side of the main road to change a tire. The Ford driver had neglected to leave his lights burning.

91st Squadron, Municipal Flying Field, Eugene, Oregon, May 21st.

1st Lieutenant Emil C. Kiel, Air Service, Squadron Adjutant, accompanied by sixty-two enlisted men proceeded by trucks to Mather Field, Sacramento, California to Roseville Junction, California, at 10:00 P.M., May 17th, and at 1:05 A.M., May 18th left by rail transportation to Medford and Eugene, Oregon. A detachment of twelve enlisted men were left at Medford to report to 1st Lieutenant Samuel Carter, A.S., officer in charge of the forest patrol station at that place. Lieutenant Carter flew from Mather Field, Sacramento, California to Medford to take charge of the operations at that point. Lieutenant Kiel and fifty men arrived at Eugene at 5:00 A.M., on the morning of the 19th. In spite of the fact that there were no sleeping car accommodations on the trip the men made the best of things and it did not take them long to turn the passenger cars into standard pullmans when night came along.

All squadron property and supplies were shipped by freight ahead of the passenger train with the transportation loaded on flat cars. Three enlisted men did guard duty during the trip by freight. The railroad company is to be congratulated on the excellent freight service rendered, for upon arrival at Medford and Eugene, Oregon the freight cars were already spotted for unloading. Headquarters Flight and Flight "A" are occupying the Municipal Field at this city, and everyone is doing his bit getting the field in condition. Fourteen tent hangars are being erected for the shelter of planes and two tent hangars for supplies. Twenty pyramidal tents have also been set up on the field. The people of Eugene have built a fine headquarters building and are doing their utmost to make this little place an ideal home. 1st Lieutenants Eugene C. Batten, Flight "A" Commander, Warren A. Maxwell, Supply and Transportation Officer, and 1st Lieutenant Ralph W. French, Quartermaster Corps, attached to the Squadron, flew from Mather Field, Sacramento, California to this station arriving a day before the train.

Captain Lowell H. Smith, A.S., a squadron commander, is en route to Medford and Eugene, Oregon, from Mather Field, with a flight of twenty-six De Havilland and one German Fokker. These planes will be used for the forest patrol which starts operating on June 15th. This squadron will be flying over the entire forest areas of Washington and Oregon states, with this station as its headquarters. 1st Lieut. Grandison Gardiner, commander of Flight "B", now stationed at Camp Lewis, Wash., is all settled with his flight and they are ready for operations. The chief work of Flight "B" will be observing the target practice of Field Artillery at that camp and flying forest fire patrol over the Olympic National Forest in the state of Washington. This area of forest recently had some 30 to 100 square miles of timber torn to pieces by a huge storm. This great destruction of timber is now a fire hazard and with the coming dry season it will have to be kept under close observation.

Camp Bierne, El Paso, Texas, May 22.

Since target practice on the rifle range was taken up this Company has been busy day and night. The range is located miles away from this camp, among the sand dunes and cactus, and hiking over in the morning has been tried out and is a help for making good scores. Firing of the qualification course, record practice, will be taken up on Monday this week, firing the instruction course having been completed yesterday.

Besides school, fatigue and long hours on the range, the Airship C-1 was deflated and air inspection of the envelope is being made. Some holes were found in the ballonets and air line, which account for the rapid drop in purity that was experienced the week previous to deflation. These holes were evidently caused by sand and gravel having been blown into the envelope through the blower line while in the hangar. Samples of the fabric have been taken out of the envelope and forwarded to the Goodyear Tire & Rubber Co., Akron, Ohio, and to Washington for diffusion and tensile tests. We are awaiting the results of these tests before re-inflating with gas.

Although the blimp is being operated on, and all interested are unable to draw any extra "Flying" dollars, there are still to be seen in camp a variety of fine motor vehicles. Closed Fords, a Paige, Velie and Hudsons are doing their bit in keeping up the good spirit in this service on the Border. The baseball team of this Company has lately given a very good account of itself, having defeated the 82 Field Artillery Nine on the League Diamond at Fort Bliss today.

18th Balloon Company, Aberdeen Proving Ground, Md., May 24.

During the past week, thirty-three bombs, totaling twenty-seven hundred and fifty pounds were dropped from the balloon on the hard surface.

The hard wind of Monday, May 23rd did considerable damage at the balloon field. The balloon was torn from the bed by the wind and was carried about seventy-five yards into a nearby field. The mooring band and a large part of the rigging band were torn from the bag. Several large holes were torn in the balloon and it deflated very rapidly. The anemometer on the roof of the Balloon Field Headquarters building registered sixty-two miles per hour and it is estimated that the wind in the open was blowing between seventy and seventy-five miles per hour.

Work on the new airship hangar is progressing rapidly and it is estimated that the building will be completed shortly after June 1st. The erection of the hydrogen plant, the cylinder store house and the machine shop will be started in the near future. Plans are also being made for clearing and grading a suitable landing field for airships before July 1st.

The Balloon Company baseball team defeated the Civilian team from Edgewood Arsenal, Md., Sunday, May 15th, 11-0. No game was played on May 22nd.

The purpose of this letter is to keep the personnel of the Air Service both in Washington and in the field, informed as to the activities of the Air Service in general, and for release to the public press.

FOR RELEASE JULY 1, 1921.

THE AIR SERVICE LIBRARY

"Special Libraries" for May contains an article by Major H.M. Hickam, A.S., Chief of Information Group, of the Army Air Service on the subject, "The Air Service Library". Editorial comment which prefaces the article says that while Major Hickam makes it quite clear that this library, although, as he points out, one of the newest Government libraries, is well on the road toward ranking not only with the other great libraries of Washington, but with aeronautical libraries everywhere.

The article sets forth in part:

Although the Air Service library is one of the most recently organized in the entire War Department, it is rapidly becoming an important technical and general library on matters pertaining to this branch of the service.

The nucleus of the library came with the transfer of the "Aviation Section of the Signal Corps of the Army", which, on May 20, 1918, became the Division of Military Aeronautics, "charged with the operation and maintenance of all military aircraft", and the Bureau of Aircraft Production, "charged with complete and exclusive jurisdiction and control over the production of airplanes, airplane engines and equipment for the use of the Army, and all books, records and office equipment". By Act of Congress of June 4, 1920, the Air Service as it now functions was created.

The Air Service library is charged with the procurement of all books and magazines for all activities of the Air Service both for the local library and for sixty-two aviation fields throughout the country; gathering and making accessible for reference purposes the originals of all documents of the Air Service; gathering and maintaining for reference purposes the original print of all Air Service photographs, both foreign and domestic; the collecting of foreign and domestic information on all aeronautical subjects; receiving and routing of all M.I.D. Air Service material, and maintaining liaison between the Air Service and Military Intelligence Division; production or procurement of all slides and films of the Air Service to be used for instructional and historical purposes; collecting and making accessible sets of blue prints for every accepted type of airplane engine or airplane part, the aim being to make this the best aeronautical reference library in existence.

In August 1918, the actual work of organizing the library was begun, and, at this time, there are classified and catalogued and immediately accessible, 2,500 standard books on aeronautical and allied subjects; 16,000 original documents; about 40,000 photographs, and 2,000 films and slides, together with a large collection of blue prints of airplane engines and parts, and an invaluable collection of clippings.

The library subscribes to the best aeronautical periodicals, and now receives regularly 166 English and American journals, and 30 in seven foreign languages. These magazines are analyzed immediately on receipt, and although this analyzing has been done for only a few months past, about 5,000 index cards have been made, thus making the latest aeronautical news immediately accessible.

Such, roughly sketched, are the resources that the Air Service library of the U.S. Army offers to the research worker: a collection of aeronautical information not to be duplicated elsewhere, catalogued and filed after approved methods and available for immediate reference.

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CAPT. HOWARD T. DOUGLAS AND 1ST LT. MARLE J. PLUMB DROWNED
WHEN PLANES COLLIDE IN BOMBING MANEUVERS.

As the result of an airplane accident near the wreck of the old San Marcos - formerly the battleship, Texas - when their two single-seated pursuit planes collided during the bombing maneuvers off the Virginia Capes on June 22, Capt. Howard T. Douglas, A.S., and 1st Lt. Marle J. Plumb, A.S., were drowned.

In the death of these gallant young officers who were among the most able and efficient in the Air Service, the Army has sustained a most serious loss. Capt. Douglas was a member of the Board of Observers appointed to witness and report on the Naval Ordnance tests to be held in the vicinity of Langley Field from June 21 to July 20, 1921. It was while performing this duty that the plane which he was piloting was struck by the plane piloted by Lt. Plumb, who was ascending after having released a bomb at the target below. The collision caused both planes to fall in a damaged condition into the water, both officers drowning before assistance could reach them.

Captain Douglas' original commission, May 31, 1917, was with the Infantry: served with 91st and 35th Divisions, 2nd and 4th French Armies, 5th and 3rd U.S. Army Corps, 88th Aero Squadron. Transferred to Air Service Dec. 31, 1918 as of May 31, 1917: trained as Aerial Observer, Ft. Sill, Oklahoma, and at Amanty, France: on service at Front from April 8, 1918 to Nov. 11, 1918: in Aisne-Marne, St. Mihiel and Meuse-Argonne offensives: 3rd Army in Germany to June 1919: rated Airplane Pilot June 2, 1919: recommended for D.S.M. Jan. 30, 1919: promoted to Captain March 20, 1919: recommended for Majority May 5, 1919: office Chief of Air Service July 1919-Sept. 1920: Officer in charge New York-San Francisco Reliability Test. Pathfinder of Alaskan Flying Expedition, preceding the flight by rail and making all arrangements regarding landing fields and supplies: Commissioned Captain Regular Army Sept. 20, 1920 as of July 1920: G.H.Q. Citation: Three Gold War Service chevrons: born at Hamilton, Ontario, Canada, Oct. 1, 1887: graduate of University of California: Captain Douglas was unmarried and his father Summerfield Douglas, resides at Covina, California.

1st Lt. Marle J. Plumb born July 7, 1893, was unmarried and his mother, Mrs. F.C. Plumb, resides at Fond Du Lac, Wis.: 3 years at Wis. University and graduate of Milwaukee School of Trades as Electrical Engineer: enlisted in Air Service Signal Corps July 7, 1917: S.M.A. University of California, Nov. 3, 1917-Jan. 10, 1918: commissioned March 14, 1918: trained with R.F.C. at Taliaferro Field: Test Pilot and Officer in charge of flying at Taliaferro Field: Post Signal Officer, Taliaferro Field, Hicks, Texas, Feb. 19, 1918 to Oct. 1919: Kelly Field, San Antonio, Texas from Nov. 27, 1919 to June 12, 1920: 11th Aero Squadron Langley Field, June 12, 1921 for bombing tests: commissioned Regular Army 2nd Lt. A.S., Sept. 10, 1920 as of July 1, 1920: promoted to 1st. Lt. April 8, 1921.

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CAPTAIN HOWARD T. DOUGLAS
DROWNED IN BOMBING MANEUVERS JUNE 22.

The Air Service lost one of its most valuable officers when Captain Howard T. Douglas was drowned as the result of an air collision near the wreck of the old San Marcos - formerly the Texas - between the single-seated pursuit plane which he was piloting and the single-seated pursuit plane piloted by Lt. M.J. Plumb.

Capt. Douglas was not only an able pilot, but served throughout the war as an airplane observer, and, at the time of his death, held both the rating of Airplane Pilot and Airplane Observer.

Shortly after the declaration of war, Douglas joined the army and volunteered for aviation duty. Upon completion of his training in this country as an aerial observer, he was sent to France, where, after a short course of instruction, he was sent to the front as an observer with a French observation squadron. Because of the excellent type of work he carried on while there, he was shortly recalled with the American Forces, and assigned to the 88th Aero Squadron, just prior to the Chateau Thierry operations. He served throughout the remainder of the war with the American forces - for a time as aerial observer with the 88th, then as operations officer and later as group operations officer. When the troops moved to Coblenz, just after the armistice, Douglas was sent with them, and, for a time prior to his return to the United States, he served in the capacity of Corps Air Officer, the duties of which, although according to Tables of Organization,

call for the rank of Colonel, were performed by Douglas with the rank of Captain. Throughout this period he proved himself to be an officer possessed of an excellent sense of duty and of the greatest courage and ability.

Upon his return to the United States, because of his marked ability and of his broad experience overseas, he was assigned to staff duty in the office of the Chief of Air Service in Washington, in which duty he was still acting up to the time of his death.

Because of his eminent fitness for the difficult undertaking, he was made the pathfinder of the Alaskan flying expedition, preceding Captain St. Clair Street and his brother officers for the purpose of blazing the trail in the choosing and the preparation of landing fields. A great deal of credit has been given Captain Douglas in connection with the successful completion of this hazardous undertaking because of his excellent work in preparation for the flight and in arranging for the care of the personnel and of the planes throughout the expedition.

His last assignment in the Operations Division of the Air Service included the working up of a great deal of the details of the bombing project now being carried on at Langley Field, in which he had taken the keenest interest. During the maneuvers he was assigned for duty as liaison officer between the Army Air Service and the officer in charge of the air forces of the Atlantic Fleet, and his last flight was made for the purpose of keeping himself entirely familiar with the progress of the whole project.

The army as a whole, the Air Service of the army, and the officers individually who were fortunate enough to know Captain Douglas as an officer and as a man feel deeply the unfortunate accident. The excellent characteristics of this officer and the example he set will remain in the memory of those he has left behind.

REPORT OF CHANGES OF STATION OF OFFICERS: FOR WEEK ENDING JUNE 14.

June 11, 1921 - Captain Chester W. Gates relieved from duty with the Air Service at Carlstrom Field, Arcadia, Florida, and returned to the Quartermaster Corps.

CHANGES FOR WEEK ENDING JUNE 21.

June 15, 1921 - First Lieutenant Edwin G. Shrader detailed to the Air Service and ordered to Carlstrom Field, Arcadia, Florida, reporting not later than July 28, 1921, for duty and pilot training.

June 15, 1921 - The following officers ordered from places indicated to places indicated for duty:

Major Walter W. Vautsmeier	March Field, Calif.	Ross Field, Calif.
Major Barton K. Yount	March Field, Calif.	Washington, D.C.
Major Delos C. Emmons	Harvard University.	Dayton, Ohio.
Major Douglas B. Netherwood	San Antonio, Texas.	Americus, Ga.
Captain James F. Doherty	Washington, D.C.	Middletown, Pa.
1st Lt. Edwin R. Page	Carlstrom Field.	Washington, D.C.
1st Lt. Hjalmar F. Carlson	Carlstrom Field.	Montgomery, Ala.
1st Lt. Clements McMullen	Montgomery, Ala.	Carlstrom Field.

June 18, 1921 - Capt. Donald H. McRae relieved from further duty with the Air Service at Carlstrom Field and returned to Infantry.

June 20, 1921 - First Lieutenant R.S. Jett detailed to the Air Service and ordered to Carlstrom Field reporting not later than July 28th for duty and pilot training.

50-POUND TEST SHELL EXPLODES AT ABERDEEN KILLING 5 AND INJURING 11.

On May 31, the explosion of a 50-pound army bomb loaded with TNT killed 5 and injured 11, as the big de Havilland airplane on which it was carried was taking off at Aberdeen Proving Grounds, Md., for a test bombing flight in preparation

For the army and navy maneuvers which took place in Chesapeake Bay during the week of June 6.

Immediately after the accident, General Williams, Chief of Ordnance, despatched Major William A. Borden and Captain C.H.M. Roberts to the scene to make an investigation, and the commanding officer appointed a local board for the same purpose. Later, Secretary of War, Weeks ordered an additional complete investigation to be conducted by the Assistant Secretary of War, J. Mayhew Wainwright.

Major Borden brought the first detailed report of the disaster which he presented orally to General Williams. While he did not attempt to fix officially responsibility for the accident, in view of the separate investigations ordered for that purpose, he advanced a theory of the cause of the explosion. The facts upon which he based his conclusions are regarded by experts as exceptional.

"The plane had been loaded with four bombs", Major Borden is quoted as having stated. "That on rack No. 1, at the right hand of the plane, had dropped from the rack once. An examination showed no apparent defect either of rack or bomb, and the bomb was replaced. Then it dropped the second time.

"Meantime the motor had been started and the airplane was being turned around. The blast from the propeller of the machine started the propeller of the bomb revolving. A certain number of revolutions of the bomb's propeller releases a striking rod or plunger. The propeller had, apparently, turned that point when the tail skid - a piece of metal attached to the tail of the airplane - swung around and struck the propeller on the bomb, a most extraordinary occurrence.

"The blow was evidently all that was required to drive the plunger into the percussion cap attached to the fuse. The propeller had apparently reached a point where the blow would have released the plunger. The explosion followed."

Those killed instantly were: Private Allen W. Shermer, 14th Air Squadron, Hazelton, Pa.; Private Elmer H. Grinnell, 14th Air Squadron, Belair, Md.; Corpl. Raymond F. Bohle, 34th Ordnance Co., 2414 Orleans St., Baltimore, Md.; Private Lee S. Hite, 14th Air Squadron, Martinsburg, West Va.; Robert M. Herr, civilian proof director at Aberdeen.

Captain Joseph E. Hall, A.S., died June 18th at Walter Reed hospital, Washington, D.C., from injuries sustained in the explosion. Capt. Hall, who was to have been ordered to Carlstrom Field, Arcadia, Florida, for flying training on June 15, was 28 years of age. He was commissioned Aug. 15, 1917. 1st Lt., ordnance: duty in France 88th Aero Squadron and Headquarters First Army as Armament officer, Nov. 1917 to Aug. 1919; when discharged from temporary commission July 1919, worked at Aberdeen Proving Grounds in civilian capacity as instructor: commissioned Regular Army 1st Lt. A.S., Sept. 11, 1920 as of July 1, 1920; assigned to Aberdeen Proving Grounds: promoted on April 8 from 1st Lt. as of July 1, 1920: instructor in aerial bombing: commanded 258th Bombing Squadron: 140 hours in the air.

Lt. Carl Eliason, 14th Aero Squadron, died from his injuries at Walter Reed hospital, Saturday June 4, his remains being shipped to his home, Hagerstown, Md. His service record is as follows:

Aged 29; single: National Guard of Ohio, from March 27, 1913 to Aug. 1, 1914: Officers' Training Camp Ft. Meyer, Va., May 14, 1917 to Aug. 10, 1917: S.M.A. Princeton, N.J., Dec. 1, 1917 to Feb. 7, 1918: flying training at Scott Field, Belleville, Ill., from April 2, 1918 to June 15, 1918: commissioned June 15, 1918; trained at Camp Dick and Ellington Field in 1918: sent to Aberdeen Proving Grounds March 25, 1919: entered Pulitzer Trophy Race Thanksgiving Day, 1920: 2nd Lt. Regular Army Sept. 11, 1920 as of July 1, 1920: 2nd to 1st Lt. March 29, 1921.

Others injured by the explosion are: Private Samuel Weinstrock, 34th Ordnance company: Private Thomas W. Hall: 1st Lt. Louis F.P. Reese, 14th Aero Squadron: Private Stanley P. Maabe, 47th Ordnance company: Private Lester J. Magelow, 34th Ordnance company: Private Marion D. Blevens, 14th Aero Squadron: Private Edward Jerry, 34th Ordnance company: and Major Hunter, bombing observer, were less seriously injured.

LAWRENCE B. SPERRY'S OPINION ON PARACHUTES.

In line with the controversy which has been going on recently in the columns of the News Letter relative to the use of parachutes, the following letter from Lawrence B. Sperry of the Lawrence Sperry Aircraft Company, Inc., addressed to Major Edward L. Hoffman, Chief Equipment Section, McCook Field, Dayton, Ohio, will be of interest. The letter which bears the date of June 9 is as follows:

A short time ago I tested out a new ship and used one of your seat packs, putting it through everything at 3000 ft. It was a nice feeling to have the pack with me - had anything gone wrong, such as violent aileron flutter, over-balanced flippers, or an unrecoverable condition of stability in an upside-down position, the result would not have been the usual notice of "killed testing a new Aero."

The other week I got Bert Acosta to wear the chute. First he hesitated, then put it on, which all goes to show that there is gradually becoming less and less opposition to the use of parachutes.

We are going to have a rule in this factory as soon as we get enough chutes that every one flying shall wear a parachute. We have three 20 ft. chutes that were made out of strong silk and also with strong shroud lines. Having tested them from a DeHaviland at high speed, I was thinking of making up three seat packs using these chutes.

I noticed your remarks in the News Letter about carrying parachutes, which are certainly very much to the point. I am looking forward to the day when the Air Service will require every pilot to wear a parachute.

Very sincerely yours,

Lawrence B. Sperry.

"AND I LEARNED ABOUT FLYING FROM THAT"

For The Beginner

A student took off for his fifth solo flight. When he had climbed to about a hundred feet and tried to make the usual turn to the right, he discovered, to his consternation, that the ship would not turn. He at once assumed that the rudder control was broken and decided to land straight ahead. He landed on unfavorable ground breaking his landing gear and propeller. The student's instructor had been watching him and noted that although there was a dead calm the student climbed even more steeply than had he been climbing against a stiff wind. The rudder worked perfectly well and so did the ailerons, but the student had climbed too steeply and so had lost flying speed and control. Had he not nosed down to land straight ahead, he would, undoubtedly, have started into a spin or slip.

For The Exhibitor.

A pilot, visiting a country town for the purpose of stunting for a Liberty Loan drive, had been previously assured that the field would be properly policed in the portion required for landing. With this assurance, he took off. While he was in the air stunting, a sudden thunder storm came up and he decided to land at once. He noticed that the people were breaking through the lines of volunteer policemen and crossing the landing field, but, while he was still two or three hundred feet in the air, the police seemed to get control of the situation and the field was cleared, so that the pilot decided to make the landing. The part of the field available for landing was very narrow. Just as the pilot was about to put his wheels on the ground, an automobile whose occupants were apparently frightened by the oncoming storm, started across the space available for landing. The driver of the car was excited and stalled his machine in the middle of the space.

The pilot had to choose between hitting the automobile or taking the air again, with the risk of not getting over trees at the other end of the field. He chose the latter and landed in the trees, crashing a nice, new plane.

The lesson learned is not to land on fields where there are crowds of people or vehicles unless the people and vehicles are behind a good fence or a line of efficient policemen.

AERONAUTICAL NEWS FROM OTHER COUNTRIES

Italy

SALE OF OLD AERONAUTICAL MATERIAL BY COMMERCIAL CONCERNS NOT AUTHORIZED BY ITALIAN GOVERNMENT

Lt. Col. A. Guidoni, Italian Air Attache, has informed the Chief of Air Service that, owing to the fact that certain unreliable concerns having purchased old and used aeronautical material which they, in turn, have marketed as new, the War Department of Italy, through the Superior Command for Aeronautics, has issued the following statement:

"For the information of all concerned, the War Department (Superior Command for Aeronautics) announces that no individual or agency has been charged with the sale of aeronautical material belonging to the Government whether residue from the war or otherwise, but instead the Department will provide for the sale of such surplus material directly or through the 6th committee of Alienation.

"Regarding certain material previously sold and later used for speculative purposes and represented as in flying condition without the necessary inspection by technical specialists, the War Department announces that the Government cannot give any guarantee of the efficiency of such material, as it will guarantee only such material as has been sold directly or through the 6th committee of Alienation, and for which certificates of navigation have been issued.

"This statement is also for the protection of the good name of the Italian Aeronautical Construction Industry."

England.

ROYAL AIR FORCES CALLED OUT OWING TO STRIKE

Owing to the emergency caused by the recent coal strike in England and the possibility of the extension of the strike to other groups of labor, the Royal Air Force Reserve called out amounted to 250 officers and 5,800 enlisted men. The additional number originally authorized in the Committee of Supply of the House of Commons was 10,000 all ranks, but owing to the fact that the strike did not spread beyond the miners, it was deemed unnecessary to call out reserves in excess of the figures set forth above.

In debate the Secretary of State for Air pointed out that the Air Force was the only arm capable of performing two important duties during the emergency, namely the transportation of mails should the ground service by road or railroad be put out of commission: and the carrying of urgent communications should the telegraph lines or wireless stations be rendered unserviceable. While these emergencies did not arise the Air Force actually performed very important work in guarding Government stores.

The expense in calling out the Air Force Reserve came to about £10,000 and the recurrent weekly expenditure amount to £24,000.

Bahama Islands.

PROPOSED AIRPLANE MAIL SERVICE BETWEEN BAHAMAS AND FLORIDA.

According to Consul Lathrop an act has already passed its first reading in the Bahama House or Assembly by which certain concessions are given to the Bermuda and West Atlantic Aviation Company, a British limited company with registered offices in London. A subsidy of £5,000 per year is provided in the decree for the purpose of carrying mails between Nassau, Bahama, and Miami, Fla. It is expected that the hangar and repair shops constructed by the company will be open to the airplanes of all nations on reasonable terms, although at present the bill provides for this only by inference.

Australia.

AERIAL MAIL SERVICE IN AUSTRALIA.

The Australian Federal Postmaster General's Department is conferring with the Air Council with reference to the practicability of establishing an aerial mail service for Australia, writes Consul General Sammons.

SQUADRON NEWS

France Field, Cristobal, C.Z., May 28.

A smoker held by the enlisted men's club on Thursday evening at the Service Club in honor of the baseball team, and attended by practically every officer and enlisted man on the post, was the first get-together meeting for a number of months and marked the beginning of a new era of post activities. The affair proved a huge success and future smokers will be looked forward to by all who so greatly enjoyed the first.

The program under the charge of Capt. A. C. George, began with a talk by Major Raycroft Walsh, Commanding Officer, wherein he commended the efforts of the men in launching the activities and promised the best support of the officers. An interesting talk by Lieut. Garrett, E. & R. Officer, on the possibilities of an expanded Service Club and an outline of the Service Club purpose and work by Mr. Colvert, Department E & R Supervisor, gave the men a good idea of the future of the Club. Between talks the tables were loaded with substantial refreshments supplied through the co-operation of the post exchange and the squadron mess and cigars and cigarettes were distributed.

A wrestling match, two good boxing exhibitions, and several vocal selections were followed by impromptu numbers which brought out some unexpectedly good talent. The post-prandial speeches turned to athletics and after Lieut. Moon had spoken of the good season ahead of the post basketball team, ex-Capt. E. M. Ferris, formerly stationed at this field, announced a prize in the way of a silver cup to be given the best all round man in basketball. The generous offer of Mr. Ferris met with hearty applause.

The three officers leaving for the States next week, Capt. Boland and Lieuts. Austin and Holden, were called upon for a few words and each voiced regrets at departing. Mass singing closed the program, adding to the get-together spirit which the affair had fostered and "Auld Lang Syne", sung for the parting officers, rolled far out into the night, the end of a most enjoyable evening.

The two radio test flights of the week, carried out by 1st Lieuts. A.L. Foster and D.D. Watson, pilots, and Perry Wainer, Communications Officer, were unsuccessful due to poor atmospheric conditions and interference by the big radio station at Colon.

The monthly visit of the transport "St. Mihiel" brought two replacement officers to the post and on sailing next week will carry Capt. Thomas Boland and 1st Lieuts. Charles B. Austin and Harlan W. Holden to new stations in the States after two years of service at France Field. Capt. Boland is ordered to Fairfield Air Intermediate Depot, Ohio, and Lieuts. Austin and Holden go to Langley Field, Va. During Lieut. Austin's tour of duty at this post he made an attempt to reach the States in a remodeled DH-4, but returned to the field after over ten hours in the air, having been forced back by rain storms.

Replacement officers arriving on the last transport were Capt. Orlo H. Quinn from the Fairfield Intermediate Air Depot, Ohio, and 1st Lieut. John H. Clarke from Kelly Field, Texas. Capt. John R. Holt, Q.M.C., also reported at the field the past week to take over the post quartermaster work.

Camera obscura practice as preliminary work to an extensive program for bombing training to be carried out in the near future was started the past week. Unfavorable weather checked the work but five flights were made by 1st Lieuts. R.C.W. Blessley, Kenneth Garrett, A.L. Foster, and J.D. Barker, pilots, with private R. Hygh, Sergeant M. Rosburski, and Corporals G.G. Bloomstrand and O.A. Witham as observers.

An elaborate dance, the first held under a new regime in post activities, took place in the Service Club on Friday evening. The club-house was gaily decorated for the occasion with signal flags and palms and with music supplied by the Naval Air Station band the dance proved a great success.

Flight "B" 91st Squadron (Obs.), Camp Lewis, Wash., June 4.

Forest fire patrol will begin full blast at this base on June 5th. On June 2nd the first trial patrol flight was made with Staff Sergeant Cecil B. Guile as pilot and Forester Dark as Observer. Four forest fires were reported successfully by radio. Five minutes after the fires were spotted by the observer the information was in the hands of the Forest Liaison Officer of this field.

Flight "B" 91st Squadron - Cont'd.

The fire patrol area covered by this detachment comprises the entire Olympic Peninsula. The territory is covered once each day, weather permitting, with a stop at Forks, on the northwest corner of the peninsula, for gas and oil. A radio station has been erected there and two men detailed to handle fire reports received from the patrol planes.

On a return flight from Forks last Wednesday, Sergeant Bernard M. Hebron lost his way in a dense haze of smoke which had settled over the forests from Olympia to the strait of Juan de Fuca. After flying up and down Puget Sound for nearly two hours he located the flag pole at Camp Lewis and at last returned in safety, taxiing to the line on almost the last drop of gasoline.

Carlstrom Field, Arcadia, Florida, June 9.

Major Adlai H. Gilkenson, A.S., Executive Officer of this Station, pursuant to authority contained in Par. 17, Special Order 125-O, W.D., dated June 1, 1921, is relieved from further duty at this station effective at such time after July 1, as will enable him to comply with this order, and will proceed at the proper time to San Francisco, California, and report in person to the Commanding General, 9th Corps Area, for temporary duty, pending the departure of the transport to Manila, Philippine Islands, scheduled to sail on or about August 5, 1921.

Major H. B. Clagett, A.S., Fourth Corps Air Officer, Ft. McPherson, Atlanta, Georgia, was married to Mary Steady Doubleday, the daughter of Mrs. Edwin Graham Steady, on Saturday, June 4th, at Willow Glenn, Wheeling, West Virginia. The officers of Carlstrom Field extend a hearty greeting to Major and Mrs. Clagett.

The K. Post of the American Legion held its initial dance in Hangar X at this station on Friday evening. Music was furnished by the Southern University Five. Arcadia's "400" were well represented, as well as a number of young ladies from surrounding towns. Refreshments were served throughout the evening.

1st Lieut. James G. Taylor, A.S., has reported to this station from March Field and is assigned to Flying Office for duty.

1st Lieut. Wm. W. Welsh, A.S., has reported to this station from March Field and is assigned to the Gunnery Department for duty.

1st Lieut. Wm. H. Bleakley, A.S., has reported to this station from March Field and is assigned to Flying Office for duty.

1st Lieut. Elmer D. Perrin, A.S., reported to this station from Camp Furlong, Columbus, New Mexico, for pilot training.

Flight "B" 12th Sq. (Obs.) Airdrome, Nogales, Arizona, June 4th.

The forest fire patrol was started May 24th, and since that time three fires have been located, and reported to the Forestry Service. The first fire was located about five miles west of Nogales and was extinguished before any damage was done. The second fire was located about eight miles east of Nogales, and before the rangers could reach the top of the mountain where the fire was located, it had covered an area about five miles square and was very hard to get under control. The third fire was located in the Santa Catalina Mountains and was extinguished before any damage was done.

The men of this squadron have begun their preliminary pistol firing on the target range that is located north of Nogales, and some very good scores have been made. Staff Sergeant Harges, Corporal D.C. Mahaffey and Private F.I. Pierce having made the best score up to this date.

Mather Field, Sacramento, California, June 4

Forest patrol work is occupying the mind of the entire command at present, preparatory to the departure of the Ninth Squadron (Obs.) for substations. This squadron now has a total of 30 pilots, 11 officers, 3 enlisted men and 16 cadets, the latter having recently arrived from March Field.

On the 2nd Major B. M. Atkinson and Lieut. John R. Morgan flew to San Francisco for a conference in connection with forest patrol work, returning the same day, and on the 3d Mr. Kotok, of the District Forester's office, arrived at the Field from San Francisco to make arrangements for the coming forest patrol season.

Mather Field - Cont'd.

First Lieut. Paul L. Williams, of the 9th, will command the detachment at Visalia, California, this season. He and cadet Page left by plane for that town to complete arrangements for the accommodation of the officers and men who will work out of that base during the summer. Lieut. John R. Morgan will be in charge at the Corning, Calif., base. This officer, since his return from Border Patrol duty at Rockwell Field, has spent almost the entire past month in gathering data from different sections of the state for use in forest patrol. On each trip he was accompanied by Mr. Hess of the Forest Service.

Private Woodgerd, enlisted pilot of the 91st Squadron, arrived by plane from Eugene, Oregon, and Cadet Harper, who has just completed his D.H. training, returned with him for duty with that squadron.

Headquarters "B" Flight, 13th Squadron (Surveillance) Airdrome, Marfa, Tex.

Pistol practice has started at this field; the men are particularly interested, and it is expected that we will make a good showing at the range next week.

Baseball is enthusiastically progressing. The Team beat Alpine in a close game last week.

Flying is heavily curtailed on account of the shortage of officers; two of the four Lieutenants Goodrich and Douglas, are on detached Service in Langley Field.

Army Air Service Pilots School, Barron Field, Riverside, California, June 4.

Fifty planes made a total of 169 flights from the local field during the past week. Total flying hours consumed - 85:35; preliminary instruction required 77 hrs., 45 min.; test flights, 1 hr. 50 min., and miscellaneous flights, 6 hrs. Approximate aerial distance covered, 5,560 miles.

Private David L. Frazier died Thursday evening in the Post Hospital from injuries sustained earlier in the day when he fell, from the roof of a hangar. Disposal or burial of the body awaits instructions from relatives.

March Field's Dramatic Club will offer for public consumption "A Soldier's Sweetheart" at the Orpheum Theatre, two nights, next week, June 7 and 8.

Post Chaplain, Lieut. Thos. A. Harkins, has been granted 30 days leave of absence.

Master Sergeant Clyde M. Taylor and Staff Sergt. Oliver Hall, both having completed their prescribed periods of enlistment during the past week were honorably discharged from the service. Both Taylor and Hall re-enlisted for three years.

March Field men joined with members of the American Legion in Riverside in paying tribute to Sergt. First Class Nye G. Oberg, whose body was recently returned from France for burial. Oberg was killed in action in the Argonne just two days prior to the Armistice.

John S. Jordan, Chief of Construction and Acting Superintendent of the Traffic Division of the Air Mail Service, now in San Francisco, has issued orders whereby ex-service men shall be given preference for employment in all departments of the service. American Legion posts throughout the State of California have been asked to co-operate in placing efficient men in the air mail.

The Post baseball team lost two games over last week end - both on the Ontario City team. On Sunday the affair resulted 10 to 9 and on Monday, Memorial Day, Ontario again won, 8 to 5. Next Friday afternoon the local nine will do battle with the Balloon School team from Arcadia, Ross Field, California.

Headquarters Detachment, First Obs. Group, Paranaque Beach, Manila, P.I., May 7.

Captains Ervin and Cole, Air Service, and Captain Adams, Coast Artillery, from Corregidor, were on the beach Friday with an H.S.2 L.

Captain Phillips, Lieutenants Johnson and Longfellow of the 3rd came on from the "Bontocs" Saturday.

Ross Field, Arcadia, California, June 4.

Colonel T. A. Baldwin, Jr., Commanding Officer, Ross Field, will attend the big Rodeo and festival to be given by the moving picture celebrities for the Actors' Fund at the Hollywood Speedway. Several of the ladies from this post will assist in this worthy enterprise; among them being: Mrs. H.W. Mooney, Mrs. Bruce N. Martin, Mrs. C.M. Savage, and Mrs. J.I. Sullivan.

First Lieutenant John P. Temple, A.S., has reported at this field to become a Student Officer at the Balloon School in the new Balloon Observers' Course which commences on June 20th.

There were two free balloon flights during the week, Captain Harold E. Weeks and Captain L.F. Stone, piloting. Captain Weeks landed in the business section of La Verue, and caused quite an excitement. Captain Stone landed about two miles north of Sunland in a ravine, and it was necessary to carry the balloon about a mile to place it on the truck.

The first of a series of dances to be given by the Officers' Club was held at the Santa Anita Officers' and Enlisted Men's Club on Friday, June 3, in the form of a tea dance. It is contemplated giving three dances during each month, two afternoon dances and one formal evening dance.

8th Airship Co., Camp Bierne, El Paso, Texas, June 5.

After the recent rain everyone seems to be enjoying these balmy June days in spite of much fatigue and with our airship out of commission for a while. Repairs are being made on the envelope and accessories of the ship. A Caquot balloon was inflated on Wednesday, June 1st, for the purpose of continuing instructions to the enlisted men in the cordage and fabric school and also for getting flying time in for the personnel on flying status.

Since the completion of target practice the work of excavating the new cess pool was resumed. The required depth has been reached and the walls of the pit are now being boxed and braced with scrap lumber.

About three-fourths of the men in this Camp witnessed the battle between Kid Palmer and Young Fitzsimmons last Friday night in the punch bowl at the main post. It was indeed a glorious fight, Palmer whipping his opponent in 13 out of the 15 rounds. The post is eagerly awaiting the arrival of Kid Buck from San Antonio, Texas, who will be matched with a noted fighter of El Paso on June 16th at Fort Bliss.

Fairfield Air Intermediate Depot, Wilbur Wright Field, June 4.

Lieut. Hutchison and Sergeant Spencer, mechanic, from Selfridge Field, upon their return from Indianapolis, where they attended the races over the week end, stopped at this Field for a new motor and a new set of wings for a DH-4B, it being impossible for them to make this replacement at Selfridge Field, due to the lack of personnel.

Lieut. McPike and Staff Sergeant Emrick, mechanic, and Lieut. Ballard and Sergeant Rigney, made a cross-country trip to Indianapolis, over the week end to attend the races.

By the request of Major Longanecker, 5th Corps Area Air Officer, two thousand folders on the subject of military training at Citizens Training Camp, to be held at Camp Knox, Kentucky, this summer, were dropped from a DH-4B over the City of Indianapolis, by Lieut. Ballard.

Sunday, May 30th, the Post baseball team of this Field, lost a hard fought game to the Headquarters team of the Fifth Corps Area, at Fort Benjamin Harrison, Indiana. The Headquarters force were made to go twelve innings before they could capture the large end of the six to five score. A return game will be played at a later date at this Post and it is hoped that due revenge will be taken.

Last Tuesday afternoon seven of the officers dressed up in all the white clothes they could find, shouldered their golf bags and took off for the links, where the afternoon was enjoyably spent in losing golf balls. There is a suspicion among some of the officers that the poor driving is a direct result of German propaganda during the war, in view of the fact that the ball does not go

Fairfield A.I.D. - Cont'd.

in the straight line which it was intended it should go. The ball seemed to have a nasty little habit of burying itself in the tall grass just off of the fairway. It is hoped that with a little more practice the games will not be so expensive. Certain of the officers, including the Quartermaster, Capt. Thrasher, have shown marked improvement in the game, not losing more than four balls in one afternoon. The officers thought that a wonderful scheme has been hit upon to hold the weekly golf meet on the same afternoon that their wives held their meeting of the Ladies' Club. This, however, did not work out as it should have, as the ladies cut their meeting short and went to town, where additional expense was incurred by the officers other than the losing of the golf balls. The only remedy in sight is to teach the ladies to play golf.

The band is progressing famously and requests for concerts are beginning to come in. Under the leadership of Mr. Heffner marked improvement is being displayed and the band at the present time, consisting of sixty pieces, is just about the snappiest organization of its kind in the Army. The enthusiasm is high, the morale exceptionally good. It is planned to hold one free concert each week on the Post, to which all the citizens of Dayton, Springfield and the surrounding cities will be invited. The Post will be thrown open and everybody made welcome.

Owing to the fact that the hostess, Miss Georgia Watts, has left us on temporary duty, it devolves upon the Educational & Recreational Officer to furnish the incentive for social activities on the Post. This officer not being a wizard along these lines, will do his best to please all concerned. Dances, parties and picnics are in order during the hot weather.

Advantage has been taken of the fact that there is an ever flowing stream running through the camp to make a swimming pool. The Utilities Officer is busily engaged in constructing the necessary obstructions to the water, and the whole Post in one voice is wishing him success in his undertaking.

The recreation camp at Indian Lake has been pronounced a great success by those who spent Decoration Day there. Fishing is excellent and the swimming and boating very good. The reports brought back by the first detail who returned from Indian Lake this week, have aroused all the men to special efforts in order to earn a vacation there.

Captain Ralph A. Gibson with Mrs. Gibson and their two children, arrived at Fort Omaha May 31st. Immediately after arrival here, Captain Gibson, who is an airplane pilot, had his first airplane ride in two years. He stated that it is a grand and glorious feeling to have the stick in his hands again, and it is no doubt that a short stay at this Field will completely cure him of the pernicious habit of riding about in balloons, in which he has been indulging in the past two years.

Captain Thomas Boland arrived from Panama on June 1st, where he has been stationed for over two years. He reports that Captain Orlo H. Quinn, who left here May 1st, for Panama has arrived there and is apparently finding life in the Zone quite satisfactory.

The entire personnel of the Field has been invited to attend a lawn festival at the home of Mr. John R. Patterson of Dayton, President of the National Cash Register Company.

Air Service Mechanics School, Chanute Field, Rantoul, Ill., June 8.

The importance of keeping in touch with the Reserve Officers of the Air Service has led to a Reserve Officers' Reunion which will be held at this post June 17, 18 and 19. This reunion will be held under the direction of Sixth Corps Air Officer, Major William C. McCord and Major Geo. E. Stratemeyer, Commandant of Air Service Mechanics School. Invitations are being sent out from the Sixth Corps Area to all Reserve Military Aviators within that locality. Among the events which will take place at this Reunion are: On Friday 17, school will remain in operation. All departments can be visited by Reserve Officers. All A.S.M.S. planes will be on the line at the disposal of the Reserve Officers. A number of the instructors will be present to check all these Reserve Officers and give any instruction that may be desired. On Saturday 18, the school will remain in operation

A.S.M.S., Chanute Field - Cont'd.

until 10:00 A.M. Regular weekly review and inspection will be held. Planes will be on the line all day Saturday to fly. On Saturday evening the officers and ladies of Chanute Field will give a dance in honor of the Reserve Officers. On Sunday planes will be on the line up to 11:30 A.M. Sunday afternoon there will be a baseball game at the Post Diamond between the Chanute Field team and Gibson City baseball team. Ample accommodations can be obtained at this field for all Reserve Officers. A special rate has been made by the Officers' Mess to the Reserve Officers during this reunion. A large attendance is expected and it is believed that all coming to this field will enjoy themselves to the utmost. It is hoped that regular Army Officers and Reserve Officers will be mutually benefitted by this reunion.

During the month of May the following students have graduated from Air Service Mechanics' School.

Mechanics, Airplane Engines	21
Mechanics, Airplane	9
Cabinet Makers	2
Armorer	7
Electrician, Ignition	4
Clerk, General	6
Total	49

Within the next (6) months over 500 students will be graduated and sent to various Air Service Stations. A large number of students are expected during the month of July.

Kelly Field, San Antonio, Texas, June 4.

1st Lieut. Edgar E. Glenn, Air Service, joined May 31, and was assigned to the 94th Squadron for duty and advanced pursuit training.

1st Lieutenant Willard S. Clark, Air Service, joined May 31, from Carlstrom Field, Florida, was assigned to the 94th Squadron for duty.

Lieutenant Edward Laborde, Cuban Air Service, joined from March Field, California, May 26, and was attached to the 94th Squadron for advanced pursuit training.

Army officers and Foreign officers with this group for pursuit training finished the seventh week of the course.

The group has been notified that the new Pursuit plane, the Thomas Morse MB3 has arrived at the Air Intermediate Depot, San Antonio, Texas, and will soon be issued to the squadrons of the group.

Lieutenants Craig, McDarment, McKiernan, Jr., Ratcliffe? A.S.R.C., and Cadet Shoudy made cross country flights to Airdrome, Laredo, Texas, for training in cross country flights. They left the field on May 28th and returned May 29th.

Col. Danforth and Lieutenant Estabrook made cross country flights to McAllen, Texas, for training purposes leaving Kelly Field on May 28th, and returning May 29th.

Major Hall, Captain Hayes, Lieutenant Lynch, and Cadet Bartow made cross country flights to Del Rio, Texas for training purposes, leaving the Field on May 28th and returning May 29th.

Monday, May 30th, Kelly Field celebrated Memorial Day in a very quiet way. The day was declared a holiday, several parties went out on hiking expeditions while others went to nearby summer resorts where swimming seems to be the only fad.

The officers of Kelly Field No. 2 played a game of baseball with the officers of Kelly Field No. 1, Thursday afternoon which was very interesting but one-sided. Lieut. O'Connell pitched for Kelly 2 and held the opponents in the palm of his hand throughout while our team walked away with 13 runs. The final score was 13 to 2.

Kelly Field - Cont'd.

Kelly Field's Post Team continued its winning streak by defeating the 16th Cavalry from Fort Sam Houston, Saturday. The game was fast and full of brilliant playing. Kelly got away with a flying start and was never in danger. The final score was 7 to 2 in favor of Kelly. Kelly Field still leads the Army League.

Squadron baseball was not very much during the past week. From some unknown cause the boys have lost interest. The 17th Squadron is still leading in the Pursuit Group while the 11th is showing the way in the Bombardment.

The pictures were exceedingly good during the past week, with a real feature every night.

The usual enlisted men's dance was held at the Hostess House, Tuesday evening; ice cream and cake, and lemonade were served during the intermission; the Kelly Band furnished the music. A large crowd was present and all seemed to have a good time.

Clark Field, Pamp., P.I., May 7.

The baseball league which was organized on the post to determine on a team to represent Camp Stotsenburg in the interpost series has been completed. The Air Service finished second in the standing.

A detachment of 33 men leaves Tuesday for the one month trip to China and return. They are traveling on the U.S.A.T. "Warren" and are in charge of 1st Lieut. Newton Longfellow, A.S. The men are carried on detached service. Each one has deposited 100 Pesos with the officer in charge which will be meted out piecemeal at the various ports of call. This policy will preclude the possibility of a few men getting all the money and the others being broke for the major portion of the trip.

Two other detachments of men numbering 32 and 35 respectively have already made the trip to China. The detachment which is about to leave will clean up all eligibles for the China trip.

Captain D. W. Bedinger, Pilot, M.C. arrived on the U.S.A.T. "Sherman" to relieve Major F. H. Poole, M.C. as Flight Surgeon at this post. Captain Bedinger commenced his duties at once as Major Poole leaves on the U.S.A.T. "Warren" for China.

Headquarters Detachment, First Observation Group, Paranaque Beach, Manila, P.I. May 7.

Rubber deteriorates at a rapid rate, cross winds put a considerable number of casings out of commission, but the presence of a small thorny vine adds even more trouble. A small insignificant vine, but one carrying a battery of projecting thorns, each about one-half inch long, has, as its habitat, the Paranaque Flying Field. It is known to the native as "Las Coronas de Espinas" or "Crown of Thorns". The Headquarters Detachment set aside other operations long enough to remove "Las Coronas de Espinas" from the field.

Air Service Garrison, Kindley Field, Fort Mills, P.I., May 7.

The final ball games have been played in the "Army League" with the 62nd Infantry heading the list and the Air Service Garrison Team second. A number of the Garrison Baseball players are being selected to play on a team to represent the Post in games.

The Garrison Motion Picture Airdrome is a nocturnal feature now and it makes it a good deal easier than the former hike to the Barrio.

Lieutenant and Mrs. Franklin of the 2nd Aero Squadron returned this week from a thirty day leave of absence in China and Japan. They report a very enjoyable trip although cold weather was encountered during the trip.

Captain Ervin has the distinction of making the fastest trip from Fort Mills to Manila. In a recent flight from Manila, in an HS2L Flying Boat to Fort Mills, the total time consumed from Beach to Beach was seventeen minutes which is, according to records, the fastest flight.

The 17th and 27th Balloon Companies participated in the joint maneuvers between the Army and Navy, held at the Coast Defenses of Manila and Subic Bays, from the 12th hour on April 18th, to the 2:14th hour of April the 21st.

Kindley Field, - Cont'd.

The two balloon companies furnished continuous observation, flying the balloon both day and night, during the entire period, the balloon being flown 62 hrs. and 15 minutes. During the day time, visibility ranged very poor to fair, due to low hanging clouds and considerable haze. At night there was a full moon, and visibility was very good.

The range and altitude of the balloon was from 1,000 to 3,000 feet. During the day prevailing winds were east, but at night they were shifted around to south, caused by the low hanging clouds over Mariveles Mountain, where there was a considerable amount of lightning displayed almost every evening. The effect of the lightning was felt at the headset, to a certain extent, and at times it was very uncomfortable in the balloon, due to gusty winds, and at night on descending, the ground winds at 500 feet were gusty and changeable in direction with the result that many a thrill was experienced in landing the balloon.

There were only two officers present for duty with the two companies, but there is one Warrant Officer on duty with the 27th Company, who is a Dirigible Pilot, and his services as pilot were used.

During the period of this observation, 151 messages were sent, regarding activities of both friendly vessels and planes, and enemy vessels.

First Observation Group, Paranaque Beach, Manila, P.I., April 29.

Sergeants Minor and Roeser have been ordered before a board to determine their fitness for promotion to the grade of Technical Sergeants.

Captain Eaker flew to Stotsenburg and caught the Air Service-Artillery game Wednesday P.M. Lieutenant Riley pitched the game and added to it his string of victories.

Lieutenant Longfellow, with Major Poole, Flight Surgeon of the 3rd Aero, dropped into the field late Tuesday evening. They returned to the Pampanga country Wednesday A.M.

The Headquarters Detachment drew its full quota of ordnance and will go on the range within the next month.

Captain Immon of Sternberg General Hospital staff is assigned to duty at Paranaque Beach. He is at present on the field during flights, as well as attending sick call for the Detachment.

The work of the white ant has resulted in the loss of considerable property in the Islands. The vast amount of airplane material in the Islands has so far escaped their destruction, but only minute inspection and immediate treatment prevents the toll taken by this small but harmful pest.

Kindley Field, Fort Mills, P.I., April 20.

Lieutenant Royal B. Lea is successfully carrying out the duties of Engineering Officer in addition to his other duties during the temporary absence of Lieutenant Franklin, who is enjoying a thirty day leave of absence in China.

Clark Field, Pampanga, P.I., May 1.

On Monday, April 25th, Lieutenant Hurd went by train to Mangatarem, Pangasinan, for the purpose of locating and preparing a suitable landing field for planes. He was ordered to choose a field that would, with a minimum amount of work, be suitable for landing purposes for the year around.