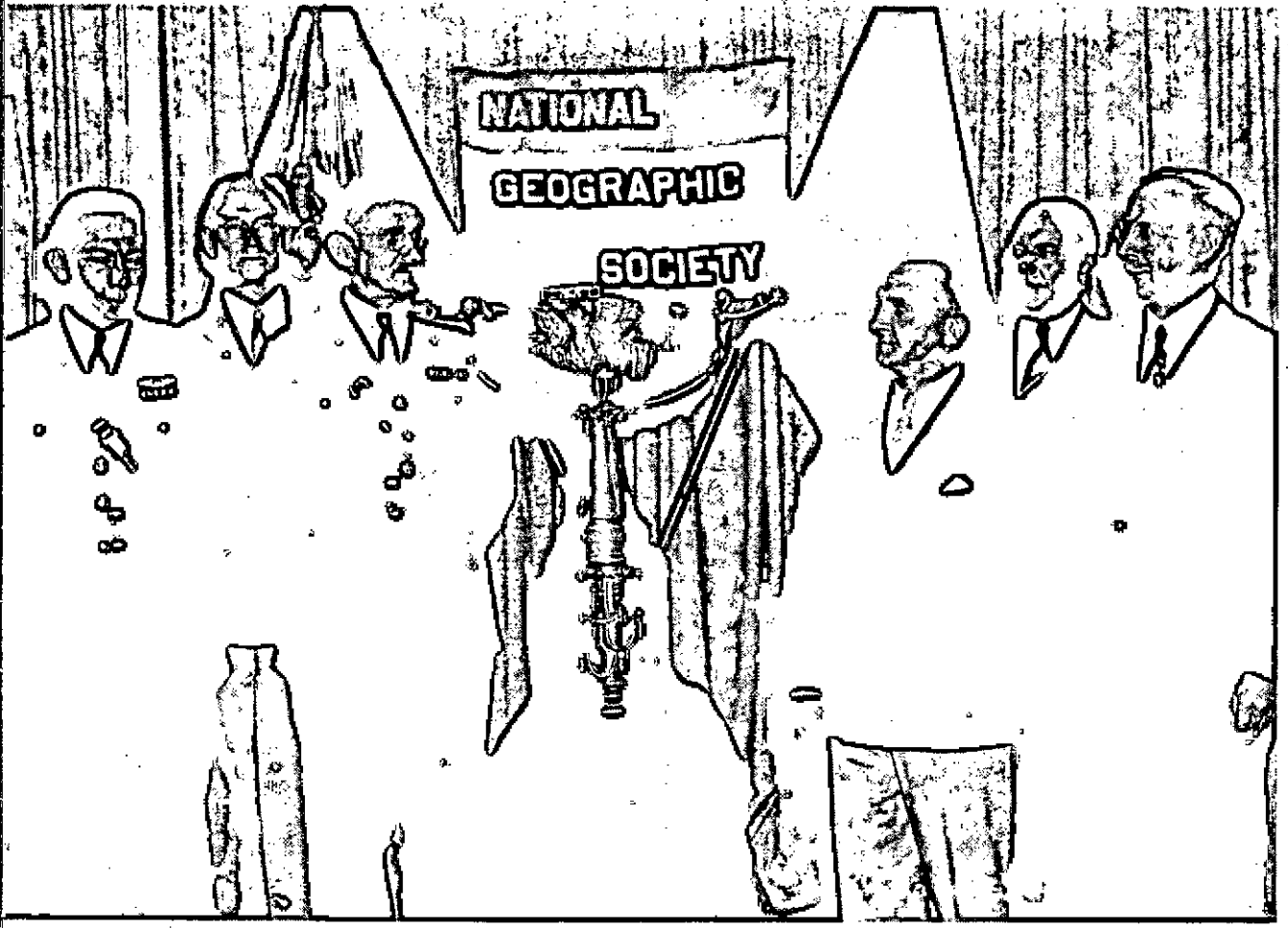




NEWS

LETTER

Issued by the Chief of the Air Corps
Washington, D. C.



Information Division
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The Chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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STRATOSPHERE FLYERS AWARDED THE MACKAY TROPHY

Through one of those strange coincidences which happen now and then, Tuesday, June 23rd, 1936, marked the twenty-third annual award of the Mackay Trophy, which is presented to Air Corps officers for each year's most outstanding flight achievement. This Trophy, a gift to the War Department in 1912 by Mr. Clarence H. Mackay, was presented to Major Albert W. Stevens and Captain Orvil A. Anderson, Air Corps, in recognition of their stratosphere flight achievement on November 11, 1935, when they reached an altitude of 72,395 feet. The presentation of the Trophy to the two intrepid aeronauts, who reached the highest altitude ever attained by man, was made by Major General Oscar Westover, Chief of the Air Corps, at the headquarters of the National Geographic Society in Washington, before a gathering of aviation leaders and heads of the Society.

Mr. Charles S. Horner, President of the National Aeronautic Association, which is the custodian of the Mackay Trophy, turned it over to General Westover for presentation.

In being selected for the 1935 award, Major Stevens became a "repeater" among the worthy company of holders of the Mackay Trophy who in past years attained this distinction, namely, Brigadier General Henry H. Arnold, Majors Lowell H. Smith, Oakley G. Kelly, John A. Macready (Air Reserve), and Erik H. Nelson (Specialist Reserve).

When they were first lieutenants in the Air Service, the flying team of Kelly and Macready won the Mackay Trophy for three consecutive years; in 1921 for their record-breaking altitude flight; in 1922 for their record-breaking duration flight, and in 1923 for their non-stop flight across the American continent. Major Stevens won the Trophy the first time in 1929 for his remarkable long-distance and high altitude photographic flights.

While it is only fitting and proper that outstanding flight performances should receive suitable recognition, the annual award of the Mackay Trophy serves the double purpose of keeping these exploits fresh in our memory. The history of the Mackay Trophy is closely

interwoven with the progress aviation has made within the past quarter of a century and brings to mind the pioneering flight achievements of the Air Corps which paved the way for even greater accomplishments by military as well as civilian airmen.

General Arnold, Assistant Chief of the Air Corps, the first winner of the Mackay Trophy, was present at the Geographic Society headquarters to welcome Major Stevens and Captain Anderson into the fraternity of Trophy winners, also to "sign up" the first-named officer as a member of the select circle of "Repeaters."

On October 9, 1912, General Arnold, then a second lieutenant, made a 41-minute reconnaissance flight in the early Wright biplane, powered with a 40 h.p. engine, from College Park, Md., then the location of the Signal Corps Aviation School, over the triangle Washington Barracks, D.C., Fort Myer, Va., and return to College Park. In accepting the Mackay Trophy last year, awarded him in recognition of his leadership of the flight of ten B-10 Martin Bombers from Washington, D.C., to Fairbanks, Alaska, and return, involving a total estimated distance of 8,290 miles, General Arnold asserted, in effect, that piloting the Martin Bomber to Alaska was child's play compared with his first Trophy-winning flight, when, due to gusty weather conditions which forced him to center all his attention to controlling the frail craft, his condition at the conclusion of the flight bore all the earmarks of physical exhaustion and nervousness.

Since the flight to Alaska is mentioned, we are reminded that Captain St. Clair Streett (now Major), leader of the Air Corps flight of four DH airplanes from New York to Nome, Alaska, and return, shared in the 1920 award of the Mackay Trophy with the other members of the flight, namely, Lieuts. Clifford C. Nutt, Erik H. Nelson, C.E. Crumrine, Ross C. Kirkpatrick, Sgts. Edmond Henriques, Albert R. Vierra and Joseph E. English. The DH was considered to be a pretty good ship - in those days.

Back in October, 1919, the Transcontinental Reliability Test Flight, sponsored by the Air Corps, occasioned considerable interest throughout the nation, and the Mackay Trophy award for that year went to Lieut.-Colonel Harold E. Hartney, Captains Lowell H. Smith, John O. Donaldson, Felix V-7046, A.C.

Steinle, Lieuts. Belvin W. Maynard, Alexander Pearson, R.S. Worthington, E.M. Manzelman, R.G. Bagby, and D.B. Gish, for achieving the best flight records between the Atlantic and Pacific coasts. No one mentions trans-continental flights these days. They are an every day occurrence.

Flights sponsored by the Air Corps during the years 1924, 1926 and 1927, and which occasioned the award of the Mackay Trophy to the participating personnel, aided greatly in directing attention to the possibilities of the airplane as a reliable means of transportation over long distances. Personnel of the Air Corps Around-the-World Flight who shared with the leader, Major Lowell H. Smith (then 1st Lieutenant) in the 1924 award of the Mackay Trophy were Lieuts. Erik H. Nelson, Leslie P. Arnold, Leigh Wade, John Harding and Henry H. Ogden.

The Pan-American Flight around South America, started in December, 1926, was participated in by Major Herbert A. Dargue (Commander), Captains A.B. McDaniel, Ira C. Eaker, C.F. Woolsey, 1st Lieuts. B.S. Thompson, Muir S. Fairchild, Ennis C. Whitehead and John W. Benton.

The non-stop flight from Oakland, Calif., to Honolulu, T.H., in May, 1927, by Captains Lester J. Maitland, pilot, and Albert F. Hegenberger, co-pilot and navigator, was the incentive for a number of similar attempts to span the 2400 miles over the Pacific between the mainland and Hawaii on the part of other intrepid airmen. Unfortunately some of these attempts ended disastrously. Nowadays, nine years later, Clipper ships make Hawaii their first stop on regular scheduled flights to the Asiatic mainland, and news of these flights does not even appear on the inside pages of the daily papers.

Lieut. James H. Doolittle (now major, Air Reserve) shared with the late Lieut. Cyrus Bettis the award of the Mackay Trophy for 1925. The last-named officer established a record of 248.976 miles per hour over a closed circuit in the Pulitzer Trophy Race, while Major Doolittle, using the same airplane, save for the substitution of pontoons for the landing wheels, established a new speed record for seaplanes in the Schneider Trophy Race by averaging a speed of 232.575 miles per hour. Since that year there began a decided upward trend in aircraft speed, particularly with reference to seaplanes, with Italy and Great Britain striving mightily to outdo one another in that phase of aeronautical endeavor. The Schneider Trophy Race is but a memory in the annals of aircraft racing competitions, as Great Britain won permanent possession of this Trophy. Notwithstanding this fact, however, the Italian pilot

Francesco Agello today holds the world's record for seaplane speed with an average of 423 m.p.h. over a 3-kilometer course. And so the record of today is commonplace tomorrow.

Air Corps officers still in the service who won the Mackay Trophy are Lieut. Colonel Byron Q. Jones, Shepler W. FitzGerald, Ralph Royce, Majors Charles H. Howard and Westside T. Larsen. Colonel Jones, in 1915, established an American duration record through a solo flight of 8 hours and 53 minutes. Col. FitzGerald shared the 1914 award with the late Capt. Townsend F. Dodd for a reconnaissance flight over San Diego, Calif. Col. Royce led the mid-winter flight of the First Pursuit Group from Selfridge Field, Mt. Clemens, Mich., to Spokane, Washington, and return, in 1930, under most adverse weather conditions. Major Howard commanded the Navajo Indian Relief Flight in 1932, when eight bombing planes of the 11th Bombardment Squadron were flown over dangerous mountain and canyon regions for nearly a week in order to drop food over various villages inhabited by the Navajos, who suffered hunger and other privations through being isolated from surrounding communities as a result of an unusually severe and prolonged snowstorm. Major Larsen, in 1933, performed noteworthy pioneering flights in connection with the development of methods of procedure of Aerial Frontier Defense, these flights involving instrument take-offs and landings on both land and water, proceeding to designated points at sea and returning therefrom under instrument flying conditions.

Major General Benjamin D. Foulois, U.S.A., Retired, former Chief of the Air Corps, received the award for 1931 for his flight leadership during the Air Corps maneuvers that year, which constituted the largest concentration of air planes flying in military formation in the history of the Air Corps.

Lieut. Harry A. Sutton (now Major, Specialist Reserve) won the 1928 award for conducting extremely hazardous spinning tests, and in 1913 two "Early Birds" in aviation, 2nd Lieuts. Joseph E. Carberry and Fred Seydel received the award for a reconnaissance flight over San Diego, Calif.

General Westover's presentation address upon the occasion of the award of the Mackay Trophy, was, in substance, as follows:

The inability of the Secretary and Assistant Secretary of War, and the Chief and Deputy Chief of Staff to be present on this occasion has resulted in my being designated to represent the War Department. Because of my special interest in the flight for which this award is being made and also in the officers who made the flight, I am happy to have this opportunity.

The War Department, and particularly the officers of the Air Corps, feel most fortunate that Mr. Mackay saw fit to donate this beautiful and inspiring Trophy to them. To be deemed worthy of receiving an award of the Mackay Trophy is an honor which may well spur all Air Corps officers to highest endeavor.

It is especially fitting that we should be enjoying today the hospitality of the National Geographic Society, as this organization made possible the flight for which this award is being made. The Air Corps' association with the National Geographic Society in this enterprise has been a profitable and pleasurable experience for all of us.

Mr. Mackay has reposed in the War Department the determination each year of the most meritorious flight eligible for the award of the Mackay Trophy. The meticulous care which the War Department has exercised each year in determining this award has resulted in making the history of the consecutive achievements, for which the Trophy has been awarded, an excellent barometer of aviation's progress. Illustrative of this fact are the first and second awards of this Trophy to Brigadier General Henry H. Arnold, Assistant Chief of the Air Corps. The first award was made in 1912 to General Arnold, then 2nd Lieutenant, for a reconnaissance flight of approximately 20 miles and lasting 41 minutes. The accomplishment on this flight was a report that a platoon of Cavalry and three escort wagons were in movement on a certain road. For the year 1934 the award to General Arnold was for his remarkable flight to Alaska, in which he commanded a force of ten dual-engined bombardment airplanes, all of which flew from Bolling Field to the farthest reaches of Alaska and return, covering a total distance in excess of 8,000 miles, mapping 35,000 square miles, and making one non-stop flight, mostly over water, of 950 miles.

This year, for the second consecutive year, we have a two-time winner of the Mackay Trophy. Major Stevens received this Trophy in 1929 for an altitude flight in an airplane, during which a height of 35,611 feet was attained.

Ever since its inception the personnel of the Air Corps have been striving to reach higher and ever higher altitudes. This has been not so much for the purpose of making altitude records as to secure information which would be of value in man's further conquest of the air. It was principally with this purpose in mind that the altitude flight of the Explorer II was undertaken on Armistice Day 1935. This flight resulted in a new world's altitude record for manned aircraft of 72,395 feet, and in securing an infinite variety of technical information,

the evaluation of which has not yet been completed.

The whole service of Major Stevens and Captain Anderson has been a continuous preparation for the accomplishment of the achievement for which they are today being honored. It is an especial pleasure, therefore, to present these awards, since they are, in a sense, not only a recognition of their achievement of last Armistice Day but also of their whole service.

It gives me great pleasure, Major Stevens, to bestow upon you this award for the outstanding flight of the year by a member of the Air Corps. This award is made to you for your flight as Commander of the Explorer II on Armistice Day, 1935.

Captain Anderson, to you for your splendid airmanship in piloting the Explorer II to the greatest altitude ever reached by man and safely returning the balloon to earth with its valuable cargo of technical information, is awarded, jointly with Captain Stevens, the Mackay Trophy for 1935. It gives me great pleasure to bestow upon you this medal emblematic of the Award.

The photograph on the cover of this issue of the News Letter, taken at the time of the award of the Mackay Trophy, shows, left to right, Captain Orvil A. Anderson; Mr. Charles F. Horner, President of the National Aeronautic Association; Major Albert W. Stevens; Major General Westover; Dr. John Oliver La Gorce, Vice President of the National Geographic Society, and Dr. Gilbert Grosvenor, President of the National Geographic Society.

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NATIONAL BALLOON RACE STARTS FROM DENVER

Two Scott Field officers, Captain Haynie McCormick, as pilot, and 1st Lieut. John A. Tarro, as aide, have been selected to fly the Army balloon in the National Balloon Race at Denver, Colorado, on July 3, 1936.

The Army Air Corps entry, a 35,000 cubic foot hydrogen inflated balloon of standard single-ply type, will compete with five other entries, including two Navy and three civilian balloons, for the Litchfield Trophy and prize money ranging from \$500 to the winner to \$200 to the pilot taking fifth place. The entries placing first, second and third will be nominated to represent the United States in the Gordon Bennett International Balloon Race to be held August 30th at Warsaw, Poland.

In the National Balloon Race, sponsored this year by the Denver Mile High Air Races Association, which is holding a 3-day air meet, the balloon race will be the first major event to take place. The six entries are: No. 1, Army Air Corps, Capt. McCormick and Lieut. Tarro; No. 2, U.S.

(Continued on Page 20)

V-7046, A.C.

AIR SWINGING OF AN AIRPLANE COMPASS

Captain Norris B. Harbold, 30th Bombardment Squadron, GHQ Air Force, March Field, Riverside, Calif., submits a discussion of and procedure developed by the 19th Bombardment Group for air swinging of an airplane compass. Captain Harbold states that air swinging was found necessary for B-10 airplanes and that the results obtained were satisfactory. The procedure is an extract from a text on celestial navigation being prepared by Captain T.L. Thurlow, Air Corps.

With the advent of airplanes of such size as to be unwieldy on the ground, and of large seaplanes, the problem of compass compensation and swinging has become acute. An increased amount of electrical and radio equipment and the incorporation of retractable landing gears and kindred equipment are reasons for a much more vigilant attitude with respect to compass errors in view of the fact that the increased range of present craft is a demand for a much improved brand of dead reckoning. It is positive knowledge that the compass deviations of the larger of present day aircraft, as determined on the compass stand and in the air, are far from identical, although every reasonable precaution is taken on the stand. A possible result of these conditions may be a decrease in the accuracy of the dead reckoning due to the existence of serious compass errors that are indeterminate on the compass stand. There is little excuse for such a condition to develop, since the compass errors may be quite accurately determined in the air. A further advantage of air swinging is that it may be accomplished in a lesser time, and with reduced personnel.

First off, the installation of the compass to be swung should be given careful consideration. It is practically impossible satisfactorily to air-swing a compass that oscillates when flying a careful course by directional gyro in smooth air. The combined use of vibration dampers and sponge rubber can be applied in certain proportions (determined by experiment) to any reasonable compass mounting to eliminate the oscillatory characteristics of the high-grade aperiodic compasses common to present day air navigation.

Once a proper and satisfactory "action" of the compass is obtained, an effort should be made to reduce any large lubber line error. This can be done by aligning the compass with a tightly stretched string if the airplane is difficult to manage on the compass stand. The airplane and compass should be prepared for swinging as outlined in T.O. 05-15-1.

The data for an azimuth curve of the

sun is computed for the immediate locality in which the airplane is to be swung; the azimuth being computed for every 20 minutes of time. The azimuths from solution are converted to bearings, i. e., angles measured clockwise from north, through 360 degrees, and the variation of the swinging locality applied. (Note: An error frequently is made if the variation is applied to the azimuth before the latter is converted to a bearing.) The resulting magnetic bearings are then plotted against time on any conventional graph paper of large scale, a common practice being to let a small square represent one degree of bearing (the vertical coordinate) and one minute of time (the horizontal coordinate).

If a bearing plate is not available, a shadow casting apparatus is necessary. As an example, a radio mast in the center line of the fuselage or the fin are quite satisfactory. Lacking the former, a small vertical standard may be erected above the center line of the fuselage ahead of the navigator, the fin sufficing for an additional gnomon on the aft part of the craft.

In the air, the rate of precession of the gyro should be checked by making right and left medium-banked 360 degree turns by gyro, the actual amount of the turn being determined by compass. It is obvious that the initial and final readings should agree within close limits.

The actual operation of swinging consists first, of turning the airplane to align properly the shadow cast by the gnomon. Depending upon the type of airplane and the gnomon used, proper alignment is effected when the shadow falls on some reference line on the airplane (a near horizontal one) passing directly under the gnomon when the airplane is in flying attitude. Considering the horizontal angle this line makes with the longitudinal axis, the magnetic bearings of the sun should be altered if necessary before drawing the curve, so that the curve yields the magnetic heading of the airplane when proper shadow alignment is gained; that is, if the shadow of the fin on the fuselage centerline is employed, the curve is drawn through points that are reciprocals of the 20-minute magnetic bearings of the sun. If the shadow falls on a line parallel to the airplane's lateral axis when properly aligned, with the sun on the left, the curve is drawn through points that are the sun's 20-minute magnetic bearings increased by 90 degrees. If curves for two shadow points are used, they should be labeled "sun right", "sun aft", etc., for quick identification.

To avoid errors due to change in variation and computed data, the airplane should be flown in an area of radius less than 3 nautical miles from the point for which the variation and sun azimuth data was collected.

puted.

Lacking a remote-controlled, movable lubber line on the gyro, the bearing from the curve is selected for a minute or more in advance and the gyro is caged to this figure. The airplane is steadied for continual shadow alignment. At the time corresponding to the curve bearing the gyro is uncaged. It then reads the magnetic heading of the airplane. The airplane is then turned right or left, by gyro, to an integral 30 degree heading close by, and subsequently in the same direction to the next two 30 degree headings; the craft being steadied on each of the headings and the compass read and recorded. A fresh alignment is again made and the compass reading is taken on three more headings. In this manner the compass reading is taken on all of the customary magnetic headings. The remote control for a B-2 Turn Indicator makes a change of 16 degrees in heading for one complete turn of the control knob. A scale graduated in 8 divisions of 2 degrees is recommended for use with this remote control.

If the remote control is used, the pilot sets his gyro for "remote control" after roughly aligning the shadow. The navigator effects the final shadow alignment and the subsequent turn to an adjacent 30 degrees magnetic heading by means of the remote control. Magnetic Heading 18°. Pilot aligns gyro on zero, remote control is turned 1 rev = 16° + 2°. The turns to other integral 30 degree magnetic headings may be made without further use of the movable lubber line.

A bearing plate may be substituted for the shadow-casting gnomon; a lesser dependence on the directional gyro resulting. If, when the sighting piece is turned clockwise from a forward sight along the airplane's longitudinal axis, the scale reads an increasing angle from 0 to 360 degrees, the airplane will be headed magnetic north when the magnetic bearing of the sun is set off on the scale of the instrument and the sun is seen through the sighting piece. Therefore, if a desired magnetic heading is subtracted from the sun's magnetic bearing (adding 360 degrees to the latter, if necessary), and the resulting angle is set off on the instrument's scale, the airplane will be flying the desired magnetic heading when the sun is seen in the sighting piece. Obviously, a bearing plate permits the stars to be used.

In air swinging it is imperative that the body used be low in the sky and that the air be perfectly smooth. These conditions are inflexible.

After flight, the compass readings are compared with their corresponding magnetic headings for the magnitude and sign of the deviation. The magnetic headings are then marked off along a

vertical line on a sheet of graph paper. The deviation for each heading is plotted on the horizontal line used for that heading, to the right or left, according to its sign, and to a greatly exaggerated scale so as to define a curve of large amplitude. A free-flowing curve is then drawn, using the plotted points as guides. If the curve points are plotted to a correct scale, two or three will obviously be in error. Regardless of this fact, a free-flowing curve making a proper compromise between the points should be drawn and the curve not twisted out of shape to pass through the offending points. A very satisfactory procedure is to draw, freehand, a dozen or more curves, one after another, with a soft pencil. When sufficient curves are drawn, a heavy, predominate streak will be evident. This streak should be inked for the final curve. The deviations for the card to be used with the compass are taken from this curve. If desired, a small size reproduction of the curve can be used with the compass.

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RETIREMENT OF SAN ANTONIO DEPOT LIBRARIAN

Rev. Edward Day, who has served as Post Librarian at the San Antonio Air Depot, Duncan Field, Texas, since its establishment, recently departed on a leave of absence until September 1st next, when he will be retired as a Civil Service employee at the age of 83 years. During his leave he intends to make a visit to England.

In addition to completing 15 years of efficient and faithful service with the Government, Rev. Day is rounding out a half century's career of note in professional and humanitarian service. Born July 1, 1853, in Webster, Mass., he graduated from Andover Theological Seminary and was ordained a Congregational minister in 1886, serving as pastor in various cities until 1898, and engaging in literary work from that time to 1904, when he became a minister in the Unitarian Church. In 1918 he entered war library work at Camp Cody, New Mexico; and shortly thereafter came in that capacity to the San Antonio Depot, which was then "Kelly Field No. 1," and served there continuously since then. He entered the Civil Service on July 1, 1921. In his spare time he has engaged in many educational and welfare activities in San Antonio, and for ten years served as pastor of the Unitarian Church in that city. He is a member of several learned societies and is noted as an authority and writer in the field of Semitic languages, literature and history.

Despite his 83 years, Rev. Day is remarkably hale, hearty, and vigorous, and his ever genial and helpful service as a librarian has won him the affectionate esteem of all personnel at the Depot, as

(Continued on page 16).

HAMILTON FIELD TESTS T-3 BOMB FLARE

Residents of Marin County and other communities surrounding the San Francisco and San Pablo Bay districts have no doubt wondered regarding the significance of the bright lanterns which have frequented the sky in that region at night during the past several weeks.

To the ordinary and curious laymen these happenings perhaps mean very little, but to the Air Corps officers of Hamilton Field, Calif., they have a significance of considerable importance, being part of the experimental work which has been carried on there at night to test the effectiveness of the new type bombardment bomb flare for lighting ground and water targets so that Bombing planes may locate targets and sight on them in preparation for dropping their bombs at night.

The flare being tested is constructed in the shape of a bomb, with fins and a time fuze. Loaded with lighting powder and attached to a parachute, it is carried on the regular bomb rack. The flare is dropped by the sight and timed so as to open its parachute and ignite at any prearranged altitude after its release. It gives off a light of approximately one million candle power.

The tests are divided into three phases. The first phase, which will be explained here, was conducted by the 9th Bombardment Squadron, in conjunction with the 88th Observation Squadron, both of Hamilton Field. The following procedure has been adopted in performing these tests and has served to prove to the bombardier just how useful such a flare may be in locating and dropping bombs on an objective during war-time night operations.

The test is made by having an Observation type airplane, which in time of war will avail itself of information, such as vulnerable enemy positions and targets to be destroyed, together with the best means of reaching and locating them by the use of photographs and maps, fly over or near to such an objective to be destroyed, drop an M-8 landing flare to locate and designate to the bombing planes in the distance the approximate location of the target or objective. At a designated time the Bombing plane approaches the objective and drops the flare. The flare may be released from 3,000 feet above the objective and timed to open at any given altitude above the prospective target so that it may be illuminated, thereby giving the bombardier in the nose of the Bombing plane a chance to sight on the objective to be destroyed and release his bombs accordingly.

During recent tests at Hamilton Field, the Observation airplanes have flown over the objective and dropped an M-8 landing flare at approximately 2,500

feet, in order to attract the attention of one of the Bombing planes flying at from 12,000 to 20,000 feet above and some 20 or 30 miles away. This Bombing plane would then approach the lighted area and release above it one of the new bomb flares, timed to ignite at 3,000 feet above the target. Immediately following the dropping of the new flare, the remaining four Bombing planes which were approaching the initial lighted area would attempt to pick up the target illuminated by this flare and operate their sights with the intention of releasing a bomb or bombs upon the target.

These tests have been conducted to determine the position in which the flare should be placed with respect to the target and prearranged direction of approach of the Bombing planes, in order to render the target most visible to the bomber during the sighting and dropping operations. The tests have brought out some very interesting and valuable information in regard to the use of the new type bomb flare for night bombardment operations.

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DUTCH AIR OFFICER VISITS HAMILTON FIELD

Hamilton Field played host to a gentleman high in the councils of another nation, Colonel Steensma, of Holland, representative of his country's Air Service and technical advisor for the famed Dutch commercial airline K.L.M.

Accompanied by Mr. Adamson, Publicity Director of Shell Oil Company of California, these gentlemen arrived at Hamilton Field on the morning of June 11th to observe the flying, and were guests of Col. Tinker for lunch. In the afternoon they made a tour of the field to observe the various technical departments, to study our maintenance system and our training methods in aerial gunnery and in instrument flying.

Colonel Steensma was particularly interested in the Link Trainer as a method of training pilots in blind flying, and was pleased to know that the Army as well as commercial companies have adopted it. He is in America to study the various phases of commercial and military aviation. He is also representing his government as military adviser at one of our larger airplane factories from which his country has just purchased a number of planes.

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On June 12th, the 2nd Photo Section, Langley Field, Va., made photographs of the bombing demonstration given for the faculty and officers of the Army War College. Vertical photographs were made at 18,000 feet of the 300-lb. bomb demonstration, and at 12,000 feet of the 100-lb. demonstration. Oblique and ground photos were made of both demonstrations.

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THE NEW CLASS AT RANDOLPH FIELD

The July, 1936, class at the Primary Flying School, Randolph Field, Texas, numbering 132 students, comprises 10 Air Corps officers, who hold lighter-than-air ratings; 5 officers of other branches of the military service; 22 enlisted men of the Regular Army, and 95 candidates from civil life. The enlisted and civilian students will undergo their flying training under the status of Flying Cadets.

The eight months' course at Randolph Field is divided into the Primary and Basic stages, each of four months' duration. The instruction on the Primary Stage is given on a training type airplane, known as the PT, and consists of dual instruction, the fundamental flying maneuvers, accuracy work and acrobatics.

On the Basic Stage, the student advances to a larger, more powerful and speedier type of airplane, known as the BT. In this plane he reviews all of the work done on the Primary Stage, but the plane has different flying qualities, such as more nearly approach those in use by Air Corps tactical squadrons. At this stage he is also taught formation flying, strange field landings, instrument flying under the hood, and day and night navigation flights. The object sought thus far is the perfection of the student on flying technique and the development of head-work.

Students who successfully pass through the basic stage, thereby demonstrating their inherent ability to pilot an airplane, generally complete the basic flying course also. Having finished their eight months' course at Randolph Field, the successful students are transferred to the Advanced Flying School at Kelly Field, Texas, where, in the third quarter of their scholastic year, they specialize in either Attack; Bombardment, Observation or Pursuit Aviation, using service type equipment. In addition to intensive flying training in their own specialty, students are also given considerable experience in day and night navigation, instrument flying, and transition to all types of military airplanes available at the Advanced Flying School.

Upon graduation from the Advanced Flying School, all of the students are given their "Wings" and the rating of "Airplane Pilot." The Flying Cadets are assigned to a tactical squadron at one of the Air Corps stations in the United States for an additional year of training, upon completion of which they are commissioned second lieutenants in the Air Reserve, following which they serve an additional year with a tactical squadron under their status as Reserve officers. Student officers

from other branches of the military service, who successfully complete the one-year course at the Air Corps Training Center are transferred to the Air Corps and assigned to duty with tactical squadrons.

All save one of the ten Air Corps officers, who are members of the new class at Randolph Field, hold three aeronautical ratings, those of "Airship Pilot," "Balloon Observer" and "Airplane Observer," while the tenth is an Airship Pilot and a Balloon Observer.

The rivalry which has existed for a number of years between California and Texas in the matter of student representation at the Air Corps Training Center still continues. In the new class, California has 20 native sons against 17 for Texas. Oakland, Portland and San Antonio, each with three students, lead the various cities represented.

The roster of the students now under orders to report to the Commanding General of the Air Corps Training Center for flying training with the class commencing on or about July 1, 1936, is as follows:

AIR CORPS OFFICERS

Majors

Raymond E. O'Neill	San Francisco, Calif.
Laurence F. Stone	Pocatello, Idaho
Warner B. Gates	Evanston, Ill.
William B. Mayer	Horseheads, N.Y.
Lester T. Miller	Marietta, Ohio

Captains

Howard H. Couch	Monrovia, Calif.
James F.J. Early	Worcester, Mass.
George G. Lundberg	Olean, N.Y.
Walter J. Reed	Scarsdale, N. Y.
John P. Kirkendall	Dallas, Pa.

OFFICERS OF OTHER BRANCHES

1st Lieutenant

Charles E. Wheatley (Cav.)	Portland, Me.
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2nd Lieutenants

Alfred Ashman, (CAC)	Oakland, Calif.
Harry R. Hale (CAC)	Crescent City, Fla.
Willard L. Egy (Inf.)	Troy, N.Y.
Charles B. Winkle (Inf.)	Seaside, Oregon

FLYING CADETS

Civilians

Pelham, Morris	Auburn, Ala.
Brennan, James Francis	Girard, Ala.
Marshall, John Russell	Montgomery, Ala.
Carlson, Arthur C., Jr.	Jerome, Ariz.
Lewallon, Emmet Joseph	Hope, Ark.
Olivera, Tony	Chino, Calif.
Robinson, George Leroy	Corona, Calif.
Moore, Frederick Lawrence	Fillmore, Calif.
Hudson, Guy Leonard, Jr.	Los Angeles, Calif.
Pierce, Gordon Hugh	Los Angeles, Calif.
Goodell, Ray Gilbert	Oakland, Calif.
Lawrence, Paul L.	Palm, Calif.
Godman, Henry Clay	Palo Alto, Calif.
Alderson, Dwight Howard	San Bernardino, Calif.
Randall, Clifford	Pasadena, Calif.
Clancy, Charles A.	San Diego, Calif.
Russell, Bartow Morrow	San Diego, Calif.

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Keyes, Richard William	Orlando, Fla.	Reed, James Otis	Eugene, Oregon
Baker, Ancil David	Moscow, Idaho	Dryer, Donald Arthur	Portland, Oregon
Prout, Charles Uri	Champaign, Ill.	Stahl, Garland	Portland, Oregon
Voorhees, Burton K.	Evanston, Ill.	Warren, Burton W.	Portland, Oregon
Stayton, Leo Cloyd	Rantoul, Ill.	Gribble, John Foster	Powers, Oregon
Beeson, Charles R.	Crawfordsville, Ind.	Hug, George Wallace	Salem, Oregon
Fallows, Ronald Frederick	Mason City, Iowa	Kauffman, Donald H.	Carlisle, Pa.
Warner, Buell	Spirit Lake, Iowa	Wetzel, Maynard	Higgins, Pa.
Udlock, Richard Henderson	Danville, Ky.	Means, Howard M.	Kane, Pa.
Kehe, Lavern W.	Eastport, Maine	Herasimchuk, John V.	Pottstown, Pa.
Mitchell, Frederick	Boston, Mass.	Freeman, Julien Walker	Clinton, S.C.
Fay, Warren Gerard	Brighton, Mass.	Alexander, Clay D.	Seneca, S.C.
Hyland, John Joseph	Magnolia, Mass.	Thompson, William Arthur	Sunter, S.C.
Countway, Lewis Elliott	Quincy, Mass.	Sewart, Harold York	Murfreesboro, Tenn.
Tikofski, Adolph Edward	Walpole, Mass.	Hourigan, Richard Anthony	Balmerhea, Texas
Wenberg, Carlos B.	Houghton, Mich.	Johnson, Noble Melvin	Brady, Texas
MacKay, Homer Matheson	Lansing, Mich.	Schreiber, Harry Julius	College Station, Texas
Baker, James Bradford	Bird Island, Minn.	Hill, Arthur L.	Crockett, Texas
Gustafson, Harold C.	Duluth, Minn.	Anderson, Claude Ivan, Jr.	Dallas, Texas
Fiegel, Leland G.	Rochester, Minn.	Crowder, Murray W., Jr.	Joshua, Texas
Schaffer, James M.	Stillwater, Minn.	Davis, Waymond Austin	Lubbock, Texas
Bowen, Jack	Brookhaven, Miss.	Soape, Carroll Hollis	Lubbock, Texas
Stark, William Reynolds	Starkville, Miss.	Karam, George Lajud	McAllen, Texas
Maloon, Kenneth R.	Laconia, N.H.	Bornett, John Franklin, Jr.	Palacios, Texas
Curtice, Raymond L.	Concord, N.H.	Claser, Russell I.	San Antonio, Texas
Erhardt, Alfred John	Dobbs Ferry, N.Y.	King, Richard Marion	San Antonio, Texas
Sprague, Wilbur B., Jr.	Manhasset, N.Y.	Purvis, Meredith	San Antonio, Texas
Alberi, Americo	Mt. Vernon, N.Y.	Porterfield, George M.	Sherman, Texas
Rooney, Martin A., Jr.	New York, N.Y.	Chickering, Edwin Shepard	Temple, Texas
Watson, Ansley	New York, N.Y.	Bywater, Murray Alston	Salt Lake City, Utah
Prenoveau, Emil	Plattsburg, N.Y.	Duncan, Louis William	Salt Lake City, Utah
Riley, Charles P.	Rochester, N.Y.	Wilson, Delmar Edward	Ephrata, Wash.
Wilkerson, Joseph Leyburn	Durham, N.C.	Golick, Alex J.	Hogium, Wash.
Heuer, Leon Frederick	Fargo, N.D.	Middleton, Charles Robert	Mercer Island, Wash.
Thompson, Frank King	Columbus, Ohio	Brown, Thomas D.	Spokane, Wash.
Amrine, Robert Y.	London, Ohio	Greening, Charles Ross	Tacoma, Wash.
Kegelman, Charles Clark	El Reno, Okla.	Harper, Rubert Wilber	Macksville, West Va.
Bowman, Guy W.	Enid, Okla.	Kane, Orville Guy	Platteville, Wis.
Cloverton, William H.	Stillwater, Okla.		

ENLISTED MEN - PRIVATES

CALIFORNIA (Alameda)	Ciarlo, Albert A., Station Complement, Hamilton Field, Calif.
" (Long Beach)	Dean, Daniel Taylor, West Point Prep. School, Fort Winfield Scott, California.
" (San Bernardino)	Plane, Vernon C., 64th Service Squadron, March Field, Calif.
" (Santa Barbara)	Richards, John Rose, 91st Observation Squadron, Crissy Field, Calif.
" (Oakland)	Barkell, Willard J., 11th Bomb. Squadron, Hamilton Field, Calif.
FLORIDA (Manatee)	Griffin, Edward Chelsea, Air Corps Tactical School Detachment, Maxwell Field, Ala.
" (St. Petersburg)	Thomas, Morris E., 52nd School Squadron, Randolph Field, Texas.
INDIANA (French Lick)	Ballard, Ted W., Hqrs. Battery, 1st Field Artillery, Fort Sill, Oklahoma.
MASSACHUSETTS (Whitman)	Snow, John Foster, 24th Pursuit Squadron, Albrook Field, Panama.
NEW JERSEY (Atlantic City)	Rosenberg, Pincus, 25th Bomb. Squadron, France Field, Panama.
NEW YORK (Dansville)	Culbertson, Allman T., 12th Photo Section, France Field, Panama.
PENNSYLVANIA (Lancaster)	Kreider, John M., 7th Observation Squadron, France Field, Panama.
" (Norwood)	Scott, Sharon M., 2nd Photo Section, Langley Field, Va.
SOUTH DAKOTA (Spearfish)	Suiter, Theodore A., Air Corps Primary Flying School Detachment, Randolph Field, Texas.
TENNESSEE (Harriman)	Sparks, Orville Laird, Station Complement, Bolling Field, D.C.
TEXAS (San Antonio)	Kellond, Arthur W., 2nd Signal Company, 2nd Division, Fort Sam Houston, Texas.
"	Blakey, George A., Air Corps Primary Flying School Detachment, Randolph Field, Texas.
VIRGINIA (Chatham)	Viccelio, Henry, 25th Bombardment Squadron, France Field, Panama.
" (Roanoke)	Butner, Thomas L., Station Dispensary, Bolling Field, D.C.
WASHINGTON (Everett)	Lowell, Leslie O., 47th School Squadron, Randolph Field, Texas.
WYOMING (Alva)	Morris, Joseph Albrow, 67th Service Squadron, Randolph Field, Texas.

AIR CORPS PROMOTION LIST REVISED

The War Department acted swiftly in response to the President's approval of H.R. 11920, a bill to increase the efficiency of the Air Corps. One of the provisions of this Act is a revision of the present unsatisfactory method of temporary promotion in the Air Corps. Experience has shown that the prior method of selecting officers for temporary promotion was productive of many evils, since the selections were made from the standpoint of expediency rather than seniority. Under the present Act, which repealed all previous temporary promotions, the shortage of officers in the field officers' grades will be taken from the top of the relative rank list and the new selections have already been sent to the White House by the Secretary of War for the approval of the President and for confirmation by the Senate.

The present recommendations include the temporary promotion of 12 Lieutenant Colonels to be Colonels; 36 Majors to be Lieutenant Colonels; and 204 Captains to be Majors; a total of 252 temporary promotions, all taken by seniority from the Army's relative rank list. This number, combined with the 119 permanent field officers now assigned to the Air Corps, will give that branch a total of 371 field officers.

The above assignment is not conclusive, however, since a study is now in progress dealing with the reorganization of the Air Corps based on the first year's experience of the GHQ Air Force. Consequently, the exact number of field officers necessary to care for the tactical, administrative and technical needs of the Air Corps are not exactly known. The number given above, however, is below that expected when the reorganization is completed, and no demotions are expected to result from the new Tables of Organization, when they are approved.

Section 4 of H.R. 11920, touching on the temporary promotion of Air Corps officers, states:

The President is authorized to appoint to temporary rank in the grades of colonel, lieutenant colonel, and major, without vacating their permanent commissions, such number of officers of the Regular Army Air Corps as the Secretary of War, from time to time, may determine as necessary to meet the administrative, tactical, technical and training needs of the Air Corps; the then resulting numbers in each grade, permanent and temporary, to be further increased by 5 per centum to meet the additional needs of the War Department for Air Corps officers: Provided, That such temporary appointments shall be made in order of seniority of the appointees in each grade in accordance with their standing on the relative list of Air Corps officers in their permanent grade, and that when an officer holding a temporary appointment under the provisions of this section becomes entitled to permanent promotion his temporary appointment shall be vacated: Provided further, That all Air Corps officers temporarily advanced in grade take rank in the grade to

which temporarily advanced after officers holding such grade through permanent appointment, and among themselves in the order in which they stand on the relative rank list of Air Corps officers in their permanent grade: Provided further, That Air Corps officers temporarily appointed under the provisions of this Act shall be entitled to the pay, flying pay, and allowances pertaining to the grade to which temporarily appointed: And provided further, That no officer holding temporary rank under the provisions of this Act shall be eligible to command outside his own corps except by seniority under his permanent commission."

Under date of June 19th, the War Department announced the promotion of the following-named officers of the Air Corps to temporary rank in the Air Corps, Regular Army of the United States, under the provisions of the Act of Congress, approved June 16, 1936, with rank from that date:

Lieutenant Colonels to be Colonels	
John Delbert Heardan	John Henry Pirie
Henry C.K. Mühlenberg	John Norton Reynolds
John Francis Curry	Frank Melvin Kennedy
Alfred Harold Hobley	Robert E.M. Goolrick
Albert Lee Sneed	Jacob Herman Rudolph
Walter Reed Weaver	Frederick LeRoy Martin

Majors to be Lieutenant Colonels	
Joseph Taggart McNarney	Robert Chapin Candee
Edwin Bowman Lyon	Oliver Patton Echols
Hume Peabody	Vincent Bargnant Dixon
Earl Larue Naiden	Lloyd Neff Keesling
Michael Frank Davis	Laurence F. Stone
Hubert Reilly Harmon	Willis Henry Hale
Henry J.F. Miller	William E. Kepner
Thomas J. Hanley, Jr.	William C. Ocker
Leo Andrew Walton	William F. Volandt
Ralph Pittman Cousins	Ernest Clark
Adlai Howard Gilkeson	Charles T. Phillips
George E. Stratemeyer	Hubert V. Hopkins
Robert LeGrow Walsh	Donald Patrick Muse
Junius Henry Houghton	Asa North Duncan
Howard J. Houghland	William Elmer Lynd
Charles Belding Oldfield	Rosenham Beam
William Hampton Crom	Harry Herman Young
Gerald Evans Brower	Donald Wilson

Captains to be Majors	
Frederick F. Christine	Samuel Charles Skemp
David Sidney Seaton	Robert Gale Breene
Oliver Stevenson Ferson	James Franklin Powell
Charles Merrill Savage	Neal Creighton
George Churchill Kenney	Alonzo Maning Drake
Arthur W. Brock, Jr.	Victor Herbert Strahm
Chilton Farrar Wheeler	Ira Robert Koenig
Earl Hamlin DeFord	Philip Schneeberger
Lowell Herbert Smith	Karl Shaffner Artater
Christopher William Ford	William Joseph Flood
Albert William Stevens	George Morrill Palmer
Elmer Edward Adler	John Parr Temple
Edwin Jacob House	Byron Turner Burt, Jr.
Ray Aloisious Dunn	Earle Gene Harper
Earl Spiker Schofield	Lotha August Smith
Arthur Emel Simonin	William Valery Andrews
Frank O'Donnell Hunter	Edwin Forrest Carey
Harold Huston George	Merrick G. Estabrook, Jr.
Walter J. Reed	Carl Franklin Greene
St. Clair Streett	Perry Wainer
John Isham Moore	William S. Gravely

Harlan Ware Holden
 Joseph Leonard Stromme
 Rudolph William Propst
 Frank Dennis Hackett
 Aaron Edward Jones
 Robin Alexander Day
 John Y. York, Jr.
 Walter Hey Reid
 John Bellinger Patrick
 Claire Lee Chennault
 Ralph Bamford Walker
 Clarence Beaver Lober
 John Kenneth Cannon
 Arthur John Melanson
 Theodore Joseph Koenig
 Grandison Gardner
 Alvan Cleveland Kincaid
 Omer Osmer Niergarth
 Roderick Norman Ott
 Aubrey Hornsby
 Charles Peter Prime
 Auby Casey Strickland
 John Martin Clark
 Rowland C.W. Blessley
 Arthur Thomas
 Louis North Eller
 Ulysses Grant Jones
 John Paul Richter
 Michael Everett McHugo
 Lionel Grisham
 Russell Lowell Maughan
 Vincent James Meloy
 Earl Seeley Hoag
 Charles Egbert Branshaw
 Edward Whiting Raley
 Harvey Hodges Holland
 Walter Miller
 Oliver P. Gothlin, Jr.
 Edwin Randolph Page
 Leo Fred Post
 Dache McClain Reeves
 John Carroll Kennedy
 Eugene Benjamin Bayley
 James Troy Hutchison
 William Albert Hayward
 Clayton Lawrence Bissell
 Horace S. Kenyon, Jr.
 Leland Charles Hurd
 Harvey William Prosser
 Edmund Fendleton Gaines
 Robert Victor Ignico
 Leland Ross Hewitt
 Clifford Cameron Nutt
 Arthur William Vanaman
 Isaiah Davies
 Franklin Otis Carroll
 Frederick William Evans
 Harry Gage Montgomery
 Fred Cyrus Nelson
 James Andrew Healy
 Charles Douglas
 Burton Frederick Lewis
 Elmer John Bowling
 Orin Jay Bushey
 Hugh Albert Bivins
 Edward Moses Morris
 Fred Sidney Borum
 George W. Polk, Jr.
 Devereux Maitland Myers
 Guy Harrison Gale
 Alfred W. Marriner

Muir Stephen Fairchild
 James Gradon Taylor
 Leland Wilbur Miller
 Raphael Baez, Jr.
 Robert Halbert Finley
 Clarence H. Welch
 Alfred Jefferson Lyon
 Don Lee Hutchins
 Emnis C. Whitehead
 Harold Lyman Clark
 Sam Love Ellis
 George G. Lundberg
 Eugene Lowry Eubank
 Lawrence A. Lawson
 Bayard Johnson
 Paul Langdon Williams
 Frank Martyn Paul
 Samuel Martin Connell
 John Edwin Upston
 Reuben Curtis Moffat
 Charles B. DeShields
 Clarence Peyton Kane
 Harry Weddington
 Samuel C. Eaton, Jr.
 Leonidas Lee Koontz
 Edward Davis Jones
 Merrill Deitz Mann
 Albert Carl Foulk
 Edward V. Harbeck, Jr.
 Edward Ernest Hildreth
 Samuel Gordon Frierson
 Phillips Melville
 Bernard Scott Thompson
 Willis R. Taylor
 Robert Duane Knapp
 John Gordon Williams
 Albert Brown Pitts
 William Colb Morris
 James T. Curry, Jr.
 William B. Souza
 Alfred Lindeburg
 Joseph Alexis Wilson
 Clements McMullen
 Ames Scribner Albro
 Milo McCune
 Charles McK. Robinson
 Benjamin B. Cassidy
 Charles Y. Banfill
 Myron Ray Wood
 Robert Theodore Cronau
 Isaac J. Williams
 Lloyd C. Blackburn
 John Henry Gardner
 William C. Goldsborough
 Walter Raymond Peck
 Arthur G. Hamilton
 Emil Charles Kiel
 Lewis Allegeo Dayton
 Younger Arnold Pitts
 Harold Lee George
 Benjamin F. Griffin
 Howard Z. Bogert
 Charles Hale Downman
 Harry Anton Johnson
 Bernard Joseph Tocher
 Claude Edward Duncan
 Thomas W. Blackburn
 Barney McKinney Giles
 Bob Edward Nowland
 Albert F. Hegenberger
 Max Frank Schneider

Donald Gardner Stitt
 Glenn Charles Salisbury
 Harold Ralph Wells
 Malcolm Stoney Lawton
 Jasper Kemper McDuffie
 Mary Rhey Woodward
 Howard Knox Ramey
 Lionel H. Dunlap
 Harold Rentsch Rivers
 Harold Daniel Smith
 James Pratt Hodges
 Earle J. Carpenter
 Frank Lauderdale Cook
 Oakley George Kelly
 Bernard Tobias Castor
 James A. Mollison
 Harold Webster Beaton
 Edgar Eugene Glenn
 John William Monahan
 Certlandt S. Johnson

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SELFRIDGE FIELD PILOTS INSTRUCTING WEST POINT

Six pilots of the 1st Pursuit Group, Selfridge Field, Mt. Clemens, Mich., under the command of Captain John M. Sterling, departed in PB-2A airplanes on June 13th for Mitchel Field, Long Island, New York, to report to the Commanding Officer of the 9th Bombardment Group for duty in connection with aerial experience instruction of West Point cadets. The pilots, in addition to Captain Sterling, were 1st Lieuts. Emmett O'Donnell, Jr., Charles H. Anderson, 2nd Lieuts. John G. Benner, Arnold T. Johnson, John P. Spake and William T. Hudnell, Jr.

The C-24 Transport, piloted by 2nd Lieut. Allan T. Bennett, with five enlisted passengers proceeded to Mitchel Field on the same date. Upon arrival there, Lieut. Bennett turned the C-24 over to 1st Lieut. William J. Bell to return to Selfridge Field. Lieut. Bennett returned to Selfridge Field in a P-26C airplane which was flown to Mitchel Field by Lieut. Bell on June 9th so as to be available for inspection by the West Point cadets.

The flight of seven PB-2A's is expected to return to Selfridge Field about July 10th.

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D.F.C. POSTHUMOUSLY AWARDED MAJOR McCLELLAN

The War Department recently announced the posthumous award of the Distinguished Flying Cross to the late Major Hez McClellan, Air Corps, the citation accompanying same being as follows: "HEZ McCLELLAN, major, then captain, Air Corps, United States Army. For extraordinary achievement as Commanding Officer and Pilot on a cross country flight from Washington, D.C., to Nome, Point Barrow and other Alaskan points during the summer of 1935. Captain McClellan planned the entire flight; voluntarily commanded it during its entirety and personally piloted the airplane over the thousands of miles of desolate, rough and sparsely inhabited country. He displayed outstanding initiative, resourcefulness and professional skill under the many trying conditions encountered, and by his tireless energy, sound judgment and personal courage rendered possible the successful completion of this flight. The information concerning the operation of military aircraft in Alaska, secured by Captain McClellan while on his extensive air and ground reconnaissance, has proven of particular value to the Air Corps."

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During the month of May, the Engineering Department of the San Antonio Air Depot overhauled 27 airplanes and 73 engines, and repaired 31 planes and 45 engines.

B I O G R A P H I E S

COLONEL FRANK M. KENNEDY

Undergoing flying training at College Park, Md., in 1911, when he was a 2nd Lieutenant of Infantry, Colonel Frank M. Kennedy is one of the "Early Birds" of military aviation. Unfortunately, a serious injury to his back, sustained in an airplane accident in October, 1912, at Augusta, Ga., necessitated his relief from aviation duty, and it was not until after the United States entered into the World War that he returned to the Aviation Section, Signal Corps.

Born at Chicago, Ill., July 10, 1886, Colonel Kennedy graduated in 1908 from the University of Wisconsin with a B.S. degree in civil engineering. He entered the Army shortly after leaving college. Commissioned a second lieutenant, September 25, 1908, he was assigned to Company L, 10th Infantry, and maintained his affiliation with that organization until May 14, 1917, in the meantime being promoted to 1st Lieutenant, June 12, 1916. With his promotion to Captain on May 15, 1917, he was assigned to Company M, 10th Infantry, but served therewith only a brief period, being detailed to duty in the Aviation Section, Signal Corps, June 27, 1917.

Assigned to duty at the Army Balloon School at Fort Omaha, Nebraska, he pursued a course of instruction in ballooning, and received the rating of Junior Military Aeronaut as of October 16, 1917.

Following the completion of his balloon training, he remained on duty at Fort Omaha, commanding the student detachment and being in charge of all student instruction. He received high commendation for the exceptional results he achieved in the training of this student detachment.

On July 3, 1918, Colonel Kennedy was transferred to Post Field, Fort Sill, Oklahoma, where he commanded the balloon detachment and was in charge of the artillery observation course for balloon officers. Undergoing additional lighter-than-air training at the Naval Airship School at Pensacola, Fla., January to May, 1919, he qualified as an Airship Pilot. From that time until September, 1921, he was on duty in the Balloon and Airship Division, Office of the Director of Air Service, being in charge of all lighter-than-air engineering and experimental work.

Transferred to Scott Field, Belleville, Ill., in September, 1921, Colonel Kennedy commanded this post until March of the following year, and then served as Executive Officer until August 7, 1922. For the next two years he was on duty in Germany as American representative during the construction of the reparations airship ZR-3, subsequently turned over to the U.S. Navy, and he re-

turned to the United States on this leviathan of the air, the trip consuming 3 days, 9 hours and 17 minutes. Dr. Hugo Eckner commanded the ZR-3 (subsequently christened "Los Angeles") on its non-stop flight of 5,066 miles from Friedrichshafen, Germany, to Lakehurst, N.J.

Colonel Kennedy's next assignment was as Officer in Charge of lighter-than-air activities at the Air Service Engineering Division at McCook Field, Dayton, Ohio. In June, 1927, he graduated from the one-year course at the Air Corps Engineering School at McCook Field, following which he was transferred to the Office of the Chief of the Air Corps, Washington, D.C., for duty as Chief of the Buildings and Grounds Division. It was during his tenure of duty in this position that a number of very important Air Corps construction projects were initiated, among them the new Air Corps Training Center at Randolph Field, Texas; the new post of Barksdale Field, La.; the Tactical School at Maxwell Field, Ala., etc.

A student at the Air Corps Tactical School from September, 1931, to June, 1932, Colonel Kennedy, following his graduation, remained on duty at Maxwell Field until August, 1933, as Executive Officer, and at various times performing the functions of Commanding Officer. He was then assigned to his present duty as Commanding Officer of Scott Field.

Colonel Kennedy received his regular promotion to Major, July 1, 1920; to Lieutenant Colonel, March 1, 1933, and just recently, on June 16, 1936, to the temporary rank of Colonel. He holds the flying ratings of Airship Pilot, Balloon Observer and Airplane Observer.

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COLONEL ALFRED H. HOBLEY

An officer with considerable experience in aircraft armament, Colonel Hobley's affiliation with Army aviation dates back to December 23, 1917, when he reported at Kelly Field, Texas, from Fort Shafter, T.H., for duty with the 2nd Training Brigade as regimental commander and as officer in charge of sanitation and police of camp.

Born in New York City, January 21, 1887, Colonel Hobley graduated from the United States Military Academy on February 14, 1908, and was commissioned a second lieutenant of Infantry. He joined the 30th Infantry at Fort William McKinley in the Philippines on July 4, 1908, and remained on duty with that regiment until June 20, 1911, when he was detailed in the Ordnance Department. Upon the expiration of his four-year detail in that department, he joined the 2nd Infantry at Fort Shafter, T.H., serving as company

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commander, regimental adjutant and post adjutant.

Colonel Hobley remained at Kelly Field until January 19, 1918, when he was assigned to Ellington Field, Houston, Texas, as commanding officer of the Armorers School. On March 16th of that year he became commandant of the Armorers School at Wilbur Wright Field, Fairfield, Ohio, and he brought this very important activity up to a very high degree of efficiency. He was given flying instruction while at this field and, in order to complete this instruction, he was sent to Rockwell Field, Calif., in November, 1918. He passed the required flying tests for the rating of Junior Military Aviator and was so rated as of January 6, 1919. Prior to his assignment to Rockwell Field he was on duty for three months in Washington, D.C., as Assistant Executive in charge of gunnery in the office of the Director of Military Aeronautics.

Continuing his activities in connection with aircraft armament, Colonel Hobley proceeded from Rockwell Field to McCook Field, Dayton, Ohio, where he took charge of the Armament Section of the Engineering Division. During the period from September, 1921, to August 15, 1922, he was a student officer at the Engineering School at McCook Field and, following his graduation, he was assigned as assistant to the Commanding Officer of that field, and at various times performed the functions of commanding officer. He also performed the duties of Personnel Adjutant, Recruiting Officer, Intelligence Officer, Assistant Commandant of the Engineering School and Special Inspector. In July, 1924, he was designated as Air Service Procurement Planning Representative at Dayton. From December, 1925, to October, 1926, he was Chief of the Industrial Planning Section, and then Chief of the Industrial War Plans Section, Materiel Division.

Leaving Dayton in August, 1928, Colonel Hobley came to Washington for duty as Instructor at the Army Industrial College. Later, in January, 1932, he was also on duty in the Planning Branch of the Office of the Assistant Secretary of War. He pursued the one-year course of instruction at the Graduate School of Business Administration, Harvard University, September, 1932, to June, 1933, obtaining the degree of "Master in Business Administration with Distinction." He was then assigned to his present position as Chief of the Finance Division, Office of the Chief of the Air Corps, Washington.

Colonel Hobley was permanently commissioned in the Air Corps as Major, July 1, 1920. He was promoted Lieut. Colonel, June 1, 1932, and to the temporary rank of Colonel, June 16, 1936.

PROGRESS OF CONSTRUCTION AT BOLLING FIELD

With approximately 900 men working on the new Bolling Field, its condition as a flying field is gradually becoming apparent. In spite of 5.78 inches of rainfall, a difference of 2.28 above normal, for the month of May, 253,567 cubic yards of dirt were moved. To date a total of 700,000 cubic yards of dirt were moved to various sections of the field. Two runways are fast taking shape, and several thousand tons of slag have been placed and rolled. The drainage system, which has proven to be a large task, is 75% completed. During May, a new record was made by completing 5,000 lineal feet of seawall. By June 1st, approximately two miles of seawall was completed.

Due to the arrangement of two 6-hour shifts, more work was accomplished during May than in any previous month. Approximately \$96,000 was spent for labor, equipment and material. The job is far from complete, and the work is being carried on at a rapid rate under the watchful eyes of the construction engineers.

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NEW PLANE FOR THE CHIEF OF THE AIR CORPS

On June 11th, Bolling Field received a new BT-8 from the Seversky Aircraft Factory at Farmingdale, L.I., New York. After routine test flights, the plane was assigned to Major General Westover, Chief of the Air Corps, and attached to the 14th Bombardment Squadron, GHQ Air Force. General Westover's O-38 airplane was reassigned to the 21st Observation Squadron, GHQ Air Force, for general flying.

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AERIAL GUNNERY AT VIRGINIA BEACH

The 33rd Pursuit Squadron, GHQ Air Force departed from their home station, Langley Field, Va., on June 15th, for Virginia Beach, Va., for the purpose of participating in aerial gunnery training for a period of approximately two weeks. They were accompanied by the 37th Attack Squadron, GHQ Air Force, from Langley Field, and the 97th Observation Squadron (C. & A.) from Mitchel Field, N.Y.

Camp was established upon arrival, and the News Letter Correspondent expressed his belief that it was not only the quickest one ever erected but presents the best appearance of the many set up in this area.

The 97th Squadron was delayed in beginning operations due to their late arrival because of poor weather conditions, but the 33rd and 37th Squadrons swung into action with early morning missions the following day.

"Lots of hard work is anticipated during our stay," says the scribe of the 37th, "but this will be compensated for by the pleasures to be found in the many diversions at hand in this delightful area."

curloff moments. The consensus of opinion seems to be that an indefinite stay in the field at Virginia Beach would not be too hard to take."

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LANDING MAT EXTENDED AT MOFFETT FIELD

For the information of pilots visiting Moffett Field, Calif., improvements have been effected in landing facilities thereat. Pilots will be interested in learning that the landing mat has been extended 500 feet, making the total length of same 2,000 feet. During the wet weather season it is essential that this mat be used. The taxi area extends at right angles from the landing mat to the airplane entrance of the airship hangar, being centrally located on the airdrome side of the huge hangar. A second taxi way has been constructed, extending from the south end of the landing mat to the south entrance of the hangar.

A new method of construction was used which has proven to be highly economical. The clay soil being highly unstable made it necessary to haul quarry run red rock and to stabilize this rock by the use of emulsified asphalt, rendering the runway subgrade repellent to water. The wearing surface was finished with emulsified asphalt and sand. One and three quarters gallons of emulsified asphalt was used for each square yard of surface area. Mats of this same type are being constructed at Benton Field, Oakland, and at the San Francisco airport.

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TEST FLIGHTS OF TC-13 AIRSHIP

The TC-13 airship at Moffett Field, Calif., recently completed two test flights. The performance data obtained therefrom was such that comparison with much larger rigid ships is interesting. The first flight consisted of a harbor watch mission off San Francisco Bay, operating at the speed of surface craft. Because of unfavorable weather this mission was concluded after 77 hours of flight. The indicated endurance of the ship was 150 flying hours, as it was landed with over one-half of her fuel supply remaining.

The second test was conducted at a cruising speed of 65 miles per hour. A distance of 1855 miles was logged while cruising off shore up and down the California seacoast. Fuel remaining at the time of landing was sufficient to have projected this flight to a total of 2500 miles. Compared with rigid ships of approximately 6½ million cubic ft. capacity, this non-rigid ship, being only one-eighteenth as large, has an indicated range of from one-fourth to one-third of that of the larger ship.

PENNSYLVANIA EXECUTIVE AVIATION ENTHUSIAST

Pennsylvania's Governor, Hon. George H. Earle, paid an informal visit to the Middletown Air Depot recently. The Governor, who is an enthusiastic Auto-Gyro pilot, asked permission to use the Middletown Air Depot flying field to make some practice landings. Permission having been given, he arrived half an hour later, accompanied by his instructor, Lieut. Cammy Vinet, P.N.G., who is also Director of Aeronautics of the Commonwealth of Pennsylvania. Following the Governor in two Stinson "Reliants" were several members of his staff and friends from Harrisburg. After several practice landings, Governor Earle taxied to the line and the party proceeded to the Officers' Club as guests of the Depot Commander, Colonel Lawrence S. Churchill.

Governor Earle is an aviation enthusiast who does the greater part of his traveling about the State by air, covering many thousand miles each month. Although he has shown no inclination to pilot an airplane, he has purchased an Auto-Gyro for his private use and utilizes it as a means of relaxation and recreation as well as for the more practical purpose of traveling.

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MODEL AIRPLANE FLYING AT MOFFETT FIELD

Moffett Field, Calif., is the scene of considerable activity in connection with test flights by airplane model builders. Each Sunday morning many young Americans in the vicinity gather at the field to fly their engine-driven model airplanes, with wing spreads of from three to six feet. Enthusiasm has reached such a pitch that motor supply houses report that they cannot meet the demand for small gasoline motors.

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DEPOT PERSONNEL SUBJECTED TO AIR ATTACKS

Several of Texas' famed mocking birds make their homes in the trees at Duncan Field, Texas, the site of the San Antonio Air Depot. During the nesting season, particularly around the Headquarters building, they have been giving vigorous demonstrations of aerial combat tactics against "ground troops," all passers-by being suspects. Various members of the Headquarters office force can be observed from time to time, as they enter or leave the building, dashing along with head ducked down, closely pursued by the intrepid flyers with wing and beak. Two pet dogs also, though innocent of any evil intentions, are forced to seek cover whenever the feathered tribe take to the air.

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Lieut. Colonel George H. Brett, recently nominated Brigadier General, has been ordered to Panama upon completion of his course of instruction at the Army War College.

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GRADUATES OF THE AIR CORPS TRAINING CENTER
June 17, 1936

<u>Name</u>	<u>Rank</u>	<u>Home</u>	<u>Station Assignment</u>
Air Corps Officers			
Gillespie, Reginald R.	Captain	Spencer, Iowa	Chanute Field, Ill.
Paul, Wilfred J.	Captain	White Plains, N. Y.	Hamilton Field, Calif.
Salsman, John G.	Captain	Madison, Wis.	Brooks Field, Texas.
Axtater, Karl S.	Captain	Omaha, Neb.	O.C.A.G., Washington, D.C.
Ent, Uzal G.	Captain	Northumberland, Pa.	A.C.T.S., Maxwell Field, Ala.
Holmes, Ralph E.	1st Lt.	Walnut Creek, Calif.	Kelly Field, Texas.

Officers, Other Branches

Coiner, Richard T.	1st Lt. Cav.	Portland, Oregon	Mitchel Field, N.Y.
Holzappel, William	2nd Lt. C.E.	Racine, Wis.	Maxwell Field, Ala.
Tibbetts, Gene H.	2nd Lt. Inf.	Winterhaven, Fla.	Hamilton Field, Calif.

Flying Cadets

<u>Name</u>	<u>Home</u>	<u>Name</u>	<u>Home</u>
Bicking, Charles Wesseler	Pittsburgh, Pa.	Martin, Ray Hamilton	Austin, Texas
Bledsoe, James Lee	Los Angeles, Calif.	McCloskey, Richard Dale	Lancaster, Pa.
Bearsley, Melville W.	Kansas City, Mo.	Mears, Frank E. Jr.	Monrovia, Cal.
Boyer, Jimmy Vinson	Newport, Tenn.	Michael, Bruce	Geneva, Ill.
Bronson, Howard F., Jr.	Harrisburg, Pa.	Miller, William Waring	San Diego, Calif.
Buller, Howard L.	Stanford University, Calif.	Moore, Andrew Dale	Worthington, Minn.
Burke, Kevin	Buffalo, N.Y.	Nevitt, William Renwick	Houston, Texas
Catlin, Ralph Wm. S.	Bay City, Mich.	Osborn, Roy William	Sanborn, N.D.
Chapman, Charles T.	Corpus Christi, Texas	Oshar, Norman C.	Graettinger, Iowa
Converse, Lawrence Floyd	Glendora, Calif.	Pechuls, John Allison	Pullman, Wash.
Cullerton, Edward F.	Butte, Mont.	Peterson, Homer F.	Moscow, Idaho
Curry, William Lewis	Raleigh, N. C.	Powers, Robert Becke	Seattle, Wash.
Dane, Paul Howard	Pasadena, Calif.	Rethorst, William	Piedmont, Calif.
Eyre, Lloyd	Los Angeles, Calif.	Reynolds, John Norton, Jr.	Los Angeles, Calif.
Faulkner, Ted Sinclair	Seattle, Wash.	Ridings, Donald Ellis	Moscow, Idaho
Fausel, Robert Wilton	Louisville, Ky.	Russell, Clyde Raymond	Chandler, Ariz.
Ferguson, James	Whittier, Calif.	Saehlenou, Hadley Vincent	Hollywood, Calif.
Flo, Russell LeRoy	Aberdeen, S. D.	Sandegren, Thomas Eastman	Tacoma, Wash.
Griffith, Willard Dudley	Spokane, Wash.	Schaetzle, George Edward	Alhambra, Calif.
Grove, Robert Leslie	Dallas, Texas	Schultz, Herbert D., Jr.	Alameda, Calif.
Hampton, Thomas Kerns	San Marino, Calif.	Sluder, Chester Lee	San Antonio, Texas
Hardy, Robert Franklin	Flint, Mich.	Thomas, Jack	Lubbock, Texas
Haws, Jesse William	Provo, Utah	Trembly, Wonderful A.	Dallas, Texas
Helmick, Paul F.	Corvallis, Ore.	Warner, Jo K.	Berkeley, Calif.
Jones, James Marion	Temple, Texas	Whitfield, Harvey Haydon	Houston, Texas
Ketcham, Edward W.	Madison, S.D.	Zehring, Paul Weitzel	Dayton, Ohio

CONTRACT AWARDED FOR PURSUIT AIRPLANES

The Assistant Secretary of War, Hon. Harry H. Woodring, recently announced the award of a contract for the construction of 77 single-seater Pursuit airplanes, and for the construction of spare parts equivalent to 8 airplanes, to the Seversky Aircraft Corporation of Farmingdale, Long Island, N.Y. The total amount of the award is \$1,636,250.

In accordance with the established practice of the War Department, the airplane for which the award was given has been thoroughly tested by the Army Air Corps at the Air Corps Materiel Division, Wright Field, Dayton, Ohio, in conjunction with several other airplanes entered in the competition held to determine the award of this contract.

The airplane is of the all-metal low wing monoplane, single engine type, with retractable landing gear, and represents a marked

advance in performance over types of Pursuit airplanes now in service. It has an inclosed cockpit for the protection of personnel at high speeds and altitudes, with resultant low temperatures, at which an airplane of this type normally operates. It is powered with the latest developed Pratt and Whitney two-row radial engine.

A manually controlled constant speed multi-position propeller is employed having sufficient range of pitch change to provide maximum efficiency in take-off, climb and high speed, and also to prevent excessive overspeed in a dive.

The airplane is as small as is consistent with the performance demanded and loads carried. It has a monocoque fuselage and cantilever wings and tail surfaces. It is equipped with flaps which increase the allowable gliding angle above the normal value and, acting as an air brake, decreases the roll of the airplane after it has

landed, which in case of a forced landing, or when the necessity demands, makes it possible to land in a much smaller space than would otherwise be the case, thereby facilitating operations and increasing the safety of the pilot. The airplane is equipped with exceptionally strong overhead protection for the pilot in case of a nose over.

Another safety feature used in conjunction with the retractable landing gear, in case of an emergency landing in a restricted area, is the fact that the portion of the airplane which makes contact with the ground, if the landing gear is retracted, is designed to absorb this shock without appreciable damage to the airplane. This feature materially reduces the travel of the airplane when on the ground and thus minimizes collision with obstacles in the landing area. The airplane can take off in an exceptionally short distance with full military load and possesses a great differential between high speed and landing speed.

Pursuit aircraft are designed to destroy other aircraft in flight, thereby denying the enemy air force the necessary freedom of action over our territory. To perform this mission, speed and climb to high altitude must be emphasized in the design of single place Pursuit airplanes. The airplane for which this award has been made meets these prerequisites to a high degree, thereby aiding materially to our National Defense.

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BOLLING FIELD UNHEALTHY FOR MOSQUITOES

The latest interesting medical developments at Bolling Field were sponsored by Captain L.E. Griffis, the Flight Surgeon. He organized a much needed branch of the Health Department, consisting of four enlisted men, Privates Marker, Darby, Pierce and Patton. They instigated a war on mosquitoes and their objective was to spread oil on all possible breeding places. Their task was a large one because of many areas of swamp and low ground that accumulate puddles of water after the spring rains.

The large drainage system which is usually found on a flying field was another obstacle to overcome. The detail used 1200 gallons of old oil, spreading it on the swamps and low ground where water is likely to stay, and using a drip system for sewers. The drip system consisted of a mixture of oil and sawdust in perforated cans, suspended in manholes.

After a hard fight juggling oil drums and killing several black snakes and water snakes, it is believed, says the Bolling Field correspondent, that the detail has had considerable success.

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Major Thomas A. Dobyns, Jr., Inspector General of the 6th Corps Area, accompanied by his assistant, Warrant Officer Elmer Cook, arrived at Selfridge Field, Mich., on June 8th, to conduct the annual inspection of activities at that field. The Inspector General completed his inspection on June 11th.

FLAG DAY CELEBRATION AT SCOTT FIELD

Colonel Frank M. Kennedy, Commandant, turned Scott Field over to the Sons of the American Legion of Illinois and Missouri for their gala Field Day, June 14th, which was sponsored by the Scott Field American Legion Post. Several hundred boys competed in the eight events before a crowd of approximately 25,000 people.

Competition was held in model airplanes (Army types), flying of model airplanes, track rest, relay race, drill teams and drum and bugle corps. Twelve P-26 Pursuit planes from Selfridge Field, Mich., were flown in an exhibition of 20 minutes' duration. Several girls' drum and bugle corps entertained between events, and the American Legion Band of Belleville, Ill., played at Retreat ceremony.

Mr. J.B. Murphy, Illinois Department Commander of the American Legion, made the Flag Day speech, and afterwards Governor Henry Horner of Illinois presented the trophies to the winners of the various events. Many American Legion dignitaries and public officials attended the Field Day program.

Colonel Kennedy headed the Reception Committee and greeted Governor Horner; Mr. Rufus Jackson, Postmaster of the City of St. Louis, and many other civic as well as Legion officials. All of Scott Field's officer personnel assisted the Scott Field American Legion Post in making the Field Day a huge success. Colonel Kennedy, as Honorary Chairman of the Field Day Committee, gave official approval to every plan and preparation that would provide comfort, interest and pleasure to the Legion visitors and the general public.

Captain Neal Creighton, commanding officer of the 9th Airship Squadron, as Field Director, saw that all plans were placed in the proper hands and executed. Captain Haynie McCormick, Police and Prison Officer, in charge of the Traffic and Grounds Committee, completed plans for traffic control, parking, refreshment stands, rest rooms and many other details which were of great importance for the comfort and convenience of the visitors. Lieut. Ralph O. Brownfield, Adjutant, in charge of the Refreshment Committee, supervised the distribution of food and drink for the three large refreshment and sandwich stands. All other officers served on various committees.

Two Scott Field boys, both members of the Sons of the American Legion, won medals in the Field Day events held at Scott Field. Arthur Lindberg, Jr., son of Mr. Arthur Lindberg, a civilian employee at the Helium Repurification Plant, won first prize medal for his model of an Army Pursuit plane, and Arthur Hildebrande, son of Staff Sergeant Vernon A. Hildebrande, 15th Observation Squadron, won second prize in the same event.

It is planned to hold a Field Day for the Sons of the American Legion each year in the future.

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Major General Charles E. Kilbourne, commanding the Sixth Corps Area, made an inspection of Scott Field, Belleville, Ill., on June 16th, and departed the following day at 9:30 by air for Chanute Field, Rantoul, Ill.

RESERVE COMMISSIONS FOR FLYING CADETS

The following-named Flying Cadets, who graduated from the Advanced Flying School, Kelly Field, Texas, June 22, 1935, and who have been on active duty for the past year with Air Corps tactical units under their cadet status at the stations indicated, have been recommended for commission as second lieutenants in the Air Reserve, viz:

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| <u>Barksdale Field, La.</u> | |
| Freeman, Moultrie Powell | Clinton, S.C. |
| Graham, John William | Fort Worth, Texas |
| Hazlett, George Wilson | Tarentum, Pa. |
| Jones, Charles Duncan | Jackson, Miss. |
| Raines, Charles Theodore | Vienna, Ga. |
| Wood, Don McLaurin | Eaton, Colo. |
| <u>Hamilton Field, Calif.</u> | |
| Philpott, James A. | Pomona, Calif. |
| <u>Selfridge Field, Mich.</u> | |
| Barrow, David C., Jr. | DeSota City, Fla. |
| Bates, Earle E., Jr. | Winnetka, Ill. |
| Berry, Jack W. | Corvallis, Oregon |
| Branch, Irving Lewis | Glenbrook, Conn. |
| David, William B. | Calhoun, Ga. |
| Dunlap, Donald S. | North East, Pa. |
| Feaganes, Joseph Furman | Wytheville, Va. |
| Lawver, Kenneth W. | Freeport, Ill. |
| Long, Frederick Cecil | Palouse, Wash. |
| Marks, Jack S. | Los Angeles, Calif. |
| McKesson, Elmer Earle | Richmond, Va. |
| Schumacher, Richard P. | Los Angeles, Calif. |
| Sewart, Allan J., Jr. | Murfreesboro, Tenn. |
| Smith, Charles E.V. | Hastings, Neb. |
| Strother, Donald R. | Winfield, Kans. |
| Ziler, John Carl | South Gate, Calif. |
| <u>Langley Field, Va.</u> | |
| Adair, Claude B. | Columbia, S.C. |
| Davis, Wm. Edgar, Jr. | Wilmington, N.C. |
| Hale, Sam Harlan | Greenville, S.C. |
| Junger, Mathias Frank | Cincinnati, Ohio |
| Morgan, Herbert Jr. | Freedom, Pa. |
| Pearson, Benjamin J. | Gig Harbor, Wash. |
| Pender, Preston Patton | Hendersonville, N.C. |
| Ragsdale, William P., Jr. | McAllen, Texas |
| Rambo, Wilkie Adsit | Beaumont, Texas |
| Reed, Robert R. | Oklahoma City, Okla. |
| Schmid, Clarence L. | Palo Alto, Calif. |
| Scott, S. Emil | Jourdanton, Texas |
| Williamson, Paul B. | Peoria, Ill. |
| <u>Mitchel Field, N.Y.</u> | |
| Barrett, Thomas Jay | Kenton, Ohio |
| Fisher, William P. | Southern Pines, N.C. |
| Hoover, Herbert Henry | Knoxville, Tenn. |
| Markey, Harry W. | Beaverdam, Va. |
| Massion, John Wendel | Salt Lake City, Utah |
| McElwain, Douglas S. | Pavilion, N.Y. |
| Nelson, Hilmer C. | Vashon, Wash. |
| Olson, A. Donley | Little Fork, Minn. |
| Rodgers, John Norwood | Bellevue, Pa. |
| Thomas, Lawrence M. | Cooper, Texas |
| Womble, Robert E., Jr. | Overlea, Md. |
| <u>Brooks Field, Texas.</u> | |
| Haugan, Victor Raymond | Seattle, Wash. |
| Hudgens, Cedric R. | Athens, Ga. |
| Wilbur, Walter F. | Gilbert, Ariz. |
| Wilson, Monty Duren | Spokane, Wash. |
| <u>March Field, Calif.</u> | |
| Brush, Robert P. | Pasadena, Calif. |

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| Campbell, Blaine B. | Salt Lake City, Utah |
| Polhamus, Robert Gray | San Marino, Calif. |
| Smith, Douglas Whitehill | Mill Valley, Calif. |
| Travis, James Linn | Portland, Oregon |

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GENERALS APPOINTED TO COMMAND AIR CORPS UNITS

On the recommendation of the Hon. George H. Dern, Secretary of War, the President, on June 18th, sent to the Senate the nominations of the following general officers of the Air Corps, who on confirmation will be assigned to duty with the General Headquarters Air Force or in Hawaii and the Panama Canal Zone:

- To be Major General -
- Colonel Frank M. Andrews, Langley Field, Va., in command of the General Headquarters Air Force.
- To be Brigadier General -
- Colonel Henry C. Pratt, Langley Field, Va., in command of the Second Wing, GHQ Air Force.
- Colonel Gerald C. Brant, Barksdale Field, La., in command of the Third Wing, GHQ Air Force.
- Colonel Barton K. Yount, at present a student at the Army War College, Washington, D.C.
- Lieut. Colonel Delos C. Emmons, Fort Shafter, Hawaii, in command of the 18th Composite Wing, Air Corps.

Lieut. Colonel George H. Brett, at present a student at the Army War College, Washington, D.C.

All the appointments are temporary and will be effective only during the period that these officers are assigned to appropriate commands in the Air Corps.

Of the new general officers appointed, Generals Andrews, Pratt and Brant were previously general officers, but their appointments as such were vacated by a new law approved June 17th, necessitating their redesignation.

General Andrews will be reassigned to the command of the GHQ Air Force, and the five Brigadier Generals will be assigned to the command of the three Wings of the GHQ Air Force and the two composite wings in Hawaii and the Panama Canal Zone. These assignments will be made after the confirmation of the appointments by the Senate.

All six officers have had long and distinguished flying careers.

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Retirement of Rev. Day
(Continued from page 5.)

well as of many at Kelly Field whom he has served, particularly the school children, to whom he has proved a tower of strength in their studies. The absence of the familiar figure of their kindly friend and eminent associate will be keenly felt at the Depot, and the sincerest wishes of the personnel thereof go with him in his well-earned retirement.

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Selfridge Field was honored by a visit from Major General Charles E. Kilbourne, Commander of the 6th Corps Area, on June 11th. The General arrived at noon, made an informal inspection of the post, and departed after luncheon. He was accompanied by two aides from his headquarters.

GRADUATION EXERCISES AT ADVANCED FLYING SCHOOL
By the Kelly Field Correspondent

Class No. 25-B, consisting of 9 Regular Army officers and 52 Flying Cadets, making a total of 61 students, was graduated from the Air Corps Advanced Flying School, Kelly Field, Texas, on June 17, 1936. Brigadier General J.E. Chaney, Assistant Chief of the Air Corps and the Commanding General of the Air Corps Training Center, was invited by Kelly Field to receive the aerial review and make the graduation address to the students and present them their diplomas. General Chaney, accompanied by his staff, arrived at Kelly Field for the graduation exercises on the morning of June 17th and was welcomed by the officers of the school staff at Post Operations. The flying cadets and students from Randolph Field, from both primary and basic stages, arrived shortly after General Chaney reached Kelly Field, and formed immediately in front of Post Operations, on the line, facing south. At approximately 9:00 o'clock, General Chaney and his staff took their position to receive the review, just in front of this line of students from Randolph; and at 9:00 o'clock the graduating class climbed into the cockpits of the airplanes to which they were assigned for the review, taxied on to the airdrome at 9:05, and the take-off signal was displayed at 9:10.

The Bombardment flight, led by Capt. Gillespie, consisting of 16 Keystone Bombers, arrived at the reviewing stand at exactly 9:30. At about 1,000 yards they were followed by the Observation flight, led by Captain Axtater, which consisted of 14 Observation planes of both the O-19 and O-25 series. The Attack Section followed next, at the same interval, led by Flying Cadet Schaetzel, the flight consisting of 9 Curtiss Falcons. The last element, consisting of the Pursuit flight, at its 1,000-yard distance, led by Cadet Haws, followed the Attack. It consisted of 11 Boeing P-12 airplanes.

After the airplanes participating in the review returned to the airdrome, the cadets and student officers from Randolph Field proceeded to the Post Theater to be present for the graduation exercises, and airplanes of each type which had been used in training, both at Randolph and Kelly Fields, were taxied to the apron in front of Post Operations, and with appropriate descriptive cards thereon, were placed on display for the benefit of visitors.

Graduation exercises were held at 10:45 in the Post Theater, which was filled to capacity by relatives and friends of the graduating class, from Army and civilian circles, from all over the country. After an invocation by Chaplain McMurray, of Randolph Field,

Major Wolcott P. Hayes, as Acting Commandant of the School, introduced General Chaney as the principal speaker. General Chaney made a very interesting and timely address to the class, and presented an accurate, interesting picture of what they could expect during the first years of their service. Following his address, the General presented each student with his diploma and congratulated him upon having successfully completed the course of training. Chaplain McMurray's benediction brought the exercises to a close.

This class, which reported to Kelly Field on March 3, 1936, at that time consisted of all those who graduated, with the exception of two flying cadets, who were unable to complete the course. This resulted in graduating 61 out of the 63 original students to report in the class.

At this writing, orders for Lieuts. Coiner, Tibbetts and Holzapfel have not yet been received. Captain Gillespie is under orders to report to Chanute Field; Captain Paul to Hamilton Field; Captain Salsman to Brooks Field; Captain Ent to the Air Corps Tactical School, Maxwell Field; Captain Axtater to the Office of the Chief of the Air Corps, Washington, and Lieut. Holmes to Kelly Field. The station assignments of the Flying Cadet graduates appear elsewhere in this issue of the News Letter.

The class completed all of its prescribed training in spite of the shortage of airplanes and officers at this station, and it is believed that the graduates will be a real credit to the service. In view of the high standard of candidates in the course and the exacting accomplishment required during the training period, each student is to be congratulated upon his successful completion of the course.

GENERAL CHANEY'S ADDRESS

"It is with great pride that I congratulate you of the graduating class upon your successful completion of the course of training at the Air Corps Training Center.

Approximately a year ago you reported at the Training Center as especially selected men endowed with high mental, moral and physical qualifications, full of life and with an eagerness and determination to learn to fly. Many of you came from the adulation of the campus lower classmen with an almost inherent desire for the spectacular. Then came the realization that to remain in this School requires more than the simple desire to fly. You found that the spectacular must give way to safety, to good judgment and to common sense. You adjusted yourselves and proved your flying ability. Most of you have evolved from raw recruits of a year ago to airplane pilots of today. You have accom-

plished a definite goal; the sacrifices have been great, but temporary. May the reward be equally great, and permanent. You represent the product of our labors for a year's time, and I say without the slightest hesitation that we are proud of you.

You stand at the threshold of a combination of the newest and the oldest professions known to mankind: Flying and Military. As a military pilot you are joining a profession characterized by high ideals, and an unceasing devotion to duty must transcend thought of self and personal gain. In the military service you will not accumulate much in the way of worldly goods, and often you will work hard and long with little or no praise, but remember you are a member of an organization in which the achievements of many of your predecessors in wide fields of activities may be pointed to with just pride. They should inspire you to have the determination to carry on faithfully under all conditions.

As a member of our military organization you will meet people in all walks of life. Pride in your profession dictates that you make the best possible impression upon them. You must remember that all the members of your profession may be judged by the impression you make. In your civilian contacts and in your dealings with the enlisted personnel of the Army, be courteous and always maintain that dignity which is indicative of pride in your profession.

In your relations with officers of other arms of the Service, remember that we all have our role to play in the scheme of national defense and that success can come only through teamwork. Although some may play a more spectacular role that appeals to the grandstand, remember that it is the work of the team as a whole that spells the difference between defeat and success.

Some of you have chosen to specialize in Pursuit, some in Bombardment, some in Observation and some in Attack. Some will choose to gain a commission in the Regular establishment. Others will either by choice or necessity return to civil life. Some will follow commercial flying. Others will choose business or professional careers. It is hoped that you will all remain active in aviation and derive dividends from your efforts here. Regardless of the course you may choose, you have gained invaluable experience in your training which will be of the greatest benefit to you throughout your life.

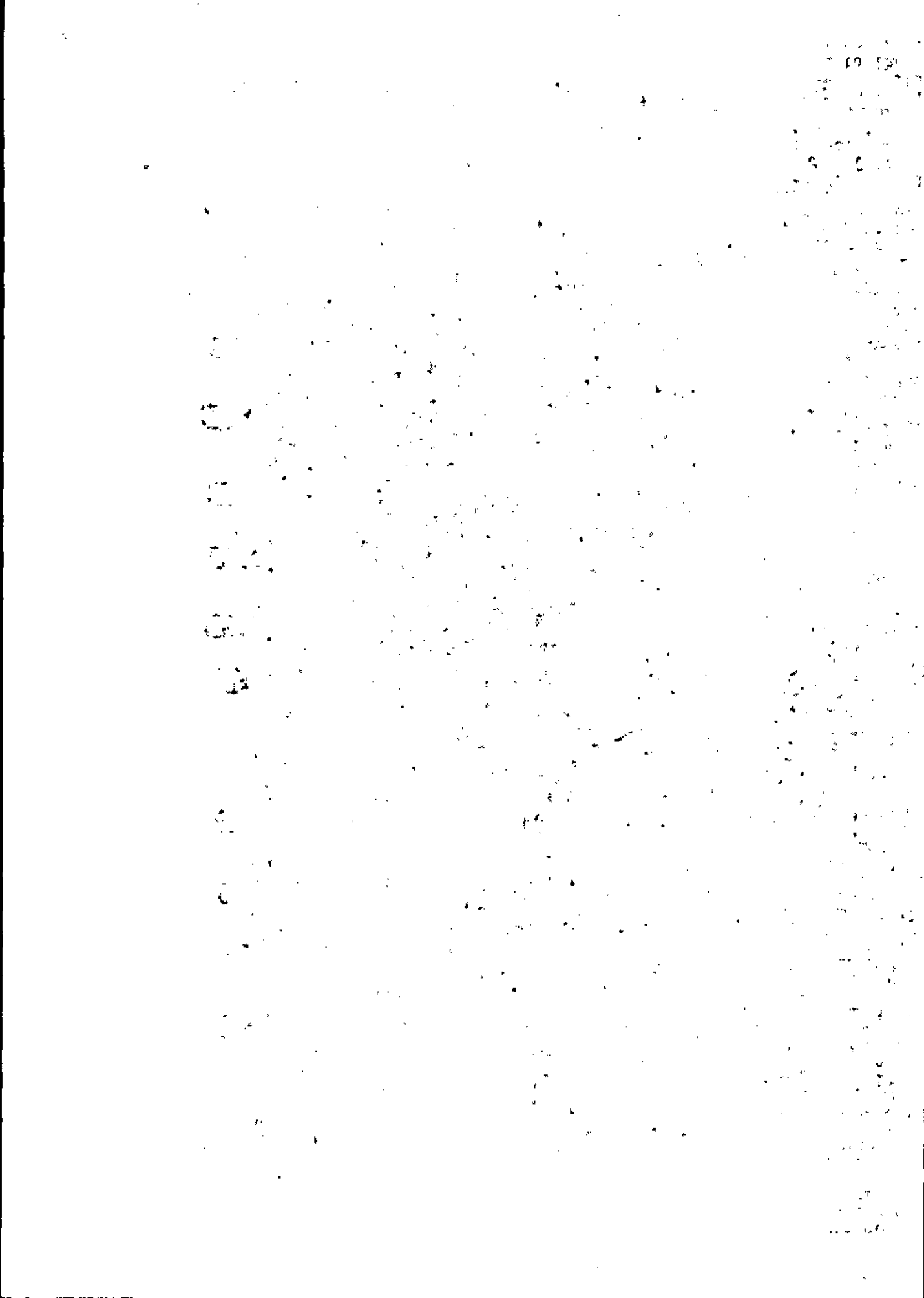
Those of you who go from here to a tactical organization for further training as flying cadets before you are commissioned, I want to impress with the fact that although flying is a prerequisite of an Air Corps officer, there are other qualities expected of an of-

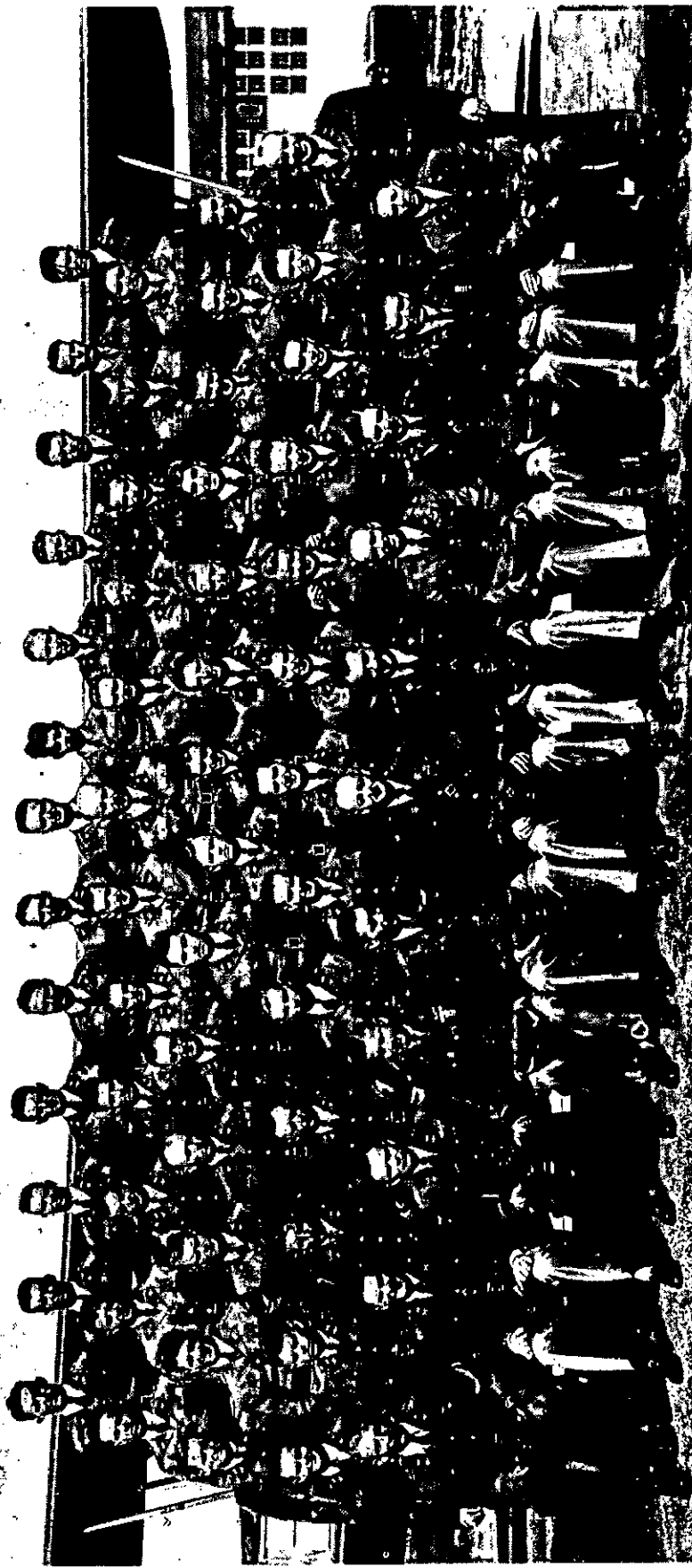
ficer which are of paramount importance. You may feel that your status is so temporary that there is little need of your exerting yourselves. I caution you against this attitude. Perform your duties in a manner that will make your commanding officer glad and proud to recommend you for a commission. I sincerely hope that before you have completed your active service, legislation will make it possible to commission a great number of you in the Regular Army Air Corps. However, in any case, make your success here the start of a successful life, either military or civil.

In your training you have mastered the technique of flying. Experience and judgment you must in time get for yourselves. In this connection, if I can be instrumental in leaving with you a message that will help to safeguard your future flying I will feel that this talk will not have been in vain. I hope your future flying in the service will be characterized by common sense and good judgment and that you will resist the temptation of carelessness and recklessness.

At the School, many decisions have been made for you. You have been under constant restraint. That restraint to a large extent will be lifted effective today. From now on you will be much more on your own. The risk will be greater. The percentage of casualties at the School has always been extremely small. Yet for the period of two years after graduation it has averaged quite high. Thereafter it has fallen off. It is obvious, therefore, and it should be recognized, that you are about to enter the danger zone. Do not try to tax your abilities or your equipment to excess. Try to gain your experience gradually and avoid the foolhardy. A large proportion of the accidents are attributable to personal errors and to weather. In most cases, weather should be classified as a personal error. It is easy to get into bad weather and difficult to get out. Before flying into bad weather, know what you are doing, know that you have the ability and the equipment to get out. Many missions require great daring and personal risk. However, I do want to stress the necessity of gaining your experience slowly and surely, so that you will be competent to meet the unavoidable hazards when they come. Remember that casualties are greatest among the younger pilots and much rarer among the more experienced ones. Yet few will deny that the actual ability to maneuver an air plane exists in you young men today to as great a degree as it does in any group of similar size in the entire world.

Build up confidence in yourself. By self-confidence I do not mean egotism. Self-confidence is founded on knowledge, and it comes from knowing that you possess the ability requisite for that which you are about to undertake. It took Dewey past cannon, torpedoes and mines to victory at Manila Bay. It carried Farragut, lashed to the





GRADUATING CLASS - ADVANCED FLYING SCHOOL
JUNE 17, 1936

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rigging, past the defenses of the enemy at Mobile Bay. It led Nelson and Grant to victory. It sustained Columbus before a jeering Cabinet and again among mutinous sailors in a little vessel upon an unknown sea where he held steadily to his purpose, writing in his diary day after day, "This day we sailed west, which was our course."

It was self-confidence, founded on the knowledge of his thorough preparation and ability, which gave courage and determination to Lindbergh, an illustrious graduate of this institution, to make his immortal flight from New York to Paris when practically the whole world was against him. It has won a thousand victories in war and in science which were deemed impossible.

Whatever you do, wherever you go, bear in mind that the choice of a definite goal in your career and a determination to reach it are essential to success. Do not let your course be aimless. As soon as you have gained one objective, choose a new one. Plan your careers and never rest on your laurels. Fate seems kindest to those who rely least upon it.

Remember that from now on you will be piloting not only your airplane but your career. May you steer a good course and a most successful and happy one."

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PHOTOGRAPH OF GRADUATING CLASS

Front row (left to right):

Flying Cadet J.N. Reynolds, Jr.; 2nd Lieut. W.J. Holzapfel, Jr.; 1st Lieut. R.E. Holmes; Captains U.G. Ent, Karl S. Axtater, J.G. Salsman, R.R. Gillespie; W.J. Paul; 2nd Lieut. G.H. Tibbette; 1st Lieut. R.T. Coiner, Jr., and Cadet A.J. Baumler.

Second row (left to right):

Flying Cadets W.A. Trembly; H.F. Peterson; C.T. Chapman, Jr.; R.F. Hardy; P.F. Helmick; R.W. Fausel; P.W. Zehrunge; E.F. Cullerton; G.E. Schaetzel; W.R. Nevitt; L.L. Bledsoe; H.L. Buller and T.K. Hampton.

Third row (left to right):

Flying Cadets C.L. Sluder, J.A. Pechuls; R.L. Flolo; Jack Thomas; Lloyd Eyre; L.F. Converse; W.L. Curry; R.E. Powers; T.E. Sandegren; R.W. Osborn; F.H. Mears, Jr.; Kevin Burke; C.W. Bicking; H.V. Saehlenou.

Fourth Row (left to right):

Flying Cadets H.F. Bronson, Jr.; E.W. Ketcham; M.W. Beardsley; E.M. Strieber; B.E. Michael; W.W. Miller; R.D. McCloskey; C.R. Russell; H.H. Whitfield; J.M. Jones; R.L. Grove and J.W. Haws.

Fifth row (left to right):

Flying Cadets T.S. Faulkner, James Ferguson; A.D. Moore; J.K. Warner; H.D.

Schultz, Jr.; J.V. Boyer; Wm. Rethorst; W.D. Griffith; N.C. Osher; D.E. Ridings; R.W. Catlin; R.H. Martin and P.H. Dane.

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STATION ASSIGNMENT OF FLYING CADET GRADUATES

Flying Cadets, members of Class 25-B, who graduated from the Advanced Flying School, Kelly Field, Texas, on June 17th, last, were assigned to duty at Air Corps stations, as follows:

To March Field, Calif:	
<u>Attack</u>	<u>Bombardment</u>
Converse, Lawrence F.	Hardy, Robert F.
Mears, Frank H.	Ketcham, Edward W.
Reynolds, John N., Jr.	Miller, William W.
Schaetzel, George E.	Nevitt, William R.

To Selfridge Field, Mich.:

<u>Pursuit</u>	
Boyer, Jimmy V.	McCloskey, Richard D.
Haws, Jesse W.	Michael, Bruce E.
Helmick, Paul F.	Saehlenou, Hadley V.

To Mitchell Field, N.Y.:

<u>Bombardment</u>	<u>Bombardment</u>
Beardsley, Melville W.	Sluder, Chester L.
Burke, Kevin	Thomas, Jack
Chapman, Charles T., Jr.	
Grove, Robert L.	<u>Observation</u>
Jones, James M.	
Osborn, Roy W.	Catlin, Ralph W.
Osher, Norman C.	Hampton, Thomas K.
Peterson, Homer F.	Rethorst, William

To Barksdale Field, La.:

<u>Pursuit</u>	<u>Attack</u>
Buller, Howard L.	Cullerton, Howard L.
Ferguson, James	Fausel, Robert W.
Whitfield, Harvey H.	Griffith, Willard D.
	Trembly, Wonderful A.

To Langley Field, Va.:

<u>Bombardment</u>	<u>Pursuit</u>
Bicking, Charles W.	Bledsoe, James L.
Curry, William L.	Dane, Paul H.
Eyre, Lloyd	<u>Attack</u>
	Russell, Clyde R.

To Hamilton Field, Calif.:

<u>Bombardment</u>	<u>Bombardment</u>
Bronson, Howard E.	Ridings, Donald E.
Faulkner, Ted S.	Sandegren, Thomas E.
Powers, Robert B.	Warner, Jo K.

To Brooks Field, Texas:

<u>Observation</u>	<u>Observation</u>
Flolo, Russell L.	Pechuls, John A.
Martin, Ray H.	Schultz, Herbert D., Jr.
Moore, Andrew D.	Zehrunge, Paul W.

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SELFRIDGE FIELD TO HAVE ITS OWN MAIL STATION

Selfridge Field, Mich., will have its own post office, effective July 1st. It will be known as a "classified postal station" and will be under the direction and supervision of a superintendent to be appointed by the Mt. Clemens Postmaster. Under the new set-up, mail addressed to Selfridge Field will come direct from Detroit to Mt. Clemens and then sent to Selfridge Field without additional handling.

Washington Office Notes



On June 18th, Major General Oscar Westover and Brigadier General Henry H. Arnold proceeded to Hartford, Conn., for the purpose of inspecting the Pratt & Whitney, Hamilton Steel Propeller and Chance Vought aircraft factories.

General Westover was in New York on June 26th in connection with the administration of government contracts, and on June 29th left for Chamute Field, Ill., to deliver an address on the occasion of the graduation exercises at the Air Corps Technical School.

Officers reporting for duty in the Office of the Chief of the Air Corps were Major Charles Y. Benfill and Captain M.H. McKinnon, June 24th and 25th, respectively, in the War Plans and Training Division, and Major Karl S. Axtater in the Buildings and Grounds Section, Supply Division, on June 23rd.

Officers on duty in the Office of the Chief of the Air Corps who recently departed on leaves of absence were Colonel Rush B. Lincoln and Lieut. Colonel Vincent B. Dixon.

Major A.C. Kincaid returned June 21st from Wright Field, where he attended a meeting of the Board of Officers to evaluate Primary Training planes.

Captain George V. McPike reported for duty in the Office of the Assistant Secretary of War on June 27th.

Lieut. Colonel H.S. Burwell flew to Langley Field, Va., on June 15th and returned on June 22nd.

Visitors in the Office of the Chief of the Air Corps recently, during the course of extended navigation flights, were Major Arthur B. McDaniel from Fort Leavenworth, Kansas; Captain Bernard A. Bridget, from Randolph Field, Texas; and Captain Walter E. Richards from the Boston Airport.

Air Corps officers visiting the Chief's Office during the course of leaves of absence were Lieut. Colonel G.E. Brower from Fort Leavenworth; Kansas; 1st Lieut. Edward W. Suarez from Hamilton Field, Calif.; Major E. E. Hildreth and Captain Thomas M. Lowe from Maxwell Field, Ala. The two last-named officers were formerly on duty in the Information Division. Captain Lowe is shortly to take station at Fort Columbus, Columbus, Ohio, for duty with the Organized Reserves.

Colonel Jacob E. Fickel was a visitor on June 20th, enroute to San Francisco, Calif., where he is to report to the Commanding General, Ninth Corps Area, for assignment to duty with the Air Corps at his headquarters.

Major H.W. Holden left on June 30th on a month leave of absence and will then report for duty at the Air Corps Tactical School, Maxwell Field, Ala.

Major Lowell H. Smith left on June 24th on an extended flight to Wright, Chamute, Selfridge and Mitchel Fields.

Major A.E. Easterbrook returned June 19th from an inspection trip to the Air Corps Tactical School at Maxwell Field; the Air Corps Training Center, Randolph Field, and the Air Corps Technical School, Chamute Field.

Capt. S.W. Towle, Jr., returned from leave June 27th, and Capt. D.F. Stace returned from a cross country flight to Wright Field on June 16th.

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NATIONAL ELIMINATION BALLOON RACE (Continued from page 3)

Navy, Lieut. Commander Francis H. Gilmer, pilot, Reginald H. Ward, aide; No. 3, U.S. Navy, Lieut. R.F. Tyler, pilot, Lieut. M.F.D. Flaherty, aide; No. 4, Goodyear Tire & Rubber Co., Frank Trotter, pilot, V.L. Smith, aide; No. 5, Melford F. Vanik, Buffalo, N.Y., pilot; No. 6, Roy S. Cunningham, Detroit, Michigan, pilot.

Captain McCormick has 16 years service with the lighter-than-air branch of the Army Air Corps, and has had actual experience with nine balloon races in the past eleven years. In 1925 he flew in the National Balloon Race as aide to Captain William J. Flood, their balloon placing second. That same year he flew with Captain Flood in the International Balloon Race at Brussels, Belgium, where their balloon placed 14th. Captain McCormick served as Operations Officer for the National Balloon Races of 1928, 1929, 1930 and 1931, and for the International Balloon Race at Cleveland, Ohio, in 1930. He flew again as aide to Captain Flood in the National Balloon Race of 1932. In 1934 he piloted the Army entry to 4th place, with Captain J.P. Kirkendall as aide in the National Balloon Race held at Birmingham, Ala. He was then de-

signed pilot of the Army Air Corps balloon for the International Balloon Race at Warsaw, Poland but he was unable to go.

Lieut. Tarro, who was trained at the Balloon and Airship School at Scott Field, and who now has ten years' experience with lighter-than-air craft, has been selected as aide to Captain McCormick. Lieut. Tarro has already had a taste of balloon racing, having flown as aide to 1st Lieut. Edgar M. Fogelsonger in the 1931 National Balloon Race at Akron, Ohio. At present Lieut. Tarro is the lighter-than-air Operations Officer at Scott Field.

Besides sending a pilot and an aide to the National Balloon Race, Scott Field will send four enlisted men and sufficient inflation equipment to care for all six entries. Three enlisted men of the 9th Airship Squadron, Master Sgt. Joseph H. Bishop, Staff Sergeant L.M. O'Neill, and Sergeant Joseph J. Bahorich, all veterans with many years' experience with airships and balloons, will handle the entire field inflation equipment, but will serve as a ground crew for the Army entry. The fourth enlisted man, Staff Sergeant William Farrell, of the Sixth Signal Service Detachment, a meteorologist, will act as the official weather man for the race.

Captain William J. Flood, Air Corps, formerly attached to the lighter-than-air branch and stationed at Scott Field, is now attached to the heavier-than-air branch, with station at Edgewood Arsenal, Md. Captain Flood, who has flown racing balloons in both the National and International races, has been selected as the Operations Officer for the National Balloon Race this year.

The 1936 Army entry is a standard service balloon of 35,000 cubic feet gas capacity, constructed of single-ply fabric. It is 40.6 feet in diameter, 127.55 feet in circumference, and 56 feet overall height. It will be equipped with the following instruments: altimeter; altimeter, statscope, clock, thermometer, rate of climb indicator, line course and ground speed indicator, stop-watch, two regular S-1 Army parachutes, radio receiver for commercial broadcast band only, and maps and instruments for plotting the course of the flight.

The gross lift of the 35,000 cubic feet of hydrogen is 2,450 pounds. The highest average flying altitude will be about 16,000 feet above sea level, more than three miles high. The take-off point at Denver is over 5,000 feet above sea level. The value of the equipment, including envelope, net, valve, basket, parachutes, equipment and instruments, is approximately \$5,500. The hydrogen gas which supplies the lifting power for the balloon will cost approximately \$6 per thousand cubic feet at Denver. At this price it will cost \$210. to inflate the balloon completely full as required by the racing rules. The balloon can be filled with gas in 45 minutes, if necessary, though a much longer time is taken.

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ARMY AIRMEN VISIT BATAN ISLAND By the Nichols Field Correspondent

Basco, Batan Island, half way between Manila and Hong Kong, where every woman wears a unique headdress probably unmatched anywhere in the world, where no white man lives, and where ships seldom stop, was visited recently by a flight of three O-19 airplanes of the Second Observation Squadron.

Captain Harvey W. Prosser, flight leader; Captain Harold R. Wells and 1st Lieutenant Francis M. Zeigler piloted the ships on this 450-mile mission that called for one refueling stop at Vigan on the northwestern coast of Luzon.

That part of the flight from Luzon's northern coast over the stepping stone chain of islands stretched out almost due north to Basco, Batan Island, was absorbing. These volcanic islets, so spaced that upon leaving one you immediately sight the other, all seem distended by at least one volcano, active, dormant, or extinct. Their peaks reach up from three to five thousand feet and are seldom without their cloud mantles. The larger of the islands seem to harbor two or more small villages.

Babuyan Island itself was kicking up a dust with a wide awake volcano, belching forth a solid column of jet black smoke and permeat-

ing the air with noxious gases. The smoke seemed to be driven vertically several hundred feet before it slowly spread and gradually disappeared, leaving in the air faint dark lines, a kind of transparent giant spider's web. Visualize an imperfect tear drop and you are seeing Batan Island from a birdseye view. Its topography spells "volcanic origin." Basco and four other smaller villages earmark its shores.

A welcoming committee, namely, three padres, the one and only Japanese resident on the island, and more children than Pied Piper ever snared, greeted the flyers. With the local constabulary left to guard the planes, the flying personnel, along with the welcoming committee and all the children that could hang on, mounted the ancient Reco truck (the only piece of motor transportation on the island) for the three-mile ride over the ox-cart road into Basco. The obstreperous Reco complained under her heavy load by blowing two priming cocks, and when they pushed her on despite her snorts, she "upped" and blew a tire in disgust, for well she knew that spare tires and mending materials were not to be found on the island.

The island's provincial secretary played the perfect host to our flyers on their overnight stay.

Basco is famed, or should be, for its uncopied woman's bonnet. This inimitable millinery is made of grass thatched to form-fit the head, extending down the back to the waist. Whether the Basco woman wears it for protection from the sun and rain, or to pretty herself for her "Bill," is a question we cannot answer, but you will rarely see her without her milliner's creation.

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BOMBING DEMONSTRATION FOR WAR COLLEGE GRADUATES

Langley Field airmen riddled "enemy" targets on Plum Tree island bombing range recently in an uncanny exhibition of marksmanship which captured the imagination of 120 graduates of the Army War College 1935-1936 Class, and a hundred or so spectators lining the beach. Results of the demonstration were highly satisfactory, and those in charge were elated at the thorough manner in which the air fighters "chewed up" the targets.

Forty-three planes, (19 Bombers, 18 Pursuit and 6 Attack) took part in the big aerial show. For a little over an hour the airmen gave exhibitions of formation flying, long-range gunnery, tow target gunnery, machine gun attacks on a water target, and bombing from high altitudes.

Only one feature of the demonstration was altered, and that was the fault of the weather. Low hanging clouds, which peppered the spectators with rain during a part of the afternoon, marred visibility to such an extent that a bombing exhibition at 18,000 feet had to be switched to a lower altitude.

The accuracy with which the bombs and the machine gun bullets found the targets was little short of remarkable. Particularly was this true in the final feature of the demonstration, when 18 Bombers, flying at 12,000 feet, dropped 108 bombs, each weighing 100 pounds, on a ground target. The bombs exploded within a few seconds of each other in a small area, demolishing the targets and illustrating vividly the destruction

that might result if a state of war existed and the airmen were really serious about it.

War College graduates who were making a tour of Virginia's battlefields and places of historical and military significance, reached the Lower Peninsula in chartered buses and, following luncheon at Old Point Comfort, went immediately to Messick, where temporary bleachers had been erected for them on Forrest's wharf facing the bombing range.

In a brief talk, Brigadier General Henry C. Pratt, commanding the Second Wing, GHQ Air Force, welcomed them and explained that the demonstration was one of the firing power rather than tactics. Pursuit and Attack demonstrations were explained by Lieut. Colonel A. H. Gilkeson, talking through an amplifying system rigged up on the wharf. Occasionally the planes were tuned in, and spectators heard orders from overhead.

A spectacular phase of the show was long-range gunnery in which the planes swooped down in formation over the stands and poured a withering fire into two targets which, despite their distance from the spectators, seemed uncomfortably close at times. This was followed by a close-up demonstration in which the machine guns got in action 800 yards from the targets. The staccato bark of the guns, mingled with the din from the power plants of the planes, created a strangely realistic effect.

The concluding phase of the demonstration was an exhibition of bombing from high altitudes. This was explained by Lieut. Colonel W. H. Hale, Executive Officer of the Second Wing. Each Bomber carried a crew of four - two officers and two enlisted men. Three planes dropped nine 300-pound bombs, followed by 18 planes with 108 one hundred-pound bombs, the largest number of demolition bombs ever dropped in salvo so far as Langley Field officers knew.

Lieut. Colonel Charles B. Oldfield was in command of the B-10's. The planes came up in formation once, but had to turn about and start all over when they ran into a cloud.

Following the demonstration, the visiting officers left for Langley Field, where officials of the National Advisory Committee for aeronautics showed the visitors the full-scale wind tunnel in operation. Inspection of all post activities followed.

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FIRST LIEUTENANTS STEP UP ONE GRADE

The following-named first lieutenants of the Air Corps were promoted to the rank of Captain:

With rank from June 12, 1936

Turner A. Sims, Jr.	Leon W. Johnson
Samuel W. Van Meter	Guy B. Henderson
Alfred H. Johnson	Henry R. Baxter
Samuel R. Harris, Jr.	Morris R. Nelson
Shelton E. Prudhomme	Kenneth P. McNaughton
John P. Doyle, Jr.	James B. Burwell

With rank from June 13, 1936

Charles H. Deerwester	Charles A. Bassett
Charles W. O'Connor	Narcisse L. Cote
Bernard A. Bridget	George H. Sparhawk

John F. Guillett
Dixon M. Allison

Joel G. O'Neal
Alva L. Harvey

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SECOND LIEUTENANTS ALSO HAVE THEIR INNING

The following-named second lieutenants of the Air Corps were promoted to the rank of First Lieutenant as of June 13, 1936:

Paul R. Gowen	Richard J. Meyer
Marshall Bonner	Milton F. Summerfelt
P. Ernest Gabel	Gabriel P. Disosway
Thomas S. Moorman, Jr.	Jewell B. Shields
William L. Travis	Franklin S. Henley
Thomas B. Hall	Cordes F. Tiemann
David N. Crickette	Sammel A. Mandell
Edward J. Hale	Bruce von G. Scott
Travis M. Hetherington	Felix L. Vidal
John C. Armstrong	Earl F. Signer
William O. Senter	Richard T. King, Jr.
Vernon C. Smith	Stephen B. Mack
Harry S. Bishop	James D. Underhill
Frank P. Hunter, Jr.	Nelson P. Jackson
Harold R. Maddux	Karl Truesdell, Jr.
Dwight Divine, 2d.	Robin B. Epler
Edward D. Marshall	Sydney D. Grubbs, Jr.
Harry N. Burkhalter, Jr.	Millard L. Haskin
Lawrence B. Kelley	Richard M. Montgomery
Carlyle W. Phillips	Charles H. Pottenger
Douglas M. Cairns	

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WAR DEPARTMENT ORDERS AFFECTING AIR CORPS OFFICERS

CHANGES OF STATION: To Randolph Field, Texas:

1st Lieut. Stoyte O. Ross, from Langley Field, or about February 15, 1937 - 2nd Lieut. William S. Van Nostrand, 7th Cavalry, Fort Bliss, Texas, for flying training with class commencing about July 1, 1936.

To Oakland, Calif.: 1st Lieut. George E. Henry from Crissy Field, for duty with Organized Reserves, 9th Corps Area.

To Barksdale Field, La.: Major Frank O'D. Hunter, from Panama. Previous orders in his case amended.

To Hawaii: Lieut. Colonel Millard F. Harmon, Jr., 20th Pursuit Group, Barksdale Field, La.

To Panama: 1st Lieut. John T. Sprague, from Langley Field, Va.

To Philippines: 1st Lieut. John Paul Ryan, from Aberdeen Proving Ground, Md., sailing about January 8, 1937.

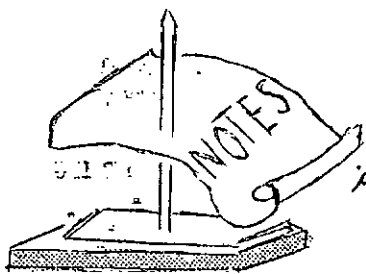
TRANSFERRED TO AIR CORPS: 2nd Lieut. John B. Cary, Corps of Engineers, June 3, 1936, with rank from June 12, 1934.

Sergeant Dennis Hayes, 67th Service Squadron, Randolph Field, Texas, was placed on the retired list on June 30, 1936.

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General Henry H. Arnold, Assistant Chief of the Air Corps, accompanied by Colonel Chalmers G. Hall, Chief of the Supply Division, Office of the Chief of the Air Corps; Major Wilton B. Persons from the Office of the Assistant Secretary of War and Captain William L. Ritchie, from the Office of the Secretary of War, stopped at Scott Field June 12th, while flying to Kansas City, to confer with the Assistant Secretary of War.

V-7046, A.C.



from Air Corps Fields

Bolling Field, D.C., June 22nd.

Major George G. Lundberg, Station Air Corps Supply Officer, completed his last day of duty at the field on June 15th and departed the following day with his family for Randolph Field, where he will pursue the regular course of flying instruction. Holding the rating of Aerial Observer for many years, Major Lundberg hopes to attain the official rating as airplane pilot. He will be genuinely missed by members of the command. Best wishes are offered for a pleasant journey and success in his course at school. Captain D.D. FitzGerald, who succeeds Major Lundberg as Air Corps Supply Officer, was recently assigned to this station from Maxwell Field, Ala.

The assignment of Private Thomas L. Butner, Bolling Field Medical Department, to Randolph Field as a flying cadet was officially announced recently, and he proceeded with Pvt. Orville L. Sparks, of the Station Complement, to join the July Class. The appointment of these two men climaxes a lengthy period of study and preparation, and their many friends wish them every success.

On June 13th, Major Aubrey Hornsby, Engineering Officer, with Captain T.A. Baumeister, OMC, left on an extended navigation mission to Kewaunee, Wis., via Chicago. Their O-38F airplane functioned perfectly during the flight, and the good weather conditions added to the pleasure of the trip.

Captain W.A. Matheny, Assistant Post Operations Officer, departed the morning of June 9th in the Condor YC-30 Transport plane for Chanute Field. From there he transported the Armament Class of the Air Corps Technical School to the gunnery exercises at Pope Field, Ft. Bragg, N.C., via Cleveland; Buffalo; Hartford; Farmingdale, L.I., N.Y.; Mitchel and Langley Fields.

Scott Field, Belleville, Ill., June 21st.

Colonel Frank M. Kennedy, Commandant of Scott Field, left June 17th to tour the West while on eight weeks' leave. Captain Neal Creighton, commander of the 9th Airship Squadron, is commanding the post during Colonel Kennedy's absence.

First Lieuts. Cassius H. Thomas and Richard F. Fender, Air Reserve, were recently attached to the 15th Observation Squadron for 14 days' active duty.

Boston Airport, East Boston, Mass., June 23d.

The airplanes at this station have been on a steady go for the last month, the Reserves all striving to finish the prescribed training directive as laid out for them by this station.

Captain Robert A. Nagle, Air Reserve, reported at the Boston Airport for two weeks' active duty, effective June 23rd.

Pvt. Harold Kraner, our parachute man, a belated entry for the Canadian Baby Derby, was presented on June 22nd with a seven-pound boy, the future parachute rigger of the Boston Airport. Cigars were in order for the occasion and were presented to the boys with a smile of self-congratulation.

Recent visitors at the Airport were Majors Durbin, Hayward, Captains Cullen, Dixon, Eaton, Harper, Laubach, Scott and Cadet Massion from Mitchel Field; Major Whitehead with Col. Kenney as passenger, Major Trinity and Lieut. Wilson from Langley Field; Captain Reilly from Middletown; Captain Sparhawk with Major Creed as passenger, from Maxwell Field; Lieuts. Allee and Todd from Selfridge Field, and Lieut. Ryan from Phillips Field.

Langley Field, Va., June 22nd.

35th Pursuit Squadron: Technical Sergeant Forrest F. Kelly returned to duty from detached service at the Curtiss Aeroplane and Motor Co., Inc., where he pursued a course in the care and maintenance of the propeller to be used on the PB-2's (that the 35th is so hopeful will arrive in the near future). Sergeant Kelly reports that the new propeller looks very well and should be satisfactory on the new ships.

35th Pursuit Squadron: Second Lieut. Frank J. Bennett, Air Reserve, was relieved from active duty on June 3rd to accept a position with Eastern Airlines at Newark, N.J. His departure from the organization is regretted very much by both the officers and enlisted personnel, who wish him success in his new undertaking.

Captain Allen R. Springer underwent a special Chemical Warfare course at Edgewood Arsenal. Since his return, his lectures to the personnel of the organization on the foregoing subject have proven instructive, and it is expected that all concerned will be benefitted thereby.

37th Attack Squadron: At dawn on June 10th, three planes of the 37th assisted Edgewood Arsenal personnel in simulating a landing of troops on the beach. Two of the planes sprayed smoke, and the third plane tested the effectiveness of the smoke screen by attacking the landing party when possible. The landing was completed under a dense cloud of smoke.

Preparations are being completed for two weeks of field maneuvers with the 33rd Pursuit Squadron at Virginia Beach, Va.

20th Bombardment Squadron: During the past two weeks the Squadron has been concentrating on bombing. Although no one bombed for record, the results were very encouraging. One team succeeded in putting 7 bombs out of 7 dropped inside the

50' circle from 12,000 feet, for which the average was 3.06 mils. The best average turned in was 13.34 mils, and the Squadron average was 22.2 mils. This average was attained after 9 days' practice, and it is felt that if opportunity is given for additional practice, the average can be very materially reduced.

Hawaiian Air Depot, June 17th.

Members of the Hawaiian Air Depot were very happy to receive the commendation of the Department Commander upon the occasion of his annual inspection of this organization. The Department Commander expressed himself as being very pleased with the many improvements and the increased efficiency of the organization since his last inspection.

In this connection, it may be stated that many changes have been effected within the Hawaiian Air Depot during the past year. Numerous additions to the shops and warehouses have been made, together with a general rearrangement of equipment and facilities, providing a much smoother flow in production and increased output. Storage facilities have been greatly expanded and all stocks increased. Many of the improvements effected within the past year have been due, in a great measure, to the increase in funds allotted for the pay of civilian personnel. This has enabled us to civilianize most of the key positions throughout the organization. Information has already been received that a further increase has been allowed for the coming Fiscal Year, which will permit still greater civilianization of the Depot personnel.

Marked changes have recently taken place in the types of aircraft operated in this Department. New types of Observation, Attack and Bombardment planes sent here are providing many interesting though new problems in connection with the maintenance and upkeep of this equipment. The new B-12 airplanes have been altered and adapted for use as long range reconnaissance ships. Photographic and navigation equipment have been installed, and flights of considerable duration are anticipated for these airplanes.

Major Delmar H. Dunton, of Hamilton Field, is now on temporary duty in this Department in connection with maintenance and upkeep problems of the new Martin Bombers. Major Dunton has assisted in setting up these airplanes, and his services have been of great help to all concerned. Major Dunton plans to remain here for about one month, when he will return to his home station.

The annual Hawaiian Department maneuvers are now being held throughout the Hawaiian Islands. The Depot Supply Department is operating on a 24-hour schedule, and is prepared to issue supplies at all hours.

Selfridge Field, Mich., June 18th.

Lieut.-Colonel Ralph Royce flew to Chicago recently to attend a conference at Second Army Headquarters on maneuvers of the Second Army. He returned to Selfridge Field two days later.

KEEPING FIT

Langley Field, Va.


The Marines did not land, nor did they have a chance to get the "Situation well in hand" in the recent fight show held at Quantico for the Bar Association of Washington, D.C. Don Cook, boxing coach at Langley Field, accompanied his boys to Quantico, where they cleaned up the Marine championship opposition.

Big "Jake" Jordan, Third Corps Area Heavyweight Champion, took all three rounds of his battle with the heavyweight champion of Quantico.

"Eddie" Dombrowski, middle-weight, defeated the Marine's champ. Taking the first two rounds handily, he polished his man off and put him on the mantle for a technical knockout in the third canto. Charles Lacy, welterweight, decisioned his man, also a champion, by taking all three rounds of the affair.

The leather-pushers made their journey by motor and reported excellent treatment by the Quantico personnel, and an enjoyable trip in all.

The Langley Field Women's Golf Club took great pride in announcing the presence of two of their ladies in the semi-finals of the State Open Tournament for women, being held at the James River Country Club. The ladies who have proven their prowess at golf are Mrs. "Wallie" Reid of the post and Mrs. Walter Reed from Mitchel Field.



Mrs. Barney Giles placed a close second in another tournament, held recently by the Tidewater Golf Association. Mrs. Giles, termed an outsider by the local golfers, defeated Mrs. Allen, of Newport News, considered to be an outstanding performer, to place herself in the finals.

The Langley Athletic Association has obtained a number of boats, which are ready for use at any time, for the pleasure of their angler members.

Summer, striking Langley Field in full blast, has been cause sufficient to open the outdoor swimming pool. This facility of the Athletic Association is equipped with diving boards and other aquatic sport equipment. The hours of usage are regulated to insure all members a cool plunge daily.

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Lieut. Kurt M. Landon and Master Sergeant N.G. Loupos, 21st Photo Section, Scott Field, photographed 400 square miles of territory in Allegan County, Mich., the locality where the Second Army maneuvers will take place in August. Flying a C-8 photographic plane at 12,000 feet, Sergeant Loupos, the photographer, made approximately 700 photos with the five-lens T3A camera.

The personnel of the 21st Photo Section is working day and night assembling the 700 photographs into one large mosaic. When this is completed, and it must be done before July 7th, it will be sent to the Sixth Corps Area Headquarters in Chicago. The territory represented by the completed mosaic is about 40 miles from Camp Custer, Mich., and is adjacent to the area photographed by the same two men in April of this year.

AIR CORPS

NEWS LETTER



ISSUED BY
OFFICE, CHIEF OF THE AIR CORPS
WAR DEPARTMENT
WASHINGTON, D.C.

JULY 15, 1936

NO. 14

VOL. XIX

CONFIDENTIAL

The following information was obtained from a review of the records of the Central Intelligence Agency.

It is noted that the above information was obtained from a review of the records of the Central Intelligence Agency. The information is being furnished to you for your information and is not to be disseminated outside your agency.

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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THE MEDICAL CONTRIBUTION TO THE DEVELOPMENT OF BLIND FLYING

By David A. Myers, Major, Medical Corps, U.S. Army.

From the Medical Bulletin, July, 1936.

Many aviators and most laymen have no proper conception of the term "Blind Flying." To the vast majority it simply means flying when the pilot cannot see things clearly. To the properly trained aviator, the ability to do Blind Flying and to understand the basic underlying human reactions governing the same means the difference between life and death.

The pioneer medical research work accomplished during 1926 by the author of this article firmly established the basic principles from the human standpoint on which the art of Blind Flying is founded.

Many lectures and demonstrations before civic bodies, clubs and technical societies were given by the author. In all of the articles published and the lectures and demonstrations given, the basic principles discovered were freely discussed and explained, resulting in a more or less general understanding by the public of the underlying physiological reactions experienced in Blind Flying.

In all the articles published and demonstrations given, a most efficient and tireless co-worker, Lieut.-Colonel William C. Ocker, Air Corps, was given equal credit with the author for his development of the technical apparatus used, and supplying the stimulus for the research by being courageous enough to declare that "aviators could not do Blind Flying." Why, he did not know.

Blind Flying is that flying accomplished in which any visible reference to the earth for the purpose of recognition of position is impossible by reason of fog, storms, dust, complete darkness, thick clouds, etc.

Simulated Blind Flying is that flying in which visual reference to gravity for the purpose of recognition of spatial position is limited to the pilot's cockpit and its equipment, by means of proper coverage of the cockpit. Simulated Blind Flying is that flying accomplished by visual reference to the instruments installed in the airplane. Therefore, the proper term is "Instrument Flying," or, as it is expressed by airmen, "Flying under the Hood."

Since the beginning of time and until recent years, mankind has traveled almost entirely on the surface of the earth or the oceans. Man's invasion of the air began when small animals attached to balloons were sent into the air to ascertain if life were possible above the earth's surface. They all returned safely to earth, with the exception that one suffered a broken leg, thus establishing the fact that this contemplated flying era would produce its category of ills and problems for the doctors to treat and solve. From this time to the epoch-making flight of the Wrights at Kitty Hawk, mankind continued his efforts to fly. From the Wrights at Kitty Hawk to the present space annihilating airplane is a long way in terms of transportation. It has been a much longer way in terms of adapting the human body to the changes and the solution of the medical problems presented.

The present generation is the first to move freely in three dimensions as do the birds and fishes. The evolution of mankind has reached a more or less fixed stage when aviation was born and, as flying was not concerned in this evolution, mankind developed into an "earthbound" entity. Every human being, in arriving at his present state, has had one common factor in his development - contact with mother earth. Individually we are nothing more than the sum total of our experience stored up in our brains, plus the body we live in. These experiences are obtained for storage as the result of the action of our special senses:

- (1) sight, (2) hearing, (3) taste, and (5) touch. Two more, vitally important to the aviator, are (6) muscle sense, and (7) vestibular or Kinetic-static sense.

Stimulation of any of these senses arouses action, and action eventually results in consciousness, a knowledge of our environment and a perception of the physical facts constituting that environment. It is apparent that all our stored up experience has had a common stimulator, contact with the earth and its material objects. Experience, based on our special senses, has taught us how to adjust ourselves to our various environments. The lessons we learn from experience are in-

delibly impressed on our consciousness. One of the earliest lessons learned is how to maintain our equilibrium. Undoubtedly equilibrium is a bodily function maintained by the action of all of the special senses. Some of these senses enter very little into this maintenance; taste, smell and hearing have little, if any, effect; tactile sense or touch, used in connection with muscle sense, has a little more effect. Chiefly, if not entirely, we maintain our equilibrium by means of a coordinated cooperation of (1) sight, (2) muscle sense, and (3) vestibular sense. By the use of this "trinity sense" we are able to maintain and realize position, rate and direction of motion, and generally orient ourselves in relation to the earth.

Man's equilibrium on the ground consists of the ability to maintain his body in any position it is possible or desirable to put it. Man's equilibrium in the air consists of the ability to maintain an airplane, which he has become a part of, in any position it is possible or desirable to put it, plus the added factor that all contact with the earth is entirely lost except for two things: (1) sight, and (2) the column of air the plane is flying in. Human sensations, reactions and consciousness having developed after countless years of contact with the earth, it is not possible for man to invade the air and safely function using the prior experiences stored up in his brain by a set of special senses evolved in contact with the earth.

Stabilized equilibrium, either in the air or on the ground, is maintained only when each of the trinity of senses - (1) sight, (2) muscle sense, and (3) vestibular sense - function correctly, and their stimulations are correctly interpreted by the brain. Some equilibrium and orientation may be present with all three imperfectly acting. Adjustment to environment will take place if two remain unimpaired. The combinations of impairment, function, and adjustment are many. All compensatory equilibrium or adjustment to environment, however, has been developed on the ground, and in taking to the air we separate ourselves from the universal common factor, earth contact, and attempt to function with a set of senses and stored up experience developed for earthbound use only.

Since time began, human beings have been receiving sensations in their brains and storing them away for future use and guidance when the same situation again arises. In the process of storing away these sensations the brain has accomplished many seemingly weird things. The image of objects on the retina is upside down; yet the brain properly interprets, and we actually see right

side up. That portion of our equilibrium sense having its origin in the vestibular apparatus is stimulated into action by body motion. This may be accomplished by motion of the body itself or motion of any object with which the body is in contact. This moving body need not be in contact with the earth to have this sense stimulated into action. We walk, run, ride a merry-go-round, ride in an airplane, and by use of our equilibrium sense are able to maintain any possible or desirable position. Although the three senses - (1) sight, (2) muscle sense, and (3) vestibular sense - are bound into one combination sense (the equilibrium triplets), each of them may be brought into separate action, and send its messages to the brain. We can "muscle sense" our position without sight. We can "sight" our position without the aid of the others. Acting alone, the "vestibular sense" will give the brain information regarding motion, rate of motion and direction of motion.

Sight is the reliable one of the "triplets." "Muscle sense" is an alert, variable acting "triplet". The bad actor of the three is the vestibular sense. This sense, constantly alert, delicately sensitive, and easily stimulated into action, must be continually checked up on and kept under control by the other two of the combination if proper and continuous equilibrium is maintained. If the body, on the ground or the body and an airplane in the air be turned, as in a spin, all three of these senses, acting in coordination, will give reliable information regarding body motion and position both on the ground and in space. Ground equilibrium and spatial orientation will be complete.

Sight is the same in the air as on the ground. Muscle sense (the so-called seat sense of the airman) cannot be as good in the air as on the ground, having been developed by years of contact with the earth and its material objects. Automatically, on taking to the air, one is robbed of a great portion of their muscle sense. All airmen have developed "seat sense" - some to a high degree, and most of them have that essential thing, "the feel of the ship." No false impressions are received from (1) sight and (2) muscle sense. They may be much lessened in case of lack of proper vision or poorly developed muscle sense. Their messages to the brain, whether jointly or separately, are reliable. This is not true of the messages received from the vestibular sense. If your body is rotated in any dimension of space, certain definite and fixed messages will be sent to the brain by the vestibular sense acting in coordination with sight and muscle sense. Provided this body motion is not so violent or long continued as to produce loss of perception, your brain will receive reliable information from this trinity of senses and you will

maintain your equilibrium and know accurately at all times what position your body occupies with relation to the earth's surface and what direction, if any, it is moving. If, during this rotation, your body is stopped or retarded, you will have a momentary sensation of dizziness, but you will immediately, by the use of your sight, adjust yourself to the earth (gravity) and maintain your equilibrium.

Whenever the human body is rotated in any dimension of space, with the eyes closed, thus removing vision from the trinity of (1) sight, (2) muscle sense, (3) vestibular sense, and this rotation is (a) retarded, (b) stopped, (c) reversed, or (d) continued until rotating body motion is coincident with the motion of the fluid in the vestibular (semi-circular) canals, just as definite and fixed messages will be sent to your brain as if the eyes were open and vision intact, but each and every one of these messages will be false. You will be able to correctly interpret the original starting motion only. You will recall that the vestibular apparatus is primarily composed of three tiny sets of fluid filled canals placed at right angles to each other in the labyrinth; in the sagittal, coronal and horizontal planes; thus providing motion sensing in any dimension of space.

Let us now conduct a practical experiment in order to visualize what happens when your vision is absent and your body is rotated. Any smooth running revolving mechanism will do. A barber chair is ideal. Flight surgeons use the Jones-Barany chair. In such a mechanism only right or left rotation is possible; therefore, only the action of the horizontal motion sensing vestibular canals can be demonstrated in this chair. In an orientator any of the spatial positions may be assumed, and the corresponding canals tested. The results are the same in any case. If there is such a thing as acquiring immunity, the horizontal canals, being the ones in constant daily use, should be less sensitive than the others. It was found that there was no difference, and that constant use did not affect the sensitivity. With the eyes covered, rotation at any average speed is started. You will immediately and correctly interpret right or left rotation. Having always experienced this same sensation during prior experience of body motion to the right or left, you will be positive as to what is happening.

The number of rotations should be limited in order that too violent reactions will not be produced. If on the sixth to eighth rotation the motion of the chair is now retarded to a slow speed, you will have an immediate sensation of turning in the opposite direction, and a message will be sent your brain to

that effect by the vestibular apparatus, which is now acting without its "control co-ordinator," your sight. You will be positive your body is now turning in the opposite direction of prior motion. If the rotating chair is now stopped, the sensation of opposite turning will be much intensified. This sensation of opposite turning will last from five seconds to as high as 25 seconds in some individuals. The average is about 23 seconds. This average was established after examining hundreds in the Jones-Barany revolving chair during the research conducted. Every human being has his own individual threshold of vestibular stimulation and reaction.

If the rotation of the body is continued (usually 8 to 10 turns), until the motion of the body and the motion of the fluid in the semi-circular canal being stimulated is the same speed, you will apparently put the vestibular sense out of action, and your brain will receive an immediate message that all motion has ceased and you are sitting still.

Repeated reversal of rotation, without stopping, creates an utter confusion of motion sensing. What has happened? Vertigo (to turn or turning) has been produced. Vertigo consists of two things:

- (a) a sensation of turning in the opposite direction to prior motion, and
- (b) a sensation of falling in the same direction as prior motion.

Vertigo is medically defined as: "The subjective sensation of a disturbed relationship in space."

You will now realize that the pioneer aviator dependent on messages sent to his brain by his vestibular sense, acting without the "control co-ordinator, vertigo stopper," sense of sight was in a dangerous predicament.

The above is exactly what happens in Blind Flying. All visual reference to the earth, or any object the prior position of which in relation to the earth's surface is part of your consciousness is absent, and only muscle sense and vestibular sense remain. As a matter of fact, a real blind man would function better in this predicament, because after all there is no difference in not being able to see anything and not being able to see, except that the real blind would have usually developed compensatory equilibrium to a high degree.

All of the published literature and the research work accomplished prior to the original research conducted by Lieut. Col. Ocker and the author during 1926-1928 concentrated on one idea: the finding of a way of producing immunity against vertigo by means of placing pilots in a freely movable, revolving apparatus, and turning their bodies through the various spatial positions in the belief that constant repetition of motion would establish an immunity. Every old-time pilot has had "a ride" in the Jones-Barany chair, and most

of them have spent hours in some type of revolving orientators. Nothing came of all this, except to establish the fact that pilots who could expertly handle an orientator were possessed of a high degree of muscle sense and a keen sense of perception. No immunity was obtained against the reactions experienced in that deadly enemy of the airman - the spin. No immunity was possible from a physiological or a technical standpoint, because no research or experiment conducted had arrived at a solution of the problems involved.

Prior to the original research conducted by the author into the physiological aspects of Blind Flying, there was no scientific basis established on which to build instructions to airmen in the practical application of these perfectly normal physiological reactions experienced when doing Blind Flying.

Vertigo is one of the oldest symptoms found in medical literature, and when clinically present is believed to have a pathological basis. No prior study of vertigo as a purely physiological entity, to establish it as a causative factor in the behavior of human beings in their adjustments to their environment, has been found in the medical literature, and none is believed to exist. The author desires to go on record as believing that induced physiological vertigo (that is, vertigo without pathological basis) may be a common causative factor in human behavior in vocations other than flying. The automobile, swiftly and freely movable in any horizontal plane, subjects the occupants to many of the factors that tend to produce "Induced Vertigo."

All vertigo reactions follow certain definite and fixed lines, and all humans are subject to the same reactions, varying only in intensity. A human being in which these reactions are absent or distorted is abnormal and has either met with a physical disaster or was born without proper functioning sense apparatus. In such cases some of the normal acting senses must compensate for this lack in order that the individual may avert disaster and simulate normal control in following the ordinary routine of life.

Continued in next issue.

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NEW AIRPLANES FOR 17TH ATTACK GROUP

The 34th Attack Squadron, March Field, Calif., has been equipped with six Northrop A-17's, the 73rd with three and the 17th Group Headquarters with two. They are in the air continually, as pilots of the 17th are anxious to try their hand with a new type of plane. The Boeing P-12 Pursuit plane has been used since the institution of the GHQ Air Force in March, 1935.

ILLUMINATING TARGETS FOR NIGHT BOMBING

Bombardment planes nowadays must be prepared to bomb objectives at night as well as during the bright sunshine of the day. Illumination of targets for night bombing has been given a great deal of study by the First Wing at March Field, Calif., through its Ordnance Officer, Captain Philip Schwartz, Ordnance Department.

Skies above Muroc Dry Lake, the site of the First Wing's Bombardment and Gunnery Range, were illuminated the night of June 25th by flares having a million candle power each. Using the light from this source, pilots of the 11th Bombardment Squadron from Hamilton Field and the 30th Bombardment Squadron from March Field dropped imaginary bombs from their Martin B-10 Bombardment planes. All of the flares used were dropped by a Douglas Observation plane from the 88th Observation Squadron, Hamilton Field.

Dropping the flares called for considerable skill on the part of the pilot from the 88th. The light had to be placed in the proper position in respect to the target. This was done in order that the bombardiers, looking through the bomb-sight telescope, could sight satisfactorily.

The flares used weighed forty pounds and were equipped with time fuses in order that they might be lit at any desired time after leaving the plane. Burning for two minutes, the flares were composed of barium nitrate and aluminum powder with castor oil as a binder.

At the conclusion of the mock bombing, the planes of the 11th Bombardment Squadron returned to Hamilton Field, while the planes from March Field returned to that station.

High ranking officers who watched the demonstration were Colonels Henry B. Claggett, Wing Commander, and John H. Pirie, commander of the 17th Attack Group; Lieut. Colonel Howard C. Davidson, commanding the 19th Bombardment Group, and several other unit commanders.

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CRUISING RANGE OF NEW ATTACK PLANE

Illustrating the greatly increased cruising range now possible with the new Northrop Attack plane, Lieut. Charles B. Overacker, of the 17th Attack Group Staff, flew a round trip from March Field to Hamilton Field in 5 hours, 35 minutes, without landing. This involved a total of over 814 miles. In other words, a squadron, flying formation, using this type of Attack plane, could leave March Field after breakfast, attack the Infantry garrison in the Presidio of San Francisco, over 400 miles away to the north, and return to March Field in time for a late lunch. This demonstration by Lieut. Overacker attracted favorable attention.

V-7059, A.C.G.L.

FIVE-DAY WAR AT FORT SILL, OKLA.

The Field Artillery School closed its course this year on June 27th, terminating the year's training with a five-day simulated war, during which time the officers in training were busy demonstrating their ability or lack thereof, as augmented by the school course.

The Air Corps took a major hand in the war games, the usual services of Flight "E" and the 1st Balloon Squadron being enlarged upon with the assistance of three A-17 Attack planes from Barksdale Field, La., and three O-43 Observation planes from Brooks Field, Texas.

The airplanes and balloon were on the go early and late. The 1st Balloon Squadron accompanied the Blue Army into the field in full field service kit, while the planes operated from the hangars as usual.

Photographic and visual reconnaissance, accompanied by radio communication, helped to ascertain targets for the Attack planes, which ably "strafed" and laid smoke screens for the further education of the student officers in general. The war went on and off smoothly, only minor failures of equipment being experienced.

According to the News Letter Correspondent, the war demonstrated the fact that high altitude observation can find targets for the Attack and Bombardment, and direct their attack thereon; further, that the Artillery must improve its camouflage for combat maneuvers. The motorized units had considerable difficulty regarding full concealment of vehicles because of sun reflection from nickled or polished surfaces and from glares of tail and stop-lights at night.

In addition to the personnel at Fort Sill, Lieuts. Bunker, Wise and Livingstone from Barksdale Field, and Lieuts. Coates, Dolan, Macrum, Stewart and Hillsinger from Brooks Field, were commended for their excellent cooperation in this general field exercise.

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THE NEW CLASS AT ADVANCED FLYING SCHOOL

The present class at the Advanced Flying School, Kelly Field, Texas, reported in for duty on June 20th and began ground school on June 25th. This continued for one week, and flying began on July 1st. The class consists of 34 Regular Army officers, 2 foreign officers and 38 Flying Cadets. They are assigned to sections, as follows: Attack, 6 officers and 10 Cadets; Pursuit, 6 officers, 10 Cadets and one Mexican officer; Bombardment, 14 officers and 16 Cadets; Observation, 8 officers, 7 Cadets, and one officer from the Philippine Constabulary.

CHANGE IN COMMANDERS AT KELLY FIELD

Outstanding events at the Advanced Flying School, Kelly Field, Texas, in the last few weeks were the departure of Colonel Jacob E. Fickel and the arrival on the post of his successor as commanding officer, Lieut. Colonel Arnold N. Krogstad. Originally slated to go to the Panama Canal Zone, Colonel Fickel's orders were changed, sending him to Corps Area duty at the 9th Corps Area.

Colonel Krogstad was officially greeted by the staff of Kelly Field and prominent citizens of San Antonio at a luncheon given at the Kelly Field Officers' Mess on July 2nd. At this luncheon were all the members of the staff and faculty of the field, the guests of honor being the commanding officers of neighboring fields and the Air Corps Training Center, viz: General J.E. Chaney, Air Corps Training Center; Colonel J.H. Howard, Duncan Field; Colonel H.W. Harms, Randolph Field; Colonel H.J.F. Miller, Brooks Field; Major Pursley, Air Officer of the 8th Corps Area; and Major Thompson, commanding officer of the Normoyle Depot, where some of the Kelly Field personnel are quartered. The civilians in attendance, representing the Military Affairs Committee of the San Antonio Chamber of Commerce, were headed by Mr. L.B. Clegg, who for the past eight or ten years has been chairman of that Committee. Accompanying Mr. Clegg were Colonel Tuttle, Engineer Reserve, head of the Public Service Company of San Antonio; Mr. I. Kampmann and Mr. William M. McIntosh, publisher of the San Antonio LIGHT.

Mr. Chamberlain, the oldest living president of the San Antonio Chamber of Commerce, was present at the luncheon as guest of honor.

The speakers at the luncheon were Col. Peyton, as representative of the Corps Area Commander; Messrs. Clegg and McIntosh. Colonel Peyton, who welcomed Colonel Krogstad to this Corps Area, referred most cordially to the relations existing between the Air Corps units of San Antonio and the ground forces stationed thereat. Mr. Clegg, as a pioneer of Texas, welcomed Colonel Krogstad to San Antonio and its facilities. Mr. McIntosh, as representative of the press, voiced his natural appreciation of the Colonel's arrival and welcomed him, offering him all the cooperation afforded by the press of San Antonio.

Major Wolcott P. Hayes conducted the luncheon as master of ceremonies.

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Lieut. R.C. Rhudy was the first Kelly Field pilot to take advantage of the new extension on cross-country radius from that field. His flight in a Pursuit ship took him to Gainesville, Fla., and return on perfect schedule.

JUNE A BUSY MONTH AT BOLLING FIELD

The usual last minute rush was encountered at Bolling Field, D.C., during the month of June as officers completed the various missions required before the end of the fiscal year. All available planes were kept busy during the day and, although two nights each week were designated for night flying, it was found necessary to fly every night toward the end of the month in order that pilots stationed at the War Department and Office, Chief of the Air Corps, might complete the training requirements of War Department Circular #69.

As a precautionary measure, and in order to facilitate operations, a control tower 15 feet high, with an 8-foot platform, was constructed directly in front of the Operations Office. This tower is equipped with a radio remote control system, a Signal Corps directional wind indicator, office telephone and an airways control light for controlling air traffic. It is ideally located for night flying, as it gives the operators in charge an unobstructed view in all directions. With the rapidly increasing day-time traffic during the summer, it is probable that a system of air traffic control will be devised, in which case the tower will be a ready means for overcoming any unforeseen congestion.

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FAST WORK ON MAPPING PROJECT

The practical peace time value of an Air Corps photographic section was recently demonstrated by the 23rd Photographic Section, March Field, Calif., when it mapped 171 square miles of territory in the State of Idaho in forty minutes actual photographic time.

The detail from March Field, Lieut. Kenneth B. Hobson, pilot, and Technical Sergeant William M. Brees, photographer, consumed one day in flying to the Idaho rendezvous with the Corps of Engineers, flying via Las Vegas to Pocatello. There they met representatives of the Northwest Division of Army engineers. It was explained that the territory to be mapped was on the upper Snake River in the vicinity of Rigby, Idaho, 15 miles north of Idaho Falls.

A Fairchild T3A camera was used for this work. The camera took five pictures with one tripping of the shutter from five different angles. When these prints are restituted to the equivalent of five pictures taken from the vertical, an immense area is available for the topographer to work on.

Lieut. Hobson and Sergeant Brees returned to their home station on the same day their photographic work was accomplished.

MASTER SERGEANT H. J. BERTRAM RETIRES

War Department orders directed the retirement from active service on June 30th of Master Sergeant Herbert J. Bertram, 9th Airship Squadron, Scott Field, Ill.

A native of Chicago, Sergeant Bertram originally enlisted in the Signal Corps branch of the Army in 1907 at Columbus Barracks, Ohio, and completed thirty years of active service with the colors in June, 1936. During his first enlistment he was sent to Cuba for service in that island during its reconstruction days, and since then he has been stationed at many garrisons in the tropics and on the United States mainland.

On his return from Cuba, Sergeant Bertram spent the next several years on duty in New York harbor, having been stationed at the garrison on Bedloe's Island, which is the home of the Statue of Liberty. His service next found him in Asia, stationed in the Philippines and assigned to duty on deep sea cable ships engaged in laying and maintaining telegraph cables in the Pacific Ocean and the China Sea.

At the beginning of the War in 1917, Sergeant Bertram found himself assigned to the production of hydrogen gas for the Aviation Section of the Army. Ordered to Omaha, Nebraska, he was held there for the duration of the War. When all Army lighter-than-air activities were centralized at Scott Field in 1922, Sergeant Bertram was transferred to that post and has been stationed thereat ever since, save for short periods of detached service at the Army's gas production plants in Virginia, Texas and elsewhere.

Sergeant Bertram has been in active charge of the hydrogen and helium plant at Scott Field since his arrival there. A bronze plaque crediting him with the supervision and construction of the gas plant was installed at the direction of Colonel John A. Paegelow, former commandant of Scott Field. Since 1924, Sergeant Bertram has been with the 9th Airship Squadron.

On July 3rd the 9th Airship Squadron was scheduled to assemble to give him a testimonial dinner in the squadron barracks. The men of the Squadron purchased a suitable retirement gift to be presented him on that occasion by Major Neal Creighton, the squadron commander.

Sergeant Bertram has selected the vicinity of Scott Field as his future home and purchased a home near O'Fallon, Ill., where he and his wife are now living. For five years from July 5, 1928, he held a commission as Captain, Specialist Reserve.

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Brigadier General Delos C. Emmons, Air Corps, relieved from assignment with the 18th Composite Wing, Hawaiian Department is to proceed to March Field, Calif., and assume command of the 1st Wing, GHO, A.F.C.

2. APPLAUSE FOR MAJOR HASTEY

Writing under date of June 10th, the News Letter Correspondent from Nichols Field, Rizal, P.I., states that on the eve of the departure for the United States on the July transport of Major Thomas W. Haste, the personnel of Nichols Field expressly wish to record their chorus of applause for their Post Commander for the many and varied improvements affecting them made at that field under his administration.

"We do not want to concern ourselves in this article with all encompassing improvement projects undertaken and completed on the landing field, or of alterations to hangars, or of any such work of a strictly military nature," says the Correspondent. "We include in that classification the large irrigation ditch, a work of respectable proportions, dug to provide adequate drainage accommodations for the landing field, as well as those new garages with their conveniences, built to house the motor vehicles of the 66th Service Squadron. The new oil storage warehouse, the salvage warehouse, etc., unquestionably fall in the above classification.

It would seem that we, of Nichols Field, take the landscape gardening a bit too much for granted. The miles of seemingly always newly manicured shrubbery that hedges all our post roads; the close-cropped perpetually green lawns that carpet all approaches to every post building; the many flower plants that are never without that 'Flower Show' groomed appearance, all contribute to that opulent feeling of living in an exclusive residential district.

The majority of us here have seen the Post Theater as it was; a dingy theater, poorly equipped with inferior projection machines that were harnessed with a whispering sound apparatus that stole on the ear, and set up with rows of back-bone uncoupling shelving that served for seats for the unmarried enlisted personnel, transformed into the new Post Theater as it now stands; a modern little cine boasting of an excellent screen, faultless projection and sound reproduction, and an arrangement of decidedly improved seats.

Golfers on the post were unanimous in their well founded contention that the firing range bordering on their post course constituted a much too real human hazard during range practice. To remedy this situation, the target butts were torn down and rebuilt on the bombing range. The net result was a far superior pistol range in a safer location. At the same time, the removal of the old butts allowed for the expansion of the golfers' hunting grounds to the gratification of those who chase the little white ball round and round.

Partitions were being torn down and concrete broken up last week as preliminaries for the altogether new interior to be given the Post Signal and Radio building. A bright new and shiny two-position telephone switchboard (that ought to mean the best of 'hello' service for the post) stood ready for installation in its new home in the building. When post radio operators complained of third party interference by high power transmission lines near the building, linemen were called in and new poles were installed on a new route to take care of the lines out of harm's way.

Next door, the Sixth Photo personnel in their freshly redecorated offices and workshop, that might well serve as a model for any photo building in the military or commercial field, now have for their work every conceivable electrical wiring convenience. It would be 'house ideal' for the housewife forever wanting a new electric outlet for her gadgets.

Probably all of us walk in and out of the Post Exchange more frequently than in any other building on the post. Our PX is still undergoing a length and breadth overhauling that is resulting in a store as modern as any PX on any post.

Even the Guardhouse came in for its share of refinement. Extensive alterations were performed on its interior that increased its capacity and rectified poor ventilation and other unsatisfactory conditions.

A successful operation on our post water piping system cured our shower heads of their pressureless teasing trickle and gave us throughout the post needle point pressure.

And so we could go on enumerating a host of other improvements, even as extensive as a road straightening project that diverted the traffic from the front of our hangars, where it constituted a menace to safety, to the rear of them, but we won't, for it would merely tempt us to mention another and still another.

We cannot understand why some of our Army slangsters do not become as renowned as such ephemeral immortals as a Gene Buck, or a Bugs Baer, or a Rube Goldberg. We proudly acknowledge this quotation as coming from them, for it does seem to express better that we could hope to the thoughts of Nichols Field:

"We sure hate to think of Major Haste as a short-timer
already sweating that canoe ride."

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Special Orders of the War Department announce the appointment, on June 22, 1936, under the provisions of an act of Congress approved June 16, 1936, of the following-named Captains of the Air Corps to the temporary rank of Major, from June 16, 1936, viz: William Seymour Gravely, James Thomas Curry, Jr., Howard Knox Ramey, and Oakley George Kelly.

BIOGRAPHIES.

LIEUT. COLONEL DOUGLAS B. NETHERWOOD

One of the veteran pilots in the Army Air Corps, Lieut. Colonel Douglas B. Netherwood was born in Birmingham, Eng., February 4, 1885. Following his graduation in 1908 from the A. & M. College of Texas, with a degree of B.S. in Mechanical Engineering, he enlisted in the Army, serving as Private, Corporal and Sergeant with the 20th Company, Coast Artillery Corps, from July 31, 1908, to August 6, 1911. The following day he was commissioned a second lieutenant in that branch of the service. He was promoted to 1st Lieutenant, July 1, 1916; to Captain, May 15, 1917; to Major, July 1, 1920, and to Lieutenant Colonel, August 1, 1935. During the World War he held temporary rank as Major and Lieut. Colonel.

Detailed to the Aviation Section, Signal Corps, he completed his flying training at the Signal Corps Aviation School at San Diego, Calif., and received the rating of Junior Military Aviator. Three years later, on August 20, 1917, he was rated as Military Aviator.

Prior to the war, Col. Netherwood was on duty with the 1st Company, 2nd Aero Squadron, in the Philippines. Ordered to return to the United States, he was on duty in the Airplane Division, Office of the Chief Signal Officer, from August 7, 1917, to November 10, 1917, and was then transferred to Love Field, Dallas, Texas. He was in command of this field until April 27, 1918. He had also assumed command of the Aviation Repair Depot at Love Field in March, 1918, and he continued in this capacity until March 29, 1921, when he was transferred to the San Antonio Air Depot for duty as Executive Officer.

From June 26, 1921, to February 17, 1922, Col. Netherwood was in command of the Air Depot at Americus, Ga. He was then assigned to duty in New York City with the Organized Reserves of the 2nd Corps Area. In February, 1925, he was assigned as student at the Army Industrial College and, following his graduation on June 30, 1925, pursued a two-year course at the Harvard Graduate School of Business Administration, being awarded the degree of Master in Business Administration.

Assigned to the Office of the Chief of the Air Corps, Washington, D.C., he was on duty in the Executive Office from July 7 to September 14, 1927, and for four years thereafter was Chief of the Finance Division.

From September, 1931, to June, 1932, Col. Netherwood was a student at the Air Corps Tactical School at Maxwell Field, Ala., and upon his graduation was ordered to duty in the Philippines, where he served as Department Air Offi-

cer, and later assumed the additional duty of Commanding Officer of Nichols Field and of the 4th Composite Group. Upon his return to the United States, he was on duty in the Plans Division, Office of the Chief of the Air Corps, from December 1, 1934, to July 16, 1935, when he was assigned as student at the Army War College. Following his graduation in June, 1936, he was assigned to his present duty as Assistant Director of the Air Corps Board at Maxwell Field, Ala.

LIEUT. COLONEL LESLIE MacDILL

Lieut. Colonel Leslie MacDill, Air Corps, now serving a tour of duty as a member of the War Department General Staff, and a graduate of no less than six institutions of learning, was born February 19, 1889, at Monmouth, Ill.

Following his graduation in 1909 from Hanover College with an A.B. degree, and from the University of Indiana in 1911, with an A.M. degree, he was commissioned from civil life as a second lieutenant, Coast Artillery Corps, April 13, 1912. He served with the 6th Company, C.A.C., from May 28 to December 8, 1912, and with the 122nd Company, C.A.C., from December 10, 1912, until his detail in 1914 in the Aviation, Signal Corps. Upon the completion of his flying training at the Signal Corps Aviation School at San Diego, Calif., he was rated a Junior Military Aviator on July 2, 1915, which automatically advanced him to the rank of 1st Lieutenant. He was promoted to Captain, May 15, 1917, to Major, Air Service, July 1, 1920, and to Lieutenant Colonel, Air Corps, August 1, 1935.

Assigned to the 1st Aero Squadron, he served with this organization from July to November, 1915, and with the 1st Company, 2nd Aero Squadron, in the Philippine Department, from January, 1916, to May, 1917.

Upon his return to the United States, Col. MacDill was on temporary duty in the Office of the Chief Signal Officer, Washington, D.C., for a brief period, and was then ordered to duty overseas. From October 11, 1917, to May 16, 1918, he was on duty with Headquarters, Air Service, Lines of Communication, as Materiel Officer, Training Department. He was then assigned to the command of the Aerial Gunnery School at St. Jean de Monts, France, and he was responsible for the organization and building of this school.

Returning to the United States in February, 1919, he was assigned to duty in the Office of the Director of Air Service, Washington, D.C., in the Aerial Coast Defense Section, Operations Division, Training and Operations Group. In addition to this duty, he served as a member of the Advisory Board from July 28, 1920,

to Sept. 26, 1920, when he was assigned to pursue a two-year course of instruction at the Massachusetts Institute of Technology, Cambridge, Mass. He graduated in June, 1922, with the degree of Doctor of Science, following which he was assigned to duty at McCook Field, Dayton, Ohio, as Assistant to the Commanding Officer. On June 18, 1923, he was assigned as Chief Engineer Officer of the Engineering Division, McCook Field, and, save for the period of one year, August, 1924, to July, 1925, when he was a student at the Command and General School at Fort Leavenworth, Kansas, he occupied this position continuously until December, 1929. He assumed the additional duty of Chief of the Procurement Section on September 12, 1927, following the removal of the Engineering Division from McCook Field to the new Wright Field and the changing of its designation to the Materiel Division. During the remainder of his stay at Wright Field, he served as Assistant to the Executive Officer, Materiel Division, and at various times was Acting Executive Officer.

On September 2, 1930, Col. MacDill reported for duty in the Office of the Chief of the Air Corps, and was assigned to the Plans Division. During the course of his duty in Washington, he served on various boards and committees.

Relieved from duty in the Office of the Chief of the Air Corps in the fall of 1933 to attend the Army War College, he graduated from this institution in June, 1934, and from the Naval War College, Newport, R.I., in June of the following year. He was then assigned to his present duty as a member of the War Department General Staff.

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CHANGE IN INSTRUCTORS AT KELLY FIELD

Captain John V. Hart, Air Corps, who recently arrived at Kelly Field, Texas, from the Hawaiian Department, where he was a temporary Major in command of the 72nd Bombardment Squadron, took over the duties of Chief of the Bombardment Section of the Advanced Flying School, relieving Captain Wallace E. Whitson, who is scheduled to leave Kelly Field on July 15th for Maxwell Field, Ala., where he will attend the Air Corps Tactical School.

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The new miniature bombing range at Kelly Field is gradually taking shape. It has now reached the height of the old hangar and has received considerable notice in the San Antonio press on the basis of its being the first permanent structure at Kelly Field since the inception of this field in 1917.

sent to you

NINETEENTH BOMBARDMENT GROUP CELEBRATES

Swatting soft balls and breasting the surf were the principal activities of 30 officers and 300 enlisted men and their families of the 19th Bombardment Group on Wednesday, June 24th. The 19th, which is stationed at March Field, Calif., took a day off to observe its fourth anniversary at the Doheny Palisades, San Juan Capistrano, Calif.

The enlisted men defeated the officers by the close score of 10 to 9 in the soft ball contest. No record was kept of the amount of fish caught, but it is believed that they were few and far between. Swimming, both in fresh water and in the surf, was available for officers and enlisted men.

The trip was made through beautiful mountain and lake country via the Cleveland National Forest. The officers and men of the Group realized through this trip how very fortunate they were to be stationed in Southern California.

The 19th has been very busy since it observed its third anniversary last year at Coronado. The principal event of the past year was the movement of the entire Group to March Field in October from Rockwell Field, near San Diego. Though the officers and enlisted men lost many pleasant contacts through this movement, they have made many other friends in Riverside, San Bernardino and Los Angeles counties since coming to March Field.

The outstanding accomplishment of the past year was the successful conduct of navigation training. The Douglas YOA-5 Amphibian, assigned to March Field for the first half of 1935, was employed to teach air navigation of ocean missions to the officers of the Group. Several long flights, some over the water, demonstrated the ability of the Army Air Corps to operate off shore as well as inland.

The Group also participated in the San Joaquin Valley maneuvers in November, 1935, being stationed at Delano, Calif. Several planes were loaned to the Seventh Bombardment Group for their Florida exercises.

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MOVIE PRODUCER VISITS MARCH FIELD

Howard Hughes, producer of "Hell's Angels" and holder of many transcontinental air speed records, visited March Field on June 23rd for the purpose of conferring with his friend, Major Albert Hegenberger. He informed the News Letter Correspondent that he planned no speed flights for the immediate future, as the engine on his speed plane had been sent back to the factory for extensive alterations.

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Kelly Field, Texas, is in the throes of reorganization and all leaves were cancelled until a stabilized status quo is accomplished.

THE NEW AIR CORPS ACT

H.R. 11140, an Act to provide more effectively for the national defense by further increasing the effectiveness and efficiency of the Air Corps of the Army of the United States (Public No. 785 - 74th Congress), approved June 24, 1936, reads as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the authorized strength in airplanes, equipment, and accessories of the Army Air Corps established by the Act approved July 2, 1926 (44 Stat. 780), is hereby increased to such numbers as will permit the Secretary of War to complete the equipment and organization and to maintain in the Army Air Corps the special Army air organization known as G.H.Q. Air Force, and our overseas defenses, together with a 25 per centum reserve for such forces, and to procure such other airplanes and equipment, including spare parts, supplies, and accessories, for such other purposes as are necessary to provide for the mission of the Army Air Corps: Provided, That of the increase authorized herein not to exceed two thousand three hundred and twenty serviceable airplanes, including equipment and accessories, are authorized to be obtained."

In the report of the Senate Military Affairs Committee accompanying H.R. 11140, it is stated that "This measure as passed by the House on April 20, 1936, provided for increasing the present authorization of 1,800 serviceable airplanes to 4,000. The Committee on Military Affairs took this legislation up further with the War Department, receiving a report under date of May 26, 1936. The Department advises that an increase in the present authorization to 4,000 planes is not in accord with the financial program of the President. However, the committee is further advised that if the bill is amended to provide for an increase of the present authorization to 2,320 planes the measure would be in accord with the President's program. The matter of increasing the authorized airplane strength has been under study on several different occasions since the fixing of the present authorization in the Air Corps Act of July 2, 1926. (44 Stat. 780). The so-called Drum Board, the War Department Special Committee on Army Air Corps, known as the Baker Board, and the Federal Aviation Commission, known as the Howell Commission, all concurred in recommending a minimum of 2,320 airplanes for the Army Air Corps. The Military Affairs Committee has accordingly amended H.R. 11140 to provide in effect that the authorized airplane strength shall be increased from 1,800 serviceable airplanes, to 2,320, including equipment and accesso-

ries."

In citing reasons for the proposed legislation, it is stated in the report:

"The first and most potent reason for the early enactment of this bill to increase our Army air force to a figure not exceeding 4,000 airplanes is the fact that it is necessary for adequate national defense. All great nations now have huge airplane carriers, which are in fact floating landing fields, to enable them to carry aerial warfare to enemy shores. They also have floating seaplanes and mother ships."

Only 30 tons of explosives were dropped on London in the World War, resulting in the loss of 1,800 lives, while today planes are constructed, any one of which can drop 10 tons of explosives. This situation was well emphasized by Col. C. de F. Chandler, United States Army (retired), in an article which appeared in the November 1934 issue of the United States Air Services, where he said:

"German seaplanes of existing types now alight on the South Atlantic Ocean between Africa and South America to moor astern of a station ship (S.S. Westphalian). This vessel is an ordinary merchant type, supplied with aviation fuel and other servicing facilities. Fuel and oil are transferred to the seaplane on the water. Meager reports mention experiments with a canvas ramp astern on which the seaplane may be hauled; also trials of canvas shelters for protection during refueling operations. The military significance of this commercial "mother ship" for seaplanes appears to have been ignored. As seaplanes become larger, their ability to alight safely on the ocean increases. Acknowledging only these existing sizes of seaplanes, it is rather startling to contemplate that small inexpensive merchant ships are capable of serving as ocean supply bases for trans-oceanic bombing planes."

Mr. Igor Sikorsky, the eminent builder of large seaplanes, informed the Federal Aviation Commission (Oct. 10, 1934) that seaplanes are now in course of design that can transport 100 tons for a nonstop flight of 2,000 miles. A single seaplane of that type - which is a prospect for the immediate future - then could drop 10 tons of bombs on any American coastal city simply by prearranging a rendezvous with a small servicing vessel at sea a thousand miles from the coast line.

These facts strongly emphasize that our Nation is no longer protected from air attacks because of the wide extent of the Atlantic and Pacific Oceans, and we must govern ourselves accordingly. Here we desire to emphasize the thought that plans of this committee contemplate only safe and sane defense for the United States of America.

It should be recalled that, after the report of the Morrow Board, Congress authorized an increase of naval aircraft from 1,000 to 2,190, but left the Army authorization at 1,800. This substantial error which must now be corrected is well emphasized in a statement from Maj. Gen. Oscar Westover, Chief of the Army Air Corps, published on March 15, 1936, which reads in part as follows:

"The dominant characteristics of military aircraft are tactical and strategical mobility and striking power. That aircraft will play an important part in any war of the future is incontestable. (Continued on Page 19).

Q. What policy has controlled the selection of locations for new Air Corps stations for tactical units, especially in the continental United States?

A. With few exceptions, the permanent Air Corps stations have been built at the sites selected during the World War for temporary aviation activities. These war-time sites were selected under the urgency which characterized most of the aviation measures of the War. So far as can be found, no written policy governed these selections. An examination of the records of that time indicates that two dominant considerations affected the choice of aviation sites; first, political pressure; and, second, good year-round climate.

No evidence can be found to indicate that any consideration was given to strategical and tactical requirements involved in an air defense of the continental United States. It is doubtful whether such an idea as an attack by air upon the continental United States was entertained at that time.

Since the land acquired during the war for aviation purposes belonged to the United States, it apparently has been largely a matter of expediency to construct the majority of the existing permanent Air Corps stations upon such land. Barksdale Field at Shreveport, La., and Hamilton Field at San Rafael, Calif., are outstanding exceptions.

The Barksdale Field site was selected by a board of officers after considerable study and the review of the report of a previous board appointed for the same purpose. It was selected to accommodate the Attack Group, at that time stationed at an unsuitable Coast Artillery station, Fort Crockett, Texas,

where the size of the flying field was entirely inadequate and the terrain was unsuitable for expansion. It was only after the site at Shreveport had been selected that the War Dept. decided to build the station to house a Pursuit Group, in addition to the Attack Group.

The location of a Wing station on the southern border at Shreveport, La., serves the strategic defense of that border and, at the same time, places an important component of the GHQ Air Force in a location where it can rapidly concentrate with other Air Force units on either coast of the continental United States.

The selection of the Hamilton Field site was also made by a board of officers, pursuant to a plan of the War Department to have a station for Bombardment Aviation on the West Coast. The 7th Bombardment Group, now at Hamilton Field, was stationed at March Field un-

til its new station was completed. Hamilton Field is located in an area of undoubted strategic importance.

As the speed of airplanes increases, the amount of warning of impending attacks decreases and, from a tactical standpoint, the location of permanent stations for air units should be such as to favor the establishment of an adequate aircraft warning system. Such a system should be of sufficient extent and density of observation stations to afford ample warning of attack to enable getting airplanes into the air before the attack opens.

This consideration and the selection of sites for future air stations in areas where attacks are most probable were written into the new "Air Base" legislation, approved by the President, August 12, 1935. Under this law, the War Department appointed a special committee to study the needs for new air stations and depots, as well as the expansion of existing facilities. It may, therefore, be expected that sites for permanent air stations which are selected in the future will conform to the policy expressed in the law above referred to, and that new air bases will be located in the most important strategic areas of the continental United States, based upon consideration of prompt and effective defense against air attacks.

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OFFICERS RETURNING FROM FOREIGN SERVICE

The following-named Air Corps officers, upon the completion of their tour of duty in the Hawaiian Department, are assigned to stations in the United States as indicated below:

To Wright Field, Dayton, Ohio: Captain Signa A. Gilkey and 1st Lieut. Russell Keillor.

To Barksdale Field, La.: 1st Lieuts. Bryant L. Boatner and Richard H. Lee, for duty with GHQ Air Force.

To Brooks Field, Texas: 1st Lieut. William J. Clinch, Jr., for duty with 12th Observation Group.

To Langley Field, Va.: 1st Lieut. John W. Egan, with Flight "A," 16th Observation Squadron; 1st Lieuts. Ford J. Lauer and Curtis E. LeMay, with 2nd Wing, GHQ Air Force.

To Selfridge Field, Mich.: 1st Lieut. John N. Stone for duty with GHQ Air Force.

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Special Orders of the War Department, recently issued, assign Colonel Henry B. Clagett, Air Corps, to duty at Selfridge Field, Mt. Clemens, Mich., to assume command of the First Pursuit Group at that station.

GRADUATION EXERCISES AT AIR CORPS TECHNICAL SCHOOL

A total of 33 officers graduated from a ten-months' course of instruction at the Air Corps Technical School, Chanute Field, Rantoul, Ill., on Tuesday morning, June 30th. General Oscar Westover, Chief of the Air Corps, flew from Washington the previous day to be present at the commencement exercises and to deliver an address to the graduating class.

Colonel Junius W. Jones, Commandant of the Technical School, who gave the introductory address, stated in part:

"We have reached the end of another scholastic year, which has been a very successful one. There have been many changes made to improve the school, and they are only the beginning of what we hope to do in the future."

In introducing General Westover, Col. Jones said: "This is the first time the Chief of the Air Corps has been present to present diplomas to a graduating class at Chanute Field. I am very thankful to the General for taking the time away from his arduous tasks to be present."

General Westover's address was, in substance, as follows:

"Although it required a special effort on my part to be present on this occasion, I am happy, indeed, that I am able to extend in person my congratulations upon the successful completion of the course of instruction at the Air Corps Technical School. This School, because of the instruction imparted here, is of vital importance to the welfare and success of the whole Air Corps.

When we live very close to an activity it is difficult for us to see it in perspective. Perhaps an illustration taken from another field of endeavor will serve to illustrate the progress made in aviation more forcibly than an example taken from our own field.

Public attention recently has been directed to the Atlantic crossings of the "Queen Mary." This wonderful vessel provides a four-day crossing of the Atlantic under conditions of comfort and luxury which can scarcely be equalled in the finest hotel on land. The cost of such a crossing for the vessel as a whole is estimated by "FORTUNE" to be \$195,000. We may contrast this with a crossing of the Atlantic in the era of sailing vessels, when the crossing required from a month to six weeks, or more, and the conditions under which passengers made the trip were of the most Spartan character, with no luxuries and few, if any, comforts. On the other hand, the cost of such a crossing for the sailing vessel was a mere fraction of the \$195,000 for the "Queen Mary."

Compared with the length of time

ocean transportation has been under development, aviation may be said to be, at present, in its "sailing era." On the other hand, the gap between the first and the present-day airplanes is, in some respects, as wide as that between the sailing vessel and the "Queen Mary."

The ever increasing complexity of aircraft and their equipment has made the operating and maintenance problems increasingly serious. The solution of these problems in the Air Corps will be, in large part, the responsibility of you graduates during your forthcoming service.

In addition to the highly trained ground personnel required for the maintenance of military aircraft, a crew, corresponding in many respects to the crew of a complex surface vessel, will be required to operate in flight the new large Bombardment airplanes. Part of this crew will consist of enlisted men who are trained as radio operators, aircraft gunners and engineers.

An analysis of the requirements of the Air Corps for trained enlisted specialists shows that the 16,000 enlisted men now authorized should be trained approximately as follows: One-half, or 8,000 as airplane mechanics; fifteen percent, or 2,400, as radio repairmen and operators; twelve percent, or 1,900, as aircraft armorers; and the remainder divided among welders, sheet-metal workers, machinists, parachute riggers, photographic and instrument repairmen and miscellaneous.

It is estimated that there is an average of 2,400 original enlistments in the Air Corps each year. If all of these new men were given specialized training at the Technical School prior to assignment to Air Corps units, the capacity of the school would have to be quadrupled. It is readily apparent that the training of approximately 600 enlisted men annually, the maximum number that can be trained with the present facilities, does not meet the requirement of the service for trained specialists and that a large part of the required number of men must be trained in the tactical units.

Estimates for construction of a new plant for the Technical School have been based on the training of 1200 enlisted men and 50 officers annually. A recent study by the Air Corps Board shows that the Air Corps should have 30,765 enlisted men when the authorized 2320 airplanes are obtained. When that point is reached the number of specialists required will be almost double that required now. Contrasted with this requirement, it is interesting to note that during the past six years, 244 officers and 2654 enlisted men have graduated from the Air Corps Technical School.

Your course here has undoubtedly impressed upon you that the Air Corps has

found it necessary to specialize. Accordingly, this school has specialized and you will carry out into the service the benefits of the specialized knowledge you have obtained here. Efficient organization makes it undesirable, even if it were possible, to have any one man in an organization responsible for the maintenance of armament, engines, airplanes, radio, and photographic equipment. Due to the scope of these various categories of maintenance, better results are obtained by having experts who concentrate upon each of these categories.

This system has been the basis of the organization and curriculum of the Technical School, and during your course here you have had an opportunity to profit by the benefits of this system.

The organization of a school upon this basis enables the concentration of highly qualified officers of experience in each of these specialities for the purpose of imparting instructions in their specialities. Such a concentration of talent would be quite impossible to secure, even in the larger Air Corps stations. Furthermore, officers in the tactical organizations having this specialized knowledge are absorbed in the duties incident to operation and are unable to apply themselves to the task of imparting methodical, intensive instruction in the way it is possible to do in this school.

The inclusion of all these specialities in a single school affords the advantage of interchange of ideas and methods, and the co-relation of these activities from the theoretical standpoint in a way that would be quite unlikely to be attained under the stress of operation in a tactical organization. All these advantages have been clearly demonstrated during the years this school has been in operation. As each succeeding class goes out into the service, the cumulative benefits of accurate and scientific knowledge are evidenced by more efficient maintenance in the tactical units.

It is hoped that you will all feel that your education does not cease with your graduation here. The school of practical experience has ever been a valuable one, teaching its own particular lessons, which are equally valuable with those to be derived from study and practice in the classroom and laboratory. It is impossible to cover in school all the various problems which your subsequent service will present. It is hoped that you will all be ever alert to gain from your forthcoming practical experience new ideas for the improvement of the maintenance and inspection of Air Corps equipment and materials.

I know that you are all interested in the future of this school. I can assure

you that I am, also, and that the War Department is very desirous of placing this school in permanent buildings.

I believe the next Congress may provide for this.

In closing, I desire to congratulate all of you who are graduating, and to express my appreciation to the Commandant and faculty for their efficient and essential contribution to the knowledge you have obtained in this school."

The graduates of the Technical School are listed below, as follows:

Photographic course:

Captain William O. Eareckson, Lieuts. Earl T. MacArthur, Jr., William M. Prince.

Communications Course:

Lieuts. Louie P. Turner, Frederick A. Pillet, Edwin L. Tucker, George F. Kinzie, William E. Karnes, Fred S. Stocks, John H. Bundy, Stuart P. Wright, Minthorne W. Reed, Richard H. Wise, Joe W. Kelly, Thomas C. Darcy.

Engineering Course:

Lieuts. William T. Hefley, Eugene H. Rice, Herbert L. Grills, Oliver S. Picher, Carl R. Feldmann, George F. Schlatter, Clark N. Piper, Wiley D. Ganey, Daniel F. Callahan, Joseph F. Carroll, Jr., Hilbert F. Muentzer, Air Corps; Captains Thomas D. Lane, Harrison W. Wellman, Jr., Lieuts. Roy T. Bankard, William G. Catron, John A. Hawkins, Kenneth R. Case, Lester C. Holtan, National Guard.

Shortly following the commencement exercises, General Westover took off for the return flight to Washington.

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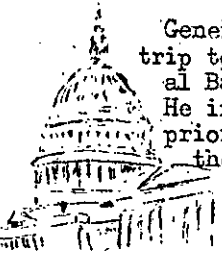
TEXAS FLOODS PHOTOGRAPHED

Lieut. Charles F. Densford and Staff Sergeant Coy, Air Corps, stationed at Kelly Field, Texas, in a photographic mission on July 3rd, took fifty exposures of the Texas floods for Representative Bob Kleberg. They started in at New Braunfels, followed the Guadalupe River to Seguin, Gonzales, Cuero and Victoria, then to Three Rivers where the Atascosa, Frio and Nueces Rivers converge. The total flying time for the mission was three hours and twenty minutes.

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SHARP SHOOTING BY LIEUT. DENSFORD

Lieut. Charles F. Densford, of Kelly Field, recently competed in the Michigan State Pistol Matches at Detroit. The well known pistol expert won two first places, one second place and one third place. He placed second in the Michigan State Championship and won first place in aggregate of individual matches. The revolver used by Lieut. Densford in the matches was a Colt's officers' model, .38 caliber.



General Westover on his recent trip to the West visited the National Balloon Races at Denver, Colo. He inspected all of the balloons prior to the take-off and examined the arrangements made by the Operations Officer for the race, Major William J. Flood, Air Corps. General Westover expressed himself as being

very much impressed with the splendid conduct of all features pertaining to the race. He stated that the novel start by moonlight and with searchlights playing on the balloons made the spectacle an extremely entertaining one.

Upon learning of the crash and the burning of the Army entry, piloted by Captain Haynie McCormick, with 1st Lieut. John A. Tarro as aide, General Westover flew out to the reported site of the crash and found the country to be excessively rugged and the depression in which the Army balloon dropped covered with a dense growth of scrub pine. It was probably these difficult conditions that caused the drop of the Army balloon under the force of a down current of air to result disastrously.

Lieut. Colonel Harry H. Young reported for duty in the War Plans and Training Division.

Returning to duty from leaves of absence were Lieut. Colonel Vincent B. Dixon and Captain Robert V. Laughlin.

Officers who recently departed on leaves of absence were Lieut. Colonel R.M. Jones, prior to taking up his new duties at Kelly Field, Texas; Lieut. Colonel Gerald E. Brower, Majors R.C.W. Blessley, Alfred W. Marriner, and Captain Morton H. McKinnon.

On July 7th, Colonel Frederick L. Martin, Lieut. Colonel Arnold N. Krogstad, Major Lawrence P. Hickey and Captain John W. Monahan reported for temporary duty in the Office, Chief of the Air Corps.

Major Harlan W. Holden left for his new duties at the Air Corps Tactical School at Maxwell Field, Ala.

Lieut. Colonel William E. Lynd left on a cross-country flight to Maxwell Field, Ala., for conference with the Air Corps Board.

Recent visitors to the Chief's Office were Lieut. Colonel Walter H. Frank from Mitchel Field and, during the course of extended navigation flights, Major Leo H. Dawson from Selfridge Field and Captain August W. Kissner from Kelly Field.

When General Westover was at Chamute Field on the occasion of the graduation exercises at the Air Corps Tactical School, he made a thorough tour of inspection of the post. It was reported that the highest temperature in many years made the inspection considerably discomforting, the mercury soaring around 105.

Do you remember the Three Musketeers when they were at the height of their glory several years ago - Lieuts. John J. Williams, Irvin A. Woodring and William L. Cornelius? Famous throughout the Air Corps for their daring and courage, for several years these three performed before the world. In the 7th Bombardment Group, in the old 17th Pursuit Group, now redesignated Attack, and especially in the 95th Attack Squadron, their names are spoken of affectionately and sort of reverently, for they helped to form the traditions of the Air Corps. Wherever they went they were called upon to personify that branch of the military service, and at each place they left behind them glowing accounts of their daring.

On September 10, 1928, almost eight years ago, the first of the Musketeers fell from the skies. Lieut. "Johnny" Williams, leader of the three, while performing aerial acrobatics during the Air Races at Mines Field, Los Angeles, crashed to earth and was killed almost instantly. Despite their comrade's untimely death, Lieuts. Woodring and Cornelius carried on. Colonel Charles A. Lindbergh volunteered his services, and the show continued.

Even then it was written that another of their number was to die. Two weeks later in a mid-air crash with Lieut. Roger V. Williams at Rockwell Field, Lieut. Cornelius was killed, while Lieut. Williams escaped with the aid of his parachute. Now there remained one Musketeer - Lieut. Woodring. He carried on alone until in April of 1930, and at that time, during maneuvers at Mather Field, he narrowly missed death when his ship became uncontrollable and he was forced to jump. He was performing in aerial combat with the late Captain H.M. Elmendorf, Squadron Commander of the 95th, zooming and diving, chasing each other through the skies for the benefit of a few thousand spectators who had come to witness the giant spectacle of the Army Air Corps Maneuvers. While his ship was falling, and Lieut. Woodring was bailing out, Lieut. Hayden P. Roberts, flying a transmitting plane a short distance away, watched Lieut. Woodring jump, drew a sketch of the field and marked the spot where pilot and ship landed. This was immediately transmitted to the ground station by means of the Westinghouse electrical invention which was being tested by the Army at that time.

A few months later, Tuesday, October 28, 1930, Lieut. Woodring with Lieut. Caldwell were ordered to Vancouver, B.C., where they received the Japanese ratification of the London Naval Treaty which was to be taken to New York, transferred to the steamship LEVIATHAN and dispatched to London. While flying through Wyoming, the two messengers encountered severe snow storms. They became separated, and Lieut. Caldwell crashed. Several days later he was found. The remains of his ship were scattered over a wide area. Lieut. Woodring remained in Laramie, Wyoming, overnight and resumed his journey to New York the next morning with the precious document. It was not until he had reached his destination that he learned of Lieut. Caldwell's death. Sometime later, Lieut. Woodring was decorated with the

(Continued on Page 20).

The CATERPILLAR CLUB

With the close of business on June 30th, 803 names were entered on the register of the mythical Caterpillar Club, that exclusive organization of airmen and airwomen wherein life-time membership becomes automatic immediately following an emergency parachute jump. Supplementing the above mentioned 803 jumps are 38 repeater jumps, made by various members of the Club, thus increasing to 841 the total number of emergency parachute jumps made by American flyers since July 21, 1919, when the two men who head the Caterpillar Club roster miraculously escaped via the parachute from a burning airship flying over the Chicago business district.

therefore, be noted that during the first six months of the present calendar year there were 43 more initiations into the Mystic Order of Caterpillars. The only member of the Order to receive his second degree this year is Major Byron E. Gates, Caterpillar No. 101, whose first initiation occurred on August 9, 1928, when he was a first lieutenant.

During the first six months of the calendar year 1935, the number of emergency parachute jumps totalled 29. No explanation can be offered for the increase in the number of jumps so far this year, except to say that accidents simply will happen.

The names added to the Caterpillar Club roster since January 1, 1936, are given below, as follows:

At the end of the calendar year 1935, there were 760 names on the register. It will,

No.	Date	Name	Rank	Place of Jump
1936				
761	January	11 George L. Brown	Private, Air Corps	March Field, Calif.
762	January	22 Frederick G. Huish	Flying Cadet, Air Corps	Randolph Field, Texas
763	January	24 Thomas E. Lanigan	Private, Air Corps	Near Ford Island, T.H.
764	January	24 Charles E. Fisher	2nd Lieut., Air Reserve	Near Ford Island, T.H.
765	February	7 W. A. Trembly	Flying Cadet, Air Corps	Near New Braunfels, Texas
766	February	12 Otto C. George	Captain, Air Corps	Near Stonewall, Ga.
767	February	12 Robin B. Epler	1st Lieut. Air Corps	Near Stonewall, Ga.
768	February	12 George Russell	Sergeant, Air Corps	Near Stonewall, Ga.
769	February	12 Harry McHayes	Sergeant, Air Corps	Near Stonewall, Ga.
770	February	14 Harry N. Burkhalter	2nd Lieut. Air Corps	Fulton, Arkansas
771	February	14 W. K. Durham	Private, Q.M. Corps	Near Mansfield, La.
772	February	18 W. J. Kliffel	Sergeant, Air Corps	Near Sourlake, Texas
773	February	27 George F. Rice	Lieut. (JG) U.S. Navy	Near Pensacola, Fla.
774	March	14 Edgar R. Camp	Lieut. Air Corps	Near Lawn, Pa.
775	March	17 James W. LaCompte	Mechanic U.S. Navy	10 Miles W. Point Loma, Calif.
776	March	20 Carlton F. Bond	Major, Air Corps	Nacogdoches, Texas.
777	March	21 William M. McAvoy	Civilian	Langley Field, Va.
778	March	21 John Wheatly	Civilian	Langley Field, Va.
779	March	29 Benjamin W. Chidlaw	Captain, Air Corps	Near Crestview, Fla.
780	March	29 John L. Hammack	Private, Air Corps	Near Crestview, Fla.
781	April	9 J. W. Hinton	2nd Lieut. Air Reserve	Near Coushatta, La.
782	April	9 Maurice M. Simons	2nd Lieut. Air Corps	Near St. Hedwig, Texas.
783	April	12 J. A. Philpott	Flying Cadet, Air Corps	Mather Field, Calif.
784	April	21 Walter E. Todd	Captain, Air Corps	Near San Diego, Calif.
785	April	29 Frank J. Bennett	2nd Lieut. Air Reserve	Spring Garden, Va.
786	April	30 Harlan T. McCormick	Major, Air Corps	Elizabeth, Indiana
787	May	8 Leon E. Sharon	Captain, Air Corps	Kewanee, Miss.
788	May	8 Malcolm F. Lindsey	Major, Infantry	Kewanee, Miss.
789	May	11 James L. Bledsoe	Flying Cadet, Air Corps	Near Hondo, Texas.
790	May	12 Nelson R. Turner	Private, Air Corps	Near Penonome, Panama
791	May	12 William A. Knight	Staff Sgt. Air Corps	Near Penonome, Panama
792	May	12 Donald W. Benner	Captain, Air Corps	Near Penonome, Panama
793	May	23 J. L. Malone	Civilian Test Pilot	Dayton, Ohio
794	May	27 John E. Albert	1st Lieut. Air Reserve	Sycamore, Ohio
795	May	27 Will W. McConnell	1st Lieut. Air Reserve	Sycamore, Ohio
796	May	27 Edgar L. Carlisle	1st Lt. Pa. Nat'l Guard	Brookville, Pa.
797	May	19 Douglas W. Smith	Flying Cadet, Air Corps	Near March Field, Calif.

No.	Date	Name	Rank	Place of Jump
798	May	27 Claude L. Craven	Lt. Pa. Nat'l Guard	Brookville, Pa.
799	June	4 Charles E. Robbins	Private, Air Corps	40 miles NW Medford, Ore.
101	June	4 *Byron E. Gates	Major, Air Corps	40 miles NW Medford, Ore.
800	June	6 Percy G. Smith	Staff Sergeant, Air Corps	Syosset, L.I., New York
801	June	6 Delene Bailey	Flying Cadet, Air Corps	Syosset, L.I., New York
802	June	7 William B. Wright	Lieut. Col. Air Corps	Town Hill, Md.
803	June	22 Charles Edward Robertson	Lieut. (JG) U.S. Navy	Pensacola, Fla.

*Second emergency parachute jump.

In the various reports submitted by Caterpillar Club members, reciting their experience while undergoing initiation, most of them stated that their feelings and reactions were normal throughout the incident.

Captain Chidlaw asserted that, after he felt assured that his mechanic, whom he had ordered to jump, had gone about that business in approved style, his feelings were more of annoyance that such an event had to happen rather than any feelings of fear or apprehension either because of the fire or because of the necessity for jumping.

When Lieut. Hinton prepared to jump from his airplane due to the overheating of the engine and there being no suitable place on which to land, his first attempt to dive overboard was frustrated when his feet slipped in the oil which had accumulated in the cockpit. He then grabbed both sides of the door of his Pursuit ship, put his left foot on the seat, the other foot against the instrument panel, and dived out through the door. After completely clearing the aircraft, he reached down and pulled the rip cord. "It didn't come out the first time," he said. "All this time I had no sensation of falling. The second time I pulled the rip cord I was very much surprised at how quickly the parachute opened. The ground did not appear to be coming up fast, but I saw that I was drifting backwards and that I was going to land in the top of some tall pine trees. I then slipped the chute so that I could land in an open field off to one side. I was surprised to see how easily the parachute could be slipped."

Flying Cadet J.A. Phillipot "fell into" a Caterpillar Club membership during the course of record bombing at Mather Field, Calif. Seated in a B-12 Bomber and trying to observe the flight of a bomb - there being no window for observation in this ship and observation has to be made by leaning out through the bomb bay - the plane hit a slight bump, causing him to be thrown off his balance. With a scoreboard in one hand and a microphone in the other, he was unable to catch himself and he started earthward slightly behind the released bomb. The embarrassed observer yanked the rip cord and afterwards stated that, while he was very much surprised, he felt no ill effects at any time.

Flying over Elizabeth, Indiana, at an altitude of 2200 feet, the breaking of the propeller caused his Pursuit ship to vibrate so violently that Major McCormick was partially stunned when the windshield struck him on the head. When he recovered sufficiently, he cut the switches and got the airplane under con-

trol at approximately 1,000 feet altitude. Despite the fact that the switches were out, the engine did not stop, due no doubt to the engine being pulled loose because of the violent vibration. Fragments of the disintegrating engine and ring cowling were flying in all directions. Opening the door on the left side of the fuselage Major McCormick attempted to crawl out, reaching for the flying wire to get sufficiently far from the fuselage to clear the tail surfaces. However, he either slipped or the ship gave a sudden lurch which threw him half way out of the right side of the fuselage. Realizing that he was getting quite low to the ground and that he did not have time again to get into the cockpit and level off the ship, he shoved himself as far down to the right as he could, and left the ship headfirst. His shoulder struck the tip of the stabilizer, but not sufficiently hard to injure him. The parachute opened satisfactorily, but the risers caught him around the neck and choked off his wind. His head imprisoned between the risers, he was forced to look upward until within approximately 300 feet from the ground when, after a great effort, he succeeded in extricating his head from the twisted risers. By spilling the chute he was able to avoid a heavily wooded section and landed safely in a small clearing.

Following the breaking of the oil line in his Attack plane, when the motor froze and the front cylinder let go, causing a great cloud of white smoke, oil, etc., to issue forth, Captain Leon E. Sharon, flying at an altitude of about 2500 feet, saw no place where he could reasonably expect to get away with a landing. He informed his passenger, Major Malcolm F. Lindsey, Infantry, to jump.

Major Lindsey had some very trying moments before he finally cleared the plane. Unfastening his safety belt and starting to climb out of the cockpit, the belt caught on the parachute, and some time was lost in getting it loose. As he again attempted to crawl over the side of the cockpit, the parachute caught on the side and another delay was caused. After this delay he crawled down the side of the plane, hung by the step with his left hand, caught hold of the rip cord ring with his right and then let go. Knowing that the plane was wired for radio, Major Lindsey thought it best to climb down under the plane so as to clear these wires. He states that his feelings and reactions during and immediately after the jump were few, as the parachute opened almost instantly. He recalls wondering whether the parachute would open, but was snapped up so short and quickly by the parachute that his jumping and sudden stop seemed almost coincident.

Captain Sharon stated that it all happened so quickly, the parachute opening instantly, that

he had no time for anything but to wonder whether he was going to miss the trees immediately under him on land in a small cotton patch. A current of wind came to his rescue and swung him over into a soft plowed field. His chute caught in the edge of the trees. He was greatly concerned about Major Lindsey and located him half an hour later. Their feelings of relief were mutual.

Fate was exceedingly kind to Sergeant Percy G. Smith, who joined the Caterpillar Club without going through the necessary formality of yanking the rip cord of his parachute. Sitting in the navigator's compartment of a bombing plane, he was ordered by the pilot, Flying Cadet Dalene Bailey, to "bail out!" when the left engine went dead, causing the plane to go out of control in a flat spin.

Forcing himself out of the cockpit and going overboard, Sergeant Smith was knocked unconscious when he struck the left aileron. He does not remember how long he was unconscious, but when he came to the parachute was open and he was about 6,000 feet from the ground, heading for it in an easy descent. Because of previous experience in practice parachute jumps, his feelings and reactions were normal. To his great surprise he found that the parachute rip cord handle was still in its pocket. The rip cord housing was broken and was evidently pulled apart when he hit the wing, causing the parachute to open.

Cadet Bailey stayed with the plane in a vain attempt to regain control until it was down to about 2,000 feet, and then made his exit via parachute.

In his official report on his parachute jump from an A-12 airplane, piloted by the late 1st Lieut. Lawrence C. Westley, Sergeant William Kliffel very vividly gives his impressions while undergoing initiation into the Caterpillar Club. A knock had developed in the engine, and while they were over a wooded terrain the knock reached a critical point of detonation. The vibration of the ship was extreme.

The plane was losing altitude and the pilot gestured to Sergeant Kliffel to jump.

"Fear or nervousness was undoubtedly present for some time before the jump," Sergeant Kliffel stated. "I noted a dryness in the mouth. I also recall a burning sensation in the chest when I first definitely knew that I was expected to bail out. It seemed like a cold-blooded proposition. I dreaded it. I had a fear of being struck by the tail group, particularly the stabilizer. On previous flights I had often noted its unfavorable position in reference to a man attempting to clear himself. A propelling thrust would be needed to effect satisfactory clearance. When our difficulty first made itself known, I recalled a conversation which had taken place some time before, between myself and others, in which it was decided that clearance could be effected with safety if the jumper mounted the lower stirrup, fell backward in an arc of which the foot was the center, and thrusting himself away from the fuselage with the strength of his arms and shoulders. This method, however, was closed to me by the press-

of the emergency.

At this time I was under the impression that the pilot too would come. I had a sense of gratitude for the break he was giving me in holding the ship, but I wanted him to get out. I felt that he was taking too great a risk for someone else. I knew I could get out somehow without his help. But he didn't move. All this time (possibly two or three seconds) I was working myself over the side. I wanted to give him as good a break as he was giving me. I hurried. I knocked my goggles off. They were banging on my neck. My reasoning power at this point was uncanny and far superior to my normal average both in speed and accuracy. I was practically ready - the wind tore me loose.

My first sensation was one of spinning head down. This may have been an illusion. But I couldn't focus my eyes on anything. There was nothing there except streaks. I'd seen jumpers tumbling end over end. I didn't think I was doing that. I wondered if I'd foul my chute. I wondered who packed it. I was definitely not afraid at this time. I felt like a man who had taken a definite step in an unknown direction and waited for the results in some curiosity. I knew I should wait for an instant before pulling the rip cord. I reached for it and couldn't readily locate it. I wondered if I could see my hand if I held it before my eyes. I could. The ripcord handle was in it. The cable was dangling. I felt silly for some unknown reason, as though I hadn't done it properly. I was becoming interested again. I wondered if I'd make it. I could feel a positive friction under my seat. It made me feel good. I knew the chute was working - that it was pulling out. I wished I could see what was happening. I could feel a tugging, and it was gentle. This wasn't bad. I had a sensation of bouncing as though I were on a rubber band. I felt a sharp pain between the legs. That didn't matter either. My reasoning power was gone. Things were happening too fast. I could not think them out. They were just pictures, but very, very clear. I saw the earth once in a while. It looked like I was still spinning. My feet were down now, though. It seemed like the whole parachute was spinning. I was able to reason this out. I decided the canopy was steady but that the shroud lines were swinging in a circle with me. I saw some buildings in the distance. I remembered the airplane. I wanted to see it. I wondered about the pilot. I wondered if he made it. I saw the airplane. I could see the pilot now. His head and shoulders were above the outline of the ship. Things were getting steady now. The pilot was standing up.

I was dropping in the woods. I was suddenly afraid. I was falling too fast. The trees were reaching for me. I could see the black limbs. I grabbed my shroud lines and pulled them. One tree was almost in my way. I pulled harder. I fell faster. I missed the tree. I saw it pass. I was falling backward. I looked and saw another one coming. I couldn't miss it. I crashed. I fell through the limbs. I landed on the ground. I was flat on my back. My foot hurt and I wondered if it was broke. I was afraid to find out. Everything was suddenly very still. It was a relief. I remembered that there never had been any noise. It was something in my head. At this

period, either during or after my landing, I have a distinct recollection of hearing the airplane crash to the ground, but I can't place it in proper sequence. I got up. My foot hurt. I walked away. Something stopped me - my harness. I took it off. My chute was draped in the tree. I left it as a landmark. I called Westley. I wondered if he made it. I could think better now. I was out of the woods and looked all around. I saw something white in the west. I thought it was an oil tank. I watched it and it seemed to move. It was a long ways off. It was a parachute. It was Westley. He was hurt, otherwise he'd be up and the chute would be collapsed.

I ran. I was in a bog. It was deep. The water was cold. My foot hurt worse. I could barely breathe. I saw a man on a horse. He stopped by the parachute. Then some more men on foot, then another man on a horse. One horse went away with two men on its back. I shouted for them to collapse the chute. They couldn't hear me. They couldn't even see me. I was all in. Now they were spilling the chute. Now they saw me. They were putting me on a horse. I couldn't mount. They told me the pilot was dead."

Since the foregoing compilation of the Caterpillar Club roster was prepared, a newspaper account of the initiation of two more members on the last day of the Fiscal Year, June 30th, has raised the total number of names on the roster to 806, and the total number of jumps to 843. While flying near Bocas del Toro, Republic of Panama, Lieut. Isaac W. Ott and Private John Komdat, Air Corps, took to their chutes and escaped from a bombing plane which caught fire following the breaking of a connecting rod in one of the engines.

TC-13 AIRSHIP ENCOUNTERS DIFFICULTIES

On the return flight to Moffett Field, Calif. following a visit to March Field recently, the Army Airship TC-13 ripped its upper fin during stormy weather off Point Conception in the Pacific Ocean. The airship flew back to March Field, waited until the storm abated and then flew the course successfully to Moffett Field. The trip was part of its regular seacoast patrol.

When the new class at Randolph Field reported to the Commandant on June 29th, five young men from Southern California were among the assembled embryo pilots. One, Private Vernon Plane, was mentioned in a previous issue of the News Letter. The four civilians in the group were Guy L. Hudson, Los Angeles; George L. Robinson, Corona; Frederick L. Moore, Fillmore, and Paul L. Laurence from Palms. It is hoped, says the News Letter Correspondent, that these five young men will all live up to the good records made by their Southern California predecessors at the West Point of the Air.

CHANGES IN RANK AMONG KELLY FIELD OFFICERS

There were many upsets at Kelly Field, Texas, as a result of the new legislation recently enacted affecting temporary rank. Six field officers continuing in their temporary grade are Majors R.N. Ott, L.N. Eller, C.C. Nutt, James A. Healy, R.D. Knapp and M.R. Woodward. The News Letter Correspondent states that several of the junior officers were particularly affected through the loss of their captaincies, in view of the fact that the loss in grade came just at the time when they would begin to get pay for the grade.

CAPTAIN ANDERSON NOSES OVER IN LANDING

Captain Orvil A. Anderson, Air Corps, was the victim of a minor accident at Kelly Field on the morning of June 28th. The accident occurred as he was coming down through heavy clouds after making the daily weather flight. His O-25A Observation plane developed engine trouble as it came out of the clouds at 400 feet altitude. Having very little space to maneuver in, he was forced to land in an adjacent corn field. As an additional complication, it had just rained considerably, and the plane immediately nosed up, broke its landing gear, lower wings, and bent the propeller. Captain Anderson escaped injury and his meteorological instruments were not damaged.

MISHAPS DO NOT COME SINGLY

Captain E. T. Selzer, Air Corps, flew to the Air Corps Technical School, Chanute Field, Ill., recently in the Kelly Field C-24 Transport plane for the purpose of returning graduated mechanics to the Training Center. During the course of his return flight to Kelly Field his motor started throwing excess oil and he was forced down at Little Rock, Arkansas. A Transport plane from the San Antonio Air Depot, Duncan Field, was dispatched to Little Rock and the enlisted men were brought to Kelly Field. Captain Selzer's troubles were not over. Upon effecting temporary repairs to his motor, he took off for Kelly Field, but upon reaching the vicinity of Austin, Texas, he encountered heavy weather conditions which forced him to land there. Due to the soft condition of the landing field, the airplane nosed up. There was very little damage, however, and the plane will soon be flown home.

GUATEMALAN OFFICER DIES IN CRASH

Kelly Field heard with deep regret of the accident which occurred to Captain Nicolas de Leon, Jr., who graduated from the Advanced Flying School in 1933 and was killed in an airplane crash in Guatemala City, Guatemala, recently. Capt. de Leon was an officer in the Guatemalan Air Force. He attended the Primary School at Randolph Field and was transferred to Kelly Field in July, 1933. He is survived by his widow and son, George de Leon.

Many authorities believe that aircraft will play the most important part in future wars. President Coolidge has been quoted as saying that "Our National defense must be supplemented, if not dominated, by aviation." General Foch has said that the potentialities of an air attack are so great that it may impress a people to the extent of forcing their government to lay down its arms."

The above opinions were expressed at a time when the potential effectiveness of aviation was much less than it is today. Since these opinions were promulgated, aviation has demonstrated its ability to cross the oceans, to circumscribe the globe, and to make countless flights irrespective of weather conditions.

Flights of several hours' duration have been made through thick fog without preventing the attainment of the objective. Airplanes have been landed in dense fog. Aerial armadas have been maneuvered over vast stretches of country with practically no losses. Continuous control over all components of these forces has been exercised from the air through the use of radio and telephone. The speeds of airplanes have increased 30 percent, their carrying power has been about duplicated and their operating reliability has been improved to such an extent that the fear of failure to reach the objective, due to mechanical failure, has been practically removed. Of course, such remarkable progress during the past few years should not lead one to believe that the ultimate limit of advance has been reached. Research and technical development now in progress indicate that the advance in the last 10 years is only one step in a long series of progressive steps. Conservative military aviators are loathe to make definite statements with respect to their conception of the potentialities of military aircraft of the future for fear that their conservative beliefs will be considered nothing but dreams.

That the oceans are not insuperable barriers in the paths of aviation is now conceded by all. The next generation must reconcile itself to the fact that large fleets of airplanes can be projected from continent to continent as easily as large fleets of naval vessels can be moved today, and with a speed enabling such movement to be effected in the hours of daylight. America will then fear the destructive power of these in the same way as Europe fears them today. You will recall that during the World War, Paris became panic-stricken over the fact that a gun had been created which could throw a shell into that city from within the German lines. The aviation of the future can, figuratively, throw a shell across the Atlantic Ocean and direct that shell from a platform immediately above the objective.

Large armies require the movement during mobilization of large masses of people along narrow traffic lines. The transportation of their impedimenta and supplies requires the maintenance of railroads, roads and bridges. The air force is able to keep all the movements of such an army under observation, both by day and by night, thus preventing surprise concentrations of large armies as was formerly

the case. In fact, such armies cannot be operated in the face of the terrific machine gun and bombing attacks of a powerful enemy aviation of the future. The tactics of future wars will develop along the lines of covering by air force operation the seizure of strong strategical positions by extremely mobile mechanized ground forces.

Our national policies contemplate defense of the United States against any foreign aggression. Nowhere do we find a policy of aggression. It is not contemplated that we take the offensive against any nation or for any reason except to resist an invasion of our territory.

With this basic national and military policy, we can readily deduce what should be the air-defense policy of the United States. That policy should be so to organize, train, and equip military aviation in time of peace as to permit it in time of war to be employed immediately in defense of our territory. Every offensive weapon or characteristic of modern military aviation should, in case of an invasion, be immediately brought to bear to resist such invasion.

As a part of the Army, the function of the Air Corps is to further the mission of the Army in protecting our coast lines and continental frontier, in forming a covering force in case of a major war, in holding and protecting our overseas possessions, and in protecting our cities and industrial areas from demoralizing and destructive air raids. * * *

As most convincing evidence of the present deplorable condition of the Army Air Corps we now quote from testimony given by Hon. Harry H. Woodring, The Assistant Secretary of War, before the subcommittee of the House Committee on Appropriations, on January 16, 1926:

Mr. Bolton. How many serviceable airplanes has the Army at this time?

Mr. Woodring. Approximately 1,060 airplanes were in the hands of the Air Corps on December 2, 1935, of which only about 200 are of the most modern type. * * *

Mr. Bolton. Allowing for wash-outs, deliveries, and so forth, what will be the number of airplanes in the Air Corps as of July 1 of this year?

Mr. Woodring. The figures furnished my office indicate that the Army Air Corps will have approximately 777 airplanes in its possession on July 1, 1936.

When asked about the effect of the appropriation of \$22,330,000 for the fiscal year 1936, Mr. Woodring said:

'A continuation of an appropriation of the above size will never permit the Army Air Corps to reach the desired strength as it will only take care of approximate yearly losses.'

We are reliably informed that foreign nations have from 5,000 to 10,000 planes for military purposes. As to the utter inadequacy of America's Air Service we need but recall the testimony of General Westover before the Appropriations Committee in December 1935 when he informed the committee that it is estimated that not more than 736 airplanes now on order will be delivered during the fiscal years 1936 and 1937. During this time there will be estimated losses of 981 airplanes. The net result of these factors, therefore, will leave the Air Corps on

June 30, 1937, with an estimated number of 779 project airplanes, with about 529 planes classed as obsolete on account of having passed the 5-year age limit. Such of the 529 as are suitable for retention will have to be continued in use in order to permit necessary flying by Air Corps personnel. The number and type of airplanes now available in our foreign departments makes the air defense of these possessions almost impotent, and the same lack of airplanes is greatly handicapping the ground force in the training for their part of the defense.

We get only 565 planes under the War Department appropriation bill which passed the House last month.

We are now nearly 10 years behind in the development of the Army Air Corps. The following is a list of airplanes on order or obtained during the last six years.

	Planes
1930 - - - - -	565
1931 - - - - -	364
1932 - - - - -	285
1933 - - - - -	118
1934 - - - - -	222
1935 - - - - -	401

It has been reliably estimated that we must have 800 planes per year if we are to increase the present strength of our air force. The general headquarters air force for adequate self-defense must have a minimum of 980 serviceable airplanes able to take the air at any time. In spite of this fact the maximum number yet supplied to the general headquarters air force is 383 planes. When the recent maneuvers took place in Florida, General Andrews was able to take the air with only 162 serviceable planes.

Scope of Proposed Legislation

The Baker Board and Howell Commission recommended that Congress enact legislation to enable the United States of America to bring its Army Air Corps to 2,320 serviceable planes. Since these reports great strides have been made in the development of aviation, and today international unrest and disturbance exist again in foreign lands.

It is the opinion of the committee that further neglect in the development of Army aviation is nothing but false economy. While foreign nations are making available thousands of planes for attack and aggression it is our patriotic duty to develop our own air force for adequate defense.

The enactment of this legislation is essential to achieve a full realization of the words of counsel uttered by our first President, George Washington, when he said, 'We should maintain a respectable defensive posture.' It is now well recognized that air bases have the same relation to air power that naval bases have to naval power. In other words, an air force, in order to be efficient must be ready to operate, and it must have available bases from which it can operate.

For the United States of America the development of air power is purely a weapon of defense but such development as proposed herein is necessary for adequate defense.

In the matter of national defense we fre-

quently fail to recognize the relative protection afforded by an adequate Navy. We must remember that the hostile fleet is the main objective of the home fleet and that the location of the home fleet therefore depends largely on the action of the enemy. Since our fleet must be free to meet the enemy fleet we cannot predict what portion of our coast will be protected by our Navy or how long such protection may last. As a result of this important factor we must fully realize the necessity of an adequate air force in the maintenance of an effective national defense. The committee unanimously urges the enactment of this law so that work thereon may begin at the earliest possible date. The best service that we can render our constituents, our States, and the Nation is to provide now for rational Air Corps development so that we may carry on without the loss of a single life on account of inadequate preparation."

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Army Aviation Heroes of the Past (Continued from Page 14)

Distinguished Flying Cross by Major General Malin Craig.

Three years ago last January 20th, the last remaining member of The Three Musketeers, Lieut. Irvin A. Woodring, met his death while testing an Attack ship. On January 23rd, he was buried at Arlington National Cemetery. The entire staff of officers on duty in the Office of the Chief of the Air Corps attended. Well might some of the Musketeers' old friends repeat with feeling what Lieut. Woodring said upon the death of Lieut. Cornelius, the second Musketeer to die: "I don't think of my three closest friends being killed. I've outgrown that idea. Rather I regard them as having gone on a long cross-country, and that sometime they will come back."

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EXTENDED FLIGHTS BY 20TH PURSUIT GROUP

Several extended cross-country flights in formation were performed by the 20th Pursuit Group squadrons during the month of June for the purpose of unit navigation training. The 55th Pursuit Squadron, commanded by Major A. F. Herold, sent a flight of 14 planes to Little Falls, Minn., on June 19th, the return to Barksdale Field being accomplished on the afternoon of June 21st. Twelve pilots of the 79th Squadron, under Captain Carlton F. Bond, flew to Denver, Colo., on June 27th, and made the trip both ways within the space of three days. A flight of twelve planes of the 77th Squadron, in command of Major Oliver P. Gothlin, took off for Wright Field, Dayton, Ohio, on June 28th, and returned to Barksdale Field on the afternoon of the following day. All of the above flights included stops at various fields familiar to those participating.

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Bolling Field, Anacostia, D.C., July 8th.
 Lieut. Colonel G. DeFreest Larner, Air Reserve, was assigned to active duty for 14 days, effective July 1st. Colonel Larner is one of the outstanding war-time fliers still keeping abreast with aviation, both commercial and military, and his interest includes flying the latest type of planes in all phases of instrument and radio air navigation. He qualified as an instrument flyer during his tour of active duty in 1935 and has renewed his qualification by successfully passing a flight test on the first day of active duty this year. Of the many Reserve officers assigned this station for flying training, Col. Larner is one of those most interested in night navigation, and he hopes to acquire as many hours as possible of night practice during his active duty.

San Antonio Air Depot, Duncan Field, Texas.
 Major R.V. Ignico, accompanied by Mrs. Ignico and their son and daughter, departed on leave of absence for one month and ten days, visiting relatives in Lexington, Va., prior to his transfer to the Air Corps Tactical School, Maxwell Field, Ala., for duty as a student in the 1936-1937 course. Major Ignico has been Depot Supply Officer at this Depot since his transfer here from the Army Industrial College, Washington, in June, 1932. He was also on duty at the Depot from October, 1925, to July, 1929. He is succeeded as Depot Supply Officer by Major J.M. Clark. On the evening of June 30th, a dinner dance was given by the Officers' Club on the Rainbow Terrace of the St. Anthony Hotel as a farewell party for Major and Mrs. Ignico, also as a welcome to Major and Mrs. J.M. Clark, who arrived here on June 8th from Maxwell Field. The Depot greatly regrets the departure of Major Ignico and his family and wishes them every happiness and good fortune at their new station.

Majors A.W. Vanaman and M.S. Fairchild, of the Army Industrial College, Washington, passing through on an extended cross-country flight in two C-38 planes, stopped over for a brief visit at the Depot on July 6th. Major Vanaman greeted many old friends here, as he was on duty as Chief Engineering Officer of the Depot several years ago.

Mr. H.M. Rapp, Technical Assistant with the Air Corps Materiel Division, Wright Field, Ohio, visited the Depot June 22nd for a few days' temporary duty here and at Randolph Field, conferring on spare parts requirements for primary and basic training type planes and on maintenance and repair facilities.

Barksdale Field, Shreveport, La., July 10.
 Three enlisted men of this command were appointed as Flying Cadets at the Air Corps Primary Flying School in the class of July 1. viz: Privates Max Carey and Sanford H. Siegel of the 55th Pursuit Squadron, and Rufus Smith, Jr., of the Station Complement.

Kelly Field, San Antonio, Texas, July 7th.
 The present class at the Advanced Flying School began its course of instruction on July 1st, and the very first day was rained out, and flying was suspended until July 2nd.

Lieut. Ken Rogers continues his prowess at golf by winning the Fourth of July Flag Tournament of the San Antonio Country Club, while Lieut. Timberlake won the Air Corps Golf Association Flag Tournament at Kelly Field.

San Antonio continues to take on added grace as mother-in-law of the Army by announcing, coincident with his graduation from the Air Corps Primary Flying School and assignment as a student at Kelly Field, the betrothal of Lieut. Thomas Seaburn Musgrave, Jr., A.C. (Inf.) and Miss Josephine Bennett. Miss Bennett is the daughter of Mr. and Mrs. John M. Bennett, of San Antonio, and Lieut. Musgrave is the son of Colonel Thomas E. Musgrave, commanding officer of the 23rd Infantry, Fort Sam Houston, Texas. He is now a student in the Bombardment Section at the Air Corps Advanced Flying School.

Major Charles A. Pursley, Air Corps, has been relieved from assignment as Control Officer, Southwestern Airways, Fort Sam Houston, Texas, and directed to report to the Commanding General, 8th Corps Area, for duty with the Air Corps at his headquarters. Major Pursley's successor as Control Officer, Southwestern Airways, is 1st Lieut. LeRoy Hudson, who has been stationed at Brooks Field, Texas.

Captain Winfield S. Hamlin has been relieved from assignment and duty at Brooks Field and directed to report to the Commanding General, 8th Corps Area, Fort Sam Houston, Texas, for duty with the Air Corps at his headquarters.

CHANGES OF STATION OF AIR CORPS OFFICERS

- To Randolph Field, Texas: Captain Guy B. Henderson, from Panama.
- To Mitchel Field, N.Y.: 1st Lieut. Burton M. Hovey, Jr., from Panama, for duty with GHQ Air Force.
- To Langley Field, Va.: 1st Lieut. Herbert E. Rice, for duty with Flight A, 16th Obs. Squadron.
- To Hamilton Field, Calif.: 1st Lieut. James H. Wallace, from Panama, for duty with GHQ Air Force.
- To Maxwell Field, Ala.: 1st Lieuts. Dyke F. Meyer, from U.S. Military Academy, West Point, N.Y.; Robert E.L. Chcate, from Langley Field.
- To Kelly Field, Texas: Capt. William Turnbull from Chanute Field, Ill.
- To Scott Field, Ill.: Captain Walter T. Meyer from Chanute Field, Ill.
- To Chanute Field, Ill.: Captain Clarence C. Wilson, from Mitchel Field.
- To Selfridge Field, Mich.: 1st Lieut. L. O. Ryan. Previous orders in his case amended.
- To Fort Leavenworth, Kansas: Captain Leslie P. Holcomb, from Scott Field, for duty with Air Corps Detachment. Previous orders amended.



KEEPING FIT

Barksdale Field: The post baseball team has been very successful during games played with leading semi-pro teams in this section. Although the pitching staff was limited to two starting hurlers at the beginning of the season, the heavy artillery of the Barksdale lineup have been able to win the greater number of their games. Batters of the team have been paced by 2nd Lt. J.W. Hinton, Air Res., who was able to connect safely 13 times out of 14 trips to the plate. The hits garnered by Lieut. Hinton were a deciding factor in most games, as they included 3 circuit blows, 2 triples and 4 doubles. Other leading batters are "Red" Deford, Jimmy Brister and "Spot" Heard.

The San Antonio Air Depot "Airmen" have taken the first half season championship in the City Major League of San Antonio, nosing out the Richter's Bakery team in the race by 11 to 5 on June 21st. A dinner party was tendered the victors by the Duncan Field Recreation Association on June 25th. The first game of the second half season is scheduled for July 12th. The Depot team has also entered the Southwest Texas Semipro Tournament to be held in San Antonio, July 24 to August 9. If the "Airmen" can keep up their average of wins in the Semipro contests as they have in the City Major League, perhaps they will bring home two pennants.

Although Bolling Field has had a good season of interdepartment soft ball this year, the officers of the post taking a part with an aggressive team for most of the season, the regular baseball outfit was apparently neglected, as far as the whole post was concerned. Partly because the organizations could not afford to sponsor a team, and partly because of shortage of personnel in several departments, it was impracticable to give potential players time off for practice. To offset these handicaps, Corp. W.P. Griffith, of the Communications Department, organized an independent team of men who were willing to practice and play on off duty hours. Their equipment was purchased through small donations from those interested in the success of the team. After a late start, Corp. Griffith finally got his team going. They have played local sandlot teams, semi-pro's in Washington, and some of the Army teams in the vicinity. Out of 27 games played, they have won 18 and lost 9. With an improvement in the pitching staff, they hope to better their record for the rest of the season. The present team is considered the best Bolling Field has had in four years.

Three officers from other branches were transferred to the Air Corps on June 17th, viz: 1st Lieut. Richard T. Coiner, Jr., Cavalry; 2nd Lieuts. William J. Holzapfel, Jr., C.E., and Gene H. Tibbets, Infantry.

A VERY ENTHUSIASTIC AIR RESERVE OUTFIT

General Westover, on his recent trip to Little Rock, Arkansas, had the opportunity of noting the progress of construction of the National Guard hangar at Little Rock, and the new runway being installed on that field. He also inspected the Airport at Pine Bluff, Arkansas, just prior to the opening of the Air Races at that place. This field, although not subject to much expansion, appears to be in very good condition and ably handled. The convenience of the Club House, right at the field, for itinerant flyers, is naturally recognized and should make Pine Bluff a desirable port of call for cross country and training flights.

On his return from Pine Bluff and Little Rock, General Westover stopped for servicing at Bowman Field, Louisville, Ky., and there had the opportunity of inspecting a squadron of reserve enlisted men under the command of Major Albert M. Woody, Air Reserve, which unit had come to Louisville by motor truck from Cincinnati on receiving word of General Westover's contemplated arrival, for the sole purpose of demonstrating to him their esprit and fitness for service in the Reserve. After General Westover had reviewed their drill and marching, and had ascertained that the neat uniforms which they wore so properly had been purchased by these men out of their own funds, General Westover talked to the Squadron and complimented them highly on their enthusiasm and initiative in thus fostering such fine esprit, and in reflecting publicly the pride and satisfaction they have in the part they are playing as members of the Enlisted Reserve, taking their part as members of the great Air Corps team."

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TECHNICAL INFORMATION AND ENGINEERING NEWS Air Corps Materiel Division

T-3A Camera Dimension Changes:

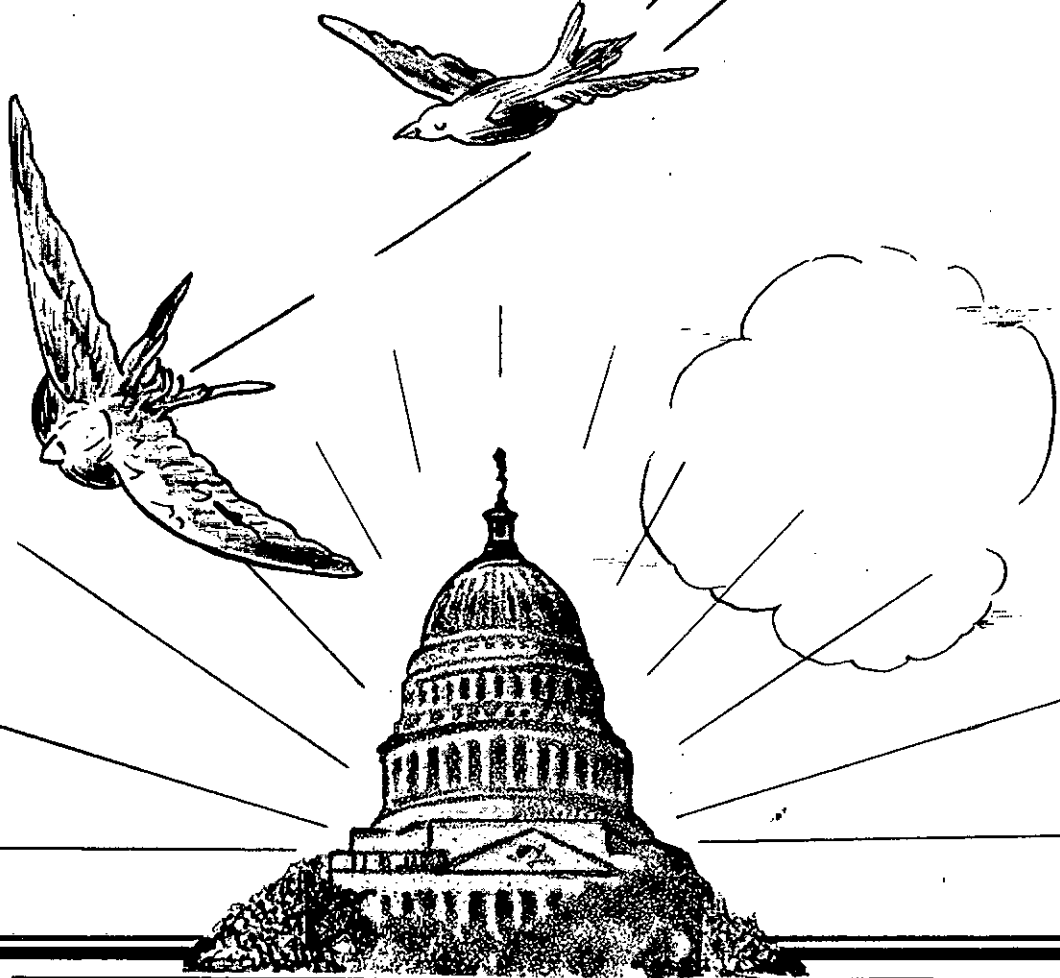
An Engineering Section Memorandum Report covers results of tests to determine the relationship between temperature and dimensions of the Type T-3A camera calibration frame for a range of temperature of -42°F. to +76°F. It was stated in the conclusions that the dimensions of the T-3A camera calibration frame change uniformly with temperature at the rate of approximately 24 by 10⁻⁶ parts per unit part per degree Centigrade. The rate of change in the direction of film travel equals the rate of change in the perpendicular direction, within the experimental limits of error. No permanent dimension change was caused by subjecting the camera to low temperatures.

Two representatives of the Materiel Division visited the Link Trainer Section of the Bureau of Air Commerce, Department of Commerce, Washington, D.C., where they received instruction in the use of the Link Trainer, which is used primarily for the training of pilots in instrument flying.

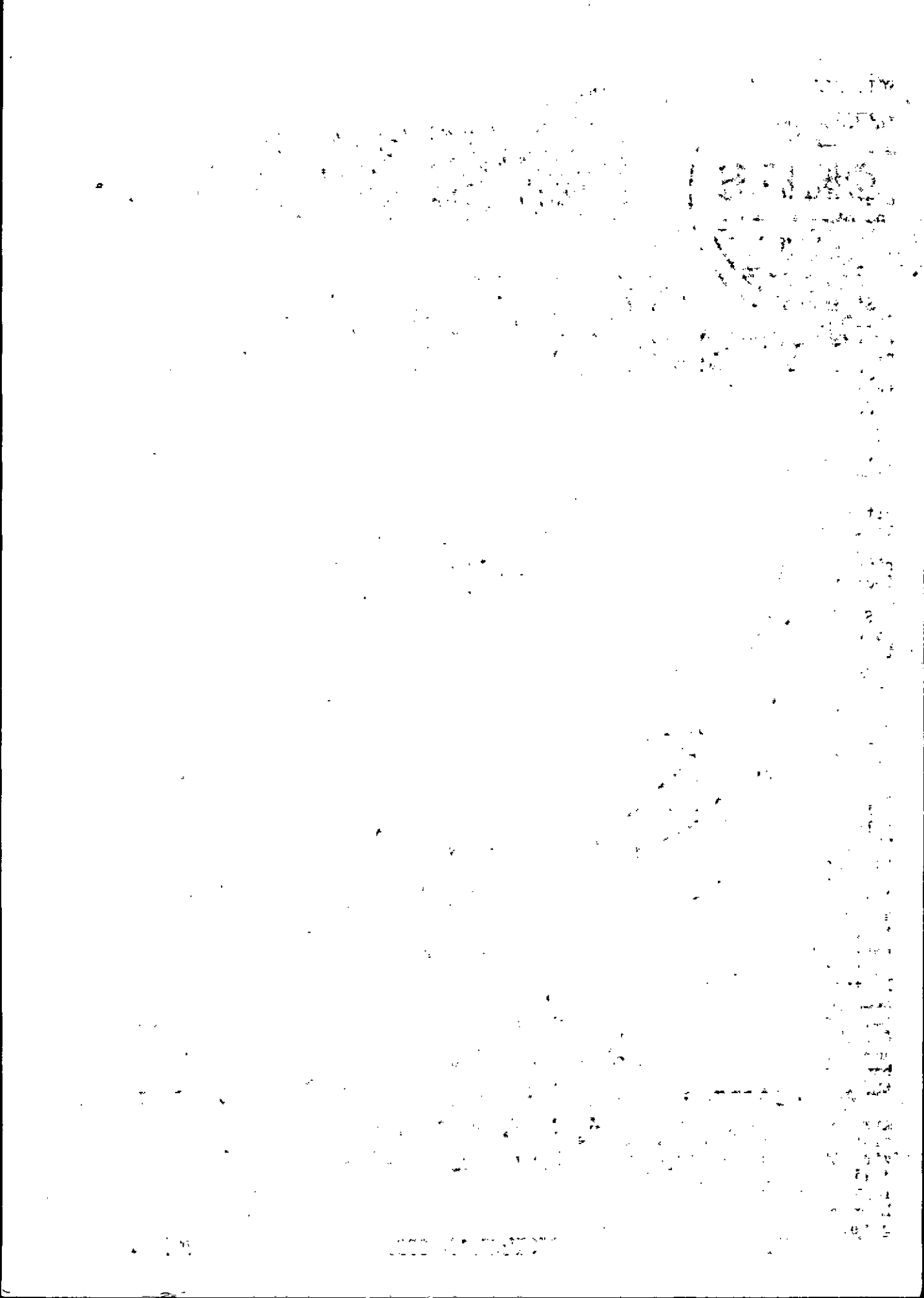


NEWS

LETTER



Issued by the Chief of the Air Corps
Washington, D. C.



Information Division
Air Corps

August 1, 1936

Munitions Building
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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NEW SHORTCUTS IN BOMBARDMENT TRAINING

Eight thousand feet above a Southern California bombing and gunnery range, a twin-engined Bomber roars through the night. A mile nearer the earth another Bomber drops a flare, bathing the target in light more brilliant than day.....

Nearly two miles above March Field, a Bomber sets a course, and when the target appears in the bomb sight the bombardier releases not a bomb, but a radio signal.....

Embryo bombing pilots and bombardiers, sitting quietly indoors, drop theoretical explosives on a miniature range...

On the ground, carefully placed bombs riddle a retired Transport that the effect of bombing on airplanes in flight may be determined.....

Simple ideas involving the Hornet-powered Martin B-12 Bombers are bringing Bombardment units of the Air Corps a degree of training not possible a few years back. Coupled with the necessity for strict economy, these ideas are proving feasible in military operations.

Bombing with flares, for instance. Planes from the 19th Bombardment Group are now working out that technique. One, laden with 300-pound demolition bombs, flies at 8,000 feet. Another, bearing a load of parachute flares, flies at 2500. Their flights carefully timed, the flare ship passes over the target a few seconds ahead of the bombing ship. Carefully, pilot and bombardier figure speed and wind drift, release the flare. As the bombing plane further aloft roars on toward the target, the flare illuminates the objective, drifts slowly toward the center, and at the proper second the bombardier trips his releases, loosing the steel eggs for their flight toward the earth. Split-second accuracy is making this type of night bombing possible, even on nights when there is no natural light to assist.

The plan has further possibilities, Air Corps officers observe. Bombers flying at widely separated levels divide the anti-aircraft fire, thus rendering it less effective. Other ships laying smoke screens and gas further hamper ground troops. On moving targets, such as battleships, bombing, us-

ing flares, has not yet been tried. But officers concerned with the plan believe it will be similarly effective, once the speed and direction of the moving target is known.

Bombing with live bombs is very expensive, and for that reason an alternative method involving the "camera obscura" has been worked out. Here, as demonstrated by pictures taken at March Field, Calif., the bombardier presses his key to send a radio signal when the target appears at the proper spot in his bomb sight.

The camera obscura consists of a portable box, mounted on four wheels and pulled by a truck containing the necessary two-way radio apparatus. A lens in the roof of the box projects the image of the bomber on a large square of paper or chart. The chart room, no larger than four feet square, is light proof. In it the scorer traces the path of the plane and records the hits and misses.

Suppose we look in on such a flight. Radio truck and camera obscura, which comprise the camera or target station, take their position at the edge of the tarmac on March Field. Beyond the range of vision toward the southwest the Bomber climbs for altitude. At last the radio operator calls to the camera operator announcing the ship's course. You see the camera, which is set on an azimuth circle, swung about until the lens is inclined slightly toward the oncoming Bomber.

Were you aloft, you would hear above the droning engines the bombardier's voice as he speaks into the interphone system: "Steady on course. Turn right...steady...stop...right again...stop...turn left...stop...", until finally the cross-hairs in the sight show the target centered way below and ahead. Then the bombardier "dumps his load," only now the load consists of a single radio impulse, and not a half-ton of TNT stuffed into a steel case at a cost of possibly \$500. Having "fired," the plane continues its course, turns and again approaches the target for another round.

Meanwhile, what's going on down below? Sitting in the radio truck, an operator facing his transmitting and receiving
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panel, a speaking unit at his mouth ready to talk with the bomber crew. Over the lone antenna stretching away from the truck to a sectional steel tower erected a few minutes earlier by two technical sergeants by the simple expedient of "walking it up," until the guywires were stretched taut, the signals flash. Standing at the camera obscura, head and shoulders hidden by the black curtain which had been rolled down to shut light out from the interior, one of the sergeants faced the drawing board down which the image of the plane is racing.

Through his earphones, the operator hears the "fire" signal. At that instant, the plane's image may be seen clearly at the top edge of the paper. After marking on the paper the point where the shadow fell when the radio shot was fired, the operator continues to chart the plane's path, marking at each second's tick of a metronome its new position, and 23 seconds after the signal was dispatched, he makes his final note. There is where the bomb landed.

Some little calculation is required for final results. Knowing the plane's altitude, the time of fall is likewise known. But the plane's speed also enters into the equation, and after these factors are applied the operators determine whether the "bomb" has struck the camera obscura, which was the target, or it was a miss; and if a miss, by how many feet. Simple when explained, and this method saves Uncle Sam thousands of dollars yearly. Or, to put it another way, makes possible one phase of repeated training in bombardment which otherwise would be impossible because of large costs involved in dropping the real thing.

Training with the camera obscura is not an occasional program. It continues for weeks, or until pilots and bombardiers become skilled in their teamwork. They then are ready to drop their annual allowance of 100-pound bombs for training and for record runs. Skilled though they may have become in "mock bombing," they still must actually drop live bombs to get the feel of bombing. Additional considerations come into play, such as air resistance to the bomb, coordinating the sight and release mechanisms and the actual mental reaction to dropping bombs containing explosives and seeing them strike the target on the nose.

In this phase of the program, the officers work by teams. Even yet the undertaking partakes of the synthetic, for only about four pounds of powder is loaded, the rest of the charge being

made up of sand. Yet for all practical purposes, this constitutes "live" bombing, for the sand-filled projectiles behave exactly like powder-filled bombs and provide the necessary reality to the training.

Closely related to the work with the camera obscura is the training within a specially constructed room with the bomb sight. The pilot sits near the ceiling. Below him a device, known as a "miniature range," which is a small scale strip of terrain painted on a canvas, moves slowly on an endless chain. Below him, the bombardier sees bridges, railheads, farm houses, airdromes, highways, cities and ammunition dumps, moving along under him as though he were flying above this panoramic scene.

Suddenly he is ordered to bomb a given target - let's say, an ammunition dump. As the dump moves into line with the cross hairs of the sight, he turns a crank to set the instrument for ground speed, keeping the cross hairs lined up on the target until the automatic signal indicates that the mechanical plane is set. He pulls the release handle when the target crosses a second point on the sight. This movement operates a signal to the scorer, who notes the hit. It is only after intensive training on the indoor range that the pilots carry their lethal loads aloft for practice with live bombs.

Experiments related to defensive maneuvers in the air also have been conducted at March Field with obsolete airplanes. Small bombs were exploded in their vicinity and the effects on fuselage and wings were noted. While details of this undertaking are not available, it is expected to have an important bearing on defense maneuvers in the future, with particular consideration given to the position of planes in flight being made the target of time-fuse bombs dropped from higher flying elements.

Labor and money-saving devices put into effect by the Air Corps are saving many dollars for taxpayers and creating new standards of efficiency in bombing operations. Some of these ideas are almost childishly simple, yet they effect great savings. The innovations described above, and many others which have found practical operation in the Air Corps have been the outgrowth of practical progress in military aviation, coupled with the necessity for keeping the aerial units - both material and personnel - ready for action at the lowest possible cost.

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During the month of June, the Engineering Department of the San Antonio Air Depot overhauled a total of 22 airplanes and 82 engines and repaired 36 airplanes and 34 engines.

NICHOLS FIELD SCOOPS ITSELF DRY
By Lieut. Wycliffe E. Steele, Air Corps

Since 1924, the landing plat of Nichols Field, Rizal, P.I., has always changed to a veritable lagoon for several months each year during the rainy season, precluding any flying while the field was thus under water. The inundation became of such established yearly regularity that the field was humbrously referred to as Lake Nichols.

It would seem that every year new plans were suggested for the diminution of or prevention of the floodings, but for one good reason or another they never reached the shoveling stage.

On October 15, 1935, Nichols Field, under the administration of Major Thomas W. Haste, scooped the first shovel of dirt on a cardinal canal project that would forever keep the flying field drained to permit flying the year round.

The project as it was predetermined was no inconsiderable business, and, after examining the equipment available for the work, it seemed to us that the completion of the work would be long in coming. However, we had failed to reckon on the resourcefulness of the Air Corps.

When on May 27, 1936, the rains stepped in to put a stop to the task, 81 men, with the aid of a vigny one-quarter yard gasoline shovel that required the ingenuity of the smart Air Corps maintenance crew to keep it in fighting trim for its prodigious gnawing labors, along with five tractors, rippers, scrapers, graders, twelve trucks, and ten thousand gallons of gasoline, had, in the one hundred and eighty working days since October, completed the big ditch to a point where the field was assured adequate drainage during this rainy season. It was a job well done.

From humble beginnings, Nichols Field's landing area has grown to a size of approximately 3850 feet long by 900 feet wide. This particular area was once the dozy barrio of Mabong. (Mabong had a scant sixty wells on its location which ranged in depths and peripheries up to sixty feet and thirty feet, respectively, to supply water for its bulo plants - "betel nut" - which require individual watering very frequently). The whole of this area is drained by the Paranaque River, which runs east to west along the north end of the field, and north to south along the west border of the post.

The Manila-Cavite railroad tracks run north and south along the east border of the landing field. East of the railroad, and rising to an average of ap-

proximately ten feet above the landing field, is a tract of land, some four thousand feet long and one thousand feet wide, given over to the cultivation of rice, a plant which requires water in capital letters. The flying field is a natural basin for the draining waters of this higher ground, a fact which guaranteed Nichols Field's annual flood.

The new drainage ditch, lying as it does between the Manila-Cavite Railroad tracks and the high rice land, gulps up every bit of water that tries to seep through unto the field from this area, and also takes care of about 75% of the field's drainage, emptying the whole into the Paranaque River.

A total of 65,000 cubic yards of dirt was dug out to make this ditch 3,600 feet long, 25 feet wide, with an average depth of five feet.

This canal by itself is of immeasurable value, but the building of it resulted in another improvement to the field almost as important as the drainage. The dirt that was dug out was used to build a monsoon runway, giving Nichols Field a good South West and North East landing run. Additional filling and leveling on the field resulted in a 700-foot increase in the length of the east-west landing run.

Approbation is due those officers and enlisted men who contributed to the successful undertaking of all this work and performed wonders with manifestly inadequate facilities.

Atop a human point of view, we reserve a special praise for those responsible for the direction of traffic during this work. The regular flying activities of the field were never hindered while those five tractors hitched to rippers, or scrapers, or graders, and those twelve trucks, heavily loaded or empty, shuttled back and forth over the field guided by wise traffic management. We are proud to state that not one accident occurred throughout the whole of this work.

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FIRST BALLOON SQUADRON IN MANEUVERS

The First Balloon Squadron is scheduled to depart from Fort Sill, Okla., on August 1st for Camp Custer, Mich., where they will engage in the Second Army Maneuvers for a period of two weeks, returning to Fort Sill upon completion of the maneuvers. The Squadron is to operate under simulated war conditions in all seriousness, since a limited amount of clothing is allowed and civilian clothing is entirely excluded.

The trip from Fort Sill is to be made by motor caravan, the entire unit moving by this means. The return trip is to be made in the latter part of August.

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THE NEW HOME OF THE 91ST OBSERVATION SQUADRON
By the News Letter Correspondent

CRISSEY Field is no more. No longer will the city by the Golden Gate enjoy the distinction of having an Army airport within its boundaries, or the residents thereof be awakened each morning by the sound of Army airplane engines humming over their rooftops.

No longer will the pilots of the 91st Observation Squadron returning from cross-country flights have to hope and pray that they will be able to find the field when they arrive, instead of a nice thick blanket of fog, concealing in its depths several assorted hills, bridge towers, high buildings, etc.

The 91st Observation Squadron and the 15th Photo Section, occupants of Crissy Field since its inception in 1919, were ordered away from their beloved home in the middle of June, and by the 30th of that month had packed, bag and baggage, families, household lare and penates, even to the Squadron dogs, and had moved over 900 miles to their new station, Fort Lewis, Washington.

The move was made by almost every conceivable means of transportation. Freight cars, passenger trains, government motor trucks, commercial motor vans, private cars, motorcycles and airplanes were all used in transporting the personnel and impedimenta of the field. The Squadron boat, with its caretaker, was loaded on a coastwise freight steamer and transported to Seattle, from which place it was run under its own power to Steilacoom, the nearest dock on Puget Sound at which it could be parked.

Although we had been prepared for the order to move for a month or more, no decision had been made as to the future home of the 91st, so no packing or crating was done until the final order to move was received. Upon the receipt of this order, all ordinary operations at Crissy Field were discontinued, and everybody was set to work completely stripping the field of movable Air Corps property, crating and boxing it, and loading it onto freight cars, of which a total of eight were fully loaded. The furniture of officers and noncommissioned officers was transported by commercial motor van, this being the most convenient and economical method.

Practically all the personnel of the post evacuated on or before June 27th, the only ones remaining after that date being those with property responsibility in order to turn over the property left behind to the Quartermaster, and to complete the audit of Air Corps Supply.

The Army motor truck convoy departed from Crissy Field at 8:00 a.m., June 27th, and consisted of two Field Servic-

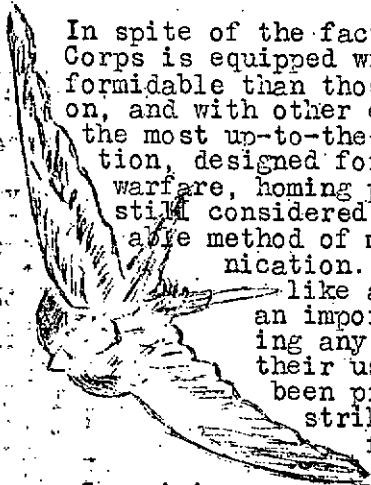
ing Trucks, two photographic trucks, two Federal $2\frac{1}{2}$ -ton cargo trucks, one reconnaissance car, three Dodge panel radio trucks, and a number of Dodge $1\frac{1}{2}$ -ton cargo trucks. Thirty-three enlisted men traveled with the motor convoy as drivers and relief drivers, accompanied by two officers as Convoy Officers. The convoy arrived at Fort Lewis, Washington, at 6:30 p.m., June 30th, having covered the entire journey in four days of driving. This is believed to be a record for moving an Army motor convoy. All driving was done by daylight, starts usually being made about 7:00 a.m., and halts for the night before 6:30 p.m. The longest day's drive was approximately 300 miles. Only one truck, one of the Field Servicing Trucks, gave any trouble during the entire trip. This vehicle suffered from vapor lock in the fuel line from the pump to the carburetor while driving through the Sacramento Valley in California on the first day out. The trouble was finally remedied by the ingenuity of the driver, who wrapped the line in asbestos packing, held on by friction tape, and removed the hood of the truck, after which it ran without further difficulty.

It speaks well for the quality and condition of the private automobiles owned by members of the command that, although nine officers and fifty-four enlisted men were authorized to proceed by privately owned automobile, all arrived at Fort Lewis safely, and not one report of mechanical trouble was heard - not even a punctured tire.

The airplanes assigned to the 91st Observation Squadron were all flown to Fort Lewis several days in advance of the final abandonment of Crissy Field; the C-14 Transport airplane making two trips to ferry the advance detail of enlisted men, and the C-14 airplane assigned to Hamilton Field was borrowed for two round trips to aid in ferrying this detail and to return the pilots of the O-25C airplanes to Crissy Field. A total of 25 enlisted men was transported by air.

The 91st Observation Squadron and 15th Photo Section, in their new home, Fort Lewis, are at present very badly handicapped by the lack of technical and administrative buildings. The buildings found here upon arrival were sufficiently large for the Air Corps Detachment of three officers, 35 enlisted men and three airplanes previously stationed here, but are totally inadequate for a full strength Observation squadron and photo section. Even with our few airplanes, half of them must be parked outside the hangar, and all departments have less than half the space required for efficient functioning. It is hoped that in the near future adequate housing will be provided.

THE TRAINING OF PIGEONS



In spite of the fact that the Air Corps is equipped with wings more formidable than those of the pigeon, and with other equipment of the most up-to-the-minute invention, designed for use in modern warfare, homing pigeons are still considered an indispensable method of military communication. The birds, like aviators, play an important part during any skirmish, and their usefulness has been pronounced by striking feats performed during both peace and war. Surprising, too, is the intelligence of these birds as exemplified when they arrive at their home loft, after encountering driving rains and heavy fog or an occasional battle with a pigeon hawk enroute. These adversities are rather insignificant compared with the hardships experienced in the last war. Some have completed their missions suffering from injuries so severe that they died after they arrived. This, it is said, is due to a more or less unsolved phenomenon in the fact that home to a pigeon is what the North is to a magnet. Too, it may seem strange to think that a pigeon has intelligence, but this faculty is one above all that the trainers depend upon most.

The pigeoneers at Bolling Field are steadily striving to increase this faculty. Under the supervision of Lieut. George W. McGregor, Air Corps; Staff Sgt. Gawthrop and Private Hagge, Signal Corps, a fine pigeon loft of sixty birds is kept and trained to the latest developments of pigeon usage. Usually the birds' training schedule is carried out when sufficient room is available in a transport plane to carry the basket in which they are kept prior to release. On some occasions the birds are released in flight. The motor of the plane is throttled back, and when the wind resistance is at its lowest degree the birds are tossed into the air. Here, again, the pigeon displays its intelligence, for it holds its wings closed until it has dropped sufficiently from the slipstream of the plane and then spreads its wings to begin the homeward flight.

It is interesting to note that recently thirty birds were carried to Langley Field in an airplane, released, and 29 of them returned to Bolling Field. The first group arrived in four hours and forty minutes, and arrivals continued for the next two hours. Poor weather conditions and fog along the course, with a strong prevailing northeast wind,

made the flight difficult and, unfortunately, one bird was lost. Two days later, another flight of 24 birds was flown to Roanoke, Va., an airline distance of 200 miles, and released at 9:55 a.m. The first group of eight arrived at Bolling Field at 4:00 p.m., totalling 6 hours and 5 minutes' flying time. Ten more birds arrived at intervals that afternoon, and four birds arrived at intervals that evening. A little slow on schedule, four birds arrived the second day, one the third day and two on the fourth. The last arrival was completely exhausted, with a severe flesh wound in the breast but with every determination to fulfill its mission. Again, considerable fog and rain over the decidedly mountainous country made the flight a difficult one. Their flights were not listed as record flights, but their coming through under trying conditions well compensates for the time, patience and expense to preserve their usefulness in time of need.

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READY REFERENCE ON FLYING FIELDS

In order to facilitate and maintain a ready reference on the condition of all flying fields within a radius of 500 miles of Barksdale Field, strip maps covering ten routes radiating from that field have been mounted on panels which are hinged on a pedestal which is kept in the Post Operations Office. When changes occur on the condition of the flying fields shown on the strip maps, this information is posted on the margin of the panel opposite the field concerned. Pilots departing from Barksdale Field are able to secure information in a few minutes on all flying fields within a 500-mile radius by referring to these strip maps.

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UNFORTUNATE BALLOON ACCIDENT

Air Corps personnel offer deepest sympathy and condolences to the bereaved families of Master Sergeant R.F. Rumpel and Staff Sergeant D.T. Tucker of the First Balloon Squadron at Fort Sill, Okla. The two men met their death in the explosion and burning of a free balloon in which they were making a training flight.

Captain F.D. Lynch, who recently took over the command of the heavier-than-air unit at Fort Sill, was thrown clear of the debris and suffered from slight burns, while Staff Sergeant Joseph Murray, pilot of the balloon, was seriously burned and is now recovering in the station hospital. The balloon apparently exploded just as the rip cord was pulled when the basket touched the ground at the end of the flight about noon on July 10th.

Sergeant Rumpel was 46 years of age, and Sergeant Tucker, 33.

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THE 11th Bombardment Squadron takes off from its base at Hamilton Field, Calif., at about 8:00 a.m., August 1st, on what promises to be an immensely interesting as well as instructive flight.

With nine B-10B airplanes awing, crewed by a total of 16 officers, 2 flying cadets and 18 enlisted men, the Squadron will parade its strength over one of the most interesting itineraries which has ensued from Hamilton Field for some time. Officers and men anticipate many pleasant visits to the cities and towns along the route, and it is hoped the flight will not only serve its basic purpose, instruction and training, but as a "Good Will Flight" as well.

The 11th Squadron possesses an enviable World War record, which includes honors for four battles (Lorraine, St. Mihiel and the Meuse-Argonne); 13 victories which received official recognition and confirmation; 32 bombing raids and 17 combats with 20 casualties, consisting of 10 killed, 8 taken prisoners, one wounded and one reported missing in action. Its peace-time record, which is second to none, includes selection as Bombardment Component of the Demonstration Unit at the Air Corps Maneuvers of 1931; commendation received from General MacArthur for loyal and efficient work during those maneuvers; rescue of the snowbound Navajo Indians in Northern Arizona in January, 1932; a flight to the Yosemite Valley, via Death Valley, in May, 1932; the Rocky Mountain mission in November, 1932; assistance given to science in its quest for the secret of the cosmic ray undertaken by Dr. R.A. Millikan of the California Institute of Technology, and various other long cross-country flights too numerous to mention. It is morally certain the flight will reflect to the glory of this famous old organization, and the cities along their path will know that "Maggie" slipped again and that "Jiggs" is having a night out.

The 11th is now commanded by Major Carlyle H. Ridenour, Air Corps, who served with the Air Corps during the World War, graduated from the Air Corps Engineering School and earned a B.S. degree at the California Institute of Technology. The Squadron is particularly noted for its high altitude bombing work, having dropped bombs weighing from 100 to 2,000 pounds from record altitudes. Needless to say, such missions necessitate the use of oxygen and heavy winter clothing, whatever the weather conditions on the ground, and the rapid changing of temperatures from warm summer to coldest winter in the course of minutes causes considerable discomfort to all personnel participating.

The following is the itinerary for the contemplated flight:

August 1 - Hamilton Field to Spokane, Washington.
 August 3 - Spokane to Missoula, Mont.
 August 4 - 9, operations from Missoula to test all landing fields for suitability for operations by B-10B type of airplanes and facilities of adjacent towns for quartering of personnel, servicing of aircraft, and for communication facilities.
 August 9 - Maintenance of aircraft at Missoula.
 August 9 - Missoula to Cheyenne, Wyo., and Denver, Colo.
 August 10 - Denver to Albuquerque, N.M.
 August 11 - Night flying from Albuquerque to Hamilton Field, via March Field, Calif.

Following is the contemplated roster of personnel:

Officers

Major C. H. Ridenour, Commanding.
 Captain D.R. Lyon, Operations Officer.
 Captain M.L. Harding, Flight Commander.
 1st Lt. H.T. Alness, Supply Officer.
 2nd Lt. C.A. Peterson, Adjutant.
 2nd Lt. A.R. Luedicke, School Officer.
 2nd Lt. H.E. Knieriem, Assistant Communications Officer.
 Flying Cadets Richard T. Knight and David H. Walker.

Enlisted Men

Staff Sergeants Charles W. Cheatham, Louis T. Silva, Everest F. Waid, Andrew R. Levesque.

Sergeants Ludwig Kurrle, Rua C. Hayes, Harold S. Cooper.

Corporals Otto G. Glass, Paul McDaniel, Raymond J. Elliott, Arthur R. O'Herron, and Ira W. Huddleston.

Privates Roy J. Wilhite (1st Cl.), Gaston R. Upchurch, Thomas F. Dillon, John W. Taylor, Myron H. Pike, Leslie R. Brinkmeyer, James T. Phillips, Irving M. Camp, Robert M. Kinney, Jack E. Sullivan.

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DEMONSTRATION FOR WAR COLLEGE STUDENTS

The participation by the 37th Attack Squadron, Langley Field, in the demonstration for students of the War College left nothing to be desired in displaying effective tactics on deployed ground targets and convoy trains. Led by Major Schramm, Squadron Commander, graduate smoke eater of the last class of Chemical Warfare Service School, this unit strafed an area target with 2400 rounds of cal. 30 ammunition, flying at 75 feet in echelon to the right. They added insult to injury by returning at 1000 feet and literally destroyed the target with sixty 25-lb. fragmentation bombs. To insure realistic conditions the fragmentation bombs were serviced by the Nansmond Ordnance Depot on the James River and, judging by results, the time and expense were not wasted.

THE MEDICAL CONTRIBUTION TO THE DEVELOPMENT OF BLIND FLYING

By David A. Myers, Major, Medical Corps, U.S. Army.

(Continued from last issue)

In order to understand how and why this research was started, it is necessary to digress into aviation history. From the beginning of man's invasion of the air, fog, the universal menace to travel of all kinds, has taken a great toll of human life. Old-time pilots learned to fly without artificial instrumental aids of any kind, and developed to a remarkable degree what was called "Flying Sense". Until long after the war, flying for any length of time without sight of earth or sky was impossible.

About 1918 Dr. Elmer Sperry of gyroscopic fame, invented a Turn indicator. Since that time many artificial aids to spatial orientation have appeared. Bank and Turn indicators, artificial horizons of various types, flight integrators, etc., all of these instruments are gyro controlled to overcome the pull of gravity and allow their "indicators" to show ship movement and spatial position.

The Sperry Artificial Horizon consists of a miniature gyro controlled airplane which will assume the position of the carrying plane while in flight. The pilot controls the position of his airplane by visualizing what the miniature plane is doing, and correcting his position accordingly.

The Bank and Turn indicator mounted at bottom has a pointing arrow which indicates all turns of the plane, and a small ball seen in the runway at the tip of the arrow, which moves from side to side when the plane is banked up in a turn to right or left. Every artificial aid to spatial orientation lets the pilot "mentally" keep one foot on the ground.

Probably one of the first pilots to become interested in the Turn indicator was Major William C. Ocker, Air Corps. It is believed he tested the original Turn indicator for Dr. Sperry, and, when the Bank and Turn instrument was brought out, was much enthused. The original intent of these instruments was to improve technical flying ability by showing pilots when smooth turns and banks were being made, and to function as a crutch to the magnetic compass. All of the old-timers were, however, taught to fly by instinct, and the terms "inherent flying ability", "seat sense" and "flying sense" came into use. Artificial aids showing them when their ships were turning or banking were considered as entirely useless, as all they had to do was to look at the earth and see what their plane was doing. So, although all planes were later equipped with indicators, they went unserved and unused. Unfortunately for many, the visibility did not always stay good on

every flight so that pilots could look overboard at God's horizon and see what their ships were doing. When visual contact with the earth was obliterated, they discovered that it was impossible to maintain their planes in the air. If the fog was not completely on the ground, they would come down under it and "hedge hop" over trees and houses in a desperate attempt to keep visual contact with the earth until they could find a place to land. Only extreme skill and good luck brought many of them through. If the fog was completely on the ground, the only alternative was to climb high above possible danger. This was little comfort, for there is the disturbing knowledge that when the ceiling is reached the fuel may be gone, and the plane must come down. Flying in fog without proper navigation instruments, the pilot will become hopelessly lost from a directional standpoint.

Flying in fog without a visual reference to gravity (the earth), such as a Bank and Turn indicator, or some form of artificial horizon, the pilot will be (1) unable to sense the position of his ship with relation to the earth's surface, (2) unable to sense the speed and direction of motion, and (3) will eventually go into circular motion, (4) experience the vertigo described, and (5) crash unless he takes to his chute before volitional control is lost.

Blind Flying is the grim specter of aviation. The remedy for all this is to practice simulated Blind Flying under the hood until Instrument Flying is as easy as flying under clear skies and with perfect visibility. About 1919, the Air Corps advocated the use of any instruments that would add to the safety of flying, and there was a revised interest in various flying instruments. However, no progress was made until 1926.

I quote from a report made by Donald E. Keyhoe in 1929:

"***Full credit must be given these men (pilots) who have tested the various instruments and methods suggested by scientists. The invention of the Bank and Turn indicator was the first step. But the pilots who first used it tried different methods without instruction, so few became expert. Those who succeeded were able to go through fog or snow for 20 or 30 minutes and at the end of that time their strained nerves would stand no more. Sight of ground or sky became vitally necessary to clear away the confusion that was swiftly taking control. Two men are mainly responsible for progress beyond this stage. Ocker and Myers proved that this strain was caused by the pilot's disbelief in his instruments and a strong tendency to trust his own

senses, which are always misleading. The Ocker-Myers method takes into account the three elements which give balance, muscle sense, sight and vestibular sense.***"

There is a tendency in an occasional young aviator to wax so cocky over his flying ability that it becomes necessary to partially deflate it for his own safety. For many years I had used the following plan in such cases: They were placed in the Jones-Barany revolving chair and turned right or left, and asked which way they were turning. Their replies were naturally correct. Their eyes were then covered and the rotation repeated. After a few turns, the chair was gently stopped and they were asked which direction they were turning. Vertigo having been induced, their replies were invariably that they had started to turn in the opposite direction of prior motion. The eyes were uncovered, and to their amazement the chair was not turning at all. If this did not quite satisfy them, the rotation was continued until they experienced the sensation that the body was not moving. On being uncovered and finding they actually were turning right or left, their chagrin was very evident. For an aviator to suddenly discover his inability to tell which way his body is turning, if at all, is, to say the least, disconcerting.

In January, 1926, I gave this induced vertigo test to Major Ocker - not because he was classed as cocky, but to see what the mental reactions of an old-time pilot would be when he discovered he could not tell whether he was turning or sitting still. Following the test, he disappeared without comment of any kind, but soon returned with a view box carried in his hand. The test was repeated in all combinations of rotation, using the unlighted box to cut out the light, and thus remove sight from the trinity of equilibrium senses. There was the usual induced vertigo, with the usual inability to tell correctly which way his body was turning, etc. The gyroscope was then started, and the Bank and Turn indicator put in action. The flash was lighted and the tests repeated. This time every answer was correct as to direction of motion, stopping and starting. Even the confusion of reversals was absent. The sensations were felt the same as before, but by giving the answer shown by the pointer on the Bank and Turn indicator, instead of the answer prompted by his senses, it was found impossible to confuse him.

This demonstration started the research into Blind Flying. It was immediately recognized that here was the answer to the pilots' inability to do Blind Flying without a visual reference to gravity.

By lighting the box, the equilibrium

trinity of senses was restored to a coordinated action. Merely restoring sight to the equilibrium sense, however, is not enough. There must be something within the pilot's range of vision that will act as a vertigo stopper, and tell him what position his ship is in with relation to the earth. In other words, allow the pilot to mentally visualize "where is the ground". The hand on the Bank and Turn indicator will accurately show motion in either direction, right or left, and will come to a dead center and remain there when there is no rotation. There will be the same false impressions of reversal of movement and falling received by your brain, following the rotation, but by means of your sight you will be able to correct these false impressions of movement, and your vertigo will be almost immediately overcome, provided you believe the instrument.

That there was any connection between the normal physiological reactions of a pilot, and his lack of ability to do Blind Flying, had never occurred to either of us, until Major Ocker's experience with, and his absolute belief in, the action of the Bank and Turn indicator, crashed head on into the author's knowledge of induced vertigo and the physiological reactions involved in the special senses concerned. Out of the wreck emerged several things of vital importance to aviation.

The foundation sense of all spatial orientation is vision. There is no substitute for visual reference. It makes no difference what the pilot sees so long as it gives him that vital information: "Where is the ground", and what is the position of the airplane with reference to it. Many accidents have resulted from ignorance of this vital principle. Many have resulted because there were pilots who knew they could do Blind Flying by using their "flying sense". There is no longer any excuse for ignorance regarding Blind Flying. Without exception the present-day pilot who can do so obtains training in instrument flying. This is a far different reaction than the general attitude of most aviators when Ocker and Myers announced, in 1926, that "No one could do Blind Flying without artificial aids", and that they "had discovered how to do it". We were both promptly labeled as being enthusiastically crazy.

In the past those pilots who had discovered they could not fly blind, did so through bitter experience. They, however, had nothing of value to report as an aid to their fellow pilots. They merely labeled themselves as better flyers than the average. However, it was noted they avoided fog flying. Having been taught to fly by instinct, it was hard to convince the average pilot that his flying sense would not bring him back from every flight.

A knowledge of the uses to which any

one of the special senses, the care of, and our reactions under all conditions, towards these special senses becomes of vital importance and value only to the individual making special and expert use of that special sense.

The airman being vitally concerned in his ability to sense his position, change of position and relation to the earth's surface has called all his special senses into play and has developed "FLYING SENSE". What is flying sense? It is not an inherent sense.

It is an acquired sense. It is something the airman has that others do not.

In its entirety it is composed of the special senses of: Sight - hearing - taste - smell - touch or tactile sense - muscle sense - vestibular or inner ear sense.

Just as there are degrees of "Doctor sense", there are airmen with varying degrees of "flying sense". Being an acquired sense and dependent for its development on the ability, adaptability, aptitude, and knowledge of the person; it is evident, that everything else being equal, the airman who correctly understands and interprets the sensations received from his various senses will have the most "flying sense".

Constant repetition of demonstrations with the Ocker-Myers "Vertigo Stopper Box" finally convinced pilots that it was a real lie detector, and that, on the ground at least, they could not tell which way they were turning, if they could not see. Many continued to fly by instinct in the stubborn belief that these "reverse" reactions could not happen in the air. In answer to this the author, with Major Ocker at the controls, spent some hours in the air as a "Blind Flying" observer, communicating by means of strings to tell him what I thought he was doing from time to time. Major Ocker also rigged up a covered cockpit ship with one exposed control pilot seat, and spent many hours testing out the various reactions of himself and others.

It was proven beyond a doubt that these reactions do take place in the air, and, in addition, are much intensified.

Later, our findings were communicated to the National Advisory Committee for Aeronautics, and elaborate flight tests were made with a covered hood and a control pilot. Their findings verified the theory that circular movement invariably resulted during flights made by a pilot flying in a totally dark cockpit. These findings verified our original contention regarding movement and the production of induced vertigo, and were made by Carroll & McAvoy. They published the following conclusions:

"Many pilots have felt that the flying sense was largely one of muscular

balance and that visual reference played a more or less insignificant part. These experiments should serve to remove this idea and develop the appreciation of the fact that muscular balance plays an extremely small part in flying, excepting in correlation with visual reference in the development of a polished technique. Visual reference of some sort must be provided, either by the horizon, by the reflection of the sun or moon while in dense fog or clouds, or by proper instrumental equipment."

The fact should not be neglected that the use of proper navigational instruments provides an artificial horizon, if not in a single instrument, then in the correlation of several instruments, such as a turn and bank indicator and an airspeed meter.

It can be recommended to all pilots that a careful self training in the use of and reliance on navigational instruments of this character will provide them not only with definite mechanical assistance, but likewise will go far to remove the psychological hazard of blind flying."

Professor Schaeffer, of the University of Kansas, many years ago conducted experiments with blindfolded individuals, and proved conclusively that spiral movement always resulted when running, walking, swimming, driving a car, etc. Continuing his experiments on the lower forms of life he came to the conclusion that any forward moving organism (including man) would move in a spiral path, provided no orientating sense, such as sight, touch, etc., guided it.

The value of the Ocker-Myers view box became generally recognized as the only means available of instructing pilots and prospective pilots while on the ground in the sensations they would experience and the reactions they would have if they attempted to do Blind Flying without an artificial horizon.

The term "Artificial Horizon" was originated by the author and given the following definition in the original report:

"Any instrument or combination of instruments that will quickly, easily and reliably give the pilot information that he may mentally visualize in terms of where is the ground."

In the United States Air Service magazine, issue of April, 1928, there appeared an article: "The Artificial Horizon Seeks Recognition", by Frederick R. Neely, in which the research conducted was fully explained.

Instrument Flying and Simulated Blind Flying were the logical outcome of this research work, because there had been established the physiological foundation on which to build the technical superstructure.

Major Ocker, visualizing that it was imperative every student at the Air

Corps Training Center should have this instruction, originally the demonstration box and formulated a course of ground instruction in Blind Flying, which was adopted by the Air Corps as routine in May, 1934. In addition, a routine course in actual Instrument Flying follows the ground instruction.

The Ocker-Myers demonstration box is based on sound physiological principles, and its value as a preliminary to actual Instrument Flying in an airplane is essential, because only in this way can the student be actually shown that he cannot depend on his own sensations when God's horizon is not available.

Myers and Ocker, having solved the problem of how to keep the pilot in the air when he did not have a horizon to look at, it became necessary to solve the problem of guiding him to his intended destination and safely landing him on an airport he could not see.

The development of blind take-off, blind navigation and blind landings was much stimulated by the discovery of the basic principles underlying Blind Flying. Today they are accomplished facts. Many familiar names are linked to this development: Doolittle, Hegenberger, Kingsford Smith, Lindbergh, Umstead, Griffin, etc.

The historical around-the-world flight, led by Captain Lowell H. Smith, Air Corps, was successful, because all of the pilots were strong advocates of Instrument Flying and expert in their use. This flight is all the more remarkable because at this time the research establishing the underlying principles had not been accomplished. They simply knew they had to depend on their instruments if they came through.

Many historical flights have been accomplished since that time, and without exception each and every pilot was an expert in Instrument Flying. These history-making flights include, among others, Lindbergh, New York to Paris; Post and Gatty, around the world; Mattern and Griffin, around the world; Herndon and Pangborn flight; Kingsford Smith, Trans-Pacific; Amelia Earhart, Trans-Atlantic and Pacific; Byrd, Transatlantic, North and South Poles; Lincoln Ellsworth, South Pole.

Recently Major Ira C. Baker, Air Corps, flew from coast to coast, completely covered in a hooded cockpit - a wonderful example of not only Blind Flying, but of blind navigation.

Lt. Colonel Fitzgerald, who began his flying training in 1914, has continuously been an Instrument Flying enthusiast to the extent that he frequently adopts this method and gets under the hood in perfectly clear weather in order to protect himself from the sun's rays. While there were many other pilots who paid particular heed to Instrument Flying in the old days, the examples cited are mentioned for the purpose of showing

that if this type of flying is participated in for a length of time, sufficient to train the pilot in automatic control, he will finally become as proficient as if he were flying in ideal weather. Colonel Fitzgerald states he did not know why he used instruments when the weather was soupy - he only knew he had to if he survived.

The successful blind flier must correlate his senses to his instruments.

To Major Ocker belongs the credit of supplying the original problem for solution and the development and application of the technical aids essential to that solution. His unlimited experience and unflagging interest was a constant stimulation. His development of the Ocker course of ground instruction, now in universal use, shows he has unlimited vision regarding aviation.

To the author belongs the credit of conducting the medical research that resulted in the discovery of the basic underlying principles now universally acknowledged as the solution of the difficulties encountered in Blind Flying, and thus furnishing the basis on which all present-day Instrument Flying is based.

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MERCY FLIGHTS BY KELLY FIELD AMBULANCE

On July 15th, a plane piloted by Lieut Ken Rogers, with Sergeant S. Birkland as mechanic and Corporal R.C. Cheek as hospital attendant, went to Dallas, Texas, to pick up a soldier from Battery F, 15th Field Artillery, a member of the Texas Centennial Battalion. This man had an acute case of appendicitis, and the Transport C-15 hospital ship returned him to the Fort Sam Houston Hospital.

The same ship took off at 2:25 p.m. for San Diego, Texas, with Captain Donald Olds as pilot, Staff Sergeant F.K. McKowal as crew chief, and Captain B.R. Galbraith as Medical Reserve, attached to CCC component, as medical attendant, to pick up a CCC youth, named Eleno Guerra, who was injured in an auto truck accident and was suffering from a compound fracture of one leg. The injured youth was at the CCC camp at Alice, Texas, but there was no field in the vicinity listed as suitable for the Transport. Accordingly, the Post Operations Officer, Major U.G. Jones, went to Alice in a basic training plane looking for a suitable landing place, and the only one he found was a straight strip of the new concrete highway to Alice. After landing there, he made arrangements with the CCC officials to move the injured youth to the landing field at San Diego. Here he was picked up by the Transport plane and brought to the base hospital at Fort Sam Houston. The Transport landed at Kelly Field at 6:15 p.m.

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Special Orders of the War Department announce the appointment of Capt. Bob E. Nowland to the temporary rank of Major, Air Corps, with rank from June 16, 1936.

V-7067, A.C.

IMPRESSIONS OF THE FLEDGLINGS

By 1st Lieut. R. T. Coiner, Jr.

Graduate of Class No. 25-B, March-June, 1936.
Transferred to Air Corps from Cavalry; member
of Class, United States Military Academy, 1932.

It is far from easy for such recent members of the winged brotherhood to write coherently on the subject of our initiation. The feeling of relief and of joy at finally having completed the course completely supersedes at times any other feelings or impressions that we may have had. We are intensely proud of having been able to go through the school and are proud also of the happiness in our success and good wishes of our brother officers in the branches of which we were so recently members.

One of the most outstanding impressions gained at the school is the universal desire of all officers to make the new arrival like the Air Corps. We found this to be universally true and, although after a bad day we sometimes felt that our instructors regretted our presence bitterly, a good day in the air changed their minds, we hope - and most certainly changed ours. The eagerness of its personnel to have other people like their branch, and not only to like it but to want to be a part of it, is a wonderful heritage; and now that we are members of the Air Corps we hope that we, in our turn, may do our part towards making our branch well liked.

The intense desire to succeed manifested by the students, and the equally intense desire to have the student succeed manifested by the instructor, is quite noticeable. The student-instructor team, fostering between them this will to succeed in their task, are laying an invaluable foundation for the success of the Air Corps in peace and in war. Any unit in the defense of the nation, whose personnel have as the basis of their military careers the desire to attain the objective developed to such a degree as it is developed in the school, is fortunate, indeed.

Those of us who managed to survive the rigors of the training year cannot help but feel that those who were less fortunate and did not survive have gained much in experience of a military nature that will be of inestimable value to them in the years to come. They cannot help but have a greater sympathy for the Air Corps and its problems, and in carrying this feeling out to the line of the Army they are doing a great and lasting good. They have served in the line, and in going back to the line after their experience in the school, however limited, they quite naturally have the foundation of fact on which to base their comparisons and arguments.

Having served from one to three years

in the line, we hope that any experience we have gained in that service is going to make our service in the Air Corps more valuable to the government which has educated us. It is rather awe inspiring to realize what an investment we represent, and on sober consideration and reflection it makes us hope that we in our time may do as much as those before us have done to keep the Air Corps in the same high position that it holds now.

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NEW LIGHTING SYSTEM AT KELLY FIELD

Kelly Field's new night lighting system is rapidly being installed, augmenting the present system by an installation of three Type 9-A floodlights, one of which is installed at the west end of the north-west-southeast runway, which is intended to be the primary runway if and when the new installations are developed on Kelly Field. Another replaces the old floodlight at the southwest edge of the field, and the third replaces the old floodlight in front of the present Post Operations Office. In addition to this, there is a new T which has automatic wind control settings, and a new system of signal lights for night flying control with its necessary cabinet controls located in the night flying control tower and Post Operations Office.

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88TH OBS. SQDN. CELEBRATES REORGANIZATION

The 88th Observation Squadron, Hamilton Field, Calif., was first organized in 1917. It was discontinued after the World War, but in June, 1928, it was reorganized at Fort Sill, Oklahoma. The Squadron celebrated its reorganization on July 3rd at McNear's Beach, Calif. All duties were suspended for the day, and everyone adjourned to the beach early in the forenoon.

Swimming, soft ball, and a fat man's race added to the general gaiety and entertainment. Private "Bing" Carter easily showed his heels to the others in the fat man's race, so that the real rivalry in this event was between Sergeant Sweeney and Private Gardner for second place.

In the first of the two soft ball games, the enlisted men "hit their stride" early in the game and very definitely trounced the officers' team. In the second game, however, the officers started to click and the tables were turned. Too tired to play off the tie, the decision is still a "draw".

Ample refreshments were provided.

V-7067, A.C.

RECORD BOMBING BY 7TH BOMBARDMENT GROUP

Results of the record bombing conducted by the 7th Bombardment Group, Hamilton Field, Calif., in accordance with TR 440-40, dated March 11, 1929, show that, of the 69 individuals participating who actually fired the course, 66, or 94.6%, exceeded the qualifying score of 1500. Of the three who failed to attain the qualifying score, two did not complete the record bombing.

In this record bombing, the highest score was achieved by two officers of the 31st Bombardment Squadron, each with 1974. Of the 66 participants of the Group who qualified, 28 made scores above 1900; 30 above 1800; 6 above 1700 and 2 above 1600. The 11th and 31st Squadrons qualified 100%. In the 11th, the highest score recorded was 1957 and the lowest 1820. The general average for this squadron, with 25 firing the course, was 1820. In the 31st, with 16 firing the course, there was only one score below 1800, and that was 1790. With 11 scoring above 1900 and four above 1800, the general average for this squadron was 1919.8.

In the 9th Bombardment Squadron, with 25 out of 28 qualifying, the average score of all personnel completing the record bombing was 1823.

All of the bombing practice was conducted at Mather Field, Calif. These squadrons conducted the record bombing training in accordance with TR 440-40, March 11, 1929, by authority of the Commanding General of the GHQ Air Force, in order to secure uniformity of training in all squadrons of the 7th Bombardment Group. These regulations provide for the dropping of 10 bombs from 5,000 feet and 10 bombs from 8,000 feet for record scoring. The total possible score for bombing is 2,000 points. Only the rating of Expert Aerial Bomber is provided for, and the qualifying score is 1500.

Bombing training is now being conducted by the 7th Bombardment Group in accordance with tentative TR 440-40, dated November 26, 1935.

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GENERAL ANDREWS VISITS SELFRIDGE FIELD

Major-General Frank M. Andrews, Commander of the GHQ Air Force, accompanied by Major George C. Kenney, Air Corps, a member of his staff, landed at Selfridge Field at 9:00 p.m., Monday, July 13th, in the new XC-32 Douglas Transport which has aroused widespread commend among aviation enthusiasts. It is equipped with complete office facilities. On July 14th, the General witnessed the climbing test to 20,000 feet of a squadron of P-26's and a squadron of PB-2A's with full military load. This test was for the purpose of comparing the climbing time of each type of airplane. Both officers departed in the afternoon of that day.

HIGH ALTITUDE BOMBING BY 9TH BOMB. SQDN.

The 9th Bombardment Squadron, Hamilton Field, Calif., has just completed a period of high altitude bombing at Mather Field, Calif., during which time a total of 496 bombs were dropped from an altitude exceeding 10,000 feet. The ground temperature averaged 90 deg. F. or above, and was the cause of much discomfort, as the flying personnel had to don heavy flying suits for protection against the freezing temperatures aloft.

This was the first extensive bombing done by this squadron at the high altitude, and much information was derived therefrom. The Martin Bombers were loaded with nine practice bombs, which were dropped individually in nine successive trips over the target. This necessitated remaining at the bombing altitude for over an hour, and enabled the pilots to gain experience in maneuvering the airplanes at high altitudes for a considerable length of time. All pilots found that flying the precise and accurate courses necessary to bombing at this altitude and at the same time using the microphone and inhaling oxygen was very fatiguing. The bombardiers, too, found that manipulating the bomb sight and related controls called for a lot more exertion than at the lower altitudes. Upon return to the ground, those participating in these flights became drowsy and lethargic, and the fatigue appeared to be out of proportion to the time flown. However, as the flying personnel became more accustomed to and proficient at operating at this altitude, the missions became less fatiguing.

It was found that any errors in sighting or releasing the bombs were considerably magnified by the time the bombs reached the ground. Especially was this true of bombs which started their fall as wobblers. Although the scores have not been fully analyzed, it is believed that they determined many of the variables of high altitude bombing.

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FLYING TIME OF 91ST OBSERVATION SQUADRON

During the training year 1936, the 91st Observation, now stationed at Fort Lewis, Wash., with a daily average of seven airplanes in commission, amassed a total of 5,398 aircraft hours. The largest amount of flying done in any one month was in March, when 604 hours were registered, and the least was during February when, due to very bad weather conditions, only 302 hours were flown. In cooperation with other branches of the military service, a total of 542 hours was flown, and a total of 331 hours of night flying was accumulated between foggy nights at Crissy Field Presidio of San Francisco, Calif.

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The contribution of material from Mitchel Field, N.Y., and Wheeler Field, T.H., will be greatly appreciated.

OLD PLANE DESTROYED BY MACHINE GUN FIRE

Airplane #29-226, which served as a transport for the 3rd Attack Group, Barksdale Field, La., for the past few years, was recently destroyed by machine gun fire. The airplane had outlived its usefulness and had been pronounced unsafe for flying. Permission was secured from the Materiel Division to dispose of the plane in this manner, in order that the effectiveness of raking machine gun fire against an area target and against light material might be determined.

Each fuel tank of the airplane contained approximately 60 gallons of gasoline, and the engines were started and left turning up at 1,000 rpm while three missions were fired. When approximately 100 rounds from each gun had been fired upon the third mission, fire was seen to break out in front of the left motor, spreading rapidly until the ship was a mass of twisted and molten metal. The results of the firing, which had been observed from dugouts made for this occasion, led to the following conclusions:

1. That an area seventy yards wide is a proper target for a three-ship element; that the length of such area depends upon the speed of the airplane and the capabilities of the gun.

2. That sweeping fire over an area is effective against material within the area.

3. That machine gun fire is an effective agent against airplanes on the ground and will immobilize an outfit until all airplanes can be carefully inspected for damage to interior structures.

It is an interesting fact that Staff Sergeant Young, who was the first crew chief on this airplane when it came to the Group seven years ago, was also the last crew chief, and it was he who started the engines for this last time.

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MITCHELL AIR RACE SET FOR OCTOBER 17TH.

Lieut. Colonel Ralph Royce, commanding Selfridge Field, Mich., recently selected October 17th as the date for the running of the Mitchell Trophy Race at Selfridge Field. It is stated that greater speeds are expected to be attained this year, as the First Pursuit Group is now equipped with the new Consolidated PB-2's.

Last year, the winner of this contest, the late Captain Karl G.E. Gimmler, piloting a Boeing P-26A Pursuit plane, averaged 212.6 miles per hour over the 100-mile course. There were ten Air Corps pilots in the competition.

A crowd of approximately 40,000 witnessed the event, which was held under ideal weather conditions.

NAVIGATION SCHOOL AT HAMILTON FIELD

The 7th Bombardment Group's Navigation School is now well under way at Hamilton Field, Calif., under the able instruction of 1st Lieuts. Walter R. Agee and Richard C. Lindsay, Air Corps. The course has been improved and extended to include celestial navigation.

A new class, consisting of 1st Lieuts. Edward W. Suarez (Headquarters); George D. Campbell, Jr., (88th Squadron); Wm. W. Garland (70th Service Squadron), and 2nd Lieut. Paul C. Ashworth (11th Squadron), was started July 6th, with Lieut. Agee as instructor. In addition to the intricacies of drift meters, course and distance computers, and the preliminaries of the "seven flyings," the members of the new class have been getting transition on the Douglas OA-4B's and doing water landings at Clear Lake in anticipation of the work which will soon be conducted over the waters of the Pacific.

Another new feature of the Navigation School is the course in Meteorology under the instruction of 1st Lieut. H.H. Bassett, Air Corps, who recently joined the forces at Hamilton Field after spending the past year studying Meteorology at the California Institute of Technology.

A practical application of navigation is to be made shortly, when the 7th Bombardment Group, in collaboration with the 19th Group from March Field, intercepting a ship off the coast near Los Angeles, will simulate a night bombing attack.

* 1. Simple Flying; 2. Traverse Flying; 3. Parallel Flying; 4. Middle-Latitude Flying; 5. Mercator Flying; 6. Great Circle Flying; 7. Composite Flying.

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POST FIELD NOT SO HOT, EH WHAT?

Talking about the weather, the News Letter Correspondent at Fort Sill, Okla., remarks that Post Field proved to be a great disappointment to its residents. They remarked it as the hottest place in existence. Then the newspaper gave the temperature of nearby towns as 120 degrees, thus showing our residents' claim as a "first" down to a poor second with only 113 degrees. They aren't in the cellar position, anyway, and according to the old timers in these parts July is not bad compared with August - so help us.

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The 35th Pursuit Squadron, Langley Field, celebrated its Organization Day on June 25th with an outing at Yorktown Beach, Va. With chicken and barbecue and liquid refreshments, appetites were thoroughly satisfied. In the afternoon a soft ball game between the personnel of 8th Pursuit Group Hqrs. and the 35th Pursuit was morally won by the last named outfit, as Headquarters tired about the 12th or 13th inning and gave up.

V-7067, A.C.

COLONEL ROY C. KIRTLAND

Colonel Roy C. Kirtland, Air Corps, who was recently detailed for duty in the Inspector General's Department, Washington, D.C., was born at Fort Benton, Montana, May 14, 1874, and was educated in the public schools of Denver, Colo., and Washington, D.C.

Enlisting in the Army on November 8, 1898, he saw service as Private, Corporal and Sergeant, Company M, and Battalion Sergeant Major, 7th Infantry, to August 29, 1901. He was then commissioned a second lieutenant of Infantry and served continuously with this branch of the service until March, 1911, in the meantime being promoted to 1st Lieutenant, May 18, 1905.

Colonel Kirtland is one of the early Army pilots, receiving in 1911 Certificate No. 45 from the Federation Aeronautique Internationale. He also holds Expert Aviator License No. 11 from the Aero Club of America. From April to June, 1911, he was in charge of the U.S. Aviation School at College Park, Md. Later he was on duty as assistant flying instructor. He commanded the 1st Aero Squadron from June to November, 1913, and served as Adjutant, Supply Officer, Disbursing Officer and Quartermaster of the Signal Corps Aviation School at San Diego, Calif., from December, 1913, to April, 1915. He then returned to the Infantry, but rejoined the Aviation Section, Signal Corps, during the War, reporting for duty at Kelly Field, Texas, on October 2, 1917. He was commissioned Major (temporary), Aviation Section, Signal Corps, September 22, 1917. Several days later he was assigned to the command of Taliaferro Field, Fort Worth, Texas, but, due to the exigencies of the service, his duty at that field was of brief duration, for in November, 1917, he was placed on duty with Col. Chalmers G. Hall in connection with organizing four regiments of specially selected mechanics, known as the 1st, 2nd, 3rd and 4th Motor Mechanics Regiments, subsequently redesignated as Air Service Mechanics, and was largely instrumental in solving all problems of efficient organization for these regiments and in the selection of the commissioned personnel therefor. Subsequently he was sent to Camp Hancock, Ga., to take charge of organizing of the regiments at the mobilization camp, and from the beginning of the organization in December, 1917, until the entire four regiments were completely organized, he was commanding officer of the Air Service camp at Camp Hancock and in charge of all matters affecting the organization of the four regiments mentioned. During this time he had un-

der his command up to approximately 12,000 men, all recruits with little or no experience. He was subsequently in command of the 3rd Regiment in France and exercised the functions of regimental commander throughout a period of over six months. Among his other duties overseas were that of inspector of aviation activities in England and commander of the Air Service Rest Camp in that country.

On October 24, 1918, he reported for duty at the Army Line School at Langres, France. Shortly following his return to the United States in January, 1919, he was assigned to the command of the Aviation General Supply Depot at Middletown, Pa. He was relieved from the Air Service in October, 1919, and was attached to the 17th Infantry at Camp Meade, Md., until February 20, 1920, when he was again detailed to the Air Service and assigned to the command of Rockwell Field and the Aviation Supply and Repair Depot at that post.

On August 30, 1920, Colonel Kirtland reported for duty as student at the Army School of the Line at Fort Leavenworth, Kansas. Following his graduation in June, 1921, he continued on duty at Fort Leavenworth as student at the General Staff School until his graduation therefrom on June 23, 1922. Thereafter, until August, 1925, he was Instructor at the General Service Schools at Fort Leavenworth. Following a year of duty as student at the Army War College at Washington, D.C., he was, upon his graduation in June, 1926, detailed for duty as a member of the War Department General Staff, Washington, D.C.

Following the completion of his four-year detail with the General Staff, Col. Kirtland, in July, 1930, was assigned as Commanding Officer of the 2nd Wing, Air Corps, and of Langley Field, Va., also as Acting Commandant of the Air Corps Tactical School. In July, 1932, he was assigned to duty as Air Officer of the 2nd Corps Area, Governors Island, N.Y., and occupied this position until April, 1935, when he was assigned as Air Officer of the 9th Corps Area at the Presidio of San Francisco, Calif. This duty terminated on July 18, 1936, to enable him to take over his new assignment in the Inspector General's Department.

Colonel Kirtland holds the ratings of Airplane Pilot and Airplane Observer. In the early days of the Air Corps he held the ratings of Military Aviator and Junior Military Aviator.

LIEUT. COLONEL HENRY C.K. MUHLENBERG

Lieut.-Colonel C.K. Muhlenberg, Air Corps, now on duty as Air Officer of the

3rd Corps Area, Baltimore, Md., was born in St. Louis, Mo., November 6, 1886. Upon his graduation from the United States Military Academy and being commissioned a second lieutenant on February 14, 1908, he was assigned to the 14th Infantry. Five months later he was transferred to the 30th Infantry, and he served with this organization at Fort William McKinley, P.I., to July 14, 1909, and thereafter at the Presidio of Monterey, Calif., to March, 1911, and on the Mexican Border at San Diego, Calif., to June, 1911.

Detailled to the Ordnance Department on June 20, 1911, Colonel Muhlenberg was on duty at Frankford Arsenal, Pa., as Assistant to the Officer in Charge of Small Arms Ammunition Department for two years; at the Watertown, Mass., Arsenal for one year as a student, and at the Springfield, Mass., Armory during the last year of his four-year detail. From August, 1915, to October, 1917, he served with the 2nd Infantry at Fort Shafter, T.H., following which he was detailed to the Aviation Section, Signal Corps, and assigned to station at Rockwell Field, Calif., to undergo flying training. While at this station he commanded the 14th Aero Squadron. In May, 1918, he was transferred to Wilbur Wright Field, Fairfield, Ohio, and placed in charge of the Testing Department, Technical Section.

From September 13, 1918, to January 8, 1919, Colonel Muhlenberg was commanding officer of the Armorers' School at Wilbur Wright Field. He was then assigned to the Engineering Division at McCook Field, Dayton, Ohio, as Chief of the Material Department. On May 18, 1920, he reported for duty at Rich Field, Waco, Texas, as commanding officer and, after serving in this capacity for several months, he was assigned as Assistant Professor of Military Science and Tactics at the University of Washington, Seattle, and placed in charge of the Air Service R.O.T.C. unit thereat. During the course of his service at the University of Washington, he commanded in the summer vacation periods R.O.T.C. camps at various localities; in 1921 at Post Field, Fort Sill, Okla.; in 1922 at Mather Field, Mills, Calif.; in 1925 at Rockwell Field, Calif.; in 1926 at Vancouver Barracks, Wash., and at the camp in 1928 at the Presidio of San Francisco, Calif., he was Executive Officer. In July, 1927, he assumed the additional duty as commanding officer of the Air Corps Reserves at Sand Point Airdrome, Wash.

Relieved from duty at the University of Washington on January 23, 1929, Col. Muhlenberg was assigned as Air Officer of the 5th Corps Area at Fort Hayes, Columbus, Ohio. On September 1, 1933, he began the one-year course of instruction at the Air Corps Tactical School

at Maxwell Field, Ala., and, upon graduation therefrom in June, 1934, he was stationed at Bolling Field, D.C., as commanding officer until January 15, 1935, when he was assigned to his present duty as Air Officer of the 3rd Corps Area.

Colonel Muhlenberg was promoted to 1st Lieutenant, June 6, 1914; to Captain, March 11, 1917; to Major, Signal Corps (temporary), October 23, 1917; to Lieut. Colonel, Air Service (temporary), August 20, 1918; to Major, Air Service, July 1, 1920, and to Lieutenant Colonel, Air Corps, January 28, 1932. He received his rating as Junior Military Aviator on March 16, 1918, which rating was subsequently changed to that of Airplane Pilot.

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72ND PERSONNEL INSPECT LANDING FIELDS

A flight of five Bombers, led by Major I.H. Edwards, commanding officer of the 72nd Bombardment Squadron, Luke Field, T.H., recently departed from that field to make the rounds of all the landing fields on the other islands. The first stop was the Lanai City Airport. Hilo was the next point visited, and the officers and men spent the night at the Kilauea Military Camp. On the following day, landings were made on the fields at South Cape, Upolu Point, Hana and Maalaea, the flight remaining at the last named locality for the night.

Three planes took off the next morning at 6:00 o'clock to enable the personnel to take a look at the sun coming up over the top of Haleakala - a very beautiful sight, indeed. After these planes returned to Maalaea, the flight took off for Kalaupapa (Leper Colony), Homestead and then home. While at Homestead, a truck was rented to take all the personnel to Kaunakakai to meet its unusual mayor, but that individual could not be found. The flight arrived at Luke Field at 12:30 p.m., June 11th.

The 72nd, accompanied by the Observation Squadrons of Luke Field, took off on June 29th for Kauai, landing at Lihue Dairy Field and at Burns Field. All the emergency landing fields on Kauai and Niihau were inspected from the air. The flight remained at Burns Field for the night and returned to Luke Field the following day.

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37TH ATTACK TAKES OVER 19TH AIRSHIP HANGAR

The 37th Attack Squadron is now well established in the former 19th Airship hangar at Langley Field, Va. Operations are being carried on from the small landing area near the hangar. Facilities are being made available which should make the new location adaptable to very efficient operations. The 37th was notified that their first A-17 Attack plane would be ready for delivery before August 1st.

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COL. TINKER TESTS NEW BLIND FLYING HOOD

On the morning of July 7th, Colonel C. L. Tinker, commanding officer of Hamilton Field, Calif., cleared that station for March Field in his Martin B-10B Bomber for the purpose of service testing a blind-flying hood, which had been designed by the 19th Bombardment Group and which had been adapted to the B-10B with minor alterations by the 7th Bombardment Group.

After attaining altitude over Hamilton Field, Col. Tinker closed himself under the hood and began his instrument flight over the commercial airline route to Los Angeles. Over San Francisco Bay, he picked up the Oakland radio beam. Approximately 45 minutes later, the Fresno beam was intercepted and flown until the Los Angeles beam became audible. After an elapsed time of 2 hours and 15 minutes, the plane was over Burbank. Here the flight by instrument was interrupted, due to the fact that the March Field beam was not in operation, and the flight was completed by dead reckoning.

At 1:50 p.m., Colonel Tinker cleared March Field for the return flight to Hamilton Field. Upon intercepting the Fresno radio beam, he again closed himself under the hood, and flew by instruments to Oakland. The flight completed, it was ascertained that approximately four hours had been spent under the hood, and a distance of over 600 miles had been covered. Weather conditions were excellent, but the air being unusually rough it made flying very difficult.

This flight demonstrated the feasibility of instrument flying training for military personnel in tactical airplanes. It clearly showed that Bombardment Aviation can and will be able to move out under the most adverse weather conditions. Thorough training in instrument flying will be accomplished by the 7th Bombardment Group in its tactical airplanes, and will no longer have to depend on its one BT for instrument flying training.

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PROMOTION OF AIR CORPS OFFICERS

The following Air Corps officers who held temporary increased were promoted to regular rank as of the dates indicated:

To Colonel: Col. (temp.) John D. Reardan, July 1, 1936.

To Lieutenant-Colonel: Lieut. Colonels (temporary) Joseph T. McNarney, June 26; Edwin B. Lyon, June 29; Hume Peabody, July 1; Earl L. Naiden, July 13.

To Major: Major (temp.) Lowell H. Smith, June 26, 1936.

Lieut. Colonel Glenn I. Jones, Medical Corps, formerly Chief of the Medical Section, Office of the Chief of the Air Corps, was placed on the retired list with the rank of Colonel, July 31, 1936, for disability incident to the service.

FLIGHTS BY THE THIRD WING

Personnel and airplanes of the Third Wing, Barksdale Field, La., were engaged in several interesting missions during the month of June. Perhaps the one which was not only the most interesting but attracted much attention to the Air Corps was a flight of 36 airplanes, composed of 19 Pursuit and 17 Attack airplanes, which staged an aerial exhibition on June 6th at the official opening of the Texas Centennial at Dallas, Texas. The flight, in command of Lieut. Colonel Millard F. Harmon, performed acrobatics and an attack upon ground targets during the afternoon. At night, maneuvers with searchlight batteries from Fort Crockett were executed and several flares dropped, after which an interesting feature was provided those present when "Texas 1936" was spelled through the use of huge six-foot letters. These had been designed and made especially for this purpose by cutting the letters and numbers from wood, wiring in many small bulbs, and attaching them to the bomb racks of the Attack airplanes.

Sunday was spent by the pilots and mechanics in wandering through the Centennial grounds, to which they had been admitted on passes through the courtesy of the Centennial Commission. Sight-seeing busses were available for those who became foot weary.

The flight returned to Barksdale Field Monday morning after congratulations were bestowed upon officers, flying cadets and enlisted men who had worked diligently in order that the mission might be a success. They feel that credit has not only been reflected upon the Third Wing, but upon the Army Air Corps as a whole.

During the time the flight remained at Dallas, operations were made from Hensley Field, where a temporary base had been set up by members of the 60th and 71st Service Squadrons, in charge of Major Roy W. Camblin, Air Corps.

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NEW LIGHTING FACILITIES AT BROOKS FIELD

New airdrome equipment is being installed at Brooks Field, Texas, under the direction of the Construction Quartermaster. A tower for a remotely controlled wind indicator is placed in front of the transient hangar, and a bank of B-9 floodlights are being placed at the northeast end of the field and one bank at the west end of the field. It will be quite some time yet before these lights will be used as the airdrome is still torn up incident to the construction of the new runways.

Practically all of the commissioned personnel at Brooks Field will participate in the Command Post Exercises of the 3rd Arm which will commence about August 15th and last for about a month.

COOPERATIVE MISSIONS BY 3D ATTACK GROUP

The 3rd Attack Group, Barksdale Field, La., performed two cooperative missions during the month of June, the first being flown by the 90th Attack Squadron and the other by the 13th Attack Squadron.

The 90th Squadron dispatched a flight of three A-12 airplanes to Maxwell Field, Ala., from where they were to operate in an attack on ground troops in the vicinity of Fort Benning, Ga., on June 17th. After the attack, which was highly successful by the use of machine guns (simulated) and mustard gas (actual lime water sprayed from two 18-gallon tanks on each plane, loaded at Maxwell Field), the flight landed at Lawson Field, Fort Benning, for a brief conference, then took off for Maxwell Field where they spent the night, returning to Barksdale Field the following day. The flight was participated in by Lieuts. George McCoy (Flight Commander), James L. Daniel and Harvey P. Huglin, pilots, and Sergeant Otis Paris, Corporal Waldo J. Bither and Private Herbert E. Thompson, mechanics.

On June 20th, three A-17 airplanes of the 13th Squadron, piloted by Lieuts. Paul D. Bunker, Jr., W.H. Wise and R.A. Livingstone, with Tech. Sergeant G.W. Mitchell, Staff Sergeant K.A. Huber and Corporal H.V. Hardy as crew chiefs, took off from Barksdale Field for Fort Sill, Okla., where they were joined by three O-43 airplanes from Brooks Field, Texas. These airplanes became the "Red Air Force" in GF Ex. #8 of the graduating class at the Field Artillery School.

During the first two days of the exercise, which opened on the morning of June 22nd, the Red Force repulsed the "Blues" with the use of simulated machine gun and bombing attacks against small bodies of troops. However, the Blues, after falling back to a fortified position, turned the Reds back in retreat for the remainder of the problem.

The Attack flight was somewhat handicapped in trying to lay a simulated mustard gas barrage when they were forced to use FM smoke instead of the usual lime water spray. Prevailing high winds soon dispersed attempts by pilots to lay the simulated gas, but otherwise the mission was very successful.

The Observation flight proved very effective in locating the rapidly moving targets of the motorized units. Members of the flight were impressed with the way ground troops are absorbing the principles of speedy concealment during air attacks. The horse-drawn outfits were remarkable in their rapid withdrawal from the roads into the trees, bushes or other available cover.

Upon completion of the problem, the Attack flight laid a demonstration

smoke screen which met with the approval of all officers present. The flight returned to Barksdale Field on the afternoon of June 26th, and those who participated in the mission agreed that it had been of great instructive value and that, except for the extreme heat, the stay at Fort Sill had been very pleasant.

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THIRD TRANSPORT SQUADRON HAS ANNIVERSARY

The first anniversary of the organization of the 3rd Transport Squadron at the San Antonio Air Depot, Duncan Field, Texas, fell on July 5th. The celebration of the first Organization Day was postponed to July 8th, when a delightful outing was enjoyed amid the groves and by the streams of beautiful Landa Park at New Braunfels, near San Antonio. Attending were Major J.P. Richter, the first commander of the Squadron, and Mrs. Richter; Captain E.D. Perrin, present Squadron Commander, and Mrs. Perrin, and all the enlisted men and their families and guests, to the number of about forty.

Swimming, boating and fishing, with ample refreshments and a general good time, went to make the occasion a great success. The Squadron has reason to look back on its record, as a young organization, with pride and encouragement. The Provisional Squadron was established at the San Antonio Air Depot in February, 1933, with one enlisted man (pilot), to which two were added later, all on detached service from other stations; and continued as such until the organization of the 3rd Transport Squadron as an active unit, July 5, 1935.

Since the beginning of this transport service, down to the end of the organization's first year, a period of 41 months, 312,900 transport miles have been flown, comprising 1223 flights, with a total of 249 passengers carried, 841,000 pounds of freight delivered to other stations, and 518,500 pounds of freight flown in to the Depot. Three planes were employed 15 months, two 18 months, and one the remaining 5 months.

During this first year of the Squadron's organization as an active unit, 351 transport trips were made, with a total of 120 passengers carried, 232,500 pounds of freight delivered to other stations, 170,000 pounds of freight flown in to the Depot, and total mileage flown 96,100. The cost of operation during this period was \$12,800. The authorized enlisted strength of the Squadron has recently been increased from 25 to 35, its present strength being 29, including four enlisted pilots.

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Major Edward C. Black is relieved from duty at Langley Field, Va., and assigned to Hamilton Field, Calif., next October.

LONG AERIAL JAUNT FOR 31ST BOMB. SQUADRON

On August 2nd, the 31st Bombardment Squadron, in conjunction with other squadrons of the 7th Bombardment Group, will leave Hamilton Field, Calif., on what promises to be one of the most interesting flights the squadron has ever undertaken. The plans call for a squadron flight to Boise, Idaho, via Reno, Nevada, where the Squadron will operate for about a week, conducting daily flights throughout the region in order to obtain the necessary detailed information relative to facilities available in that area for the accommodation of air units.

While a complete schedule for the flight has not been made, tentative plans call for this Squadron to make the trip with eight of the new B-10B bi-motored Martin Bombardment aircraft. These airplanes are the latest type of Bombers, with a wing spread of 70 feet. They are truly the modern dreadnaughts of the air. Each plane carries a crew of four; the pilot, bomber and gunner, radio operator, and a rear gunner. The plans call for 14 officers, 2 flying cadets and 16 enlisted men to make the trip.

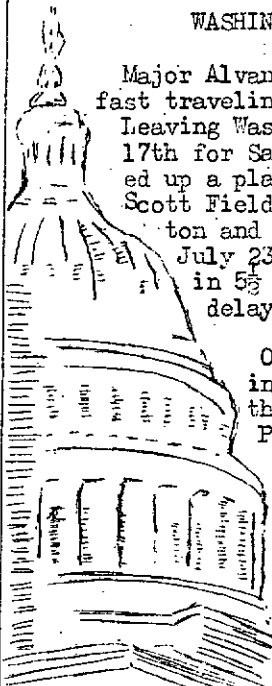
The 31st is one of the oldest squadrons in the Air Corps. It was originally organized as the 31st Aero Squadron at Kelly Field, Tex. in 1917. Soon after its organization, the Squadron proceeded to Issoudun, France, the great Allied training center for airmen. Here its present insignia, the "skull and crossbones," was adopted. The Squadron was on active duty in France from August 22, 1917, to April 4, 1919.

The 31st Aero Squadron was demobilized on April 14, 1919, at Camp Mills, Long Island, but was reconstituted as the 31st Bombardment Squadron on the inactive list on March 24, 1923. On April 1, 1931, it was reorganized and became an active unit of the 7th Bombardment Group at March Field, Calif. In December 1934, the 7th Bombardment Group, including the 31st Bombardment Squadron, moved to Hamilton Field, San Rafael, Calif., where it is now stationed.

Major Harold D. Smith, the Commanding Officer of the 31st Squadron, who saw service during the World War, began his career as a cadet at the ground school at Cornell University. He was commissioned a second lieutenant in the Aviation Section, Signal Corps, April 24, 1918, after completing his flying training at Ellington Field, Houston, Texas. He later completed courses at Langley Field, Va., Taliaferro Field, Texas, and Clermond Ferrand, France. In August, 1918, he was assigned to the 166th Aero Squadron as a Bombardment pilot. The Squadron operated with the First Army, and was a portion of the First Day Bombardment Group. Major Smith wears two bronze stars on his World War ribbon for front line service in two major engagements. After the Armistice he flew in Germany as part of the Army of Occupation. He has been on duty at various Air Corps stations since the War, and has been commanding officer of the 31st Squadron since January, 1934.

Officers and men of the 31st Squadron are
(Continued next column)

WASHINGTON OFFICE NOTES



Major Alvan C. Kincaid performed some fast traveling about both by air and rail. Leaving Washington at 5:30 p.m., July 17th for Santa Monica, Calif. he picked up a plane there, ferried it to Scott Field, took a train for Washington and was back in the office on July 23rd. The trip was completed in 5 1/2 days, including one day's delay.

Officers reporting for duty in the Office of the Chief of the Air Corps were Major Chas. P. Prime and Captain Evers Abbey, both from Mitchell Field, N.Y. Major Prime was assigned to the War Plans and Training Division and Captain Abbey to the Supply Division. Both had served in the Chief's office on a previous occasion.

Colonel Alfred H. Hobley departed on leave of absence on July 15th. Major David S. Seaton returned from leave on July 26th and Captain James C. Cluck on July 18th.

Lieut. Colonel William E. Lynd and Captain M.E. Gross returned from navigation flights to Wright Field. Major Charles Y. Banfill also returned from a navigation flight.

Visitors to the Office of the Chief of the Air Corps recently during the course of navigation flights, or for other purposes, were Brig. General James E. Chaney, Commanding the Air Corps Training Center, Randolph Field, Texas; Lieut. Colonel Carl Spatz, Major Lawrence P. Hickey and Captain Edwin R. McReynolds from Langley Field, Va.; Major Alfred J. Lyon from Maxwell Field, Ala.; 1st Lieuts. T.B. McDonald from Middletown, Pa., Air Depot, and W.P. Sloan from Barksdale Field, La.

Lieut. Colonel Arnold N. Krogstad, Commanding Officer of Kelly Field, Texas, reported on July 21st for temporary duty in the Chief's Office.

Captain R.V. Laughlin left for Wright Field on July 21st.

Major John I. Moore reported from Maxwell Field for duty at the Army Industrial College on July 25th.

31st Bombardment Squadron Continued from first column

looking forward to this trip, and expect that each day will bring forth new and varied experiences. As a number of cities and airports will be visited daily, this Squadron anticipates a week of interesting events and incidents during its visit to the Northwest.

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NOTES FROM AIR CORPS FIELDS

Langley Field, Va., July 20th.

37th Attack Squadron: The Squadron arrived at Virginia Beach, Va., June 15th for two weeks of field maneuvers to qualify enlisted gunners. The results have been entirely satisfactory, with qualifying scores coming in continuously.

A brief three-day rain was the only break in the well planned schedule of gunnery in the mornings and "Beach Fatigue" in the afternoon. A few early cases of sunburn caused some discomfort, but all will return several shades darker.

The Field Maneuvers of the 97th Observation Squadron (from Mitchel Field), the 33rd Pursuit Squadron and 37th Attack Squadron brought forth one of the most unique hunts ever witnessed by the entire command. Lts. Wolfenbarger and McLennan worked all of a rainy morning making a chicken wire cage. As soon as lunch was completed, a pretty and friendly cat was obtained from one of the mess halls and placed in the wire cage. The hunt was on, and pity the poor crows because along with the caged cat the boys had a crow call and guns. So that everyone will understand the hunt, I will try and give you the theory of the business. The cat in the cage is hoisted up a tall tree. Curly blows the crow call and both hide in the bushes. The crows hear the cat meowing in its cage and immediately become interested in the cat instead of the hunters - so it is easy to knock them off.

The author was extremely interested in the whole business, having taken in numerous snipe hunts, and tried to follow them out and watch the cat being snagged up a tree. They got away from the audience, however, so there was nothing to do but wait until their return. The intrepid hunters came in about chow time with an empty cage and not a crow in their bag. Many questions were asked them about the hunt and the answers became shorter and shorter until the usually affable boys were quite upset and refused to talk. It may be the approved method of shooting crows, but no one will ever find out just how it turned out in this case, because they will not talk.

The 37th regrets deeply the loss of Captain Barcus, who was transferred to the 35th Pursuit Squadron.

Lieuts. Wolfenbarger and Grussendorf left by train for the west coast to ferry PB-2's to Langley.

We welcome Major Christopher J. Evans, Capts. Russell J. Young and Byron A. Glover, Air Reserve, who are taking their annual two weeks' training with us.

We greet Cadet Clyde R. Russell, who reported here July 10th from Kelly Field. Russell was formerly a member of the 37th, and is welcomed back among friends.

35th Pursuit Squadron: Major A. E. Waller is now on leave at Morganfield Ky. prior to his departure for his new station, the Command and General Staff School, Fort Leavenworth, Kans. The Squadron feels keenly the loss of Major Waller as its commander, which he has been since its organization four years ago. Captain Glenn O. Barcus assumed command of the

Squadron on Major Waller's departure.

The Squadron is very much elated over the arrival of one of the new PB-2's which we have been looking forward to for some time. The officers who have flown it state it is one sweet airplane, and we are now looking forward to the arrival of the remaining PB-2's to be assigned to us.

The enlisted personnel of the Squadron on the occasion of the departure of Major A. E. Waller presented him with a Hamilton Wrist Watch as a token of appreciation of his service as commanding officer.

36th Pursuit Squadron: An organization outing was held at the lighter-than-air area, Langley Field, on June 27th. A soft ball game was played between the bachelors and the benedicts, with the bachelors taking the long end of a 11 to 8 score. Refreshments were served with the usual trimmings in evidence.

8th Pursuit Group: Three officers were added to the roster of the 8th Pursuit Group Headquarters during the last two weeks, viz: Captains Walter W. Wheeler, Warren R. Carter and 1st Lieut. Torgils G. Wold. The two first named officers completed their course of instruction at the Command and General Staff School, Fort Leavenworth, Kansas, while Lieut. Wold completed a course in Meteorology at the Massachusetts Institute of Technology. Capt. Wheeler was assigned as Group Operations and Intelligence Officer. The other two officers are now on leave.

Major Albert M. Guidera and Captain Randolph P. Williams were relieved from duty with the Pursuit Group on July 1st and transferred to the Station Complement. Major Guidera was the Group Technical Inspector and Executive Officer and Captain Williams the Communications Officer during their assignment with the Pursuiters. First Lieut. Joseph B. Zimmerman, who was assigned to the Pursuit Group but was kept busy at the Air Corps Supply Office, was also transferred to the Station Complement.

First Lieut. Charles G. Goodrich, who has been the Acting Group Operations and Intelligence Officer, was relieved from that duty and appointed Assistant Group Operations and Intelligence Officer.

First Lieut. Dudley D. Hale, who was the Assistant Group Communications Officer, was appointed Group Communications Officer.

Bolling Field, D.C., July 20th.

The Noncommissioned Officers' Club held its annual outing at Chapel Point, Md., on July 16th. The weather was ideal for such an occasion, and club members and their guests spent a most enjoyable day swimming, playing soft ball, crabbing and participating in the amusements at the small park adjoining the beach. The children were thrilled by free rides on a miniature steam train, on ponies and free run of a large playground. At the end of the day all headed wearily for Washington, happy in the thought that they had once more participated in a most successful outing.

Fort Sill, Oklahoma, July 22nd.

Flight "E" of the 16th Observation Squadron

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is resting easy since school is over once again, and members of the unit are taking the full benefit of the two months' lull in activities to take cross-country trips, catch up on training directive requirements as well as practice the pastime of using up accrued leave.

Hamilton Field, Calif., July 24th.

Two new pilots joined the 88th Observation Squadron on July 1st. Flying Cadets Howard F. Bronson and Ted S. Faulkner reported for their first tactical duty after being graduated in the last class of Kelly Field, Texas. They spent the last two weeks in transition to the various types of airplanes used in the Squadron.

First Lieut. Robert H. Kelly left for a two months' vacation in Europe, where he will take in the Olympic Games. Lieut. Kelly sails from New York, going east from here by commercial transport. We all join in wishing "Bob" a great time.

The 70th Service Squadron celebrated its 12th anniversary on June 19th at California Amusement Park at San Rafael, Calif. The Squadron was given a full holiday in order that a thorough job of celebrating might be accomplished. There is no evidence that the job was not thorough. A Dutch Luncheon was available from eleven until about three for all and sundry.

At about one o'clock, several enthusiastic athletes staged a farce, under the name of baseball. The skating rink was opened also at that time, and it naturally caught the fancy of many people. About the time the ball game was finished, many of the less hardy skaters ceased their maneuvering and contented themselves with watching a series of contests and races which were thoroughly enjoyed by both participants and spectators. A cracker-eating contest was first on the list. About 12 entrants raced 50 yards, crammed ten soda crackers in their mouths and then tried to whistle. Grunts and wheezes were heard, but no whistles. Finally, one contestant came forth with a faint squeak that was considered a whistle by Major Pratt, who judged the contest.

Next was staged the Egg-in spoon-in Mouth Race for the ladies over a 50-yard course. The ladies were willing, but were quick to give up when one of their number got out in front. After that event, sack races and three-legged races were held in the skating rink. It is a pity there was no official timing for these races, for it is certain all records would have fallen that day. A Tug-of-War followed the sack races, two wins out of three deciding the issue. The first two pulls were more or less fair, one win going to each side. We have since discovered that the third and last tug might be questioned. Some enterprising fellow on the South Team took a couple of turns around a palm tree and proceeded to take in the slack as it was fed back to him. Thus, the North Team, consisting of 25 huskies lost to 26 men and a tree.

Soon after the Tug-of-War was over, the Merry-Go-Round opened up for business, and it seemed not at all inappropriate for the wheez-

ing calliope to play "The Music Goes Round and Round." The first time the piece was played, everyone was delighted, but it did become rather monotonous along about the twentieth time. At five-thirty, however, the Merry-Go-Round, Games and Skating were all forgotten when mess call was sounded. A mad scramble for plates and barbecue ensued. Slowly but surely a satisfied silence settled over the group as they proceeded to satisfy their hunger in true Army style.

Activities were suspended from about seven to eight o'clock in anticipation of the dance and floor show in the evening. After such a strenuous day, a brief respite was welcomed by everyone. At eight o'clock, the orchestra had finished tuning up and opened the dance with a fast swing tune. The floor was soon crowded with some of the fanciest dancers to be found anywhere.

During the evening, two floor shows of three separate acts were presented for the entertainment of the dancers. These shows were received enthusiastically and added much to the merit of the occasion. The dance ended at eleven o'clock, for the next day was a work day for many of the revelers.

Without doubt, the men of the 70th will remember the twelfth and final organization day of the 70th Service Squadron for many years to come, and naturally remember it with appreciation for Major Myers, the commanding officer of the 70th, for having made possible such a successful holiday.

Advanced Flying School, Kelly Field, Texas.

All members of this command successfully met the requirements of War Department Circular 69, with the exception of those exempted by Personnel Orders.

Kelly Field is in the throes of reorganization at the present writing, reverting from GHQ units to school units. The details not being available at present, they will be given at the next writing, but in the meantime all leaves from this station have been cancelled, and the Commanding Officer, Lieut. Colonel Arnold N. Krogstad, is now in Washington as a member of the General Board, while everyone anxiously awaits the ultimate decision to be rendered upon his return.

Lieut. Colonel Madison Pearson, Assistant Adjutant General of the 9th Corps Area, Fort Sam Houston, left Wednesday night by Army plane from Kelly Field for Washington, D.C., to participate in the memorial exercises for the World War personnel of the Second Division. With Colonel Pearson were three enlisted men of the present Division to carry the colors of four division units stationed at Fort Sam Houston at the ceremonies on Saturday. The three soldiers were Master Sergeant Homer J. Grubb, Headquarters Detachment, 2nd Division; 1st Sergeant Harry W. Roberson, Headquarters Battery, 12th Field Artillery, and Sergeant Stanley Sudyk, G Company, 23rd Infantry. The pilot of the plane was Major R.D. Knapp, of Kelly Field. In connection with the exercises, a Divisional Review was scheduled to be held Saturday morning on MacArthur Field, in which all World War veterans now attached to the Di-

vision were to receive the review with Major-General Herbert J. Brees, Commander.

Kelly Field welcomes with a great deal of pleasure 1st Lieut. J.M. Bundy, who reported to this field from Chanute; 1st Lieut. A.W. Kissner, who reported here from the Philippines, and Major G. N. Palmer, who reported in from the Command and General Staff School, Fort Leavenworth.

The field notes with pleasure the presence of Major J.K. Cannon, our old Chief of the Pursuit Section, who is now on 15 days' active duty at the Training Center, having graduated from the Tactical School and being en route to the Command and General Staff School at Fort Leavenworth. We also had the pleasure of having Captain Donald Olds, an old member of our Observation Section, with us for 25 days' duty. He is also en route from the Tactical School to the Command and General Staff School. While with us, Captain Olds took up his former duties as instructor in the Observation Section and made all the meteorological flights no one else wanted to make.

Three ladies of the post, Mrs. O.P. Weyland, Mrs. E.L. Bergquist and Mrs. Reginald F.C. Vance left with their families on the 16th and motored to Cloud Croft, New Mexico, to spend a three weeks' vacation at the rest camp of the 1st Cavalry Division at that place.

San Antonio Air Depot, Duncan Field, Texas.

Prof. H.E. Degler, head of the Department of Mechanical Engineering, University of Texas, Austin, and Prof. P.B. Morton, head of the Department of Mechanical Engineering of the Colorado School of Mines, visited this Depot on July 2nd and were interested in viewing the operations of the Depot Engineering Shops.

Captain H.G. Crocker and Lieut. C.R. Storrie were visitors at the Depot, July 2-3, by air from Maxwell Field, Ala., to secure and ferry back to that station an A-12 plane via Barksdale Field.

Captain D.J. Ellinger, Post Operations Officer, and Mrs. Ellinger, departed July 10th on a month's leave, enjoying a vacation at the First Cavalry Rest Camp, Cloudcroft, N.M.

Mr. Gus H. Rehberg, Senior Aircraft Instrument Mechanic of the Depot Engineering Department, is attending a 30-day class of instruction in operation and maintenance of the automatic pilot, being held at the Materiel Division, Wright Field, Ohio.

Fairfield Air Depot, Patterson Field, Ohio.

We have often listened, disinterestedly at the present time, to the arguments between "Bombardiers" and "Pursuiters" as to the relative speeds, merits, etc., of their respective specialities. We had assumed that the slight disparity between the speeds of the two types of airplanes was due to technical developments. However, much to our surprise, during the overhaul of several P-26C type airplanes we found several pounds of lead in their tails. Now the answer is obvious.

Lieut. and Mrs. H.G. Bunker returned from a 11,000-mile automobile trip. Their itinerary covered Texas, California and most of the Northwestern States. Both being ardent fishermen, a good portion of their time was spent in this sport. In spite of their practically unlimited fishing range, they reported only fair results. Incidentally, they advise the purchase of a National Fishing License for anyone intending to fish in several States. The price is only \$5.00. Exceptions are noted on the back of the license form.

Flight A, 1st Transport Squadron, is again functioning as a transport activity and using their own instead of borrowed airplanes. The installation of the R-1820-25 type engine has improved the performance of the C-27, or Bellanca Transport, and gives it just sufficient extra power to prevent each take-off from being a matter of barely missing the fence at the end of the field. However, schedules are still not 100 percent, as their two airplanes had only one serviceable oil cooler between them.

It is expected that the new C-33's will soon be ready for delivery, and then we can really "go to town" in the freighting business. It will be quite a shock to see a modern airplane of our very own on the line, and it will be some time before we become accustomed to it.

Brooks Field, San Antonio, Texas, July 22nd.

In the changes of commissioned personnel, the field regrets the loss of 1st Lieuts. Lambert S. Callaway and Robert S. Macrum, the former being ordered to Kelly Field and the latter departing about August 4th on 30 days' leave prior to reporting as a student at the Harvard School of Business Administration. Lieut. Callaway, who has been commanding the 62nd Service Squadron in the absence of Major Douglas Johnston, now on leave, is succeeded by 1st Lt. William C. Dolan. Lieut. Macrum, who was Post Operations Officer, is succeeded by 1st Lieut. Lorry N. Tindal. The command extends to Lieut. Callaway and Macrum a sad but hearty *Hasta Le Luego*.

The command wishes to extend a welcome to the following commissioned personnel who joined it during July - Major Harry E. Smalley, Dental Corps; Capt. John G. Salsman and 1st Lieut. Daniel F. Callahan, Jr., Air Corps. Major Smalley, will now open the door to the dental office providing the key can be found by the First Sergeant of the Medical Detachment, as this office has been unoccupied heretofore. Captain Salsman is now on 45 days' leave. Lt. Callahan succeeded 1st Lieut. Harold W. Grant as Post Engineering Officer, the latter assuming command of the Station Complement.

A mighty War Bird is the Y10-40B. It sails east, west, north or south but, alas, it tires quickly. When the whistle blows for quitting time it folds its wings and gently settles to earth. This majestic machine, as described by one of our honorable and distinguished men, looks like a buzzard that has just lost a fight with some other denizen of the air. This mighty bird will settle in the strangest of places and on the smallest of roofs. And being very tired from a hard day of fighting or some-

thing, it takes its time about retaliating. 'Tis even whispered that one has to move him to another roost to get him in the air again. The moral of this, my friend, is not to let yourself be caught off the ground with this mighty bird unless a large and spacious roost is directly under you.

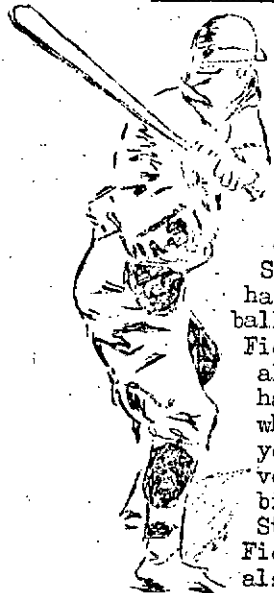
Congratulations to 1st Sergeant Edward J. Wright, 22nd Observation Squadron, who was appointed to the grade of Master Sergeant as of July 11th.

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KEEPING FIT

Kelly Field, Texas.

At present the Kelly Field baseball team is leading the Army League by two full games. We have won ten and lost two. The manager and backbone of the Kelly Field team is Sergeant Joe Vielock, who has been playing since baseball was first played at Kelly Field. Combined with several old-timers, Kelly Field has four or five youngsters who are not only good this year but show promise of developing into a winning combination in future years. Staff Sergeant Klapp, Kelly Field's leading hitter, is also leading the Army League.

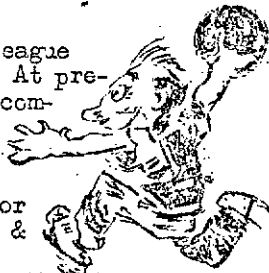


Langley Field, Va.

The Langley Field Birdmen bettered their chances of winning the series arranged between them and the Fort Monroe team on the afternoon of July 19th when they defeated the Artillerymen 8 to 6 on the Monroe grounds. The Monroe team is now only one up on the Birdmen, and with two games remaining in the series their chances, while slim, are better than ever before. In the first inning five passes to the Birdmen netted two runs. In the second, Langley scored three more by virtue of walks to two men, a single and a triple. In the eighth another cluster of three runs was added through a walk, two singles and a triple. The Fort Monroe outfit scored a run each in the second and seventh innings and four in the third when Kubitz, veteran ballplayer, hit for the circuit with all the bases populated. Langley's timely hitters in this game were Kirkman, Thomas and Ellis.

Kelly Field, Texas.

The doubles bowling league is drawing to a close. At present the Taylor & Cott combination are holding down first place, with Edmondson & Guthrie and Howser & Echart tied for second berth, and Towle & Maurer close runner up. Edmondson & Guthrie have the high team game with a nice 474. Peeler and Doares have the



high team series with 1307, due to Doares' hot series of 819 which he rolled recently. His games were 279-299-241. Mrs. Vance has ladies' high for the month in ten pins with a 202. Mrs. Browne has been improving steadily in her duck pin games and her high to date is 112, which is also high for the alley this month. Lieut. Anderson is holding down high for officers this month in ten pins with a nice 244. Mrs. Rich still holds all records on the alley for ducks with 143. Mrs. Bradley has the record for ladies in ten pins with 237 still standing.

Kelly Field defeated Brooks Field 15 to 3 at a low ball golf match composed of ten teams of two men. Team No. 1, Major Clark and Captain Hardy, broke even with Lieut. Allen and Cadet Schultz. Due to a shortage of players, Kelly Field had to call on the wives of some of the officers. Mrs. Richter and Mr. Thompson lost to Major Kenyon and Cadet Hudgens. Major Nutt and Mrs. Brown won from Lieut. Newberry and Cadet Crank. A return match will be played next week, as it is to be made a weekly affair, and challenges are expected from Randolph Field and Fort Sam Houston.



Brooks Field, Texas.

The friendly rivalry in golf between Brooks Field, Duncan and Kelly Fields has caused quite a turnout of talent, some of it golf and some just plain old pasture pool. In the first three tilts, Brooks took two out of three from Duncan; and in the first of a series with Kelly, Brooks was well trimmed to the tune of about 6 to 0. However, with the practice range at Brooks now being available with an instructor, the results should be quite different the next time.

Langley Field, Va.

Aquatic activities: The Langley Field racing enthusiasts are congratulating Private Philip P. Haug, of Flight "A," 16th Observation Squadron, who recently won three fine trophies at the Hampton Boat Races. Phil built his own racing shell, and the evidence is sufficient to prove that he must know something about the art of building this type of boat. Taking first place in the Class "A" outboard motor class; second place in the Class "B" and second place in the Class "C" outboard motor class, Phil hung up an enviable record. In the last two classes, Flight A's champ was competing against boats with twice the horsepower of his craft; and his placing second was an unexpected and unusual showing. No need to mention how Flight A feels about having a promising Gar Wood in the organization.

Selfridge Field, Mich.

The Selfridge Field polo team, composed of: Captain Robert C. Oliver, No. 1; Lieut. V.R. Bailey, No. 2; Major Dick Creed, No. 3; Lieut. Murray C. Woodbury, No. 4, with Capt. D.L. Allison and Lieut. C.H. Anderson as alternates, pro-

(Continued on page 24)

Portable Liquid Oxygen Truck:

An Engineering Section Memorandum Report recently prepared covers tests to obtain data regarding operation of the Type K-1 portable liquid oxygen plant. This plant was in operation intermittently for 14 months at Chanute Field. Due to the fact that gaseous oxygen equipment has been standardized for use on new aircraft, there was no further need of training men to operate the liquid oxygen plant. As a number of airplanes at Panama are equipped with liquid oxygen apparatus and as there is no available source there of either liquid or gaseous oxygen, the portable plant is being sent to Panama in order to furnish the necessary liquid oxygen.

Pneumatic Rafts:

Two each of Types A-2, B-3 and C-1 pneumatic bladder type rafts received from Air Cruisers, Inc., Clifton, N.J., on Contract No. W 535 AC 8339, have proved satisfactory for service test, and it has been recommended that distribution be made to the following activities for the purpose of conducting durability tests over a period of six months:

- Langley Field - 2 each Type C-1 and Type A-2
- Crissy Field - 2 each Type B-3

The Types A-2 and B-3 are identical in design to the standard Type A-1, 1,000-lb. capacity and Type B-2, 400-lb. capacity rafts, except that they are constructed of heavy rubberized duck casing containing latex rubber bladders. The manifold has been covered with rubber to prevent chafing, and metal in place of wood oars are provided. Three 5-ball Roman candles are also provided as an emergency signaling device. The pump is designed for inflating and to act as a bilge pump, if necessary.

The Type C-1 raft is designed as a one-man raft for single place Pursuit airplanes and contains a loose bottom to provide for stability in rough water. The Type C-1, being smaller in size than the Type B-2, provides for better stowing.

Source of Static and Impact Pressures on Airplanes:

An Engineering Section Memorandum Report outlines results of study and procedure for determination of suitable source of static and impact pressures on airplanes and summarizes calibrations of seven different Pitot-static tube installations on Martin Bombardment type airplanes.

Type C-1 Photographic Lamp Assembly:

An Engineering Section Memorandum Report reports on results of service test of the Type C-1 photographic lamp assembly was developed at the Materiel Division for the purpose of furnishing a satisfactory light source for making photographs of temporary set-ups, copy work, and other incidental photographic work where a portable light source is necessary. The lamp assembly is equipped with a No. 4 photoflood lamp which produces a high actinic

photographic light, an over-rated voltage and has a life of approximately ten hours. The lamp stand, reflector, socket, and all the auxiliary parts can be readily detached so that they may be placed in a compact case.

Photographic Film, Paper and Lenses, and Optical Glass:

A representative of the Materiel Division visited the National Bureau of Standards, Washington, D.C., for a conference regarding a uniform system for measuring film and paper shrinkage, and methods of measuring characteristics of optical glass and distortion of photographic lenses.

Automatic Altitude Control Feature in Automatic Pilots:

Fourteen representatives of the Sperry Gyroscope Company, Brooklyn, N.Y., visited the Materiel Division on July 14th, arriving in a TWA Transport airplane, for the purpose of demonstrating an automatic altitude control feature which they propose to incorporate in automatic pilots manufactured by that Company in the future. Two demonstration flights were made, during which time the operation of the automatic altitude control was witnessed by six Materiel Division representatives. The device did not operate properly during the first flight, and a second flight was made. In the second flight the operation of the device was such that the altitude was maintained within 100-150 feet, even when two passengers walked from one end of the cabin to the other.

NEW AIRPLANES FOR THE ARMY AIR CORPS

The Assistant Secretary of War, Hon. Harry H. Woodring, recently announced the award of contracts for new airplanes to the Curtiss Aeroplane and Motor Co., Inc., Buffalo, N.Y., and to the Stearman Aircraft Company, Wichita, Kans. The contract to the Curtiss Company is for the construction of a sufficient number of two-engine Attack airplanes and spare parts to provide for a thorough service test, and amounts to \$1,259,235.00.

The Curtiss YA-18, as this airplane is known, is the result of development over the past two years by the Curtiss Company, together with the Army Air Corps engineers. It combined very high performance with long range and improved safety characteristics, and is particularly designed for high performance at the lower altitudes. It is believed that it is the only two-engine Attack plane in the world. An all-metal, mid-wing monoplane with retracting landing gear and tail wheel, it represents a marked advance in Attack airplane design and is generally credited with being the fastest two-engined military airplane built to date. The great progress in aeronautical design shown by this airplane reflects great credit on aeronautical engineers, both commercial and of the Army Air Corps. It shows that America continues to maintain her leadership among the nations of the world.

All of the latest safety devices and navigational aids are incorporated in the design, and it is considered that these airplanes have characteristics which will make them of exceptional value for National Defense.

The airplanes ordered will be powered with the Wright GR-1820 Cyclone engines.

The contract to the Stearman Company is for 50 Primary Training airplanes, and for certain data, in the total amount of \$329,659. The price per airplane was \$6,544. These airplanes are identical with the 26 airplanes purchased from the Stearman Company in Sept. 1935, at which time the unit price per airplane was \$7,800. In placing a new contract with the same company at this time, the contractor was saved the expense of tooling up for the order and other expenses incident to the production of a new type of aircraft, which accounts for the saving to the government of \$1,256. per airplane. Because of this reduction in price, it was possible to obtain approximately 8 additional airplanes with the amount of money allocated for the purpose.

At the time of the original purchase, the airplane was thoroughly tested by the Materiel Division, Air Corps, Wright Field, and its success has subsequently been demonstrated by several months use at the Air Corps Training Center, San Antonio, Texas.

Powered with one 225 h.p., 7-cylinder, air-cooled Lycoming engine, this biplane has a tandem seating arrangement so designed that the instructor sits in front of the student, so that he can direct him either by interphone or visual signals.

The high speed of this airplane with the type of engine installed is given as 125 miles per hour, with a reduced cruising speed of 105 miles per hour. It has a gasoline capacity of 4 hours cruising speed and should climb to 10,000 feet with full load in 18 minutes. In general, its construction follows the types previously used by the Air Corps. The fuselage is of welded steel type construction, and the wing structure of spruce. The covering of the plane is the conventional fabric type.

For training purposes, a simple, rugged airplane is necessary, and economy and ease of production are primary requirements. Throughout its test and subsequent use at the Air Corps Training Center, the airplane has been found to meet these requirements to a high degree.

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Selfridge Field Polo Team (Continued from Page 22)

ceded to Lexington, Ky., on the afternoon of July 18th, where they met the Iroquois quartet, of Lexington, and were defeated 8-5. The Iroquois quartet, composed of Clint Harbison, Jr., at No. 1; Bobby Young, No. 2; Capt. W.W. Ford, of Richmond, No. 3, and Major Wilkie Burt, No. 4, started out on their victorious route early in the tilt, with Major Burt shooting a goal in the first period, while Selfridge went scoreless. Harbison tallied

once in the second chukker, but his shot was retaliated by one from the mallet of Lieut. V.P. Bailey, who proved to be the star of the Selfridge team by making three of his team's five goals. Harbison added another goal for the Iroquois team in the third chukker, but Captain Oliver kept their lead from mounting by sinking a goal himself in the same period. In the fourth period Harbison again made a goal. In the fifth, however, Lieut. Bailey reduced the Iroquois quartet's lead by driving two shots through the goal posts. In the sixth, Harbison added another to complete his team's scoring, and Major Dick Creed, at No. 3 for Selfridge, ended the scoring in the six chukker game with a goal.

The Selfridge team had just been organized, and this was their first game of the season. The two teams competed again the afternoon of July 19th, the Iroquois quartet defeating Selfridge 12 to 6.

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WAR DEPT. ORDERS AFFECTING AIR CORPS OFFICERS

Changes of Station: To Brooks Field, Texas: Captain Edwin Sullivan, on duty with Organized Reserves, 8th Corps Area, Oklahoma City, Okla., to duty with 12th Observation Group.

To Oklahoma City, Okla.: Captain Thomas L. Gilbert, from Kelly Field, for duty with Organized Reserves, 8th Corps Area.

To Mitchel Field, N.Y.: Captain Samuel R. Brentnall, from Panama Canal Zone.

To Middletown, Pa., Air Depot: Major Charles B. DeShields, (Captain), from Langley Field.

To Hamilton Field, Calif.: Major Edward C. Black from Langley Field, Va.

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RADIO INSTRUCTION FOR AIR CORPS ENLISTED MEN

Eight enlisted men of the Army Air Corps are under orders to proceed to Fort Monmouth, N.J. and report to the Commandant of the Signal Corps School thereat for the purpose of undergoing courses of instruction. Assigned to the Sept. 1, 1936, class are: Sergeant Sterling A. Cox, 2nd Balloon Squadron, Fort Bragg, N.C., and Pvt. Thomas C. Struth, A.C. Det., Fort Leavenworth, Kansas.

October 1, 1936, class: Privates Peter P. Saccoccio, 22nd Observation Squadron, Brooks Field, Texas, and Edwin D. Augenstine, 62nd Service Squadron, same post.

November 1, 1936, class: Staff Sgt. James R. Tomes, 16th Obs. Sqdn., Fort Sill, Okla., and Private Charles D. Gard, 16th Obs. Squadron, Fort Riley, Kansas.

December 1, 1936, class: Privates Walter D. Buss, and Charles R. Davis, A.C. Detachment, Fort Leavenworth, Kansas.

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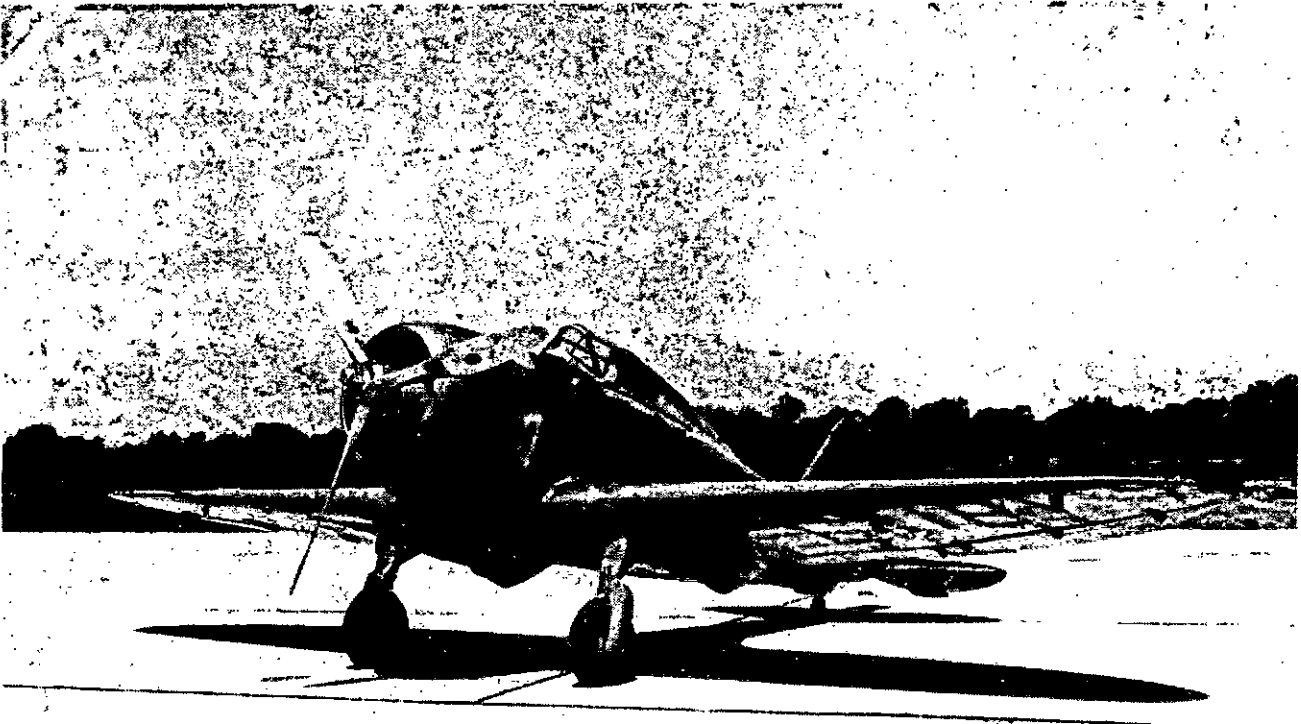
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NEWS

LETTER

Issued by the Chief of the Air Corps
Washington, D. C.



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Information Division
Air Corps

August 15, 1935

Munitions Building
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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THE APPLICATION OF AIR NAVIGATION

By 1st Lieut. Norris B. Harbold, Air Corps

Ed. Note: The views set forth in this article represent purely the personal ideas of the author and do not in any sense constitute an official report.

Much has been written upon the subject of Air Navigation Training, but little has been done, as yet, to determine the application of air navigation to the tactical unit.

In the air navigation conducted at the various training units, no attempt was made to determine the equipment and procedure necessary in the various types of airplanes, or to solve the navigation problems of the tactical unit. This was left to the individual after he had been taught all the requirements and possibilities of air navigation with the equipment on hand.

Unfortunately, the attempts of these individuals to complete their progress in training and to carry navigation to the tactical airplane met with disheartening results. The airplanes were not designed with much thought towards accurate navigation, nor was the special navigation equipment available.

However, considering our present tactical equipment - B-10's and B-12's, P-26's, PB's and O-46's, A-12's and A-17's, and assuming that the navigation equipment is available, how many airplanes need be equipped in a squadron, and how should we employ those equipped?

Needless to say, the writer is not prepared to state just what equipment and how this equipment should be placed in these airplanes, other than the B-10 and B-12. This problem, however, now, and more so in the future, should be of great importance to someone, some place. There is little use in building a plane requiring a navigator's presence aboard if some consideration is not given the equipment used by the man responsible for getting it to its destination, the navigator.

To return to our present equipment, we must consider its tactical employment. We are getting away from the formation idea. Nevertheless, the formation retains certain advantages, both in unity of movement (taking off, getting some

place and landing with the least practicable delay) and in attack. For these reasons and in consideration of the size and range of our present equipment, it is not feasible that the individual airplane be completely equipped for the more advanced stages of air navigation, except in the case of long range reconnaissance.

Let us look, therefore, to the next larger unit, the flight. Since one of anything is useless, it being normally out of commission or indisposed, we would like to have at least two navigation airplanes and two navigators but, since the basic squadron consists of three flights, we might as well equip three airplanes completely and have three trained navigators.

In Bombardment aviation this should work out very well. If the three flights are rendezvousing independently, they are each equipped with a navigator; if the squadron moves together there are two spares. Considering the airplane crew in the present B-10 and B-12, it is quite possible to crew three airplanes (flight leaders) with officer pilot, bomber and navigator.

In single-seater Pursuit aviation, the problem is a bit difficult, but with their limited range and probable radius of action in actual combat, no great facilities are required.

In biplane Pursuit and in Attack aviation there should be no great difficulty in equipping three airplanes (flight leaders again) with the necessary equipment and crewing the flight leader's airplane with two officers, pilot and navigator.

Observation aviation will normally operate within fairly limited radius, so there is no great need for all the navigation equipment. However, as in the other types, flight leaders could be equipped. In the case of long range reconnaissance, most operations would be by individual airplane, but the necessary size and range should permit the required installations and the proper crew to include a trained navigator.

Summing up the results in the matter of sets of equipment and trained personnel, they are not such as to demand an extra-

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gant layout of equipment or another Training Center to provide the personnel. In the present Bombardment, Attack and FB Squadron we would only need three airplanes equipped for navigation and three trained navigators - not an exorbitant requirement.

The question of air navigation training in this limited equipment arises. It is still possible, however, to acquire considerable knowledge and experience in the standard airplane when the training is approached systematically and intelligently, with progressive training within the flight in the airplanes completely equipped.

Also, and again, there arises in the minds of the uninitiated the vision of a sextant gathering from the sun, moon and stars all the necessities for air navigation. We wish it were so, but, unfortunately, celestial navigation is only a part of the game and our sextants are not as accurate as we would like them to be. Further, the accuracy of dead reckoning is considerably greater than that of celestial navigation within the range of present airplane equipment. Consequently, we advise and recommend that in all types of airplanes enumerated herein, celestial work be used only for training purposes, looking towards the day when we will fly for thousands of miles with only "a star to guide us by" and a ----- good navigator.

ANOTHER THOUGHT ON NAVIGATION TRAINING By Major Charles P. Prime, Air Corps

I have just had occasion to see the foregoing article by Lieut. Harbold, formerly Assistant Instructor at the Advanced Air Navigation Unit at Rockwell Field, Calif., and now stationed at March Field, Calif.

It is very refreshing to see that others besides those specifically charged with the fostering of air navigation training are taking an interest in this comparatively new subject (so far as the Army Air Corps is concerned). It is only by the constructive thinking of numerous individuals and a pooling and comparison of ideas that real progress can be made in these matters. The reason for the lack of progress before the Army carried the air mail was that not much time was devoted to the study of this very important subject. Also, there was not sufficient modern navigation equipment for this advanced type of training. Suddenly, it was realized that if the Air Corps was to fulfill its mission it would have to be able to fly by celestial navigation or dead reckoning and not continue to follow "the old reliable iron compass" - the railroad tracks, as was done by expert pilots for many years.

That many of the criticisms made by Lieut. Harbold are well founded is shown by the fact that training directives now emphasize in strongest terms that the training must be for the purpose of developing the flying capabilities of tactical units under all conditions: Not only are competent navigators being trained for units, but for all the crews of long-range planes of all types. The policy is to train competent crews in the various specialties required for the proper performance of long flights without reference to terrestrial check points.

A Board of Air Corps officers has just completed an exhaustive study on the types of navigation instruments to be installed in the various types of tactical airplanes. Much of the equipment necessary to solve the questions brought up in the above article has but recently been developed and is now being procured. Experiments are also under way for the development of better navigation instruments and better navigation methods. As soon as satisfactory instrument landing apparatus and efficient de-icers are procured, we can look to considerable advancement being made in this activity.

Ed. Note. With the importance of aerial navigation steadily mounting, for various reasons, it goes without saying that flying personnel are giving more serious thought to this subject than ever before.

No doubt many of them hold constructive ideas on this all-important subject but, as seems to be the case at organization meetings where there are discussions on one subject or another, there is a tendency on the part of many present, through modesty or fear that their ideas are not worth expressing, to hesitate to take the floor.

It is gratifying to note that at least two officers have ventured to come out in print and express their views on the present system of navigation and methods of training. These views may not necessarily coincide with those held by the Air Corps, but it shows that they have given serious thought to the proposition.

Now that the ice has been broken and there is in print comments from at least two sources, it is hoped that other Air Corps officers will give the News Letter the benefit of their opinions. Let there be an open forum discussion - this is one of the objects of the News Letter.

If we are going to have a real Air Corps, we must have constructive criticism, for this is the very life of progress.

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Technical Sergeant C.O. Porter, of the 81st Service Squadron, Kelly Field, Texas, was placed on the retired list on July 31, 1936, after 30 years of service in the Army.

CHANGES IN AIR CORPS N.C.O. PERSONNEL

ENGINEERING SCHOOL GRADUATION EXERCISES

One Master Sergeant and two Technical Sergeants of the Air Corps were recently placed on the retired list, and one Master Sergeant (Ralph J. Rumpel, of Fort Sill, Okla.,) was killed in a balloon explosion. The retired noncommissioned officers are Master Sergeant Herbert H. Bertram and Technical Sergeant John H. Kendall, of Scott Field, Ill., and Technical Sergeant Clarence O. Porter of Kelly Field, Texas.

The following noncommissioned officers were appointed Master and Technical Sergeants, Air Corps:

Master Sergeants

Name	Present Station
Tech. Sgt. Otis K. Lee	Chanute
1st Sgt. Edward J. Wright	Brooks
Tech. Sgt. Frank S. Davis	Langley
Tech. Sgt. Estes Lamb	Barksdale
Tech. Sgt. August Finch	March

Staff Sergeants to Technical Sergeants

George A. Eggeling	Kelly Field
Edward P. Polaska	Randolph Field
John T. Hoyle	Kelly Field
Max Eisenberg	Philippines
Walter W. Fry	Langley Field
Elza L. Higbie	Maxwell Field
Robert B. Norris	Mitchel Field
Clarence G. Culver	Fort Bragg
Lee Robinson	Selfridge Field
John F. Moran	Hamilton Field
William Hoffman	Selfridge Field
Edward A. Jusko	Chanute Field
Willie E. Newman	Selfridge Field
Forest Smith	Barksdale Field
Charles R. Bickle	Mitchel Field

NOTE: In a redistribution by the War Department in July of noncommissioned officers of the Army, the Air Corps was allotted three additional Master Sergeants and eight additional Technical Sergeants.

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KELLY FIELD OFFICERS TO TECHNICAL SCHOOL

The following Air Corps officers recently left Kelly Field, Texas, and will attend the next class at the Air Corps Tactical School at Maxwell Field, Ala.:

- Major U. G. Jones
- Captain Orvil A. Anderson
- Captain W. E. Whitson
- Captain Joseph Smith
- Captain J. A. Laird, Jr.

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Barksdale Field, La., was honored recently by the visit of Mrs. Barksdale and Mrs. O'Keefe, mother and sister, respectively, of the late Lieut. E.H. Barksdale, in whose honor the field was named. The two visitors spent several hours at the field with General Brant and other of their friends.

Commencement exercises of the 1936 Class of the Air Corps Engineering School took place on July 31st in the Auditorium at Wright Field, Dayton, Ohio.

Brigadier General A.W. Robins, Chief of the Air Corps Materiel Division and Commandant of the Engineering School, after a brief address to the students in which he praised the zeal shown by the individual members of the class and encouraged them to continue in the original development work for which many of the class had shown particular aptitude, awarded the diplomas. Wright Field personnel, families of the graduates, the Mayor of Dayton, Mr. C.J. Brennan, and other distinguished Dayton citizens were in attendance.

After the exercises, the students of the class were hosts at a luncheon given at the Patterson Field Officers' Club in honor of General Robins and members of the School Staff and Faculty. Wright Field officers reciprocated that night with a dance in honor of the outgoing class and the officers who had reported for the 1937 class.

Lieut. R.P. Swofford, Jr., a member of the 1936 Class, will serve as Assistant Commandant of the present class to replace Major F.M. Hopkins, Jr., who will take the course at the Air Corps Tactical School at Maxwell Field.

Of the graduating class of nine officers, six were retained for service with the materiel Division, namely, Lieuts. William T. Colman, Howard M. McCoy, Paul E. Shanahan, Pearl H. Robey, Marshall H. Roth and Ralph P. Swofford, Jr. The other three officers, Lieuts. Edwin S. Perrin, Charles K. Moore and Frederick R. Dent, Jr., will take aeronautical courses at the University of Michigan, California Institute of Technology and Massachusetts Institute of Technology, respectively, at the completion of which it is anticipated they will return to the Division.

The following named officers of the Air Corps reported for the 1937 Class of the Engineering School, which started work on August 1st, viz: Captains John G. Moore, Raymond E. Culbertson, Lieuts. Eugene H. Beebe, Thomas B. McDonald, Donald J. Keirn, Donald L. Putt and Howard G. Bunker.

Three other Air Corps officers, Lieuts. Louis E. Massie, Samuel O. Redetzke, and Herbert H. Tellman, are now attending classes at other educational institutions, and will report about August 21st.

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Featuring the cover page of this issue of the Air Corps News Letter is a photograph of the new Seversky Pursuit plane, contract for the construction of 77 of which was recently awarded to the Seversky Aircraft Corporation.

POST OPERATIONS AT HAMILTON FIELD
By Private A. A. Saklem, Chief Aircraft Dispatcher.

Situated in a modern office facing the landing field is Post Operations of Hamilton Field. Its exterior walls are decorated with modernistic symbols of the Air Corps, and within them beats the pulse of the post.

The regulations which set down the scope of this office make it versatile and interesting. It is a central activity recording from day to day the actions and vicissitudes of the field it serves, administrative as well as flying. The work covers record keeping, aircraft dispatching, charge of the Technical Library, and the maintenance of a goodly number of maps and charts. Pilots on cross-country flights are kept account of by radio or teletype communication, and the arrival of visitors is predicted by the same means.

During May and June of this year, visiting pilots from the east were led in rank by General Andrews, General Arnold and Colonel Burwell. General Clagett came to Hamilton Field three times within the same period, he being one of many who have come from March Field and other points south.

Strange airplanes appear from time to time. On May 19th, the Operations personnel crowded to the windows and stared in awe as an OA-5 settled itself heavily on the landing mat, taxied up to the flying line and twitched itself into a comfortable position on the concrete apron. This giant amphibian, piloted by Captain Goss, ventures far out over the ocean where the fine points of air navigation are practiced. Its several compartments are equipped with elaborate instruments and calculators to supplement the already impressive array confronting the pilot. The message recording its departure from March Field read: "March Field to Hamilton Field, via the Pacific Ocean."

Lieut. Horton, of Randolph Field, treated this station to its first look at the new Seversky Basic Trainer (BT-8), several of which are being built to train the future pilots of the Air Corps. Being a low-wing monoplane of a strictly streamline design, it forms an incredible contrast to the biplane formerly used for the purpose.

Six new Attack planes (A-17's) led by Major Duncan, of March Field, recently roared over the hangars and settled lightly on the landing mat. These sleek, low-wing monoplanes follow essentially the design of later preceding Attack planes. They are characterized by a large wing surface which makes it possible for them to maneuver easily and skim close to the earth in safety.

Civilian planes occasionally enter the field, presenting a colorful variety of people and planes. A stately

Vultee, owned by Mr. George P. Fuller, landed here on July 3rd to rest a moment in the course of its travels. The pilot displayed a photograph of Mr. Fuller's private landing field. It is in a rugged country walled in by California's forest trees.

Bill Monday, a Wyoming rancher, recently saw reason to land at Hamilton Field and stepped forth from his Ryan cabin monoplane, dressed in a city suit topped off by a five-gallon hat. The hat was fine, but the take-off when he left was even better. Facing the wind at one end of the mat, he suddenly dug spurs into the Ryan and rocketed into the sky, mounting high above the mat before he had traveled its length.

Then there was a local boy in a not very new biplane, who landed with the bolts of his top cylinder not very tight. The Alert Crew fixed it up and he flew away much happier. So life goes in Post Operations, one of the three fingers supporting the bird.

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GUNNERY PRACTICE FOR 3RD WING PERSONNEL

During the month of July, both the Attack Group and the Pursuit Group stationed at Barksdale Field, La., were engaged in aerial gunnery for qualification of personnel. The 20th Pursuit Group conducted their practice on the gunnery range at the post, while the 3rd Attack Group staged their exercises at their former home, Fort Crockett, Galveston, Texas, with one squadron occupying this field for a seven-day period, after which other squadrons followed for like training periods.

Somewhat of a record was established by the personnel of the Attack Group in that only two men failed to qualify as "Expert" during this gunnery practice.

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INSTRUCTION COVERING AUTOMATIC PILOTS

A class of instruction in the operation and maintenance of automatic pilots was started on July 15th in the Equipment Branch of the Materiel Division at Wright Field, Dayton, Ohio. This instruction, scheduled to extend over a period of thirty days, is being taken by representatives from the Fairfield Air Depot, Middletown Air Depot, Chanute Field and Wright Field.

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Major Alexander P. de Seversky, one of the foremost designers of aircraft, visited Barksdale Field, La., on a recent flight and demonstrated the maneuverability of his new plane which is expected to be standard equipment in the near future.

METEOROLOGY IN RELATION TO AVIATION
By the Bolling Field Correspondent

To know the weather conditions from hour to hour requires much work, study and patience by the meteorologist in keeping abreast with modern aviation. At Bolling Field, Captain W.H. Wenstrom,

Signal Corps, Meteorological Control Officer, Third Corps Area, compiles and distributes weather information to all stations in this Corps Area. He maintains and collects this weather data for the Air Corps from meteorological stations which are located at Bolling and Langley Fields, Aberdeen Proving Ground and Edgewood Arsenal. Special weather-reporting stations are also located especially to serve the needs of the Air Corps and distinct from the weather-reporting stations maintained by the Weather Bureau. These are operated by civilian observers under contract. One station is at the Admiral Byrd Airport at Winchester, Va., which is 700 feet up, 60 miles from Washington, with a fair landing field, daytime hangar and flying service. From here one can view the Shenandoah Valley, the Blue Ridge to the southeast, and eastern Allegheny outpost ridges to the northwest.

Another station is at Frostburg Ridge (Big Savage Mountain), two miles west of Frostburg, Maryland, 115 miles from Washington, and 45 miles from Uniontown, Pa. The elevation is 2850 feet. The visibility is unobstructed to east and west. On clear days, observers can see Martin's Mountain, 20 miles to the east, and Meadow Mountain, 12 miles to the west.

Some 2900 feet up, 30 miles from Uniontown, Pa., is Keyser Ridge. From this station visibility is unobstructed in all directions, and on clear days observers can see, to the east, Negro Mountain (3 miles), Meadow Mountain (10 miles) and Frostburg Ridge (15 miles); and to the west, Winding Ridge (5 miles), and Woodcock Hill (5 miles). Farm fields on the ridge top near the station could be used as emergency landing fields. These stations observe weather daily, including Sundays and holidays, and their reports are forwarded by commercial telephone or telegraph to Bolling Field or Pittsburgh, Pa., where they are added to the Mid-Eastern Air Corps Alert Net hourly weather broadcast.

The weather service on this route is intended to cover only daytime flying under fair-to-good weather conditions. At night, or in really bad weather, the Washington-Frederick-McConnellsburg-Buckstown-Pittsburgh Airway is generally used. This is known as the commercial airway and is equipped with 24-hour teletype service and every other technical aid to flying. This route to

Dayton, Ohio, from Washington is only 27 miles greater by air than the direct route. There are stations located also at Skyland, Virginia, CCC Camp #334, on top of the Blue Ridge Mountains at 3500 feet altitude, about one mile southeast of Skyland Summer Camp and about 7 miles southeast of Luray, Va. This station guards Washington and vicinity from the southeast, giving advance notice of the approach of storms from that direction.

Skyland is on the direct air route between Langley Field, Va., and Uniontown or Pittsburgh, Pa.

At another CCC Camp, #1318, located 4 miles southwest of Snow Hill, Md., on the eastern shore, another station guards Washington and vicinity from the southeast, giving advance notice of fog and other unfavorable weather moving in from the ocean. This station is on the direct air route between Langley Field, Va., and Mitchel Field, N.Y. These stations observe the weather on week days. Their reports are forwarded to Bolling Field about 20 minutes after each observation, and they, too, are added to the Mid-Eastern Air Corps Alert Net hourly weather broadcast. At Bolling Field this weather data is posted on weather boards and maps for convenient reference to pilots. The boards are arranged according to routes, and show at a glance the general conditions along the three particular routes from Washington - North, South and West, and along part of the eastern coast.

This information is supplemented by a ground glass map board, 40 inches by 60 inches square, which shows an outline and general topography of the flying region, location and names of all weather reporting stations. The map is posted in colored chalk hourly, using at each station a white "G" to indicate "Good," a yellow "P" to indicate "Poor," and a "D" to indicate "Dangerous." The map thus gives a general idea of the geographical distribution of flying weather conditions with respect to the routes flown. Weather blackboards, or files of weather-reporting sequences, can be used in conjunction with this glass regional map. In addition to showing the geographical distribution of weather, the map serves as a key map showing the location of weather stations listed on the blackboards or sequences.

With the rapid progress of aviation, the meteorological control officer is constantly striving to improve the service rendered by the meteorological department to the Air Corps. New ideas are continually being experimented with, and the more practical ones added to common use. These efforts are milestones along the way to making flying safer and surer under all weather conditions.

THE 31ST BOMBARDMENT SQUADRON

THE 31st Bombardment Squadron at Hamilton Field, Calif., holds a unique place in the GHQ Air Force for this year. The News Letter Correspondent states that it is the only Bombardment Squadron on the West Coast and, it is believed, the only Squadron in the GHQ Air Force which has completed training of all its personnel under the new TR 440-40.

The 31st Squadron spent the month of May at Mather Field, Sacramento, Calif., where all the pilots in the organization completed bombing under the new TR 440-40.

Many difficulties were encountered. It was early found that the new Training Regulations were not to be compared with the old. Cruising speed and high altitudes, along with the constant changing of direction, gave rise to many new problems. While bombing at high altitude, winds as high as eighty miles per hour were encountered. Consequently, the bombardier was given a very thorough test of his ability. The 4000-foot course was found quite dangerous from a wholly unexpected angle. The air around Mather Field during May is extremely rough, and two bombardiers received black eyes from hitting their heads on the bomb sight. There was a serious thought of submitting an Unsatisfactory Report on the bomb sight and requesting the Materiel Division to furnish a crash pad for these emergencies.

A very efficient two-way radio set-up was maintained at all times between the airplanes on the range and the ground spotting towers. Two airplanes were on the range at all times. Each pilot would call the ground station each time he headed for the target to give his number and the direction in which he was heading. As soon as the bomb left the airplane he would call again and report - "No. 3, heading south, bomb away, etc." Consequently, the men in the spotting towers knew which airplane had dropped the bomb and which direction it was heading before the bomb hit the ground.

During the month of June, all combat personnel of the Squadron completed firing the gunnery course under the new TR 440-40. The Squadron conducted its gunnery from Hamilton Field as a base. All firing was done on the range over the ocean, just north of the Golden Gate. No serious difficulties were encountered during the firing of the gunnery course, although machine gun jams and fog slowed up the schedule somewhat.

During the past year, the 31st Squadron participated in all Group and Wing Maneuvers and concentrations. The various Group, Wing and GHQ concentrations in which the 31st Squadron took part

are listed below:

Salt Lake City, Utah: July 22 to July 25, 1935.
 March Field, Calif.: September 3 to September 6, 1935.
 Merced and Coalinga, Calif.: November 4 to November 17, 1935.
 Vero Beach and Miami, Fla.: November 29 to December 19, 1935.
 Muroc Dry Lake, Calif.: March 7 to March 19, 1936.
 Squadron maneuvers in which the 31st Squadron operated alone were as follows:
 Medford, Oregon: August 18 to August 24, 1935.
 Mather Field, Calif.: October 11 to October 28, 1935.
 Mather Field, Calif.: May 1 to May 29, 1936.

It is self evident that since the inception of the GHQ Air Force, the 31st Squadron has become a highly mobile unit and has had practical experience in sustaining itself in the field, both as an individual unit and as a subordinate unit in the 7th Bombardment Group. With the advent of the new Fiscal Year, the 31st Squadron can look back over an active year in which practically all the southern and western portions of the United States was covered by one or more flights.

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GUNNERY AND BOMBING BASE AT VALPARAISO

In view of the fact that the Government has been offered, free of cost, a partially developed airdrome and other lands in the vicinity of Valparaiso, Florida, and it has been determined that these lands are well suited for a gunnery and bombing base for the Air Corps Tactical School at Maxwell Field, Alabama and for certain other Air Corps units located in the 4th and 8th Corps Areas, the Secretary of War has expressed the desire that the necessary steps be taken to have the lands referred to accepted under the authority contained in the Act of Congress, approved August 12, 1935 - Public 263, 74th Congress (Wilcox Bill).

It is stated that urgent military necessity exists for the development of aerial gunnery and bombing ranges in several sections of the United States for the proper training of Air Corps units and personnel and, further, that there is reasonable assurance that Relief Funds will be made available for further development of the Valparaiso Airdrome as soon as it passes to Federal ownership, thus insuring the early availability of a necessary training facility. Valparaiso, which is about 150 miles south of Maxwell Field, is on the Choctawhatchee Bay, which is an arm of the Gulf of Mexico.

EXIT TWO MEMBERS OF "THE MEN ON A FLYING TRAPEZE."

STAFF Sergeant John H. Williamson and Sergeant William C. McDonald, Air Corps, members of the famous aerial acrobatic team which earned international renown as "The Men on a Flying Trapeze," recently purchased their discharge from the Army, and boarded an ocean liner bound for China to join the teaching staff of Marshal Chiang Kai-Shek's Central Aviation School at Hangchow, near Shanghai. With them went Lieut. Sterling S. Tatum, until recently a member of the 106th Observation Squadron, Alabama National Guard.

McDonald and Williamson, who held commissions as lieutenants in the Air Corps Reserve, together with Major Claire L. Chennault, Air Corps, leader of this famous aerial acrobatic trio, constituted one of the chief attractions for the past several years at the annual air races both at Cleveland, Ohio, and Miami, Fla. As a flying team doing "war maneuvers and acrobatics," they performed feats heretofore considered impossible. Wing-overs, slow and snap rolls, loops and, finally, a turn and a half of a spin were executed with a perfection such as would make it seem as if the three planes were activated by one mind. As tending to shed further light on the amazing feats of this flying team, a Florida newspaper covering the All-American Air Races at Miami last December stated:

"There was a great surge of approval when the crowd recognized the Army's 'Three Men on a Flying Trapeze,' as they speeded over the edge of the airport. These expert Army fliers * * * staged the 'stunts' which brought world fame to themselves and renown to the military service which they represented. Their work included the longest series of maneuvers ever presented in Miami. One spectacular feat was a roll within a roll in which the planes revolved around each other while barrel rolling individually. The expertness of this maneuver brought cheers from the crowd. Then, too, there were the half rolls while completing a loop and Immelman turns. These marvelous turns, at the top of a loop, pulled in V formation, were amazing."

Major Chennault, Lieut. Williamson and Lieut. Haywood Hansell, Jr., constituted the original "Three Men on a Flying Trapeze," but the last-named officer, being detailed on other duties, was supplanted on the team by Lieut. McDonald. While the team was in Cleveland in 1934, it was given the title by which it has since been known.

According to newspaper reports, Lieuts. McDonald and Williamson were several times approached by an envoy of the Chinese government who offered them very attractive positions in the Chinese Air Service.

The two Army Pursuiters, hoping to see

cure permanent commissions in the Air Corps, at first declined the proposal. Unsuccessful in their effort to win a place among the first 52 out of the approximately 475 candidates, all graduates of the Air Corps Training Center, who took the mental examination last year for appointment as second lieutenants in the Regular Army Air Corps, and now nearing or having already passed the age limit for eligibility for such an appointment, they evidently decided that it was to their interest to accept the offer of the Chinese government.

Lieut. Williamson was born at Dyson, S.C., April 18, 1906. He attended the graded schools at Ninety Six, S.C., and, after two years of high school at Washington, D.C., he attended the Agricultural and Mechanical College at Clemson, S.C., for two years. Returning to Washington, he attended George Washington University for one semester. While employed in the U.S. Patent Office, he applied for and received an appointment as a Flying Cadet in the Army Air Corps. He completed the course at the Primary Flying School at Brooks Field, Texas, June 29, 1928, and graduated from the Advanced Flying School, Kelly Field, Texas, on October 26, 1928, specializing in Attack Aviation. Rated an "Airplane Pilot" and commissioned a second lieutenant in the Air Reserve, he was assigned to active duty at Fort Crockett, Texas, with the Third Attack Group. His active duty tours were from November, 1928, to September, 1929, and from October 1, 1930, to June 30, 1931. On September 18, 1931, he enlisted in the Air Corps as a Private, and during the course of his enlistment was promoted to Corporal and to Staff Sergeant. On March 17, 1933, he was promoted to 1st Lieutenant in the Air Reserve.

On September 18, 1934, Lieut. Williamson reenlisted for three years in the grade of Staff Sergeant at Maxwell Field, Ala., at which post he was stationed during his entire enlisted service. Lieut. Williamson is married.

Lieut. McDonald was born at Pratt City, Ala., May 24, 1906. Completing 7 years of grammar school and 4 years of high school, he attended Washington and Lee University for one year, Birmingham Southern College for one year and Howard College for two years.

While a member of the 106th Observation Squadron, Alabama National Guard, he received appointment as a Flying Cadet in the Air Corps. After graduating from the Primary Flying School, Brooks Field, Texas, February 27, 1931, and from the Advanced Flying School, Kelly Field, Texas, June 26, 1931, specializing in Pursuit Aviation, he was rated "Airplane V-7081, A.C.

Pilot," commissioned second lieutenant in the Air Reserve, and assigned to active duty with the 1st Pursuit Group at Selfridge Field, Mt. Clemens, Mich. Relieved from active duty on August 31, 1932, Lieut. McDonald enlisted as a Private in the Air Corps at Maxwell Field, Ala., December 20, 1932. During the course of his enlistment he was promoted to the grade of Sergeant. He was promoted to 1st Lieutenant in the Air Reserve on July 9, 1934.

On December 20, 1935, Lieut. McDonald reenlisted at Maxwell Field in the grade of Sergeant. He held the Specialist rating of Air Mechanic, 2nd Class.

He became a member of the mythical Caterpillar Club on April 15, 1935, when emergency failure while flying in the vicinity of Ashland, Ky., with no suitable place within gliding distance upon which to land, forced him to resort to an emergency parachute jump in order to save his life.

Both Lieuts. Williamson and McDonald hold a Department of Commerce license as Transport Pilot. The first-named recently passed the 3,000-hour mark in total flying time, while Lieut. McDonald accumulated over 2,500 hours.

ARMY PILOT JOINS PAN AMERICAN AIRWAYS

March Field recently furnished another pilot to the commercial air service with the addition of Private, 1st Class, Duncan J. Powers, 32nd Bombardment Squadron, to the apprentice pilot staff of the Pan American Airways at Brownsville, Texas.

For a year and a half Powers will attend classes in ground work at Brownsville before going on regular flights as a co-pilot. The only flying he will do during this 18-month period as an apprentice pilot will be on familiarization flights where he will have opportunities to keep his hand in as a pilot.

Powers, son of Mrs. Charlotte Powers, of Los Angeles, Calif., graduated from the University of Southern California in 1931 with the degree of Bachelor of Arts. He had previously graduated from the Polytechnic High School in Los Angeles in 1926. While at the University of Southern California he was active in athletics, especially in track, where he made the varsity low hurdling team from 1929 until 1931.

Powers was scheduled to report on August 1st to Mr. D.G. Richardson, Manager of the Pan American Airways, Western Division, at Brownsville, site of the school, doffing the sand tan khaki of the Army Air Corps for the blue and white of the PAA.

A graduate of the Primary Flying School, Randolph Field, and the Advanced Flying School, Kelly Field, Texas,

in 1935, Powers has served on active duty at Hamilton and March Fields as a second lieutenant in the Air Reserve. He enlisted for March Field several months ago.

21ST PHOTO SEC. DEPARTS FOR MANEUVERS

Eighteen enlisted men of the 21st Photo Section left Scott Field, Belleville, Ill., August 4th, in a convoy, comprising one motorcycle, one passenger truck, two cargo trucks and two photo trucks enroute to Allegan, Michigan, where the organization will take part in the maneuvers of the Second Army. On August 6th, 1st Lieut. Kurt M. Landon, commanding officer of the 21st Photo Section, accompanied by Master Sergeant Nico G. Loupos, of that organization, and Sergeant Wesley T. Cummins, airplane mechanic of the 15th Observation Squadron, departed from Scott Field in a C-8 photographic plane for Allegan, planning to arrive there at approximately the same time as the truck convoy.

The two photographic trucks, borrowed for the Second Army maneuvers from Chanute Field, Ill., are equipped for developing films and making prints in the field during the maneuvers.

Working in conjunction with the pires of the Second Army, the 21st Photo Section will make photographic records of all troop movements and will complete mosaic maps and other routine work as speedily as possible, thus simulating real war conditions. This is the first time the organization has actually gone out into the field on maneuvers.

AVIATRIX 404 FEET SHY OF ALTITUDE RECORD

Mlle Maryse Hilsz, one of the foremost French women pilots, during a flight on June 23rd, fell short by 404 feet of equalling the world's altitude record of 14,433 meters (47,352 feet) now being held by Commandant Renato Donati, of Italy, who established this record on April 11, 1934.

Mlle Hilsz, flying a Potez type 506 airplane, powered with a Gnome-Rhone K-14 engine, took off from the Villacoublay airdrome at 5:11 a.m., attained an altitude of 14,310 meters (46,948 feet) and landed at the airdrome an hour and 11 minutes later. The airplane she flew had previously been used by the late G. Lemoine (France) who, on September 28, 1933, at Villacoublay, reached 13,661 meters (44,819 feet).

Mlle Hilsz's record (feminine category) received the official recognition of the Federation Aeronautique Internationale, the world's aviation governing body.

Mlle Hilsz holds one other altitude record for a lighter type of plane, in which she reached 7,338 meters.

U.S. AVIATORS LEAD IN WORLD'S RECORDS

According to the Bulletin of the Federation Aeronautique Internationale for July, 1936, listing as of the first day of that month a total of 128 official world's records in both heavier-than-air and lighter-than-air, American aviators lead all other nations with 49 records. France follows with 35 records, Italy with 26, Germany and Poland with 8 each, and Great Britain with one.

In the lighter-than-air category, comprising 20 records, Poland leads with 7, followed by France with 5, and the U.S. and Germany with 4 each.

Of the 49 records credited to the United States, Benjamin King, the Washington sportsman pilot, leads in the number of records held by airmen individually. He is credited with 7 records, and shares one other with Daniel B. Brinn.

Boris Sergievsky holds 5 records individually; shares 5 others with the two noted American pilots, Col. Charles A. Lindbergh and Edwin Musick, and one with Raymond B. Quick. Major General Frank M. Andrews, Chief of the GHQ Air Force, holds 3 records, as does the team of D.W. Tomlinson and J.S. Bartles.

Holding two official world's records are Howard Hughes; the team of Lieut. Commander Knefler McGinnis, Lieut. J.K. Averill, and Naval Aviation Pilot T.F. Wilkinson; the balloon team of Hill and Schlosser; and Miss Helen Richey. Those credited with one record each are the teams of Major Albert W. Stevens and Captain Orvil A. Anderson; Roscoe F. Turner and George E. Craig; Henry W. Borntraeger and Edward H. Stafford; Mr. and Mrs. Terris Moore; Captain A.Y. Smith, Lieuts. Hugh McCaffery and H.S. Hansell; Harry Richman and Georges Daufkerch; D.W. Tomlinson, H.B. Snead and F.R. Redpath; and individual pilots Arthur C. Chester; S.J. Wittman, Lieut. Apollo Soucek, U.S.N.; Lieut. Richard L. Burke, U.S.N.; Major Alexander P. deSeversky; the late Captain Hawthorne C. Gray; and, among the fair sex, the team of Miss Iona F. Coppedge and Mrs. J. Garrigus; the team of Miss Helen MacCloskey and Mrs. G.M. Savage; and (the last should be first) Mrs. Amelia Barhart Putnam.

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AERIAL GUNNERY BY 35TH PURSUIT SQUADRON

The 35th Pursuit Squadron, stationed at Langley Field, Va., moved into the field on July 15th at the National Guard Airport, Virginia Beach, Va., for the purpose of conducting aerial gunnery practice on tow targets. The program has called for three missions of one hour each to be flown daily. The firing to date has been very successful and effective. The personnel found the fine facilities of the nearby beach very enjoyable for bathing and recreation.

AERIAL EXPERIENCE FOR WEST POINTERS

The Second Bombardment Group, commanded by Lieut. Colonel Charles B. Oldfield, recently returned from Mitchel Field, N.Y., to its home station, Langley Field, Va., after three weeks of intensive flying in conjunction with the aerial experience of the 1st Class from the United States Military Academy, West Point, N.Y.

The Group was scheduled to depart from Langley Field on June 13th, but due to zero ceiling on the Atlantic Coast they did not do so until the 15th. The formation, 27 ships strong, arrived at Mitchel Field late Monday afternoon and started work immediately. Missions were flown five days a week, beginning at 5:30 a.m., E.S.T. The 59th Service Squadron preceded the Group to Mitchel Field and established camp and arranged for housing and messing facilities. The men were quartered in a hangar and the officers in the gymnasium.

The Cadets were given aerial experience in navigation, gunnery and bombing. Three days of each week were utilized for bombing and aerial gunnery, the Group taking off and flying to Langley Field, where the bombing was done. The bombing was hampered because of continuous bad weather, but much valuable experience was gained in addition to demonstrating to the Cadets the methods of bombing. A total of 972 bombs was dropped by the Group.

The trip as a whole was very successful. Only one accident marred an otherwise perfect record, and it was not serious. Camp was broken on July 3rd, the ground echelon departing at 5:30 a.m. The air echelon departed at 2:00 p.m., and both echelons arrived at the home station without mishap. The ground echelon required two days for the return trip, camping one night enroute. The 4th of July traffic hampered the convoy somewhat but, due to experienced drivers, excellent time was made, and the convoy reached home ahead of schedule. As a whole, it was a most enjoyable and profitable exercise.

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37TH ATTACK MAKES THINGS MORE HOMELIKE

The lighter-than-air area assigned to the 37th Attack Squadron and Flight "A," 16th Observation Squadron, Langley Field, Va., has taken on a new appearance under the expert manicuring of the airplane mechanics. The mechanical ability of the grass cutters has lessened maintenance difficulties of the equipment, and more man hours per mower, sickle and scythe have been reported. In addition, the organization has assisted in beautifying the neglected areas that had taken on the appearance of Farmer Gray's pasture and again brought them into the fold of well cared for lawns.

WEST POINT GRADUATES ASSIGNED TO UNDERGO FLYING TRAINING

A total of 61 members of the class of 276 Cadets who graduated from the United States Military Academy on June 12, 1936, were, under recent orders of the War Department, directed to proceed upon the expiration of their graduation leave to Randolph Field, Texas, and report to the Commanding General, Air Corps Training Center, for duty and flying training.

These 61 students, or 22.1% of the entire graduating class of 276 students, received commissions in the various branches of the Army, except the Air Corps, as follows: Corps of Engineers, 4; Cavalry, 9; Signal Corps, 1; Coast Artillery, 4; Field Artillery, 13; Infantry, 30.

A year of intensive flying training is ahead of these West Point graduates to whom aviation presents a special appeal, i. e., an eight months' primary and basic course at the Primary Flying School at Randolph Field, and a four months' course at the Advanced Flying School at Kelly Field, Texas. Those who succeed in completing the year's course will be given the rating of "Airplane Pilot" and transferred to the Air Corps, while those failing to make the grade will return to the branch of the Army in which they were commissioned upon their graduation from the Military Academy.

It is now 15 years since the policy was inaugurated of assigning West Point graduates to the Air Corps flying schools for training. During the period from 1922 to 1935, inclusive, 848 West Pointers were accepted for flying training, of which number 373 graduated from the Advanced Flying School and approximately 28 are scheduled to graduate next October, a total of 401, or 47%. It would appear from this that slightly less than one-half of the young men mentally and physically qualified to undergo flying training at the Air Corps Training Center are able to pass through the course successfully.

The following statistics covering a 14-year period of flying training given to West Point graduates may be of interest:

Year	Total No. of Graduates	Assigned to the Air Corps	Pct.	Number graduating from the Advanced Flying School	Pct.
1922	102	16	15.6	8	50.00
1923	261	51	19.5	25	49.21
1924	406	61	15.0	20	32.78
1925	244	42	17.2	9	21.43
1926	152	18	11.8	7	38.88
1927	203	30	14.7	16	53.33
1928	260	77	29.0	53	68.83
1929	297	110	37.0	41	32.27
1930	235	84	35.7	40	47.62
1931	296	92	31.0	43	46.74
1932	258	68	26.3	38	55.88
1933	346	92	26.6	43	46.74
1934	247	60	24.3	30	50.00
1935	277	47	17.0	28*	59.57
Total	3584	848	23.6	401	47.28

* Scheduled to graduate in October, 1936.

The West Point graduates of the June, 1936³⁶ Class, who will soon report at Randolph Field to try their hand at piloting Army airplanes are enumerated below, as follows:

Class Standing	Name	Home
<u>Corps of Engineers</u>		
16	Dwight O. Monteith	Centerville, Iowa
18	Walter A. Faiks	Ada, Mich.
22	Thomas R. Conner	San Francisco, Calif.
30	Howard A. Morris	Lincoln, Neb.
<u>Cavalry</u>		
10	Cecil E. Combs	Dallas, Texas
107	Albert P. Clark, Jr.	Fort Logan, Colo.
109	Eugene V. Reece	Holdenville, Okla.
111	Ned T. Norris, Grosse Pointe	Village, Mich.
143	James W. Twaddell, Jr.	Andalusia, Pa.
144	William R. Grohs	St. Paul, Minn.
172	Harry R. Melton, Jr.	Brooklyn, N.Y.
173	John H. Daly	Pacific Grove, Calif.
194	William J. Hanlon	New Haven, Conn.
<u>Field Artillery</u>		
47	James E. Goodwin	Gloucester, Mass.
50	Gordon H. Austin	Washington, D.C.
53	Jay D. Rutledge, Jr.	Red Lion, Pa.
64	Robert D. Capen	Grand Marais, Minn.
78	Clinton D. Vincent	Natchez, Miss.
91	Seward W. Hulse, Jr.	Fort Mason, Calif.
92	Richard H. Carmichael	Austin, Texas
103	Carl K. Bowen, Jr.	Claremont, N.H.
117	Norman C. Spencer, Jr.	Concord, Mass.
119	Frederick R. Terrell	Tujunga, Calif.
121	Charles B. Tyler, Jr.	Fort Sill, Okla.
124	Frederick C. Rothwell, Jr.	Fitchburg, Mass.
128	Charles M. McCorkle	Newton, N.C.
<u>Coast Artillery</u>		
71	Maxwell M. Kallman	New York, N.Y.
77	John K. Arnold, Jr.	Washington, D.C.
95	Frank W. Gillespie	Gaines, Mich.
122	Frederick Bell	Troy, Kans.
<u>Infantry</u>		
88	William C. Hay	St. Paul, Minn.
96	James R. Gunn	Jacksonville, Fla.
114	John R. Kelly	Chicago, Ill.
129	Edward L.P. Burke	Helena, Mont.
150	John M. Bartella	Escanaba, Mich.
153	James T. Willis	Rome, Ga.
160	Clinton U. True	New Orleans, La.
161	Turner C. Rogers	Statesville, N.C.
168	George P. Champion	Marion, Ill.
171	Charles C. Segrist	Alexandria, La.
176	William F. Meany	Waltham, Mass.
197	William G. Lee, Jr.	Washington, D.C.
200	Laurence J. Ellert	Beechurst, L.I., N.Y.
210	Carl T. Goldenberg	Sweet Briar, Va.
211	Jackson H. Gray	Philipsburg, Pa.
218	Franklin R. Sibert	Hohokus, N.J.
219	James M. Illig	Erie, Pa.
224	Von Roy Shores, Jr.	Ardmore, Okla.
225	Wm. E. Covington, Jr.	Rockingham, N.C.
243	William M. McBee	Eureka Springs, Ark.
245	Clark L. Hosmer	Dunseith, N.D.
247	William W. Jones	Perry, Okla.
253	Joseph J. Nazzaro	Brooklyn, N.Y.
254	Charles M. Prosser, Jr.	St. Michael, Pa.
257	Benjamin F. Evans, Jr.	Wilkes-Barre, Pa.

Infantry, (Continued)

261 William L. Kimball Denver, Colo.
264 Henry A. Mucci Bridgeport, Conn.
269 Ernest S. Holmes, Jr. Missoula, Mont.
270 Thomas R. Davis New York, N.Y.
271 Wallace C. Barrett Port Arthur, Texas

Signal Corps

274 Conrad F. Necrason Cooperstown, N.Y.

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NEW A-17's FOR 37TH ATTACK SQUADRON

The 37th Attack Squadron is clearing their hangar space at Langley Field in anticipation of receiving the ten A-17 Attack planes, which allotment, however, has already been cut to eight. It is planned to groom these new planes as soon as possible for the Edgewood Arsenal maneuvers in September. No chemical missions can be flown in the near future, as the incoming ships are not completely equipped for the carrying of chemicals.

The A-8 airplanes have given excellent service and are improving every day. These Attack planes are the forerunners of the present Air Corps attack equipment and have ably accounted for themselves in all phases of Attack Aviation in conjunction with other branches of the service and within the Air Corps.

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FIRST BALLOON SQUADRON VISITS FORMER HOME

The First Balloon Squadron of Fort Sill, Oklahoma, in command of Major Ira R. Koenig, enroute to Allegan, Mich., to participate in the Second Army maneuvers, camped at Scott Field, Belleville, Ill., overnight on August 3rd, and departed the following morning.

This organization was made active May 17, 1929, at Scott Field. It was comprised of the entire personnel of the 12th Airship Company which had been made inactive May 16, 1929. On June 23, 1929, the newly formed First Balloon Company (subsequently redesignated Squadron) departed for its new station at Fort Sill.

The present personnel of the First Balloon Squadron includes a few members who were formerly stationed at Scott Field. Those few held a reunion with old friends in the Ninth Airship Squadron and Station Complement, (formerly the 24th Airship Service Squadron).

Major Koenig was previously stationed at Scott Field for several years.

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MAJOR de SEVERSKY VISITS SAN ANTONIO DEPOT

Major Alexander P. de Seversky, President of the Seversky Aircraft Corporation, Farmingdale, L.I., New York, flew to San Antonio on July 27th for a few days' visit at Randolph Field and the San Antonio Air Depot in connection with the new Seversky basic training planes, BT-8's, now being put into service at Randolph Field. He flew a new Pursuit type plane, making the journey from New York to

San Antonio in very fast time, and particularly between Dallas and San Antonio. With him were two expert mechanics from his factory, Messrs. Willard Ryder and Erwin Hoenes, who will remain at the Depot about three months, assisting in an advisory capacity in maintenance matters pertaining to the new basic training planes.

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GHQ AIR FORCE COMMANDER VISITS HAMILTON FIELD

Major General Frank M. Andrews, the Commanding General of the GHQ Air Force, accompanied by Brigadier General Delos C. Emmons, Commanding General of the First Wing, GHQ Air Force, and Lieut. Colonel Maxwell, GHQ Air Force Ordnance Officer; Major Whitehead, GHQ Air Force Inspector, and Major Eglin, Assistant GHQ Air Force Inspector, arrived at Hamilton Field, Calif., on July 29th.

This was one of the many personal contact trips made by General Andrews for the purpose of discussing GHQ problems with the officers of the various units composing the GHQ Air Force.

On the following day, General Andrews met the officers of the 7th Bombardment Group in Group Headquarters and discussed the various problems and phases of work confronting the GHQ Air Force. General Andrews and his party left Hamilton Field shortly after noon, July 30th, for Fort Lewis, Wash.

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HAMILTON FIELD INSPECTED BY NEW WING COMMANDER

An inspection of Hamilton Field, Calif., by the new commander of the First Wing, GHQ Air Force, Brigadier General Delos C. Emmons, was held on Monday, July 27th. The activities were started with a review of the troops, followed by a general inspection of equipment, hangar area and quarters.

Upon the completion of his tour of inspection, an aerial review was flown for General Emmons and his staff. The 9th, 11th and 31st Bombardment Squadrons of the 7th Bombardment Group, passed by the reviewing stand in close formation.

The Wing Commander arrived at Hamilton Field on the afternoon of July 26th, flying in a B-10, piloted by Lieut. L.H. Watnee, from March Field, Calif. In the evening a reception was held in his honor at the Officers' Club, at which function the Hamilton Field officers and their wives were introduced by Lieut. Colonel C.L. Tinker, Commanding Officer of Hamilton Field.

General Emmons was accompanied by his staff, Majors E.S. Hoag, J.T. Curry, Jr., H.K. Ramey and Lieut. L.H. Watnee. Other March Field officers who were at Hamilton Field for the week end and for the inspection were Col. J.H. Pirie and Captain J.L. Davidson, of the 17th Attack Group; Lieut. Colonel H.C. Davidson, Majors Albert F. Hegenberger, W.S. Gravely and J.L. Grisham, of the 19th Bombardment Group, and Lieut. Colonel E.A. Lohman and Major Victor H. Strahm of the Station Complement.

Before leaving for March Field, the Wing Commander expressed himself as being very well pleased with the conditions existing at Hamilton Field.

AIR CORPS DETACHMENT AT OAKLAND AIRPORT

The Air Corps Detachment, U.S. Army, Municipal Airport, Oakland, Calif., came into existence upon the evacuation of Crissy Field, Presidio of San Francisco, Calif., by all Air Corps troops on June 30, 1936. This detachment consists of one Air Corps officer, Captain George E. Henry, and 15 enlisted men. Captain Henry is the Air Corps Unit Instructor, Second Reserve District, and Detachment Commander; Station Commander; Supply; Operations and all that goes with a station with one officer. The enlisted personnel is made up of former members of the 91st Observation Squadron, Air Corps, transferred to the 9th Corps Area Air Corps Detachment and assigned to this station when the 91st was pulled, roots and all, from its haven by the Golden Gate.

The flying equipment consists of five old but serviceable - at this writing - PT3A airplanes and the related equipment that Crissy Field was able to spare and some they did not want.

The organization has hangar space in Hangar 1B, Oakland Airport, consisting of half of this hangar and lean-to space for offices, locker room, shops and supply room. A loft is used for the parachute section. The Port Authorities of Oakland have been very helpful in rearranging available space for the needs of the detachment, and after the usual shake-down it is expected that this unit will become settled to the extent that it will be able to find the PT's without falling over barrels, crates, boxes, metal, and a few spare wings, etc.

"Reserve activities are in full swing," says the News Letter Correspondent, "and in addition to getting set-up, so far we have been able to put all the Reserve officers in the air that can get out to fly during the seven days of the week. On August 1st, ten men of the detachment will go to duty with the Reserve summer camp at Moffett Field for four weeks. After the camp, it is expected that we will be able to get home in time for meals and have time to read the Air Corps News Letters.

Visiting plane facilities are limited due to lack of hangar space, and usually, only one or two visitors can be accommodated. Since airplanes cannot be staked down on the flying field, when the hangar is full, other visitors will, of necessity, be referred to Moffett or Hamilton Fields.

The Reserve unit is proud of the activity shown by the Air Reserve pilots of this district, as a quick check of the Form 5's shows the total Reserve pilot time to be over 3140 hours for the past fiscal year. There were no mishaps involving injury to any of the personnel.

COMMENDATION FOR LIEUT. ARNO LUEHMAN

For "landing a Martin Bomber with three passengers in a small, unprepared space near Gila Bend, Arizona, with exceptional courage, good judgment and piloting skill, on June 10, 1936," Second Lieut. Arno H. Luehman, 32nd Bombardment Squadron, March Field, Calif., was commended, in a letter received from Major General Oscar Westover, Chief of the Air Corps. Added to the commendation from General Westover were complimentary indorsements from Major General Frank M. Andrews, Chief of the GHQ Air Force, Langley Field, Va.; Brigadier General Delos C. Emmons, Commander of the First Wing, with Headquarters at March Field, Calif.; Col. John H. Pirie, March Field Commander, and Lieut. Colonel Howard C. Davidson, commander of the 19th Bombardment Group.

While flying to El Paso from March Field on June 10th, the propeller of one motor on the Martin Bomber, which Lieut. Luehman was piloting, flew off into space while the other motor overheated, warning his passengers to be prepared to jump. Lieut. Luehman carefully maneuvered the giant bomber to a landing on the desert and succeeded in preventing a fire breaking out.

While Lieut. Luehman hitch hiked for Gila Bend, the nearest town, his crew chief, Sergeant William Moberly, did the same to Casa Grande, Arizona. The remainder of the crew guarded the plane. Food and water were obtained from the two towns. The next day a new engine was flown from March Field.

Commenting further on this incident, General Westover stated that Lieut. Luehman's "action under the above circumstances was highly commendable, and his exemplary regard for the preservation of human life and government property was in accord with the best traditions of the service."

Lieut. Luehman, a recent bridegroom, is the son of Mrs. Edith Luehman, 3839 North 18th Street, Milwaukee, Wis., where he was born September 7, 1911. He graduated from West Point in 1934 and from the Air Corps flying schools at San Antonio in 1935.

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LIEUT. THATCHER JOINS CATERPILLAR CLUB

Student officer Herbert B. Thatcher, of the Advanced Flying School, Kelly Field, Texas, was flying an O-19 in formation on August 6th, and on coming out of a maneuver at about 4,000 feet his controls jammed. He could move them very slightly, and with the aid of his engine maintained his altitude, but after working on it about an hour he decided he did not have sufficient control to attempt a landing and jumped with his parachute, landing safely about 12 miles west of Kelly Field.

GUARD SYSTEM AT POPE FIELD
By the News Letter Correspondent

For almost two years, since its inception in September, 1934, Pope Field has had a guard system which is out of the ordinary. So successful has this system been that it is believed worthy of record in the Air Corps News Letter.

It is difficult to describe the Pope Field guard system without including the consolidated transportation department, the engineering department and the aircraft servicing department, for members of all are included to make up the force at Pope Field out of regular duty hours.

The Air Corps troops at Fort Bragg, N.C., consist of the Second Balloon Squadron and Flight C, 16th Observation Squadron, with a total for both organizations of 165 enlisted men. The areas to be guarded comprise the balloon hangar and the installations at Pope Field consisting of the hangars, transportation department, Air Corps supply, and gasoline storage systems. Since the balloon hangar and the airplane hangars are over one-half mile apart, it is apparent that a guard of two posts is required. The normal guard for the Air Corps area consists of the Officer of the Day, the Commander of the Guard (noncommissioned officer), two noncommissioned officers of the Guard, and six Privates. Now, here is wherein the guard system at Pope Field differs from the conventional. The Operations Office at Pope Field is the guard house. (Actually, members of the guard sleep in a small adjoining building. The prisoners, if any, and we hope not, are kept in the guard house at Fort Bragg).

The outstanding advantage of the system is that the Operations Office at Pope Field is open and doing business 24 hours per day, 365 days per year, with no additional personnel.

The Operations Office is the post of duty for the commander of the guard and one noncommissioned officer of the guard. The other noncommissioned officer of the guard is on duty in the balloon hangar. The force under the command of the commander of the guard consists of the entire guard plus the radio operator, one member of Flight C, detailed daily as emergency crew, one member of the aircraft servicing department, and an emergency driver who is detailed daily from the transportation department.

Other advantages of the guard system at Pope Field are:

It is a man saver. In particular, it is a saver of noncommissioned officers because the noncommissioned officers do the double duty of guard and of administering Pope Field out of regular duty hours. These noncommissioned of-

icers supervise the servicing and repairing of transient aircraft, operate the night lighting system, send and receive all flight messages out of duty hours, supervise the transportation of all transients to and from Fort Bragg in the station wagon assigned to the guard, clear aircraft on the authorization of the Officer of the Day, issue flying equipment and maps, and take care of the wants in general of visiting aviators.

b. Instead of the usual motley array of mechanics in greasy dungarees, there is always available at Pope Field a small but dressy guard to meet visitors. During their tour of duty, the Pope Field guard is dressed in the service uniform.

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LARGE AMOUNT OF TRAINING AT KELLY FIELD

Using the oldest equipment in the Air Corps, the Air Corps Advanced Flying School, Kelly Field, Texas, accomplishes a maximum amount of air training with the minimum number of airplanes. The average number of airplanes at Kelly Field, counting those in and out of commission of all types, is 75. Three classes (4 months each), averaging 65 students per class, are trained each year, with each student receiving 140 hours. The average number of post officers, including instructors, on flying duty is 54. Each post officer during the last year averaged 350 flying hours.

On the above basis, 195 students are trained each year with each student averaging 140 hours' flying time, which gives a total of 27,300 hours for student training and 18,900 hours for post officers; total flying time for the post being approximately 46,200 hours. This gives an average of 616 hours' time per airplane for the year.

Each class of students is given the following training program:

Transition (practice on all types,	15	hours
Instrument Flying	18	"
Night Flying		
Local	3	"
Navigation	15	"
Day Navigation	28	"
Specialization in Attack, Bombardment, Pursuit or Observation	56	"
Miscellaneous	5	"

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Colonel Arnold N. Krogstad, the Commanding Officer of Kelly Field, returned on August 6th from the Office of the Chief of the Air Corps, Washington, D.C., where he had been attending a conference.

B I O G R A P H I E S

COLONEL JACOB H. RUDOLPH

Colonel Jacob H. Rudolph, Air Corps, now on duty as Director of the Air Corps Board at Maxwell Field, Montgomery, Ala., was born at Milwaukee, Wis., March 25, 1886. After graduating from high school he attended St. Johns Military Academy. He was appointed from civil life as a second lieutenant, U.S. Army, September 25, 1908, and assigned to the 29th Infantry, receiving his promotion to 1st Lieutenant, July 1, 1916; to Captain, May 15, 1917; to Major, Signal Corps (temporary), August 5, 1917; to Major, Air Service, July 1, 1920; to Lieut. Colonel, Air Corps, August 1, 1933, and to Colonel, Air Corps (temporary), June 16, 1936.

Just prior to his transfer to the Aviation Section, Signal Corps, in August, 1917, Colonel Rudolph served with the 29th Infantry in the Panama Canal Zone. From 1913 to 1917 he was continuously on duty commanding machine gun troops. He reported for duty at Kelly Field, Texas, on October 5, 1917, and because of his experience with machine guns his service during the War was for the most part connected with aerial gunnery. At Kelly Field he commanded the Flying Cadet Detachment and was in charge of ground instruction from October, 1917, to March, 1918. From April to June, 1918, he was stationed at Taliaferro Field, Hicks, Texas, undergoing training in aerial gunnery under the British Royal Flying Corps, and serving as an instructor to officers and enlisted men in this phase of work.

From July to the end of December, 1918, Colonel Rudolph was Officer in Charge of ground and aerial gunnery training at Carlstrom and Dorr Fields, Arcadia, Fla. From January 11 to April 24, 1919, he commanded Chapman Field, Miami, Fla. He then assumed command of Selfridge Field, Mt. Clemens, Mich. During August and September, 1919, he was on duty at Caldwell, N.J., in connection with the participation of Air Service personnel in the National Rifle Matches.

After commanding the Aviation Repair Depot at Speedway, Indianapolis, Ind., from January 17 to November 12, 1920, Colonel Rudolph was ordered to March Field, Riverside, Calif., for flying training, and upon the completion of the course of instruction in May, 1921, he was transferred to Post Field, Fort Sill, Okla., for advanced training at the Observation School at that post. He received the rating of "Airplane Pilot" effective October 14, 1921.

On February 15, 1922, Colonel Rudolph was assigned to duty at Fairfield, Ohio, as Chief Engineer Officer. Other duties he performed were those of Information Officer, Officer in Charge of Fly-

ing, and as a member of several boards holding sessions at that post. On December 1, 1924, he assumed the duty of Chief of the Factory Section, Air Service Engineering Division, McCook Field, Dayton, Ohio; from November, 1925, to December, 1926, he was Chief of Fabrication Units, Chief of Maintenance Section and Chairman of Industrial Survey Board; and from January, 1927, to September, 1928, he was Chief of the Repair Branch and Chief of the Maintenance Section, McCook Field.

A student at the Air Corps Tactical School at Langley Field, Va., from September, 1928, to June, 1929, Colonel Rudolph, upon graduation, pursued a two-year course at the Command and General Staff School, Fort Leavenworth, Kansas. His graduation from Fort Leavenworth was followed by a three-year tour of duty in the Plans Division, Office of the Chief of the Air Corps, Washington, D.C. He was a student at the Army War College, Washington, from August, 1934, to June, 1935, and, following his graduation, was assigned to his present duty as Director of the Air Corps Board at Maxwell Field.

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LIEUT. COLONEL EARL L. NAIDEN

Lieut. Colonel Earl L. Naiden, Air Corps, now on duty as Commanding Officer of the 3rd Attack Group, Barksdale Field, Shreveport, La., was born at Woodward, Iowa, February 2, 1894. Graduating from the United States Military Academy, West Point, N.Y., June 12, 1915, and being commissioned a second lieutenant of Cavalry, he served with the 1st Cavalry at the Presidio of San Francisco, Calif., from September 12 to November 9, 1915; at the Presidio of Monterey, Calif., from November 13, 1915, to March 12, 1916; at Naco, Arizona, March 17th to April 30th, and at Douglas, Arizona, from June 12, 1916. He was then detailed to the Aviation Section, Signal Corps, as a student at the Signal Corps Aviation School at San Diego, Calif. Upon the completion of his flying training, he was rated a Junior Military Aviator as of April 8, 1917.

Joining the 1st Aero Squadron at Columbus, New Mexico, for duty as Transportation Officer, he participated in some of the Mexican Border patrols. He came to France with the 1st Aero Squadron in September, 1917, and shortly thereafter was sent to Italy to open an aviation school and receive instruction in flying the Caproni airplane. From October to December, 1917, he was head of the American Aviation Mission in Italy and received flying instruction in SVA and SP.2 airplanes at Mirafiore, Italy. In December he received aerial gunnery training at Lago di Bracciano, Italy.

During January and until February 1922, he was on duty at Maxwell Field, Ala., as Chief Engineer Officer.

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1918, Col. Naiden was on duty in the Aviation Office, Headquarters S.O.S., at Paris and then at Tours. He was then ordered to join a French Night Bombardment Group. During March and April he was on duty at the front with a French Night Bombardment Squadron. In May, 1918, he was on duty at the Day Bombardment School, 7th Aviation Instruction Center, A.E.F., in charge of students; in June, in charge of students at the 3rd Aviation Instruction Center, at the same time undergoing Pursuit training; in July and August on detached service in England studying organization and being in charge of flyers at a reception park and pool, and from August 20 to 30, he was on duty with the 96th Day Bombardment Squadron at the front. Col. Naiden participated in the Somme Defensive, March 21, 1918; in the St. Mihiel Offensive, September 12, 1918, and in the Meuse-Argonne Offensive, September 26-November 1, 1918. In September, 1918, he was detailed as the Air Service representative with the General Staff, G-3, GHQ, American Expeditionary Forces. During his service overseas he flew Italian, French, English and German airplanes of all service types.

Returning to the United States in July, 1919, and after a brief period of duty in the Administrative Group, Office of the Director of Air Service, Washington, Col. Naiden, on September 1, 1919, reported to the Commandant of the General Service Schools, Fort Leavenworth, Kansas, for duty as instructor at the School of the Line. In April, 1921, he reported for duty at the Primary Flying School, Carlstrom Field, Arcadia, Fla., for refresher flying instruction. He completed the required tests and was rated an Airplane Pilot, effective June 29, 1921. Resuming his duties as instructor, he became a student at this school for the 1922-23 course and, upon his graduation in July, 1923, he was assigned to duty at the Air Service Tactical School at Langley Field, Va., as Director of Instruction. Additional duties assumed by Col. Naiden while at Langley Field were those of Instructor, Tactical School, from October, 1923; Assistant Commandant of the Tactical School from August 27, 1925; and Commanding Officer of the Tactical School Detachment from March 18, 1936. In addition, he served as a member of various boards.

Relieved from duty at Langley Field in July, 1926, he was a student at the Army War College for one year and, upon his graduation in June, 1927, was detailed as a student at the Ecole Supérieure de Guerre, Paris, France, where he pursued a two-year course which terminated August 16, 1929.

For the next four years, Col. Naiden was on duty as Instructor at the Army

War College, Washington, D.C. In August, 1933, he joined the 3rd Attack Group at Fort Crockett, Galveston, Texas, performing various duties, such as Post Executive, Operations Officer and Commanding Officer of the 13th Attack Squadron. He assumed the duty of Commanding Officer of the 3rd Attack Group, Barksdale Field, on February 27, 1935.

Colonel Naiden received his promotion to 1st Lieutenant, Cavalry, July 1, 1916; to Captain, Cavalry, July 4, 1917; to Major, Aviation Section, Signal Corps, same date; to Lieut.-Colonel, Air Service, April 30, 1919; honorably discharged from temporary rank, September 12, 1919; returned to rank of Captain, November 4, 1922; promoted to Major, September 25, 1924; promoted to Lieut.-Colonel, (temporary) June 16, 1936.

Col. Naiden has passed the 2700-hour mark in total flying time.

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BIOGRAPHY OF COL. MUHLENBERG-A CORRECTION

In the biography of Colonel H.C. Kress Muhlenberg, which appeared in the issue of the News Letter of August 1, 1936, there was omitted his service at the Command and General Staff Schools, Fort Leavenworth, Kansas, from September 1, 1923, to June 13, 1924, and his graduation from that School on June 13, 1924.

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CAPTAIN TALLEY AWARDED NICARAGUAN MEDAL

Wright Field, Dayton, Ohio, was the subject of reflected honor on August 4th, when Captain B.B. Talley, Corps of Engineers, stationed in the Aerial Mapping Unit, received the Medal of Merit awarded by the Nicaraguan Government in recognition of exceptionally meritorious service to the Republic during the earthquake of March 31, 1931.

At that time it so happened that Captain Talley was in charge of the Engineers' Battalion, Headquarters Company, which was making a survey of the Nicaraguan Canal. Three hours after the occurrence of the earthquake, which took approximately a thousand lives, Captain Talley and his company were ordered to Managua, the Capital, which was in flames. From Tuesday afternoon until Saturday morning they fought the flames and kept order in the destroyed city.

The Medal is of gold and bears the Nicaraguan Seal, the five volcanoes in the foreground surmounted by the Cap of Liberty resting on a spear over which is a rainbow. The award of the Medal was made in 1932, and its acceptance authorized by a special Act of Congress in May of this year.

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Contributions for the News Letter are solicited from France and Albrook Fields.

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INTERESTING CAREER OF RETIRED NONCOMMISSIONED OFFICER

Technical Sergeant John H. Kendall, of the Station Complement, Scott Field, Belleville, Ill., was retired from the United States Army on the completion of thirty years' service on July 31st. Sergeant Kendall served 17 years in the Infantry and 13 in the Air Corps. Eleven of those 13 years were spent at Scott Field.

Sergeant Kendall originally enlisted in the 32nd U.S. Volunteer Infantry during the Spanish-American War, and he served more than a year with the regimental scouts in Northern Luzon, Philippine Islands. During that period he participated in one major battle and in many engagements and skirmishes.

On returning from Manila in 1901, he left the Army for civilian life. But in 1904, tired of the quiet life outside of the Army, he enlisted in the 6th Infantry at Fort Leavenworth, Kans. At the termination of that enlistment in 1904, he left the Army again to enter the newly born moving picture business. After a lapse of five years, Sergeant Kendall again returned to the colors, enlisting in the General Service Infantry at Jefferson Barracks, Mo. After two years there, and finding insufficient excitement, Sergeant Kendall went to the 27th Infantry for service on the Mexican Border during the trouble there in 1914 and 1915. In 1915, the 27th Infantry was ordered to the Philippines by way of the Panama Canal, which had been opened to shipping about that time. While the 27th's transport was enroute through the Canal, it was detained due to a rock slide in Culebra Cut.

A year after America entered the World War, the 27th Infantry was ordered to Siberia, where it served as a military police. Sergeant Kendall, then a First Sergeant, found the Siberian winter so cold that guards and patrols were able to remain on post for only 30-minute periods. He was glad when his organization was ordered to its new home in the tropical Hawaiian Islands in November, 1919.

But when the 27th disembarked from the transport at Honolulu, Sergeant Kendall continued on to the United States, where he served as First Sergeant in the 32nd Infantry at Camp Kearney, Calif.; the 19th Infantry at the Presidio of San Francisco, Calif.; the 27th Infantry at Honolulu, Hawaii, and as a Private in the 6th Infantry at Jefferson Barracks, Missouri.

In 1923, Sergeant Kendall transferred from the 6th Infantry to the 9th Airship Company, an Air Corps organization at Scott Field, Ill. Here, in a short time, he was promoted to Corporal and to Sergeant. He then transferred to the 21st Airship Group Headquarters, another

Scott Field unit, where he was promoted to Staff Sergeant and, in 1933, to Technical Sergeant. In 1933, Sergeant Kendall was transferred to Albrook Field, Panama Canal Zone, for another two years of foreign service, returning to the Station Complement, Scott Field, in July, 1935.

In his thirty years of service, Sergeant Kendall has seen most of the United States and its possessions and, like most of the old timers, he hates to retire from active duty.

Sergeant Kendall has chosen the vicinity of Scott Field for his future home and has leased a residence in Belleville, where he and his wife are now living.

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WHOLESALE CATERPILLAR CLUB INITIATION

A Wright Field test flight which narrowly escaped ending in tragedy occurred on July 22nd, about 8:30 a.m., when a new Douglas Transport, carrying besides the two pilots five test observers, caught fire in the air. The pilots were Captains Frank Irvin and J.S. Griffith. Test observers in the cabin were John Cutting and H.D. McDaniels, of the Flying Branch; W.W. Cummings of the Equipment Branch, C.O. Hobson of Chanute Field, and John Weatherford of the Middletown, Pa., Air Depot, the two last named men being at the Division for the purpose of receiving instruction in instrument operation and testing.

The plane had been flown at lower altitudes and was then climbed to about 5,000 feet when fire broke out in the left engine. Smoke and flame rolled back towards the cockpit. Simultaneously, the pilots reached to apply fire extinguishing apparatus and gave orders for those in the cockpit to jump. All five of the test observers bailed out promptly and landed without injury.

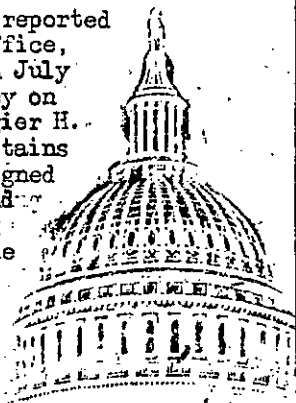
Cutting had been a member of the crew of the ill-fated Boeing Bomber which crashed and burned last year at Wright Field. He had been severely burned in that tragedy and, as it may be surmised, he did not hesitate in following orders.

In the meantime, the pilots saw that the fire extinguishers were taking effect and the fire was being checked, so they decided to endeavor to save the ship. This they succeeded in doing, flying back to Wright Field on one engine and making a safe landing. The excitement occurred over Dunreith, Indiana, a little town between Richmond and Indianapolis, approximately 45 miles from the Field. The test observers were returned to Wright Field by automobile. The emergency door was found not far from where they landed, and it was virtually undamaged. Luck was with the Air Corps that

(Continued on page 17)

WASHINGTON OFFICE NOTES

Three officers recently reported for duty in the Chief's Office, Captain Luther S. Smith on July 27th, Major Edward W. Raley on July 29th, and Captain Angier H. Foster on August 1st. Captains Smith and Foster were assigned to the Executive Office and the War Plans and Training Division, respectively, the former coming from Kelly Field, Texas, and the latter from Barksdale Field, Shreveport, La. Major Raley, who was on duty at Mitchel Field, N.Y., was assigned to the Information Division.



Captain Morton H. McKinnon, who recently graduated from the Command and General Staff School, Fort Leavenworth, Kansas, and who went on leave of absence shortly after reporting for duty in the War Plans and Training Division on June 25th, returned on August 8th. Returning from temporary duty at Wright Field were Major Ross G. Hoyt (Information Division) on July 27th, and Captain Robert V. Laughlin (Supply Division) on July 30th. Officers returning from leaves of absence were Colonel Rush B. Lincoln, Chief of Personnel, on August 7th, and Lieut. Colonel Gerald E. Brower, War Plans and Training Division, on August 1st.

Colonel Frederick L. Martin, Executive, Materiel Division, Wright Field, Ohio, and Lieut. Colonel Arnold N. Krogstad, Commanding Officer of the Advanced Flying School, Kelly Field, Texas, who have been on temporary duty in the Chief's Office, returned to their respective stations on August 5th.

Colonel Chalmers G. Hall, Chief of the Supply Division, and Major Edward V. Harbeck, on duty in the Inspection Division, departed on leaves of absence on August 3rd.

Lieut. Colonel Harry H. Young departed on August 8th to attend the Second Army Maneuvers as Observer from the Chief's Office.

Major Karl S. Axtater made a cross-country flight to Selfridge Field and return.

Major Alvan C. Kincaid attended a conference recently at the Bell Aircraft Corporation at Buffalo, N.Y.

Captain Edward H. White was a visitor on July 30th during the course of a cross-country flight from Boston, Mass.

Major James A. Mollison and Captain Stewart W. Towle, of the Personnel Division, departed on August 10th and 11th, respectively, on plane-ferrying missions.

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NEW CHIEF OF INFORMATION DIVISION

Lieut. Colonel Harrison H.C. Richards, Air Corps, who has been on duty in the Information Division, Office of the Chief of the Air Corps, since last March, was assigned as Chief of that Division, effective July 15, 1936, relieving Colonel John D. Reardan, Air Corps. Prior to coming to Washington, Colonel Richards was

on duty as Assistant Commandant of the Advanced Flying School, Kelly Field, Texas.

Colonel Reardan, who has been assigned as Air Corps Procurement Planning Representative in New York City, has for the past few weeks been taking a well earned rest, and is soon expected to tackle his new "job" with his customary vigor. Our best wishes go to him in his new work.

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Wholesale Caterpillar Club Initiation

(Continued from page 16)

day, if luck can ever be mentioned in the same breath as fire. Both pilots have been commended for the courage and good judgment they displayed in the face of danger.

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ATTACKERS DEPART FOR SECOND ARMY MANEUVERS

On August 1st, a flight of 16 Attack planes, of the A-17 type, left Barksdale Field, Shreveport, La., for Selfridge Field, Mt. Clemens, Mich.; to participate in the maneuvers of the Second Army. The flight, commanded by Major Edward M. Morris, Air Corps, was scheduled to spend nine days in these maneuvers, dividing their time between Selfridge Field and Bowman Field, Louisville, Ky.

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PURCHASE OF NEW TYPE AIRPLANES

The Assistant Secretary of War, the Hon. Harry H. Woodring, recently announced that he had approved a contract with the Curtiss Aeroplane & Motor Company, Inc., of Buffalo, New York, for three high performance single-seater Pursuit airplanes of a new type, to be known as the T1P-36. The development is based on specifications laid down by the Air Corps, which has recently completed exhaustive tests on the experimental model at the Air Corps Materiel Division, Dayton, Ohio. The airplanes ordered on the new contract will be delivered to the Air Corps for service test.

The new type airplane is a low-wing monoplane of metal construction throughout, except for control surface covering. The main landing gear and tail wheel are completely retractable. The pilot's cockpit is entirely enclosed, and the fuselage in the vicinity of the cockpit is especially rugged to protect the pilot in case of a nose-over. Trailing edge wing flaps serve as air brakes in landing.

The new airplanes will be powered with 900 h.p. supercharged engines and will be equipped with automatically controlled propellers which maintain engine speeds at constant revolutions. Other new aeronautical engineering developments which cannot be described at this time are also to be incorporated in the airplanes.

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Major Edwin F. Carey (Captain) has been transferred from Chanute Field to Langley Field, and 2nd Lieut. William J. Holzapfel, Jr. from Kelly Field to Maxwell Field. Orders assigning Major Early E.W. Duncan, March Field, to Hqrs. 4th Corps Area, Atlanta, were revoked.

GENERAL DRUM ADDRESSES AIR CORPS OFFICERS

At the conclusion of his recent garrison and training inspection, Major General Hugh A. Drum, Commanding General of the Hawaiian Department, in a talk to the assembled officers of Luke Field, stated, in substance:

"I think anybody will realize that in an emergency, or war, those of us who work in the War Department know that there are always two salient things. The first thing, of course, is the aerial end, and the other which is most essential is to be able to function on the ground. I think you will agree with me that there is no use of having airplanes unless we are able to take care of them in the field; to take care of the personnel in the field; feed them, supply them, bring on spare parts, fix up emergency landing fields, and care for those fields, and all that goes with the personnel in the field; so, consequently, it is essential that the enlisted personnel, who are the main workers, get the picture of that field set-up, and one of my main purposes is to give them that picture to some extent.

Those of you who participated in the carrying of the air mail realize that we had some difficulty about the Air Corps going out into the field. They had not thought about that very much. Those officers who testified before the Baker Committee, of which I was a member, had only considered operating from their main stations, and there was, as you know, quite a lot of trouble out around Cheyenne and Chicago, so we want to be assured that the officers and men would be prepared to go out in the field in some emergency and take care of themselves.

The other picture I had in mind - or purpose - is to bring the enlisted men into a little more prominence; make him feel his part; bring up his morale by paying attention to his appearance and dress and his equipment, and make him realize that he is a main cog in a big wheel.

I think and I know that you have got my purpose, because what you have done today has demonstrated it, and I appreciate the efforts that have been made in these last few weeks to get ready. I know that you have profited a great deal by it. I can see that. * * *

As to the review of the morning and the citation ceremony and the parade: I want to congratulate all of you on it. I saw the command about eight months ago, and the improvement is remarkable. One thing this morning, the citation ceremony of the officers and men: Sometimes in our nonchalant way we get the impression or do not accord to the men their due for things done above the average, and I think it is one of the finest things we have done to bring some of these men out and congratulate them for having done especially good work. It is giving some of the other men an incentive to go on further with their jobs. * * *

The demonstrations: I enjoyed very much Major Liggett's group going by and its demonstration, and I am sure that there would have been a very effective result if they had been bombing or coming for attack.

As I went through the different engineers

and operations offices and saw the care that had been taken, I was very happy to see it. It is proof of the effort made - all clean and well kept.

I looked over some of the charts of the flying done by the officers and I realized that there have been limitations, so that some of them have not completed the yearly total required, but there were physical conditions that could not be helped, and I am sure that many of you will complete the requirements before the end of the fiscal year.

The picture I got at the Depot* was one of those pictures that the best explanation I can give is about 100% improvement. I had gone through the Depot before on another visit about seven or eight months ago, and I think, Colonel Duncan,** it would be a fine thing for all the officers to go down and go through the Depot. Get Colonel Branshaw and Captain Kane to take them through, because something like that may be their responsibility. It shows what can be done with places like engineering shops and other messy places - how they can be kept up. That was a very fine demonstration of what two officers can do.

The camp this afternoon was one of the best I have seen, not only as to the completeness of the equipment, but with the care taken. The putting out of telephones, the communication between the ground and the air was all working, and I am very much satisfied with it. I am sure that when the maneuvers come off in the middle of next month that you will carry out some of your field equipment and be able to take care of yourselves.

In closing, I would like to say, Colonel Duncan, that I realize what the officers have been doing, and I want them to know I am thoroughly satisfied with the results."

*Hawaiian Air Depot, Luke Field.

** Lieut. Colonel Asa N. Duncan, Commanding Officer of Luke Field.

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WRIGHT FIELD OFFICERS ON INSPECTION TRIP

Brigadier-General A.W. Robins, Chief of the Materiel Division, Wright Field, Dayton, Ohio, with six other officers of that Division, took off in a Douglas Transport plane on August 3rd for an inspection trip of aircraft manufacturing plants and government aircraft activities in Buffalo, New York; Williamsport, Pa.; Hartford, Conn.; Mitchel Field, N.Y., Baltimore, Md., and Middletown Air Depot, Pa. They remained away approximately one week. Those accompanying General Robins were Lieut. Colonel Oliver P. Echols, Majors Edwin R. Page, Rudolph W. Probst, Hugh A. Bivins, Captain Frank G. Irvin and Lieut. Paul E. Shanahan.

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A radio station has been installed in the 88th Observation (LR) Squadron, Hamilton Field, which stays in direct contact with airplanes while on navigation missions. This prevents interfering with the Group Station, which was necessary at the beginning of the navigation instruction given at Hamilton Field. Three amphibians are being used for navigation training.

Kelly Field, Texas, August 7th.

Colonel Roy M. Jones, Air Corps, recently on duty as Executive, Office of the Chief of the Air Corps, reported to the field for duty.

Major Leland R. Hewitt, who recently graduated from the Command and General Staff School at Fort Leavenworth, reported for duty and was assigned to command the 40th Attack Squadron.

Captain L. S. Smith, formerly Operations Officer and School Secretary at Kelly Field, was transferred to the Office of the Chief of the Air Corps.

Captains G. A. McHenry and Howard E. Engler are now at Fort Knox, Ky., on duty with the Second Army, acting as umpires in the Second Army Maneuvers.

Langley Field, Va., July 29th.

The 35th Pursuit Squadron now has five PB-2As and are very much elated over the fact that soon they will be equipped with all new airplanes.

37th Attack Squadron: Lieuts. Wolfenbarger, Grussendorf and Eubenks left in three A-8's on a three-day cooperation mission with the Chemical Warfare Service at Edgewood Arsenal.

Captain Schramm and Lieut. McLennan are ferrying the first two A-17's each for this organization.

8th Pursuit Group Headquarters: At this writing the Headquarters softball team is in the lead in the Post Softball League Play-off series, having played four games and winning three. The League is composed of six teams which are scheduled to play each other twice. Two teams forfeited and one game was lost. All other teams have lost two or more games.

Second Bombardment Group: During the stay of the Group at Mitchel Field in connection with the training of West Point Cadets, the men and officers thoroughly enjoyed the thrills of New York and vicinity, including the dog races, midget auto races, beaches, shows, ball games and, for those with ready cash, the recent heavyweight prize fight.

The museums, aquarium, and Coney Island were rushed with business, and even though only a few old timers received bonuses, it was amazing how the extra money was spread around so rapidly.

Scott Field, Belleville, Ill., August 4th.

Colonel Frank M. Kennedy, Commanding Officer, returned from 45 days' leave on August 1st. He made an automobile trip to the West Coast.

Major William C. Goldsborough, a member of the 15th Observation Squadron, went on leave on August 1st. On August 22nd he will report to the Air Corps Tactical School at Maxwell Field, Ala.

Air Corps Reserve officers who reported for two weeks' active duty with the 15th Observation Squadron are Majors William C. Bausch, Hugh Lowery, Captain George L. Cooper, 1st Lieuts. Alfred W. Schwing (Inf. Res.) Stuart Murphy, Benjamin H. Dally, Jr., 2nd Lieuts. Arthur J. Maxwell and William B. Hinote (Inf. Reserve).

Military funeral services were held in the Post Gymnasium at 10:30 a.m., August 3rd, for Privates Jesse Neal and Richard A. Wegrich, members of the 15th Observation Squadron, who were killed in an airplane accident on August 1st. Private Wegrich was buried in the National Cemetery at Jefferson Barracks, Mo., that afternoon, with members of his family and the personnel of the 15th Observation Squadron attending. The remains of Private Neal were shipped to Oklahoma City for burial.

First Lieut. James C. Bean, Chaplain, held two athletic events during July for the enlisted men of the post. A swimming meet held July 2nd consisted of four swimming events and four diving events, the winners of the events being awarded Post Exchange Credits.

A golf meet was held July 6th, with twelve entrants competing for golf club prizes. The winners were:

1. Driving for distance from tee - won by Private John E. Friedrich, 9th Airship Squadron, 235 yards.
2. Spoon shot from fairway - Private Robert A. Hall, Station Complement, 218 yards.
3. Green shot with #5 iron, 150 yards - Pvt. Gene K. Schulaw, Station Complement, 8 feet from pin.

A tennis tournament will be held August 10th, 11th and 12th.

Chaplain Bean is planning other athletic events scheduled to take place later in the month.

San Antonio Air Depot, Duncan Field, Texas.

Major General Frank Parker, Commanding General of the Third Army and Eighth Corps Area, who recently returned from an extended illness at the Army and Navy General Hospital, Arkansas, called on the Depot Commander July 30th, accompanied by his aide, Lieut. J. F. Haskell, and viewed operations at this Depot. General Parker expressed himself as being well pleased with the appearance of the station.

Captain Hulbert G. D. Van Dorssen, of The Netherlands Indies Army Air Force, while on a visit to Randolph and Kelly Fields, called at the Depot July 23rd, viewing the Depot Engineering Shops and renewing an old acquaintance with Major J. P. Richter, Chief Engineering Officer.

Captain P. E. Skanse, pilot, with Sergeant Wm. A. Stryker, mechanic, and Private Berton Root, pilot, with Pvt. J. H. Goggans, mechanic, of Maxwell Field, Ala., ferrying two Bombers from that station to Kelly Field, visited the Depot August 5th to ferry an A-12 and a B-6A back to Maxwell Field.

The monthly Control Area supply and engineering conference and luncheon at this Depot was held on August 4th, and was attended by about 19 officers from Randolph, Kelly, Barksdale, Post and Brooks Fields and from this Depot.

Staff Sgt. C. E. Bright was transferred to the 3rd Transport Squadron, this Depot, from the Air Corps Advanced Flying School Detachment, Kelly Field, effecting a mutual transfer with Staff Sergeant G. F. King of this Squadron.

Mitchel Field, L.I., New York, August 13th.

61st Service Squadron: The Organization Day of this Squadron fell on January 24, 1936, which date marked the opening of the Winter Test Maneuver for this Squadron. Consequently, its celebration was postponed until April 14th. A delightful steak dinner with appropriate trimmings was enjoyed at the Freeport, L.I., Lodge of the B.P.O.E., and lively entertainment was provided by several excellent vaudeville acts booked through a Broadway agency. Honor guests at the dinner included Lieut. Colonel Walter H. Frank, Commanding Officer of Mitchel Field; Major Walter M. Crandall, Medical Corps; Major John N. Douglas, Quartermaster Corps; Captains John P. Doyle, Jr., Paul H. Johnston, James F. Olive, Jr., and James K. DeArmond, Air Corps. The last six officers named served with the organization during the Winter Test Maneuver in January and February of this year.

The April 14th party having proved so eminently successful, and with rumors afloat to the effect that the Squadron would be disbanded on July 1st, it was decided to hold a gala party and funeral ceremony on June 26th. Lake Ronkonkoma, Long Island, was selected as the scene of the Squadron's last rites, and proved to be an ideal place. In the afternoon, athletic events with appropriate prizes of slacks and shirts to the winners, group games and swimming were indulged in, with a few "old-timers" being unceremoniously tossed into the lake, clothes and all, much to the glee of all onlookers. In the evening we were served a roast chicken dinner, and there was more Broadway entertainment. Colonel Frank and the Group Adjutant, Captain Demas T. Crow, Air Corps, paid us a visit in the afternoon. During the entire afternoon and evening, the Squadron had as its guests the enlisted men of other branches who served with us on the Winter Test Maneuver, namely: Staff Sergeants John M. Lauanders, Q.M.C.; James F. Hoffman, M.D.; Sergeant Alfred Schur, Q.M.C., and Private Leo P. LeBlanc, M.D. A fine time was had by all, and all members of the organization are hopefully looking forward to the next "party."

The Squadron recently played luncheon host to Major Leland W. Miller, Air Corps, a visitor to Mitchel Field. Major Miller, now on duty in the Office, Chief of the Air Corps, was at Mitchel on cross-country flight from Bolling Field. He formerly commanded the Squadron.

Master Sergeant Harry Beck recently rejoined the Squadron by transfer, after a short tour of duty in Panama and Moffett Field, Calif.

On August 8th, the Commanding Officer, Mitchel Field, held the first of a series of Inter-Organization Track and Field Meets. The 61st Service Squadron came through to take first place in the meet in the face of stiff competition. Our Squadron representatives copped first honors in the Six-man Relay Race, Jockey Race, High Jump, Shot-put, Tug-o-War, and foot ball throw; second place in the High Jump, 100-yard dash and base running events; third in the shot-put; and fourth place in base-running, 100-yard dash, foot-ball throw, base-ball throw and in batting baseball for distance. All in all, when the meet was at an end, the

61st was out in front by some 20 points. Quite a bit of interest has been aroused over these meets, and the competition should steadily improve from week to week. We are out to take them all.

Boston Airport, Mass.

August 1st was Organization Day for the First Corps Area Air Corps Detachment, with a celebration scheduled in the form of a clam bake and decathelon at Essex, Mass., and with the Reserve officers of the First Corps Area as invited guests. According to the plans made for this affair, a good time was in store for the detachment.

Recent visitors at the Boston Airport were Captain Sparhawk from Maxwell Field; Captain Reily from Middletown Air Depot; Lieuts. Allee and Todd, Selfridge Field; Lieut. Donovan, Kelly Field; Lieut. Ryan, Phillips Field; Lts. Gallery and Bowlin from Naval Aircraft Factory, Philadelphia; Majors Trinity, Whitehead, Black, Salisbury, Captain Smith, Lieuts. Nugent, William and Wilson, from Langley Field; Majors Durbin, Hayward, Captains Cullen, Laubach, Rodieck, Dixon, Eaton, Harper, Smith, Jones, Scott, Lieuts. Falco, Weiss, McLeod and Cadet Massion of Mitchel Field.

This station completed 4573:15 pilot hours during the Fiscal Year 1936 - 2282:40 being Regular Army pilot hours and 2290:13 being Reserve pilot hours. Furthermore, this station shows 1901:05 Regular Army observer hours and 504:50 Reserve observer hours for the same period. Considering that this station has eight airplanes allotted, one of which is usually at Middletown Air Depot for overhaul, this shows an average time of 54:25 hours per month per airplane during the year. This is considered an excellent record in that previous Air Corps figures show about 40 to 45 hours per month per airplane.

Luke Field, T.H.

23rd Bombardment Squadron: The Squadron lost many of its members on the July Transport. The officers of the Squadron gave an "Aloha" dinner at the Royal Hawaiian Hotel on July 1st to Major and Mrs. Liggett. The enlisted men of the Squadron gave a farewell lunch to the following departing men: Technical Sergeant Hero, Staff Sergeants McClintock, Baby, Banas, Sergeant Beamer, Corporal Kunz, Privates Flood, Swartzfager, Johnson, L.M., Hauot, DeWees, Burnett and Hart.

Lieut. John G. Armstrong was married at the Luke Field Officers' Club on June 30th. His bride is the former Miss Frances Wilson. Lieut. Armstrong is the fifth officer of the Squadron to be married during the fiscal year. Lieuts. Crickette, Gilkes, Paige and Altman were the others to take the plunge.

4th Observation Squadron: At this writing the Squadron, in conjunction with the other tactical Squadrons of the Group, is nearing the end of two weeks of intensive training involved in the current maneuvers of the Hawaiian Department which began June 16th.

The functioning of the unit under field conditions was eminently satisfactory, and all missions were accomplished with high efficiency.

Missions undertaken included both day and night operation under various conditions.

50th Observation Squadron: Did someone say that the lower forms of life did not have feelings? Joy? Happiness? Maybe, but we know for certain that centipedes are subject to fits of despondency. A 2" centipede recently decided to end it all, and crawled into the motor of the Squadron Commander's plane. There he parked himself on one of the spark plugs and calmly waited for the "juice" that would end his worldly troubles. Maybe he has gone to the other world where centipedes are never blue. Anyway, he was crisped to a burn, if you get what we mean.

The Squadron is now what we might term a Composite Hybrid Conglomeration, for which even the Greeks had no word. We are equipped with Pursuit airplanes and Bombers. On the last maneuvers we had one Observation mission and umpteen in which we acted as Bombardment and Attack. Some linguist suggested "Bombpurtacktion" as a new designation. This suggestion was loudly booed and a compromise was made by still calling ourselves Observation but rearranging the Squadron insignia so as to include a bar sinister.

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FOURTH ANNIVERSARY OF 19TH BOMBARDMENT GROUP

The 19th Bombardment Group, stationed at March Field, Calif., which recently celebrated its fourth anniversary, had projected itself into the public eye lately with a series of long over water flights. The spectacular character of these flights has served further to embellish the history of this Air Corps unit.

Brought into active service June 24, 1932, it distinguished itself from the start by establishing the first and only air navigation school in the entire Army. This school acted as a center for instrument flying training during the stress of the Army air mail operations, turning out many good instrument flyers during that period.

When the GHQ Air Force was organized in March, 1935, the Air Navigation School was discontinued, but training was kept under the standards required of a combat Air Corps unit. Though unable to train pilots from other Groups, the Nineteenth concentrated on its own Regular Army personnel.

The 19th Group has succeeded in turning out one of the best trained group of over the water navigators and pilots in the Army Air Corps. This training was given additional impetus by the assignment of the giant Douglas amphibian YOA-5 for several months this year. Without this help, the long flights would not have been possible.

With all of its own pilots trained in over water flying, and graduates from its former Rockwell Field School assigned to nearly every Group in the GHQ Air Force as navigation instructors, the 19th Group will embark for the next training year, July 1, 1936-37, on ordinary Bombardment Group training and the application of its acquired air navigation technique to tactical training. In other words, the

(Continued in next column)

TECHNICAL INFORMATION AND ENGINEERING NEWS

Air Corps Materiel Division

Parachute Harness Assembly:

Engineering Section Memorandum Report has been prepared, furnishing information relative to deterioration and ultimate life of parachute harness assemblies. It informs us that as a means of obtaining definite information regarding deterioration factors of parachute harness, 84 tensile strength tests were made with samples of webbing taken from harness submitted by service activities which had been subjected to the normal two years' service life and storage conditions. The results obtained indicate that only 4% deterioration of the webbing occurs each year beginning with the third year. This amount is insufficient to affect the safety factor of the harness assembly or create any hazard even under the severest emergency conditions. For this reason and based on satisfactory physical inspection, it was recommended that the service life of all harnesses in domestic service be increased from two to three years.

Tachometers, Type C-3, for Service Test.

Ten Type C-3 tachometers with indications of engine time are ready for shipment to service activities for service test. The chronometric tachometer, Type C-3, consists of the standard C-2 chronometric mechanism (Jaeger design) with the addition of two small scales for the indication of trip and total time. Trip time is from 0-20 hours and can be reset to zero by turning the knob on the dial. The total time dial which runs from 0-500 hours can be reset to zero from the back of the instrument by a screw driver.

Field Cooking Outfit.

An Engineering Section Memorandum Report comments on service tests of the field cooking outfit. It was stated that while the field cooking outfit had undergone service tests at Fort Crockett, Texas; Langley Field, Va.; March Field, Calif., and Luke Field, Honolulu, T.H., and had been found to be satisfactory in general, it was not considered to be entirely suitable for mobile units of the GHQ Air Force. Further development of the equipment has been discontinued, as recommended by the GHQ Air Force.

Fourth Anniversary of 19th Bombardment Group (Continued from first column)

Nineteenth will become a purely fighting Group instead of being partly an instructing unit. It does not plan to cut down on its over water flying, but to increase its bombardment effectiveness by using all of the modern technical aids possible.

Its two Bombardment squadrons, the 30th and 32nd, both have overseas records dating from August, 1917, until April, 1919. Demobilized and made inactive shortly after their return from France, the 30th and 32nd remained inactive until 1932, when they were reconstituted

V-7081, A.C.

and made part of the 19th Group in June of that year. The 76th Service Squadron was organized as an inactive squadron in 1927 and made active in 1930 at Rockwell Field. These three squadrons moved to March Field in October, 1935, when the 19th Bombardment Group was ordered to that station. The 93rd Bombardment Squadron, now inactive, is also part of the 19th Bombardment Group.

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PLAQUE DEDICATED IN MEMORY OF LIEUT. MARCH By the News Letter Correspondent

Memory of an Army flyer who was killed at Fort Worth, Texas, 18 years ago, was honored at March Field, Riverside, Calif., on Sunday, August 9th, at 12:30 p.m., when a bronze plaque dedicated to Lieut. Peyton C. March, Jr., was unveiled at the San Diego highway entrance to March Field amid appropriate but simple ceremonies. About 400 civilians and 1300 soldiers attended the rites.

While Mayor E.B. Criddle, of Riverside, extolled the simple monument lying in its triangular cactus garden as a marker of unity existing between Riverside and March Field, Mrs. Criddle unveiled the plaque. In praising Brigadier General Henry H. Arnold, who commanded March Field from October, 1931, until January, 1936, Mayor Criddle stated that March Field was an example of man's beautification and use of Southern California land with the help of water, characterizing March Field as the most beautiful Army post to be found anywhere, largely due to Arnold's administration.

Criddle welcomed General Arnold, now Assistant Chief of the Army Air Corps, to Riverside, and expressed the wish that his stay could be indefinite.

Accepting the plaque for the Chief of the Army Air Corps, Major General Oscar Westover, General Arnold reviewed briefly March Field's history, including preliminary surveys in August, 1917, the death of Lieut. March, who was the son of the war-time Chief of Staff of the Army, General Peyton C. March, and the completion of early construction at March Field early in 1918. He stated that nineteen years ago the Air Corps consisted of 70 officers, 30 planes and 1200 enlisted men. Airplanes of those days were less sturdy and pilots lacked training compared with the modern air force of today.

General Arnold declared that March Field was always given help when it was requested, praising the cordiality of all Southern California cities to the Army Air Corps. He told his hearers that he expected Brigadier General Delos C. Emmons, present commander of the 1st Wing, GHQ Air Force, would be given the same hearty cooperation that was extended to him during his four years at March Field.

Although the ceremony was simple enough, military color was not absent. As the new official car bearing Generals Arnold and Emmons and Colonel Pirie, post commander, arrived with the Generals' flag flying, the troops were called to attention and the command "Present Arms" ordered. As the Generals stepped out of the car, the bugler played the

"General's Flourish." Later, the San Bernardino WPA band played the "Star Spangled Banner." The troops made a splendid appearance in their GHQ Air Force summer uniforms, consisting of sand-tan slacks, shirts and campaign hats.

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BOMBING DEMONSTRATION BY 2ND BOMBARDMENT GROUP

The Second Bombardment Group, Langley Field, Va., commanded by Lieut. Colonel Charles B. Oldfield, recently staged the largest bombing demonstration in the history of the Army Air Corps.

Eighteen B-10B airplanes, each carrying six 100-pound demolition bombs, one half of them instantaneous fuzes and the other half delay fuzes, made one attack on the target at a high altitude and dropped all bombs at one time on signal from the leader.

The bombing formation used was closed up javelin down, and the results were excellent. The target was completely covered and surrounded by the bombs and, with the exception of a few wobblers, an excellent and uniform pattern was obtained. The approach to the target was made through a light rain that hampered the visibility but not the bombing accuracy of Captain W.H. Higgins, the bomber. Never before had anyone been treated to the spectacle of 108 live bombs falling in one group from any altitude and exploding in a locality which could be observed from the grandstand.

Immediately following the 18 planes, three B-10B's, each carrying three 300-pound demolition bombs, bombed the same target in salvo. This formation was scheduled to bomb from an even higher altitude, but were forced lower, due to weather. Lieut. J.R. Sutherland was the bomber for this formation, and obtained very accurate results. The target was completely blanketed with hits.

According to the News Letter Correspondent, this was undoubtedly one of the most spectacular and successful bombing demonstrations in the records of the Army Air Corps.

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SEVENTH GROUP IS CALLED ON TO AID IN RESCUE

When Colonel C.L. Tinker, Commanding Officer of the 7th Bombardment Group, Hamilton Field, was notified shortly after 9:30 p.m., August 7th, that a man had fallen overboard in San Francisco Bay, between Goat Island and Alcatraz, he immediately dispatched an airplane to the area to drop flares and aid in the search. The plane was piloted by 2d Lt. Arthur J. Pierce, Air Reserve. Proceeding to the area near Alcatraz, Lt. Pierce dropped three flares, one to the west of Alcatraz Island and the other two east thereof. The first flare was released at 2000 feet and the second at 1500 feet. Both were apparently too high, so the last flare was dropped from 1,000 feet. It gave better illumination on the surface, but did not cover a large area.

The moonlight interfered with the light of the flares, making them less effective for aerial observation. Boats and ferries were easily discernible, but such a small object as a man could not be seen. A full moon would have afforded better observation of the surface of the water, than flares, Lt. Pierce stated.

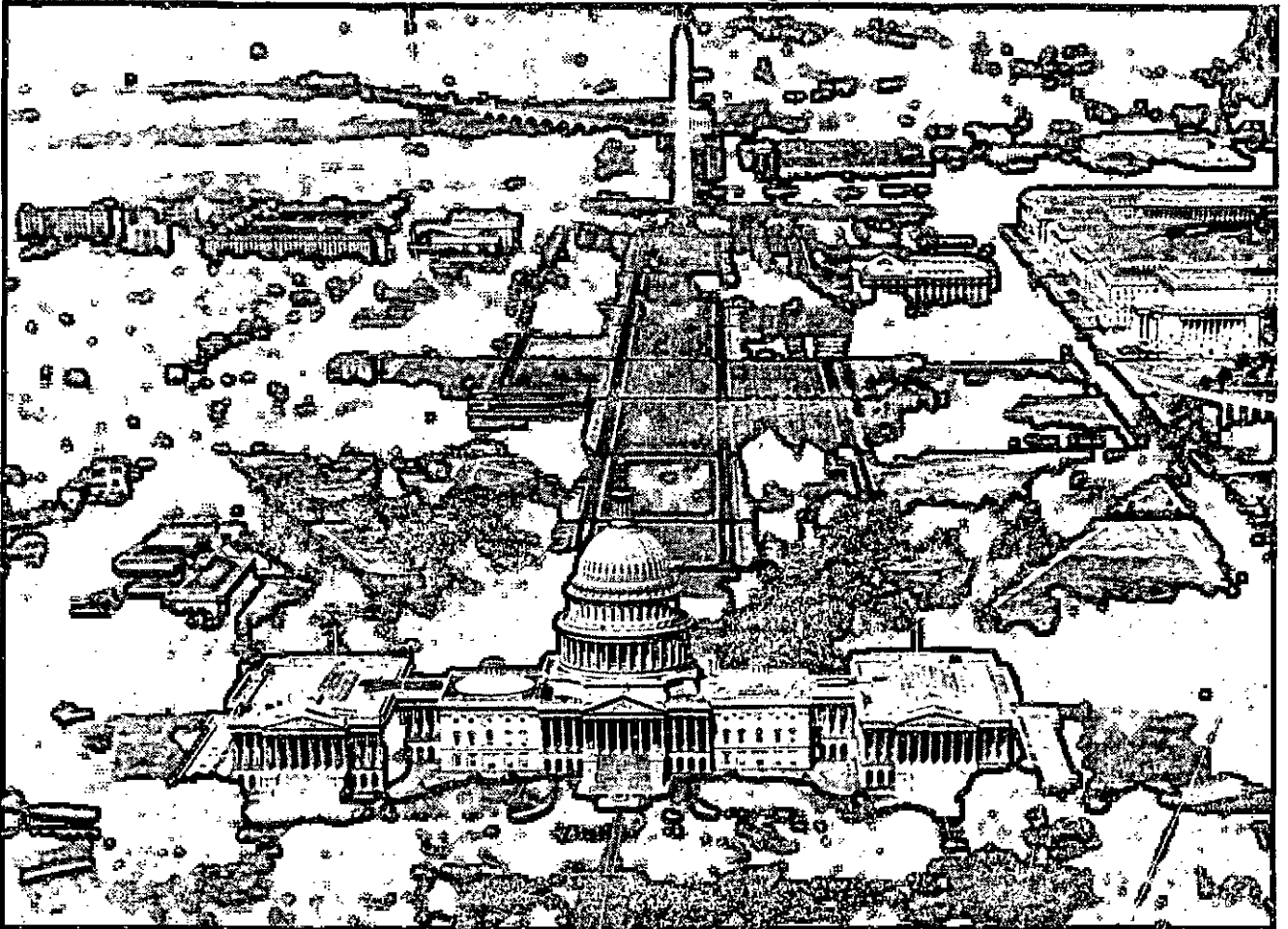
V-7081, A.C.



NEWS

LETTER

Issued by the Chief of the Air Corps
Washington, D. C.



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Information Division
Air Corps

September 1, 1936

Munitions Building
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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KNOCK-TESTING OF FUELS

By Captain F. D. Klein, Air Corps,
Materiel Division, Wright Field

ANTI-KNOCK value is probably the most important single property of aircraft engine fuel, since it directly limits the allowable engine output. Anti-knock value is normally expressed in terms of "Octane Number." The Octane Number of a fuel is the percentage of iso-octane in a mixture of iso-octane and normal heptane, which mixture has exactly the same anti-knock properties as the fuel in question. Iso-octane possesses unusually good anti-knock properties, whereas normal heptane is one of the worst knocking fuels. Therefore, the higher the Octane Number of a fuel the better is its anti-knock value and the more closely it approaches iso-octane in this respect. The Air Corps now specifies fuel of a minimum anti-knock value of 65 Octane for training type engines, and 92 Octane for tactical type engines, and in addition is procuring 100 Octane fuel at the present time for use at Barksdale, Hamilton and Selfridge Fields.

In accordance with the above definition of anti-knock values, 100 Octane fuel is equal in knocking properties to pure iso-octane. Although it now contains about 45 per cent of commercial iso-octane, it can be produced without the use of any iso-octane.

In conducting knock tests, a small single-cylinder engine designed specifically for fuel testing is used. All engine conditions, such as speed, jacket temperature, air-fuel ratio, etc., are carefully maintained constant at their specified values. To determine whether a sample of fuel conforms with Air Corps requirements for 92 Octane fuel, the engine is first operated at a standardized degree of knock with a reference fuel known to be exactly equal in anti-knock properties to a mixture of 92 per cent iso-octane and 8 percent normal heptane, octane and heptane themselves not being used for routine tests since they each cost \$18.00 per gallon in their pure state.

The degree of knock is indicated by a potentiometer, which shows the temperature of a thermocouple inserted into the combustion chamber, this temperature rising with increased intensity of

knock. After operating the engine with this reference fuel for several minutes, until conditions become stabilized, the fuel to the carburetor is shut off and the fuel in question, which has been placed in a second chamber, is quickly turned on. Without changing any other conditions, the engine is then operated for several more minutes, until conditions again become stabilized, and the reading of the potentiometer is recorded. If the fuel in question is better than the 92 Octane reference fuel, the potentiometer will indicate a lower temperature, since the knock intensity will be lower. Conversely, if the fuel in question is poorer than the reference fuel, the potentiometer will indicate a higher temperature and the fuel will be rejected.

By a similar process of comparing fuels in the engine, it is possible to determine the exact Octane Number of any fuel, or to find the amount of tetraethyl lead required to give any desired Octane Number.

The Materiel Division conducts knock tests of fuels submitted periodically by all stations to insure that the specified quality is being maintained. It also conducts tests of fuels submitted by some of the contractors to determine the amount of tetraethyl lead required to make the fuel conform with Air Corps anti-knock standards. Other samples are tested from time to time, in cooperation with other laboratories, to determine how closely the knock ratings can be reproduced in the various laboratories throughout the country.

In addition to these routine tests of fuels, the Division is continuously conducting experimental tests for the development of better fuels and improved methods of knock test. A large part of this work is closely coordinated with the Navy Department, National Advisory Committee for Aeronautics, Bureau of Standards, and commercial organizations, in order to make as rapid progress as possible.

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Lt. Col. George H. Brett, A.C., was appointed a wing commander in the Air Corps with the temporary rank of Brigadier General from August 20, 1936, under Act of Congress of June 16, 1936.

V-7091, A.C.

IMPROVED TRAINING METHODS IN HAWAII

The 5th Composite Group at Luke Field, T.H., begins the new training year with prospects for greatly increased opportunities for broader training activities than at any time heretofore. This is made possible by the completion of a landing mat and the installation of a modern field lighting system. In addition, the Group finds itself in the process of being equipped with modern aircraft. In the past, not having airplanes of a type which can maintain altitude on one motor, inter-island and cross-water flying has been rigidly curtailed for the sake of safety. Since the new Bombers can not only maintain altitude but can climb on one engine, prospects for training missions which will include flights to the outlying islands are greatly improved.

Graduates of the local navigation schools, in particular, are looking forward to opportunities to practice their art by flights to the other islands and interception problems involving approaching vessels. Plans for high altitude bombing practice have made necessary the abandonment of the old Ahua Point range, and the range, equipped with observation towers, will shortly be in operation at Waimanalo.

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"WEATHER HOPS" BY SCOTT FIELD PILOTS

During the two years, July 1, 1934, to June 30, 1936, Scott Field officers and enlisted pilots made a total of 588 "weather hops" for the Weather Bureau, U.S. Department of Agriculture. During the first year period, 302 flights were made, with 63 missed; and during the second year 286 flights were made and 80 missed. The average percentage for flights made during the two years is 80.

Four different airplanes were used of the O-19 and BT-2 types. One plane was lost when Captain Raphael Baez ran out of fuel in a fog and was forced to "bail out" near Peoria, Ill. There was one forced landing away from Scott Field, because of fog, but the plane was safely returned the next day.

Although the average altitude of the flights was 18,000 feet above sea level, two flights, one by Private Arnold T. Johnson and the other by 2nd Lieut. Paul H. Meng, were made above the 21,000 foot level. Scott Field's altitude is 444 feet above sea level.

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WAR OPERATIONS AT POST FIELD

At this writing Post Field, Fort Sill, Okla., is invaded by the Division Air Service of the Colorado National Guard. War-torn Fort Sill, the scene of countless simulated battles, reacts again in

the throes of this latest conflict. The activity is manifest to a marked degree from dawn until noon, when silence prevails, almost instantly, until another dawn.

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THE P-6A IS NO MORE

"As far as we know," says the News Letter Correspondent from the Fairfield, Ohio, Air Depot, "the last P-6A finished its career when it landed wrong side up in a small field at Fernandina, Florida. Private T.S. Davis, piloting the relic, was enroute to Jacksonville, Florida, when forced to land about twenty miles north of his destination. Although not as well known as some of the older types, it had its merits, although its passing does not cause many regrets. However, it had one thing in its favor - it was warm in the winter."

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TIMING DEVICE ON SPEED COURSE

The News Letter Correspondent from the Fairfield Air Depot, Patterson Field, Ohio, states that it is contemplated installing an electrical timing device on the Speed Course located on the westerly side of the flying field. When completed, small towers, approximately 50 feet high, will be located at each end of the course. Notice to Pilots will be issued when the project is further advanced.

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HAWAIIAN AIRMEN AT KILAUEA MILITARY CAMP

Following the rigorous campaign conducted during the recent Hawaiian Department Maneuvers, in which the 5th Composite Group, Luke Field, at various times took the part of the enemy as well as the defending air forces, a group of fourteen war-weary pilots, including Lieut. Col. Asa N. Duncan, took off on July 9th for 14 days' detached service at the Kilauea Military Camp, on the "Big Island." The officers and men going to camp traveled by air. Wives, sweethearts and others were not so fortunate and were compelled to undertake the voyage on the "General Royal T. Frank." Reports from the camp depict the horrors of a terrible voyage with mountainous seas. A number of the ladies, unwilling or unable to face the hardships of a return voyage by water, have reserved space on the Inter-Island Airways planes.

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Flight A, 1st Transport Squadron, Patterson Field, Fairfield, Ohio, was quite busy freighting during the month of July. In a total of 17 freight trips, 12,655 miles were flown, and the total amount of freight carried aggregated 42,377 pounds.

NEW CRASH TRUCK AT SCOTT FIELD

A new "crash type 100" fire truck recently received at Scott Field, Belleville, Ill., will shortly be placed into service. It was designed especially for extinguishing liquid (gasoline and oil) and electrical fires. The new truck will be especially useful at an aircraft crash or other emergency which may occur at a distance from a water supply, as it has a 500-gallon water tank.

This 2½-ton fire truck is equipped with American-La France equipment and has ten wheels to afford more certain traction on muddy fields. It is known as a triple combination apparatus, the name being derived from the fact that it has three separate hose lines which can be used singly or all at the same time. Each hose is coiled on a reel and is connected at its base end to its particular fire-fighting agent. The three agents used with these hose are water, carbon dioxide and foamite.

The truck is especially useful for extinguishing fires which are at a distance from a water supply. The water storage tank of 500-gallon capacity is unusually large. If water is pumped from it at the maximum rate of 135 gallons a minute with force enough to throw the stream 70 feet, the supply will last almost four minutes. But four minutes is usually time enough to get a minor fire under control and to give the other fire apparatus time to make the necessary preparations.

Water is not sufficiently effective for liquid and electrical fires. Therefore the truck is equipped with other extinguishing agents to take care of any kind of fire. For a liquid fire of burning oil or gasoline, foamite is particularly effective. The truck carries 550 pounds of fine, gray foamite powder sealed in large cans. A foamite generator is mounted on the side of the truck. The generator receives water directly from the water pump, allowing the water to suck foamite powder into it as it rushes through the generator and out through the hose. Foamite put on a fire quickly forms a "soap sud" kind of coating that floats on the burning liquid and smothers the flames by excluding the oxygen in the air. A 2½-inch hose, 150 feet in length, is used only with foamite.

For fighting large electrical fires, carbon dioxide in liquid form is used. This chemical is stored in four 50-pound tanks under high pressure. These tanks are connected, two in a series, to a valve with one-inch hose attached. When the first two tanks are exhausted, the other two can be turned on for immediate use. Liquid carbon dioxide put on a fire causes a blanket of

CO₂ to be formed; and oxidation, which we call "fire" to cease. Thus the fire is smothered out.

Another agent for extinguishing fire is carbon tetrachloride, available in portable hand extinguishers. This chemical is especially useful for small liquid and electrical fires. It generates carbon monoxide gas which smothers the flames.

The fire truck also has three other portable hand extinguishers, one foamite and two carbon dioxide, for use on small blazes.

Scott Field has other fire-fighting equipment, including three more fire engines, three hand-drawn chemical carts and five hand-drawn carts. The chemical and the hose carts are stationed at advantageous points on the field as auxiliary units. There is also a large number of hand extinguishers located in the various buildings.

The new "crash" truck will be stationed near the airplane hangars while flying operations are being carried on, according to the Air Corps safety requirement.

Scott Field sometimes has fires, but due to the efficiency of the fire department and the alertness of the guard and the military personnel in general, these few fires have been extinguished immediately after their start.

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ARTILLERY OFFICERS DROP BOMBS

The 23rd Bombardment Squadron, Luke Field, T.H., has been conducting a course for contact officers from the Coast Artillery Corps. The Artillerymen have been given considerable air work and were fortunate enough to find places in the formation which recently flew to Hilo and return. They have been getting the bomber's viewpoint by dropping bombs and firing aerial machine guns. When the course is completed they will have had an average of ten hours in the air.

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SERGEANT JOHANNSEN BACK AT SCOTT FIELD

Master Sergeant Walter Johannsen, who recently transferred back to Scott Field, from Kelly Field, Texas, has been placed in charge of the lighter-than-air gas plant. Sergeant Johannsen entered the lighter-than-air branch of the Aviation Section, Signal Corps, at Fort Omaha, Nebraska, in 1917, and served throughout the war at the front with the 4th Balloon Company. He was stationed at Scott Field for six years from 1922 until 1928. Once more a member of the Ninth Airship Squadron, he will fill the vacancy created by the retirement of Master Sergeant Herbert J. Bertram on June 30th.

REORGANIZATION OF THE ARMY AIR CORPS

On August 12, 1936, the War Department issued instructions governing the reorganization of the Army Air Corps within the continental limits of the United States incident to the reorganization of the General Headquarters Air Force.

Air Corps activities listed under the jurisdiction of the Chief of the Air Corps are as follows:

1. Office, Chief of the Air Corps, Washington, D.C.
2. Material Division, Wright Field, Ohio.
Flight B, 1st Transport Squadron, Wright Field.
Fairfield Air Depot, Patterson Field, O.
1st Transport Squadron, less Flight B, Patterson Field, O.
Middletown Air Depot, Olmstead Field, Pa.
2d Transport Sq., Olmstead Field, Pa.
San Antonio Air Depot, Duncan Field, Tex.
3d Transport Sq., Duncan Field, Texas.
Rockwell Air Depot, Rockwell Field, Calif.
4th Transport Sq. " " "
Scott Field Air Depot, Scott Field, Ill.
Air Corps Engineering School, Wright Field, Ohio.
3. Air Corps Technical School; Hq. and Hq. Sq., Technical School; 10th Air Base Sq.; 1st School Sq., and 2nd School Sq., Chanute Field, Ill.
4. Air Corps Training Center; Headquarters; Hq. and Hq. Sq., Primary Flying School; 11th Air Base Sq.; 46th, 47th, 52nd and 53rd School Squadrons; 20th Photo Section, Randolph Field, Texas.
Hq. and Hq. Sq., Advanced Flying Sch.; 12th Air Base Sq.; 61st, 62nd, 63rd and 64th School Squadrons, and 22nd Photo Section, Kelly Field, Texas.
5. Air Corps Tactical School; Hq. and Hq. Sq., Tactical School; 13th Air Base Sq.; 91st School Sq.; Air Corps Board, 4th Photo Section, Maxwell Field, Ala.
6. Bolling Field; Base Hq. and 14th Air Base Sq.; 1st Staff Sq., and 2nd Staff Sq., District of Columbia.

Activities under General Headquarters Air Force:

Headquarters and Headquarters Squadron, Langley Field, Va.
1st Wing: Hq. and Hq. Sq., 1st Wing; Base Hq. and 4th Air Base Sq., March Field, Calif.
17th Attack Group, Hq. and Hq. Sq.; 34th, 73rd and 95th Attack Sq., March Field.
19th Bombardment Group, Hq. and Hq. Sq.; 30th and 32d Bomb. Sq., March Field.
23rd Photo Sec.; 38th Reconnaissance Sq.; Cadet Detachment, March Field, Calif.
Base Hq. and 5th Air Base Sq., Hamilton Field, Calif.
7th Bombardment Group; Hq. and Hq. Sq.; 9th, 11th and 31st Bomb. Sq., Hamilton Field.
88th Reconnaissance Sq.; Cadet Detachment, Hamilton Field, Calif.
2nd Wing: Hq. and Hq. Sq., 2nd Wing; Base Hq. and 1st Air Base Sq., Langley Field, Va.
2nd Bombardment Group; Hq. and Hq. Sq., 20th, 49th and 96th Bomb. Sq., Langley Field, Va.

8th Pursuit Group; Hq. and Hq. Sq.; 33rd, 35th and 36th Pursuit Sq., Langley Field.
37th Attack Sq.; 2d Photo Sec., 21st Reconnaissance Sq., Cadet Detachment, Langley Field, Va.
Flt. A - 16th Obs. Sq. (C & A) (III CA) (See Note).
Base Hq. and 2d Air Base Sq., Mitchel Field, New York.
9th Bombardment Group, Hq. and Hq. Sq.; 1st, 5th and 99 Bomb. Sq., Mitchel Field, N.Y.
8th Photo Section; 18th Reconnaissance Sq.; Cadet Detachment, Mitchel Field, N.Y.
14th Photo Section (II CA) (See Note);
97th Observation Sq. (II CA) (See Note); Mitchel Field, New York.
Base Hq. and 3d Air Base Sq., Selfridge Field, Mich.
1st Pursuit Group, 17th, 27th and 94th Pursuit Sq., Selfridge Field, Mich.
Cadet Detachment, Selfridge Field, Mich.
3rd Wing:
Hq. and Hq. Sq., 3d Wing, Barksdale Field, La.
Base Sq. & 6th Air Base Sq., " "
3rd Attack Group, Hq. and Hq. Sq., 8th, 13th and 90th Attack Sq., Barksdale Field, La.
20th Pursuit Group, Hq. and Hq. Sq.; 55th, 77th and 79th Pursuit Sq., Barksdale Field.
5th Photo Section; Cadet Detachment, Barksdale Field, La.

Note: The following units located at stations under the command of the Commanding General, GHQ Air Force, will be under the control of the respective Corps Area Commanders for the purpose of tactical training and employment:

Commanding General, 2nd Corps Area:
97th Observation Sq., Mitchel Field, N.Y.
14th Photo Section, Mitchel Field, N.Y.
Commanding General, 3rd Corps Area:
Flight A, 16th Observation Sq. (C & A) Langley Field, Va.

Air Corps Units Assigned to Corps Areas

Base Hq. and 7th Air Base Sq., 15th Observation Sq., 21st Photo Sec., Hq. 21st Airship Group, 9th Airship Sq., Scott Field, Ill.
Base Hq. & 8th Air Base Sq.; 12th Observation Group, Hq. and Hq. Sq., 12th and 22nd Obs. Sq.; 1st Photo Section, Brooks Field, Texas
Base Hq. and 9th Air Base Sq.; 19th Airship Squadron, Moffett Field, Calif.
91st Obs. Sq. (Corps and Army); 15th Photo Section, Fort Lewis, Wash.
Flight C, 16th Obs. Sq. (Corps and Army); 2nd Balloon Squadron, Fort Bragg, N.C.
1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th and 9th Corps Area Air Corps Detachments.

Air Corps Units assigned to War Department activities other than the Air Corps are:
U.S.M.A., Air Corps Detachment.
Fort Leavenworth Air Corps Detachment.
Edgewood Arsenal Air Corps Detachment.
Aberdeen Proving Ground Air Corps Detachment.
Flt. B, 16th Obs. Sq., Fort Benning, Ga.
Flt. D, 16th Obs. Sq., Fort Riley, Kansas.
Flt. E, 16th Obs. Sq. Fort Sill, Oklahoma.
1st Balloon Squadron, Fort Sill, Oklahoma.

The Air Corps units and headquarters listed in the tables below will be reorganized and re-designated or constituted, effective September 1, 1936.

Table I

Units and Hqrs. reorganized and redesignated

Langley Field, Va.

<u>Present Designation or Designations</u>	<u>New Designation</u>
Hq. 2d Wing (Hq., 2d Bomb. Group 59th Serv. Sq.)	Hq. & Hq. Sq., 2d Wing Hq. and Hq. Sq., 2nd Bomb. Group
(Hq. 8th Pur. Group 58th Serv. Sq.)	Hq. and Hq. Sq. 8th Pursuit Group
21st Obs. Sq. L.R. Amphibian	21st Recon. Sq.

21st Obs. Sq. now active at Bolling Field made an active Recon. Sq. at Langley Field. No personnel to be transferred.

Mitchel Field, New York

(Hq. 9th Bomb. Group 61st Serv. Sq.)	Hq. and Hq. Sq., 9th Bomb. Group
(18th Obs. Sq. LR Amph Redesignated a Recon Sq. and made active	18th Recon. Sq.

Selfridge Field, Michigan

(Hq. 1st Pursuit Group 56th Serv. Sq. 57th Serv. Sq.)	Hq. and Hq. Sq., 1st Pursuit Group
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Hamilton Field, California

(Hq. 7th Bomb. Group 69th Serv. Sq. 70th Serv. Sq.)	Hq. and Hq. Sq., 7th Bomb. Group
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88th Obs. Sq. LR Amph 88th Recon. Sq.

March Field, California

Hq. 1st Wing (Hq. 17th Attack Gp. 64th Serv. Sq.)	Hq. & Hq. Sq. 1st Wing Hq. and Hq. Sq., 17th Attack Group
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(Hq. 19th Bomb. Gp.
76th Serv. Sq.) Hq. & Hq. Sq.,
19th Bomb Gp.

38th Obs. Sq. LRLB 38th Recon. Sq.
Redesignated 38th Recon. Sq. and made active

Barksdale Field, Louisiana

Hq. 3d Wing (Hq. 3d Attack Gp. 60th Serv. Sq.)	Hq. and Hq. Sq., 3d Wing Hq. and Hq. Sq., 3d Attack Group
(Hq. 20th Pur. Gp. 71st Serv. Sq.)	Hq. and Hq. Sq. 20th Pursuit Group

Brooks Field, Texas

(Hq. 12th Obs. Gp. 62nd Serv. Sq.)	Hq. & Hq. Sq., 12th Obs. Group
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Chanute Field, Ill.

98th Serv. Sq. 10th Air Base Sq.

67th Serv. Sq. 11th Air Base Sq.

81st Serv. Sq. 12th Air Base Sq.

Maxwell Field, Alabama

(AC Tac. Sch. Det.* AC Personnel only 84th Serv. Sq.)	Hq. and Hq. Sq. A.C. Tactical School, 13th Air Base Sq.
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*Discontinued

Bolling Field, D.C.

100th Serv. Sq.	Base Hq. & 14th Air Base Squadron
Fort Lewis Air Corps Detachment	To be absorbed by the 91st Obs. Squadron.

Table II - Constituted Units

The units designated below have been constituted from the Station Complement at the posts indicated, the Station Complement being discontinued:

Base Hq. & 1st Air Base Sq. (2nd Group)	Langley
Base Hq. & 2d Air Base Sq.	Mitchel Field, N.Y.
Base Hq. & 3d Air Base Sq.	Selfridge Field, Mich.
Base Hq. & 5th Air Base Sq.	Hamilton Fld., Calif.
Base Hq. & 4th Air Base Sq.	March Field, Calif.
Base Hq. & 6th Air Base Sq. (3 Gp.)	Barksdale Fld.
Base Hq. & 7th Air Base Sq.	Scott Field, Ill.
Base Hq. & 8th Air Base Sq.	Brooks Field, Texas
Base Hq. & 9th Air Base Sq.	Moffett Field, Calif.

The units indicated below have been constituted from the activities noted:

<u>Designation</u>	<u>Activity from which constituted</u>
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Chanute Field, Illinois

Hq. & Hq. Sq. AC Tech School	A.C. Tech. Sch. Det. (Part)
1st School Squadron	Personnel at Chanute Fld.
2nd School Squadron	Personnel at Chanute Fld.

Randolph Field, Texas

Hq. & Hq. Sq. AC Pri- mary Flying School	A.C. Primary Flying Sch. Detachment (Part)
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Kelly Field, Texas

Hq. & Hq. Sq. A.C. Ad- vanced Flying School	A.C. Adv. Flying School Det. (Part) 68th Serv. Sq.
61st School Squadron	Personnel at Kelly Field
62nd School Squadron	Personnel at Kelly Field
63rd School Squadron	Personnel at Kelly Field
64th School Squadron	Personnel at Kelly Field

Bolling Field, D.C.

1st Staff Squadron	Personnel at Bolling Fld.
2nd Staff Squadron	Personnel at Bolling Fld.

Maxwell Field, Ala.

91st School Squadron	Personnel at Maxwell Fld.
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The Air Corps units and headquarters listed below retain the same designation as now authorized:

Table III

Langley Field, Va.:

Hq. and Hq. Sq. HQ AF; 20th, 49th, 96th Bombardment Squadrons; 33rd, 35th, 36th Pursuit and 37th Attack Squadrons; 2nd Photo Section; Flt. A - 16th Obs. Sq. (C & A).

Mitchel Field, New York:

1st, 5th and 99th Bombardment Squadrons, 8th and 14th Photo Sections, 97th Observation Squadron.

Selfridge Field, Mich.:

17th, 27th and 94th Pursuit Squadrons.

Hamilton Field, Calif.:

9th, 11th and 31st Bombardment Squadrons.

March Field, Calif.:

34th, 73rd, 95th Attack Squadrons, 30th and 32nd Bombardment Sqdns., 23rd Photo Section.

Barksdale Field, La.:

8th, 13th and 90th Attack Squadrons; 55th, 77th and 79th Pursuit Squadrons, 5th Photo Sec.

Scott Field, Ill.:

15th Observation Squadron (C & A), 21st Photo Section, Hq. 21st Airship Group*, 9th Airship Squadron*, Scott Field Air Depot**.

*Removed from GHQ AF and placed under control of C.G., VI C.A.

**To function under control of Chief of the Air Corps.

Brooks Field, Texas:

12th and 22nd Obs. Sq. (C & A), 1st Photo Section.

Moffett Field, Calif.:

19th Airship Squadron.

Randolph Field, Texas:

Hq. A.C. Training Center, 46th, 47th, 52nd, 53rd School Squadrons, 20th Photo Section.

Maxwell Field, Alabama:

4th Photo Section; Air Corps Board.

Kelly Field, Texas:

22nd Photo Section.

Fort Lewis, Washington:

91st Observation Squadron.

Fort Sill, Oklahoma:

1st Balloon Squadron.

Fort Bragg, N.C.

2nd Balloon Squadron.

Air Corps Detachments - 1st, 2nd, 3rd, 4th,

5th, 6th, 7th, 8th and 9th Corps Areas.

Fort Leavenworth Air Corps Detachment

U.S.M.A. Air Corps Detachment.

Edgewood Arsenal Air Corps Detachment

Aberdeen Proving Ground Air Corps Detachment

Flt. B, 16th Obs. Sq., Fort Benning, Ga.

Flt. C, 16th Obs. Sq., Fort Bragg, N.C.

Flt. D, 16th Obs. Sq., Fort Riley, Kansas.

Flt. E, 16th Obs. Sq., Fort Sill, Oklahoma.

The Air Corps units listed below are rendered inactive and assigned as indicated:

Table IV.

Chamute Field, Ill.

48th Pursuit Squadron assigned to GHQ AF

Kelly Field, Texas:

41st Obs. Sq. LR Amph., redesignated 41st Recon. Sq., rendered inactive and assigned to GHQ AF.

39th Obs. Sq. (C & A) assigned to C.G., 8th Corps Area.

42nd Bomb., 40th Attack and 43rd Pursuit Squadrons assigned to GHQ Air Force.

Maxwell Field, Alabama:

86th Obs. Sq. (C & A) assigned to C.G., 4th Corps Area.

51st Attack, 87th Pursuit and 54th Bombardment Squadrons assigned to GHQ Air Force.

Bolling Field, D.C.:

14th Bomb. Sq., assigned to GHQ Air Force.

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During the month of July, the Engineering Department of the San Antonio Air Depot overhauled a total of 20 airplanes and 73 engines, and repaired 35 airplanes and 47 engines.

MORE IMPROVEMENTS AT BOLLING FIELD

On August 28th the Post Exchange was scheduled to dedicate to the service of Army personnel at Bolling Field, D.C., a new and modern gas station. It is conveniently located near the new Post Exchange, and its construction and facilities indicate another step toward the completion of the New Bolling Field. It has indoor facilities for washing and greasing cars, including a hydraulic rack, and plenty of space for tires and other accessories. A railroad siding will bring carloads of gasoline to within a few feet of the large underground tanks and do away with the old method of bringing in gas and oil by truck.

The elevation of the new field also overcomes the danger of flood when the Potomac goes over its banks. The new service station will be under the management of Master Sergeant "Jake" Holtzman, whose untiring efforts are making the Post Exchange, the Post Exchange Restaurant and the Service Station a real and more appreciated convenience to the personnel of the post and to visiting members of other posts.

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AN A-17 WITH RETRACTABLE LANDING GEAR

Major Carl Cover, Air Reserve, former Air Corps officer and now Vice President of the Douglas Aircraft Company, Santa Monica, Calif., en route by air from the Northrop Corporation's factory, Inglewood, Calif., to Scott Field, Ill., via Randolph Field, paid a brief visit to the San Antonio Air Depot on August 13th, conferring on certain modifications in O-43 airplanes. He was flying a new experimental Northrop plane to be offered to the Air Corps, which looks like an A-17 except that it has a retractable landing gear. The Depot pilots were very much interested in viewing it.

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FAIRFIELD NEEDS SOME OF POST FIELD'S WEATHER

Announcing that work on the new swimming pool at Patterson Field, Fairfield, Ohio, is progressing very nicely, the News Letter Correspondent expresses doubt if any except the hardy souls will be able to indulge in swimming this season. He states that even in mid-summer it requires considerable fortitude to dive in a newly filled pool, as the tap water at that station is seldom warmer than 52 degrees Fahrenheit.

The News Letter Correspondent at Fort Sill, Oklahoma, states that Post Field, stripped of the major portion of its personnel by the absence of the 1st Balloon Squadron, is being run by a skeleton crew comprised of the Flight E personnel. With "Old Sol" setting new high temperature records every day, he says that the heat bids fair to make the figure of speech - "Skeletonized Personnel" - an actuality, for 115 deg. in the shade on a plain where the only shade is in a hole in the ground is the new proud record.

Maybe the Fairfield swimming pool would be much in demand at the Oklahoma station.

2ND BOMB: GROUP IN SECOND ARMY MANEUVERS

Participation in the Second Army Maneuvers was the outstanding event on the activities calendar of the 2nd Bombardment Group, Langley Field, Va., for the month of August.

Eighteen planes of this Group left Langley Field on Saturday morning, Aug. 1st, on a non-stop flight to Chanute Field, Rantoul, Ill., to attack the mythical enemy concentrated there. Led by Lieut. Colonel Charles B. Oldfield, the initial leg was precisely executed, and, after a brief aerial review, the echelons landed for lunch and the servicing of aircraft. Later in the day, all participating units continued on to Selfridge Field, where they again passed in review and then landed for the night.

All personnel enjoyed a day of rest on Sunday, but at noon on Monday things were again astir as preparations were made for the flight to Fort Knox, Ky. Augmented by the 1st Pursuit Group from Selfridge Field and the 13th Attack Squadron from Barksdale Field, La., the 2nd Bombardment Group participated in the spectacular aerial concentration over Fort Knox, returning immediately afterward to Patterson Field, Fairfield, Ohio, for the night.

On Tuesday morning, the Group returned to its base at Langley Field after a brief, but very enjoyable, inning of "war games."

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PURSUITERS RETURN FROM FIELD EXERCISES

The 36th Pursuit Squadron returned to Langley Field following very successful field and aerial gunnery exercises at Virginia Beach during the period July 22nd to August 12th.

The exercises consisted of moving the Squadron to the advanced airdrome by air and motor transportation; establishing a camp in the field; performing daily gunnery missions on tow targets; refueling and maintenance of airplanes; and returning the organization to Langley Field.

The camp site was ideally situated at the Virginia National Guard Airport, about $2\frac{1}{2}$ miles from Virginia Beach, where there was an excellent gunnery range. The biggest percentage of the firing was performed above 10,000 feet, in accordance with the current Training Program. Lieut. W.H. Gist was the Dead-eye Dick of the Squadron during the Maneuvers. The close proximity to Virginia Beach offered fine recreation facilities for all concerned after regular duty hours.

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Second Lieuts. Herbert H. Hoover, Harry W. Markey and Lawrence M. Thomas, Air Res., Mitchel Field, N.Y., are continued on active duty until July 3, 1939.

RESERVE OFFICERS TRAIN AT MOFFETT FIELD

Captain George E. Henry, Air Corps Unit Instructor and Commanding Officer of the Air Corps Detachment, Municipal Airport, Oakland, Calif., reported on August 1st for duty at Moffett Field, Calif., in connection with two 14-day active duty training periods for Reserve Officers of the Second Reserve District, 9th Corps Area.

On August 2nd, ten men from the Air Corps Detachment were sent to Moffett Field to take care of the airplanes and equipment to be used during the training period, August 2nd to 29th, inclusive.

The first period, August 2nd to 15th, was devoted to the training of twelve Reserve Officers from the 316th Observation Squadron and four Reserve Officers from the 381st Service Squadron, attached, under the command of Major Frank A. Flynn, Air Reserve.

The flying equipment consisted of two O-25C, two O-19B and seven PT-3A airplanes. The schedule consisted of individual training, check flights, formation flights, aerial gunnery, photography, dismounted pistol practice, instrument flying, radio missions and ground training. The News Letter Correspondent is of the belief that at the end of this period all officers were satisfied with the equipment available and the ideal conditions for this type of training afforded at Moffett Field.

The second period, August 16th to 29th, was conducted for eleven Reserve Officers from the 367th Observation Squadron and four Reserve Officers attached, under the command of Major John C. Gray, Air Reserve. The equipment was the same as for the first period, and the schedule was repeated.

In addition to the heavier-than-air training, all Reserve Officers were afforded the opportunity to make observation flights in the Moffett Field airship. This was an innovation, indeed, for most of the personnel at the camp who were able to take advantage of this additional experience.

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LANGLEY ATTACKERS IN 2ND ARMY MANEUVERS

Captain Ned Schramm, Commanding Officer of the 37th Attack Squadron, Langley Field, Va., led a formation of four A-8 Attack planes to Chanute and Bowman Fields, where from August 6th to 8th the personnel participated in the Second Army Maneuvers. Upon returning to Langley Field, three of the airplanes, with Lieut. Stuart G. McLennan as flight leader, departed for Fort Benning, Ga., where the airmen cooperated with other troops. Master Sergeant Nero, Staff Sergeants Byerley and Gott accompanied this flight as mechanics.

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NIGHT AERIAL ARTILLERY ADJUSTMENT

The 316th Field Artillery, Fort Bragg, N.C., recently conducted a most interesting problem in night artillery firing, employing aerial observation as the sole means of adjustment. In this experiment the 155 mm. G.P.F. gun and the 240 mm. howitzer were used.

The aviators were informed as to the general location of the target, a white panel, 6 x 6 yards, placed flat on the ground at a range of around 10,000 yards from the battery positions. The aerial observer located this target at night and transmitted its coordinates to the artillery battalion command post by radio. The target was located with such accuracy that the greatest error of the firing batteries on the first shot was a three hundred yard range error made by the battery firing the G.P.F. All rounds fired would have been effective on target assumed - a concentration of hostile tanks in an area of some 300 yards square.

Although there was a full moon on the night of the problem, conditions were not the best because the atmosphere was hazy, and from time to time heavy clouds covered the moon. It was found that the white target could be seen better when the moon was obscured by a cloud. The aerial adjustment was considered to be practically as good at night as by day and was so effective that Battery "D", 36th Field Artillery, commanded by Captain Dan B. Floyd, F.A., secured a direct target hit. As a result of this test it was concluded that night aerial observation is practicable. If the target can be located and the initial adjustment made by the light of star shells or flares dropped from another airplane it should be as feasible as is night aerial bombing.

The entire credit for the initiation of the experiment in night artillery firing, using aerial observation, belongs to Lieut. Colonel Charles M. Busbee, Field Artillery, commanding the 36th Field Artillery. Captain Dan B. Floyd was in command of Battery "D," 36th Field Artillery, 240 mm. howitzers, and 1st Lieut. John D. F. Phillips commanded Battery "C," 36th Field Artillery, 155 mm. G.P.F. guns. The aerial observation was performed by Major E. P. Gaines, Air Corps, pilot, and 1st Lieut. Eugene E. Rice, Air Corps, observer.

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AIR CORPS OFFICERS ATTENDING WAR COLLEGE

Ten Air Corps officers are members of the 1936-37 Class at the Army War College, viz: Lieut. Colonels Ralph F. Cousins, Willis E. Hale, Clinton W. Howard, majors Carl W. Connell, Muir S. Fairchild, William E. Farthing, Romeyn B. Hough, Jr., Arthur W. Vanaman, Ralph H. Wooten and Capt. Charles E. Thomas, Jr.

RADIOING TO THE PHILIPPINES

The News Letter Correspondent from Clark Field, Pampanga, P.I., announces that an amateur radio station has been set up at that post by Lieut. W. A. Canterbury, Air Corps, and adds:

"For the benefit of those desiring to communicate with friends at Clark Field or Fort Stotsenburg and for amateurs desiring to make contact the following information is given: The call letters are K A I C F. Frequency, 7150 K.C. Daily schedule is maintained at 0330 Greenwich Civil Time. Due to low power, however, Lieut. Canterbury recommends that messages be sent thru K A I H R, the army amateur radio control net of the P.I. allowing constant contact with the U.S. Persons not having the address of a nearby amateur station can have messages sent without charge by mailing them to the Army Amateur Radio Station, care of the Corps Area Signal Officer."

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RESERVE OFFICERS TRAIN AT LANGLEY FIELD

Twenty-one Reserve Officers reported at Langley Field, Va., on July 19th for two weeks' active duty. Seventeen of these officers were assigned to the 20th Bombardment Squadron for training, while the remaining four were assigned to the 8th Pursuit Group. An average of seventeen hours' flying time was given each pilot, along with several lectures covering ground training subjects. All but two pilots checked out in the B-10B type airplanes, and the training was carried out without any casualties or damage to equipment.

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AIRMEN ATTENDING ARMY INDUSTRIAL COLLEGE

Nine Air Corps officers are members of the 1936-37 Class at the Army Industrial College, Washington, D.C., namely: Majors Harrison W. Flickinger, Alonzo M. Drake, Alfred J. Lyon, Russell L. Maughan, John I. Moore, Max F. Schneider, Myron R. Wood, Captains Edmund C. Langmead and Richard H. Magee.

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35TH PURSUITERS COMPLETE AERIAL GUNNERY

The 35th Pursuit Squadron returned to its home station, Langley Field, Va., from Virginia Beach, on August 5th, following the participation of personnel in aerial gunnery on tow targets. All pilots fired the record course in this particular event, and gunnery practice on ground targets is now being held to continue the qualifications.

"We hope to render, upon the completion of gunnery practice, a report of 100% qualification, all EXPERT AERIAL GUNNERS," is the commend of the News Letter Correspondent.

SEVENTH BOMBARDMENT GROUP COMPLETES TRAINING FOR F.Y. 1935-1936

A varied amount of training was engaged in by the 7th Bombardment Group, Hamilton Field, Calif., during the Fiscal Year 1936, involving maneuvers and exercises which incorporated problems of tactics, technique and logistics; operations of the Group incident thereto away from its home base, and training of personnel in the technique of bombing, gunnery and navigation.

Particular emphasis was placed in developing members of combat crews to that point wherein they could perform adequately the duties to which they were assigned. This Group has increased its efficiency and benefitted immeasurably by the training performed. Based upon the ground work which has been laid down during the past training year, the Group will continue vigorously to stress all training which will enable it to approach more closely those standards which are demanded of an efficient Air Corps combat unit.

During the training year, the following maneuvers and exercises were engaged in by this Group:

San Joaquin Exercises:

In these exercises, conducted November 4 to 17, 1935, the Group moved to individual squadron airdromes, located at Merced, Visalia and Coalinga, in conjunction with the concentration of other units of the 1st Wing to other bases in the San Joaquin Valley. Supplies and equipment necessary for the maintenance of the units were moved into the field. Logistical experience was gained in concentrating all units of the Group on one airdrome, moving them to dispersed airdromes and supplying and loading bombs at one main and three dispersed airdromes. The tactical operations involved missions of the Group in bombing and machine gunnery against targets at Muroc Lake Air Corps Camp. In these operations the Group flew approximately 500 miles per day.

Experience in command and staff control was gained, particularly with reference to issuance of orders and handling of reports. All methods of transmission of orders were employed. Orders were received from Wing Headquarters, ordinarily by teletype. They were transmitted to the squadrons by radio or by airplane messenger. Particular stress was placed on delivering to all units orders sufficiently in advance so that for each mission careful planning and preparation could be made by the subordinate units.

Florida GHQ Maneuvers:

In these exercises, conducted from December 2 to 15, 1935, the personnel and airplanes of the 19th and 7th Bombardment Groups were consolidated. All staff work and planning was accomplished well in advance of the date of depart-

ture of this Group for March Field, and the control at the outset and throughout the exercises was satisfactory from the Group standpoint.

Invaluable experience was gained in moving the Group as a unit by air from March Field to Vero Beach in 21 hours. The experience gained by the Group in operating from airdromes of limited dimensions, in conducting flights to the limit of range of the airplanes, in navigation, radio control and formation flying contributed to increasing combat efficiency in the organization. Upon clearing Maxwell Field on the return flight, all officers were afforded opportunity of individual navigation, further augmenting their experience.

Muroc Lake Exercises:

These exercises, March 9th to 20th, 1936, inclusive, were devoted entirely to individual and formation bombing, employing the smaller practice bombs, 300-lb. demolition bombs and concrete bombs, varying in sizes from 600 to 2,000 lbs., manufactured at Muroc Lake under the direction of the Wing Ordnance Officer.

The movement of personnel and supplies to Muroc was accomplished by air and motor transportation. Thirty-nine 300-lb. demolition bombs, together with components, were moved from Hamilton Field to Muroc by air.

Experience was gained in unit and individual high altitude operations, involving the use of oxygen for all members of combat crews; in logistics in handling and loading the 600, 1100 and 2000-lb. bombs; in establishing bomb dumps with bombs dispersed over an area as would be necessary in wartime operations. Further experience was gained in taking off and climbing to altitude with full load of the heavy bombs. The exercises contributed to efficiency in tactics and technique; experience in command and staff control, and to increasing the efficiency of the combat teams with respect to performing bombardment missions.

31st Bombardment Squadron at Medford, Oregon:

These exercises were conducted August 17 to 24, 1935, inclusive. The 70th Service Squadron established and maintained camp, transported all supplies, transported bombs from the railhead to the airplanes, loaded ammunition and furnished 1st and 2nd Echelon maintenance for the 31st Bombardment Squadron.

The purpose of this maneuver was to obtain data on personnel, operations, maintenance, handling and loading of munitions; servicing, etc.

Valuable data was obtained in complying with the above mentioned requirements, and valuable experience was given to all officers and enlisted men who participated in the above exercises.

Bombing Activities.

An orderly program of rudimentary and advanced instruction in bombing was required, together with actual bombing practice. The ground instruction consisted of an elementary course in bomb sight operation, in conjunction with eight hours' training on the bomb trainer, progressing to a complete advanced course in the theory and operation of the bomb sight and allied armament equipment, such as bomb racks, bombs, bomb components, etc. The advanced course consisted of 10 hours' ground school work for every pilot and observer assigned and attached to Bombardment squadrons at Hamilton Field and, in addition, 15 enlisted bombardiers.

This Group has a bombing target adjacent to the field in the shallows of San Pablo Bay. The use of this target is frequently limited by fog and low ceilings, especially in the winter months. Therefore, in order to carry out our extensive bombing operations and conduct the many required service tests and test bombing at all altitudes and speeds within the range of the Martin Bombers, the Mather Field bombing range was used in addition to the Hamilton Field range. A semi-permanent camp at Mather Field has been maintained and squadrons have been based thereat for the accomplishment of bombardment training.

Each squadron took its turn in camping at Mather Field while it completed training of assigned and attached personnel. While at Mather Field the units concentrated on bombing alone. Missions were conducted continuously, from early in the morning until late in the evening, of every day in camp. Under that program, one squadron dropped over 1100 bombs and completed practically all its old TR 440-40 bombing in less than 10 days. The other two squadrons, handicapped by the comparatively bad winter weather, took somewhat longer, but the daily average of bombs dropped was over 100 each day. All commissioned personnel of the Group and Station Complement completed the bombing requirements under the old TR 440-40.

Objectives assigned by Wing Training Directive (F. Y. 1936) were as follows:

1. Raise the bombing altitude.
2. Carry out problems in which long range flights and bombing are engaged in concurrently.
3. Salvo bombing at high altitude by single planes, elements, squadrons and group.
4. Training and practice in bombing from 1,000 to 5,000 feet.
5. Development in procedure and recommendations for equipment necessary to destroy targets (water and land) at altitudes below 1,000 feet.

All squadrons participated in these phases of bombing. A total of 1230

bombs were dropped from a high altitude. The results are considered satisfactory, considering the equipment. Probable errors are now being compiled on all bombing which will indicate the present efficiency of this Group, based upon its past experience.

Intermediate altitude bombing has also produced gratifying results. Upon the only occasion when the Group dropped demolition bombs, a squadron salvo of 15 bombs netted 13 direct hits.

Many missions involving long range problems have been completed. A general investigation of various methods of salvo bombing was instigated, showing that a trained bombardier could be depended on to deliver a very effective salvo when all bombs in the formation were dropped on signal of the leading bombardier. These missions also contributed valuable information on the pattern obtained from individual, flight, squadron, and group salvo, also train releases.

The 11th Bombardment Squadron was designated to drop 400 bombs allotted for conducting the service test of a new type bomb. Four teams were selected, using only the most proficient bombardiers. Approximately two-fifths of the bombs were dropped by salvo release and the same number by release in train. The balance were dropped individually to check pertinent ballistic charts.

In order to cover the speed range of the airplanes, teams were assigned to fly at various calibrated air speeds. The results were uniformly good. The salvo releases were all manual and gave greater dispersion than was expected. However, the train releases were affected by the bomb sight electrically, and produced very small impact errors.

Aerial Gunnery

Three squadrons of this Group completed all of their assigned and attached commissioned personnel and the enlisted gunners of their combat crews in the course prescribed by the tentative TR 440-40. The gunnery range off the Pacific Coast has been used for this purpose, but training was severely handicapped due to the prevalence of fogs in that place. In spite of this disadvantage, 96 members of this Group completed the required course, 86 qualifying as Expert, 5 as Sharpshooter and 5 as Marksman. The number of rounds of 30 cal. ammunition expended totaled 242,324.

Skeet Shooting

All combat personnel of the Group have participated in skeet shooting, expending 38,385 rounds of 12-gauge shotgun ammunition for this purpose. Skeet shooting constitutes a very important part of the training required to make an expert aerial gunner. The News Letter correspondent recommends that some form of standard commercial skeet gun be provided to take the place of the riot guns now used for this purpose.

High Altitude Missions of all Types.
Realizing that the greater part of future operations will be conducted at high altitudes, this Group has continually emphasized operations at altitudes requiring the use of oxygen. Of 278 missions conducted at high altitude, most were bombing operations requiring from one to two hours of oxygen, there being used 3,320 litres of liquid oxygen and 3,700 cubic feet of gaseous oxygen. Seventy-five officers, cadets and enlisted pilots have participated. Excellent and valuable training was afforded all combat personnel in the Bombardment squadrons in this high altitude work. Much discomfort was experienced on all of these missions. Pilots found that flying the precise and accurate courses necessary to efficient high altitude bombing, and at the same time using the microphone and sucking an oxygen tube was very fatiguing. The bombardier, too, found that manipulating the bomb sight and related controls called for much greater exertion than at low altitudes. Upon return to the ground, those participating in these flights became drowsy and lethargic, and fatigue appeared out of proportion to the time flown. However, as the flying personnel became more accustomed to and proficient at operating at high altitudes, the missions became less fatiguing.

Navigation Training

During the past training year, the 7th Bombardment Group trained a total of six officers in Dead Reckoning Navigation. The final mission of the course is the interception of a commercial vessel, approximately 200 miles at sea. These have been very successful and, it is believed, the interception of vessels at sea by the whole Group will be a matter of daily occurrence in the near future.

A number of difficulties have been encountered. The first of these has been lack of equipment, particularly suitable airplanes, draft sights and plotting facilities. The second has been the amount of time available to the personnel taking the course. Other duties, such as Wing and GHQ maneuvers, bombing, machine gunnery, squadron duties, etc., have interfered more than the lack of equipment. The equipment situation is

gradually being overcome.

A radio station has been installed in the 88th Obs. (LR) Squadron, which stays in direct contact with airplanes while on navigation missions. This prevents interfering with the Group Station, which was necessary at the beginning of the navigation instruction given at Hamilton Field. Three amphibian airplanes have been assigned to this station and are being used for navigation training. At present, one Martin Bomber is completely equipped for dead reckoning navigation and has been used constantly to supplement the training done in the amphibians. Plotting boards and drafting machines have been built, and plotting facilities are now very satisfactory. A sufficient number of drift sights has been obtained to carry on training in the Navigation School, and it is hoped that in the near future, enough drift sights and other equipment will be made available to equip four airplanes in each squadron, with a complete set of navigation instruments.

Training in celestial navigation has been held in abeyance due to the experiments being performed by the 19th Bombardment Group at March Field. It is believed that new methods will probably be developed by the 19th Bombardment Group, which had for its primary missions the experimentation with, and development of, suitable methods for celestial navigation.

Service Tests Conducted by the Group.

During the Fiscal Year 1935-36, the Group has conducted 30 service tests required by the Materiel Division, Wright Field, Dayton, Ohio. Of this number, 20 have been completed to date and required reports forwarded. The flying time devoted either wholly or in part to conducting these tests totalled 2,716 hours.

Summary of Flying

A total of 17,513:50 hours pilot time has been flown by members of this Group. This is an average of 271:45 per pilot, including pilots of the Station Complement and those on Group Staff duty, who naturally do not fly as much as regular members of combat crews.

The average number of airplanes in commission daily was 23.81, out of an average of 30.18 airplanes at Hamilton Field.

PURSUIT GROUP HEADQUARTERS MOVES INTO THE FIELD

A convoy of three 2½-ton trucks, two reconnaissance cars, and seven privately owned automobiles, comprising the first move of the 8th Pursuit Group Headquarters, GHQ Air Force, left Langley Field, Va., for camp at the National Guard Airport, Virginia Beach, Va., at 6:45 a.m., August 12th. The Air Echelon of two PB-2A's, one XP-6H and one P-12F took off from Langley Field at 9:00 a.m.

Pursuit Headquarters with additional attached personnel engaged for two weeks in Field Exercises, consisting of aerial and ground gunnery missions, using the new PB-2A airplanes.

With the flight crews busy servicing, inspecting and maintaining the airplanes, the office personnel were engaged in operating the Group in the same manner as when they are in garrison at Langley.

At the Final Critique of the Second Army Maneuvers at Camp Custer, Mich., on August 20th, Lieut. Colonel Follett Bradley, Acting Chief of Staff, GHQ Air Force, made substantially the following remarks:

Military aviation is divided into two main categories. In the first, wherein the mission is to collect information of the enemy, fighting is done only in self defense. In the second, the primary job is to fight.

The former consists of Observation aviation and balloons. One group, normally of three squadrons and 44 airplanes, is assigned to each field army, and one group to each corps. In addition, each corps has one balloon group. This assignment permits the allotment of one squadron of airplanes and one of balloons to each division, although they do not form integral parts of the division.

In the Second Army Maneuvers just completed, all aviation, like all the ground forces, was at greatly reduced strength, due to the fact that sufficient airplanes and personnel to meet the requirements are non-existent. To Blue was assigned two National Guard Observation squadrons, the 107th and 108th, and one regular balloon squadron. Red had but one flight of Observation airplanes - from the Regular Army and Organized Reserves.

I am informed that all of these units did splendid work and greatly assisted the commanders of the ground forces by furnishing them with a continuous flow of vital intelligence of the enemy. In addition, during those times when other communications were impeded, they were helpful in keeping the commanders informed of the location, disposition, and needs of their own units. This assistance was of particular importance on account of the activity of the Red mechanized force in cutting Blue's ground channels of communication.

One criticism of the operations of Observation aviation was noted by General Craig, Chief of Staff of the Army. In their zeal and eagerness to do their job in the best possible manner, they often flew so low in the fire fight as to subject themselves to needless danger of being shot down by rifle and machine gun fire.

I want to say a word for the "forgotten man" of aviation, - the observer. Little glamour attaches to his role, yet the length of time required to produce a fully trained competent observer is as great as that to train a pilot. He must know organization and tactics of large ground units. He must fly with any pilot to whom he is assigned; he is at a great disadvantage if anything goes wrong with the pilot or airplane; he works in cramped space often in extreme discomfort; he

must keep one eye in the air against hostile Pursuit, and the other on the ground. His is a responsible and unenviable lot and he deserves a big hand!

Division, Corps and Army Commanders should exercise great care in the assignment of observation missions. The best criterion is to assign missions to it which cannot be performed by other agencies. Within its own field, no observation is as good as that of a ground observer using field glasses from a good O.P. Under favorable conditions balloons are excellent, if there is a sufficient degree of air superiority to permit them to keep station for the adjustment of Corps and Army artillery fire. Airplanes with their trained crews are not easy to replace, and should be conserved to perform important missions which circumstances prevent other agencies from accomplishing. Functions assigned to Observation airplanes during these maneuvers, and quite properly, was the verification or disproof of specific items of important intelligence furnished by other agencies.

The GHQ Air Force comprises all units of Attack, Bombardment, and Pursuit Aviation stationed in continental United States. It also has a few Reconnaissance squadrons for its own purposes, and some transports. For this maneuver, only a few squadrons of the GHQ Air Force could be assigned. All Pursuit was Blue, and all Bombardment and Attack were Red. Had sufficient forces been available, all classes of combat aviation would, of course, have been assigned both to Red and Blue. The assignment adopted permitted Pursuit to perform its proper role of interception and attack of enemy striking aviation - Attack and Bombardment. Unfortunately, however, there was no opportunity afforded the mechanized force to operate in the face of opposition by its most potent and dangerous enemy - Attack Aviation. It is pertinent here to quote a despatch received day before yesterday by International News Service from their correspondent in Spain, -

Mr. Knickerbocker: The Reds "made a daring drive with 200 motor trucks" from Guadalajara to Atienza, striving to cut off a rebel column ----, but the attempt met with disaster. Before the 200 trucks carrying around 2000 troops came into contact with the white forces, a squadron of White bombers (attack aviation) located them, and in a murderous attack with machine guns and bombs, sustained over several hours, destroyed the entire column. Returning again and again with fresh bombs and ammunition, the White war planes left not one Red truck intact, while the White pilots reported that they flew low enough to see the bodies

of the Reds expelled in fragments from their exploding trucks."

That despatch referred to real bombs, real bullets and real fragments of bodies and it happened just three days ago.

Another effective weapon of Attack Aviation is gas, and I am told that the excellent imitation concocted by Colonel Brackenbury is not unknown here at Camp Custer. Some attacks were ineffective, but others produced from 80% to 100% casualties on their target. Troops who experienced such attacks will not need to be impressed further with the need for devising effective means of defense against them.

Pursuit Aviation is designed and trained to intercept and destroy hostile aircraft in flight. In recent months new Pursuit tactics have been devised whereby the fire of many Pursuit airplanes can be concentrated at one time on the target, instead of placing reliance entirely on the World War tactics of successive diving attacks. However, the problem of interception of the enemy will always be present to plague Pursuit, and I think it is not unfair to say that any interception of an enemy bombardment or attack formation without the assistance of a ground intelligence net is pure luck. At night, in my opinion, no interception can be depended upon.

And now for Bombardment. I have purposely left this to the last, because we of the Air Corps feel that its present capacity and future development are such that it is destined to play a major part in any war. In these maneuvers, the participation of Bombardment was more to show its capabilities than to assess results. This was necessarily the case because the limitations of time and space did not permit the maneuver to be so drawn as to afford even partial scope to the employment of Bombardment Aviation.

Although we do not like to put it so bluntly, the war time mission of the soldier is to destroy. We train during the years of peace to destroy our enemy in war, - to destroy his soldiers, his property, his will to attack us. Our national policy is one of defense. Our geographical situation, with friendly neighbors north and south, and vast oceans east and west, is such that an enemy must cross those oceans in tremendous force to impose his will upon us. Although Bombardment Aviation in Europe may be an instrument of aggression, with us it is a powerful agency of defense. Bombardment Aviation can destroy nearly anything built by man. It can destroy ships easily, and an enemy must come to us in ships.

To indicate briefly the power of modern Bombardment, let me cite a few figures:

Last December the entire GHQ Air Force

concentrated in Florida from points as far distant as California in less than 23 hours.

On more than one occasion during these maneuvers, bombardment aviation flew approximately 1000 miles non-stop, day and night, good weather and foul, and delivered a simulated attack at the appointed time.

Our navigators are so skillful that flights hundreds of miles to sea are of frequent occurrence. Regardless of the distance flown, we expect now an accuracy of about ten miles in over water navigation, and hope to improve on that.

The accuracy of our bombing is indicated by a demonstration held last week at Fort Benning, Georgia, in which a mean deviation of 4 miles (40 feet) was recorded from 10,000 feet. Good results have been obtained in high altitude bombing, and training along this line is being stressed.

Deliveries will soon commence on a contract for 13 4-engined Bombardment airplanes which, carrying 2,000 pounds of high explosives, can deliver this load to a target 1500 miles from its base and return and, in addition, carry sufficient defensive armament to make any attacking force give considerable thought before engaging in combat. In addition, airplanes of this type can readily reinforce the aerial defense of Panama, Alaska or Hawaii, flying non-stop. Excluding other factors of superiority, these modern engines of war cost less initially, cost less to maintain, and require fewer combat and maintenance officers and men than the number of present Bombers required to carry an equivalent bomb load.

Bombardment Aviation is the backbone of every air force in the world today. No one can stop its development nor predict its ultimate achievement. We of the Air Corps often speak of independent air operations and are occasionally misunderstood in our use of the term. We refer to the unquestioned tactical independence of Bombardment Aviation from ground troops. Strategically, there is the greatest of interdependence under one commander, - the Chief of Staff in peace and the commander of the field forces in war. We are proud to be a member of the Army team, and we expect, should war come to this country, to acquit ourselves well of the responsibility which will inevitably be reposed in us.

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The 37th Attack Squadron, Langley Field, Va., received four of its allotment of A-17 planes, and two more are expected soon. They will replace the A-8's which, after a year of faithful service with the 37th, were ordered to other fields. The high spirit of the Squadron has been further heightened by the arrival of the new equipment.

COLONEL JOHN H. HOWARD

Colonel John H. Howard, Air Corps, who entered the military service during the Spanish-American War, was born at Dayton, Ohio, March 2, 1879.

Enlisting in the Coast Artillery on April 27, 1918, he served as Private, Corporal and Sergeant, Battery "L," 7th Artillery, until his honorable discharge on October 11, 1898. Reenlisting on February 11, 1899, with the 6th Cavalry, he served as Private, Corporal, Sergeant and First Sergeant of Troop M of that regiment. Following service in China with the 6th Cavalry in the Boxer Rebellion, from August, 1900, to May, 1901, he participated in the operations against the Philippine Insurrectos from May, 1901, to October, 1902.

Commissioned a Second Lieutenant of Cavalry, February 2, 1901, he was assigned to the 9th Cavalry, and was a member of that regiment until November, 1914. He was promoted to 1st Lieutenant, August 2, 1908, and graduated from the Mounted Service School, Fort Riley, Kansas, in 1910.

From November, 1914, to August, 1917, Colonel Howard was on recruiting duty at Fort Slocum, N.Y. He was promoted to Captain of Cavalry, July 1, 1916.

During the World War, he served with the 32nd Division as Adjutant, and overseas, until April, 1918, as Assistant Chief of Staff, G-1. He was then appointed to the General Staff, American Expeditionary Forces. He participated with the 32nd Division in the major operations in the Eلفت Sector, Oise-Aisne, Aisne-Marne and Meuse-Argonne, receiving citations both from the Commander-in-Chief of the American Expeditionary Forces and from the Commander of the Tenth French Army for especially meritorious and conspicuous service. The French Government conferred upon him the Croix de Guerre with palm and made him a Chevalier of the Legion of Honor.

While in France, Colonel Howard attended the Command and General Staff College at Langres, and, following his graduation from this school, he served as Assistant Chief of Staff, G-1, 32nd Division, while it was assigned to the Bridge Head with the First and Second Divisions in Germany. Appointed Commander of the Post, Coblenz, Germany, and Assistant to G-4, Headquarters 3rd Army, Coblenz, Germany, he performed these duties from April to July, 1919. Upon his return to the United States in the latter part of July, he was detailed as an Inspector-Instructor, Texas National Guard, and he served in this capacity until September, 1920.

Detailed to the Air Service in October, 1920, Colonel Howard was sent to

the Pilots' School at March Field, Riverside, Calif., for primary Flying training. This training completed March 25, 1921, he was transferred to the Air Service Observation School at Post Field, Fort Sill, Oklahoma, for advanced flying instruction. Upon the completion of his course of instruction at Post Field, he was rated "Airplane Pilot" effective October 14, 1921.

Colonel Howard's first regular assignment as an Air Corps officer was as Commanding Officer of Kelly Field, San Antonio, Texas, which duty he assumed on February 1, 1922. Relieved from this duty in July, 1924, to attend the Command and General Staff School at Fort Leavenworth, Kansas, he was assigned to duty, following his graduation from this School in July, 1925, as Air Officer of the Third Corps Area, Baltimore, Md.

From August 25, 1926, to August 2, 1929, he served as Air Officer of the Hawaiian Department, and during the course of this duty he drew up and perfected for the Air Corps plans for the Five-Year Expansion Program for the Hawaiian Department.

Following his relief from duty in the Hawaiian Department, Colonel Howard served as Commanding Officer of Mitchel Field, L.I., New York, and the 9th Observation Group, from September 5, 1929, to May 8, 1934. On June 5, 1934, he assumed his present duty as Commanding Officer of the San Antonio Air Depot, Duncan Field, Texas.

During the World War, Colonel Howard held the temporary rank of Major of Infantry, National Army, from August 19, 1917, to August 7, 1918, when he was promoted to Lieutenant-Colonel. He reverted to his regular rank, January 27, 1920. He was promoted to the regular rank of Major, July 1, 1920; to Lieut. Colonel, May 26, 1921, and to Colonel, November 1, 1932.

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COLONEL ARTHUR G. FISHER

Colonel Arthur G. Fisher, Air Corps, was born in Denton, Maryland, on November 24, 1877. He enlisted in the Regular Army, September 1, 1899, and served as a private and corporal, Troop H, 1st Cavalry, until April 29, 1901, when he was discharged to accept appointment as a second lieutenant of Cavalry.

Colonel Fisher was promoted to the rank of first lieutenant on April 6, 1908; to captain, July 1, 1916; to major (temporary) on August 5, 1917; to lieutenant colonel (temporary), July 30, 1918; and to colonel (temporary), October 26, 1918. He reverted to his permanent rank of Captain on January 31, 1920; was promoted to Major, Regular Army, on July 1, 1920; to lieutenant colonel, April 23, 1921;

and to colonel, August 1, 1932.

Colonel Fisher joined the 14th Cavalry at Fort Leavenworth, Kansas, on May 20, 1901. Ordered to Fort Grant, Alaska, in July of that year, he served at that post until August 21, 1903, when he was ordered to the Philippines. He served with the 14th Cavalry at various stations in the Philippines to October 20, 1905, participating in an engagement with hostile Moros at Cotta Pang Pang on February 14, 1904, and at Laksamana Usap's Cotta on January 7, 1905. Returning to the United States with his regiment, he served at the Presidio of San Francisco to February 7, 1907, and at Boise Barracks, Idaho, to February 8, 1908, during part of which time, from July 6 to September 27, 1907, he attended the School of Musketry at the Presidio of Monterey, Calif. Returning to the Presidio of San Francisco, he served there until June 20, 1908, when he was transferred to Fort Myer, Va., for duty with the 13th Cavalry, remaining at that station until February 27, 1909.

After another tour of duty in the Philippines, being stationed at Camp McGrath, he returned to the United States on February 12, 1911, and was again assigned to the 14th Cavalry, being stationed at Fort McDowell, Colorado, in command of the 8th recruit company to February 13, 1913, when he was transferred with his regiment to Eagle Pass, Texas, serving on border patrol duty to May 12, 1914. He then served at various posts in Texas to December 31, 1916, during part of which time, from May 30 to July 10, 1916, he participated in Colonel F.W. Sibley's Expedition into Mexico. He served with the 17th Cavalry at Douglas, Arizona, to July 30, 1917; and was Instructor, School of Fire, Fort Sill, Okla., to October 26, 1917, during which time he was graduated from the Field Artillery School. He then served with the 20th Cavalry at Fort Riley, Kansas, and Camp Logan, Texas, to November 10, 1917; and with the 307th Field Artillery at Camp Dix, N.J., to May 26, 1918.

Colonel Fisher sailed with the 307th Field Artillery to France, June 1, 1918, and served as Brigade Adjutant, 153rd Field Artillery Brigade, to October 1, 1918; and as Commanding Officer, 307th Field Artillery, to April 20, 1919, participating in the St. Mihiel and Meuse-Argonne Offensives. He was in command of troops, Base Sector #9, Antwerp, Belgium, to August 2, 1919. When he returned to the United States on August 16, 1919, he was assigned to duty as Assistant District Military Inspector of Reserve Officers' Training Corps District, San Francisco, Calif., to November 6, 1919. He then served with the 13th Cavalry, Fort Clark, Texas, to January 1, 1920, and as Inspector-Instructor, Texas Cavalry, National Guard,

at Dallas, Texas, to October 1, 1920.

Upon being detailed to the Air Service, Colonel Fisher was a student at the Balloon Observation School at Ross Field, Arcadia, Calif., from October 5, 1920, to April 12, 1921. He was rated "Balloon Observer" April 26, 1921. He next took a course of instruction at the Airship School at Langley Field, Va., following the completion of which he was awarded the rating of "Airship Pilot," effective August 13, 1921. Stationed at Langley Field until June 30, 1922, he performed successively the duties of Commanding Officer, Commanding Officer of Airship Troops, Commandant of the Airship School and Assistant Commandant of the Airship School.

Following duty at the Primary Flying School at Brooks Field, Texas, from July 6, 1922, to February 28, 1923, Colonel Fisher was assigned to undergo a course in rigid airship training at the Naval Air Station at Lakehurst, N.J., and he was on duty thereat until August 9, 1924, when he returned to Langley Field for duty as student at the Air Service Tactical School. His graduation from this school in June, 1925, was followed by an additional year of duty as a student at the Command and General Staff School, Fort Leavenworth, Kansas.

Transferred to duty in the Panama Canal Zone, Colonel Fisher served on the Isthmus as Commanding Officer of France Field and the 6th Composite Group, and later as Department Air Officer and Commanding Officer of the Panama Air Depot. His foreign service tour was followed by duty as a student at the Army War College, Washington, D.C., August, 1929, to June, 1930. Upon graduation, he was assigned to duty in Texas, being Air Officer of the 8th Corps Area from August 16, 1930, to November 2, 1931, and Commanding Officer of the San Antonio Air Depot, Duncan Field, Texas, from November 3, 1931, to June 1, 1934.

Colonel Fisher's next duty assignment was in the Office of the Chief of the Air Corps, Washington, D.C., where he was Chief of the Plans Division from June 9, 1934, to June 11, 1935. He was then transferred to Maxwell Field, Montgomery, Ala., where he is Commanding Officer of the post and Commandant of the Air Corps Tactical School.

For gallantry in action against hostile Moros, in the Philippines in the engagements previously mentioned, Col. Fisher was awarded the Silver Star Citation with one Oak-Leaf Cluster.

In addition to the two lighter-than-air ratings, heretofore mentioned, Col. Fisher also holds the rating of "Airplane Observer," received September 22, 1925, following his completion of the special course in Observation at the Air Corps Advanced Flying School, Kelly Field, Texas.

Fog, the arch enemy of airmen, was responsible for the death on August 21st of two Air Corps officers, Captain Harold Brand and 1st Lieut. Anthony E. Curcio. During the course of a night flight from Moffett Field, Calif., Lieut. Curcio, the pilot, ran into fog and high wind in the treacherous hills of Altamont Pass, near Livermore, Calif. The airplane crashed into a hillside, some 100 yards from the pass the airmen had evidently been blindly searching for.

Captain Brand, who entered the military service during the World War, was born at San Diego, Calif., April 13, 1897. He attended grammar school and high school at Coronado, Calif., and then took a university correspondence course. At the time of his enlistment on December 11, 1917, in the Aviation Section, Signal Corps, he was part owner of a weekly newspaper.

Following the completion of his ground school course at the School of Military Aeronautics, University of California, Berkeley, Calif., on March 23, 1918, he took flying training at Rockwell Field, Calif., and later at March Field, Calif., and upon passing the required tests he received the rating of Reserve Military Aviator, was commissioned a second lieutenant in the Aviation Section, Signal Corps, November 9, 1918, and assigned to active duty at March Field, where he was a flying instructor, in addition to his other duties.

Transferred to the Hawaiian Department in March, 1922, Captain Brand was stationed at Luke Field for a period of three years and, following his return to the mainland, was assigned to station at the Primary Flying School, Brooks Field, Texas. He was on duty with the 11th School Group as Supply Officer, and later was Assistant Stage Commander. In February, 1927, he was transferred to Dodd Field, Fort Sam Houston, Texas, where he was Supply Officer of the 12th Observation Squadron.

In May, 1929, Captain Brand was transferred to the Office of the Chief of the Air Corps, Washington, D.C., where he was assigned to the Information Division as Chief of the Intelligence Section. Ill health necessitated his relief from duty in Washington, and in August, 1931, he was transferred to Rockwell Field, where he remained until October, 1935, when the field was abandoned as a station for Air Corps troops. He was then assigned to station at Moffett Field, Calif., and was on duty at this new Air Corps field as Technical Inspector, Operations Officer and Intelligence Officer. In addition to his rating as Airplane Pilot, he was, on August 10, 1929, rated as Airplane Observer. At the time of his death, Captain Brand had exceeded the 3500-hour mark in total flying time.

Lieut. Curcio was born in New York City on November 18, 1907. After graduating from the United States Military Academy in 1930, he was detailed to the Air Corps, taking his primary flying training at March Field, Riverside, Calif., and his advanced training at Kelly Field, Texas. He specialized in Pursuit, and upon his graduation on October 10, 1931, from the Advanced Flying School, he was rated an Airplane Pilot and assigned to duty at March Field, serving as Personnel Adjutant of the 17th Pursuit Group.

A student at the California Institute of Technology, Pasadena, pursuing a course of instruction in meteorology, September, 1933, to June, 1934, Lieut. Curcio was then assigned to duty at Rockwell Field, Calif., and, upon the abandonment of that field by the Air Corps in October, 1935, he was transferred to Moffett Field, Calif.

The heartfelt sympathy of the Air Corps is extended to the bereaved families of the deceased officers.

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JOHN J. McSWAIN

In the death on August 6, 1936, of the Honorable John J. McSwain, of South Carolina, Chairman of the Military Affairs Committee of the House of Representatives, the nation lost a staunch advocate of adequate preparedness for National Defense.

Mr. McSwain was untiring in his efforts to formulate a policy of adequate defense, and it was largely his disregard for his own health in the discharge of the responsibilities of his office that aggravated his physical condition. He was a firm believer in the potentialities of air power, and in the last session of Congress sponsored legislation to increase the commissioned and enlisted strength of the Army and to enlarge the Air Corps.

Himself a Captain in France during the World War, commanding Company A of the 154th regiment of Infantry until after the Armistice was signed, Mr. McSwain took an intense interest in the Army and did most of his traveling by airplane in order to inspect the military posts in various parts of the country.

Last January, in sending New Year's greetings to the officers and men of the Air Corps, through the Air Corps News Letter, he stated:

"I do not fail to think of the officers and men in the armed services, such as the ground force of the Army, the Marine Corps, and the Coast Guard. But since the Air Corps is in fact 'our first line of defense,' and therefore must be instantly ready at all times to

perform its great mission of beating off, and beating down any attempted invasion of our country, I confess an unusual interest in this new branch of the Service.

I have not suggested anywhere that other agencies and instrumentalities of defense may be discarded or neglected. Progress and improvement in the instrumentalities of warfare do not bring about substitutions for old agencies, but merely cause additions to them and thus a general increase in the number and kinds of weapons. But with an adequate and properly equipped and trained air force, coupled with our Navy and the Naval Air Force, we can relax somewhat as to land forces. Since our sole purpose in maintaining military establishments is to insure defense, we believe that the Air Corps and the Navy can so retard and hold back the initial stages of any possible invasion as to give us time to fill in the skeletonized organizations of the Regular Army and to recruit the National Guard up to war strength and to man the Organized Reserves with the unorganized militia, and to train these groups of land forces so that invasion will be prevented, and if not actually prevented, the invader may be promptly driven from our borders and punished as a warning for all time to all peoples."

Mr. McSwain was born in Laurens County, S. C., May 1, 1875. He graduated in 1897 from the South Carolina College, and began the practice of law at Greenville, S. C., in 1901. When war was declared against Germany, Mr. McSwain, then 42 years of age, entered the first training camp at Fort Oglethorpe, Ga. Upon completion of the course of instruction, he was commissioned a Captain in the National Army, and was assigned to active duty at Camp Beauregard, La. Following his honorable discharge from the Army in March, 1919, he returned to his law practice in Greenville. The following year he was elected to Congress, and thereafter was repeatedly reelected. He was appointed Chairman of the House Military Affairs Committee in 1932.

On the day of the funeral of Congressman McSwain, Lieut. Stuart G. McLennan led a flight of three A-17 Attack planes from Langley Field, Va., to Greenville, S. C., for the purpose of dropping flowers on the grave. Flying Cadets Eaking and Willoughby were the other two pilots, and the mechanics were Technical Sergeant Gossett, Staff Sergeants House and Caldwell.

In the masthead of each issue of "The Reserve Officer," a monthly publication, there appears this statement written by Mr. McSwain: "Let us pledge the Reserve Officers' Association to nothing but unselfish, disinterested, patriotic efforts for the broad, forward-looking policies of defense."

DEATH OF THE SECRETARY OF WAR.

The War Department was advised of the death at Walter Reed General Hospital at 10:55 a.m., August 27, 1936, of the Honorable George H. Dern, Secretary of War. Mr. Dern's death came after several weeks' illness and resulted from cardiac complications, following a severe attack of influenza.

Mr. Dern contracted influenza last spring during an inspection of War Department activities in Florida. After a brief illness he apparently completely recovered from the attack and returned to duty in the War Department. However, he suffered a relapse about two months ago and has been in the hospital since that time.

Mr. Dern was born in Dodge County, Nebraska, September 8, 1872, the son of John and Elizabeth Dern. He was graduated from the Fremont (Nebr.) Normal College in 1888 and attended the University of Nebraska in 1893 and 1894. He was a linesman and captain of the Nebraska football team which won the Missouri Valley championship. While at the University of Nebraska he was a cadet under Lieut. John J. Pershing, then professor of military science and tactics at that college.

After leaving college, Mr. Dern went to Utah where he became associated with his father in mining operations, subsequently becoming general manager of the Consolidated Mercur Gold Mines Company, owner of the largest gold mine of Utah. With Mr. Theodore C. Holt he was the inventor of the Holt-Dern roasting process for the reduction of refractory ores.

In 1914 Mr. Dern was elected to the Utah State Senate from Salt Lake County, serving in that body for eight years. During that time he was the author of a number of progressive measures which were enacted into law, including the Workmen's Compensation Act, Corrupt Practices Act, Mineral Leasing Act, Blue Sky Law and the Initiative and Referendum. During the World War he served as a member of the Utah State Council of National Defense.

Mr. Dern was elected Governor of Utah in 1924, receiving both the Democratic and Progressive nominations. Although Mr. Coolidge as the Republican nominee for President carried Utah by 30,000 votes, Mr. Dern was elected as a Democrat by 9,000. Four years later Mr. Dern was reelected, this time by a margin of 31,000, the largest majority ever given a candidate for governor in that State. At the same time Mr. Hoover as the Republican candidate for President carried Utah by 14,000.

While Governor of Utah, Mr. Dern served twice as Chairman of National Governors' Conference and declined reelection for a third term. From 1927 to 1933 he served as a member of the Executive Committee of that body. He was one

of the organizers of the Western Governors' Conference, serving as its chairman in 1931 and 1932. He was proposed by a number of Western States as a candidate for the Democratic nomination for Vice-President at the Chicago convention in 1932, but declined to permit his name to be presented, and personally seconded the nomination of Mr. Garner.

Mr. Dern's second term as Governor of Utah expired January 2, 1933. He declined to become a candidate for a third time and also declined to be a candidate for United States Senator. On March 4, 1933, he became Secretary of War. Mr. Dern was a member of the Congregational Church. He was a 33rd degree Mason, a Knight Templar and a Shriner, a member and former director of the Salt Lake City Chamber of Commerce, also a member of the American Institute of Mining and Metallurgical Engineers, the Delta Tau Delta Fraternity, the University, Alta and Country Clubs of Salt Lake City, and the University and Army and Navy Clubs of Washington. He was an officer and director of a number of mining and metallurgical enterprises and commercial companies, including the Holt-Christensen Process Company, Pleasant Grove Canning Company, First National Bank of Salt Lake City, Mutual Creamery Company and the First Security Trust Company.

In 1899 Mr. Dern was married to Charlotte Brown of Fremont, Nebraska. Five children, Mrs. Mary Baxter, Miss Elizabeth Dern, Mr. William B. Dern and Mr. James G. Dern, of Washington, D.C., and Mr. John Dern, of Chicago, Ill., survive him in addition to his widow.

In a statement issued by the Hon. Harry H. Woodring, the Assistant Secretary of War, he said:

"In the death of Mr. Dern the nation has suffered an irreparable loss. His long and brilliant career as a member of the State Senate, as Governor of his State and as Secretary of War has been distinguished by the highest standard of public service. His passing is a great personal loss to me and to his associates of the War Department who have long cherished his friendship and affection."

Admiral William H. Standley, Acting Secretary of the Navy, sent the following message to the Acting Secretary of War:

"Upon behalf of myself and the entire naval establishment please accept our sincere condolences upon the loss of The Honorable George H. Dern, Secretary of War, which is keenly felt by your sister service."

General Malin Craig, Chief of Staff of the United States Army, issued the following statement:

"Members of the Army of all ranks are

deeply grieved to learn of the passing of their beloved Chief. Secretary Dern was a true friend of the Army. He worked unceasingly in behalf of national defense, sacrificing his health to the welfare of the country. Much of the progress made by the Army in the past three and a half years was due to his intelligence, understanding and his eager devotion to the public interest. He had the broad viewpoint, sound judgment and wide knowledge that proved invaluable in solving the problems of the War Department. To those of us who served with him the Secretary of War was more than a superior, he was an intimate friend who merited and held our deep affection."

Funeral services for Mr. Dern were held at 4:00 p.m., on Saturday, August 29th, at the Mt. Pleasant Congregational Church, Washington, D.C., with the Rev. Dr. Russell J. Clinchy officiating. The funeral party, escorted by the 2nd Squadron, 3rd Cavalry, and the 1st Battalion, 16th Field Artillery, then proceeded to the railroad station, where it was received by a Guard of Honor, consisting of a battalion of Infantry and a battalion of Engineers. The funeral party then left by special train for Salt Lake City, Utah. Upon arrival in Salt Lake City on Tuesday, September 1st, at 8:00 a.m., the body will lie in state at the State Capitol until 3:00 p.m. The funeral will be held from the Capitol at that hour, with the Rev. Dr. Elmer I. Goshen and the Rev. Dr. Jacob Trapp officiating. Interment will be in Mt. Olivet Cemetery with full military and Masonic honors.

Included in the official party accompanying Mr. Dern's body to Salt Lake City were Hon. Homer S. Cummings, Attorney General of the United States; Hon. Daniel C. Roper, Secretary of Commerce; Hon. Harry H. Woodring, Acting Secretary of War; Admiral William H. Standley, Acting Secretary of the Navy; Hon. Edward F. McGrady, Acting Secretary of Labor, and General Malin Craig, Chief of Staff, United States Army.

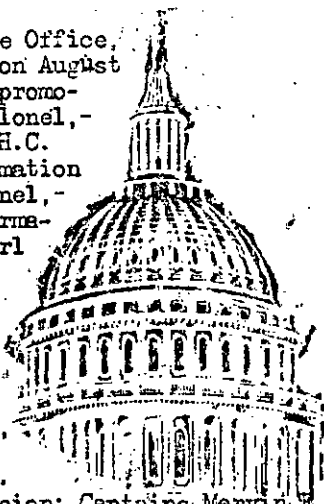
The Hon. Cordell Hull, Secretary of State, was unable to accompany the party due to a specific request from the President that he remain in Washington as Acting Head of the Government.

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First Sergeant Herbert Cassetty, 24th Pursuit Squadron, Air Corps, Albrook Field, Panama Canal Zone, was placed on the retired list on August 31, 1936.

Staff Sergeant Lawrence Sweeting, 61st Service Squadron, GHQ Air Force, Mitchel Field, L.I., New York, was placed on the retired list August 31, 1936.

The active duty assignments of three second lieutenants of the Air Reserve were extended, as follows: Ben A. Mason, Jr., Luke Field, T.H., to Oct. 14, 1937; Theodore M. Melden, Jr., Mitchel Field, to July 3, 1938, and David G. Desmond, Barksdale Field, to October 17, 1938.



Officers on duty in the Office, Chief of the Air Corps, on August 26th received temporary promotions, as follows: To Colonel, - Lieut.-Colonel Harrison H.C. Richards, Chief of Information Division; to Lieut. Colonel, - Major Ross G. Hoyt, Information Division; Majors Carl W. Connell, Lynwood B. Jacobs, Supply Division.

Officers who recently returned from leaves of absence were Major David A. Myers, Medical Corps; Major Alfred W. Marrison, War Plans and Training Division; Major Edward V. Harbeck, Inspection Division; Captains Mervin E. Cross and Donald F. Stace, Supply Division.

Officers returning from temporary duty at other stations were Major Charles P. Prime, War Plans and Training Division; Captain Stewart W. Towle, Personnel Division.

Major Charles Y. Banfill, War Plans and Training Division, made a navigation flight to Key West, Fla.

Recent visitors to the Chief's Office during the course of navigation flights, or while en route to other stations, were: Lieut. Colonel Ralph H. Wooten, from Langley Field, for duty as student at the Army War College; Major Richard H. Magee, Maxwell Field, for duty as student at the Army Industrial College; Captain Roland Birn, from Fort Leavenworth, Kansas, enroute to Maxwell Field for duty as instructor at the Tactical School; Major Harry A. Halverson, from Fort Leavenworth; Lieut. Colonel Edgar P. Sorenson from Wright Field, O.; Captain Ronald A. Hicks, Instructor, National Guard, Birmingham, Ala.; 1st Lieuts. Thomas S. Mooman, on leave from Mitchel Field, and Fay O. Dice from Maxwell Field.

Major Carl W. Connell departed for duty as student at the Army War College.

Captain R.V. Laughlin departed on August 24th on leave of absence.

Lieut. Colonel Robert L. Walsh departed Aug. 20th to inspect Air Corps Reserve activities in the west.

Captain Lawrence J. Carr dropped in to say 'Howdy' to his friends during the course of a flight from Maxwell Field.

Lieut. Colonel H.W. Flickinger, from the Fairfield Air Depot, dropped in to sign the book and greet his friends. He is attending the 1936-37 course at the Army Industrial College.

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Major General Oscar Westover, Chief of the Air Corps, visited Kelly Field, Texas, on August 20th, gave a short talk to the officers of the post; and answered any questions which the personnel asked. General Westover, flying an A-17 Attack plane, landed and stayed overnight at Randolph Field, Texas.

General Westover returned to Washington on August 27th.

TEMPORARY PROMOTION OF AIR CORPS OFFICERS

The War Department announced on August 26th that, in accordance with provisions of an Act of Congress, approved June 16, 1936, the President authorized the temporary promotion of the following officers of the Air Corps:

LIEUTENANT COLONEL TO COLONEL

Arnold N. Krogstad	Follett Bradley
Walter H. Frank	Shepler W. FitzGerald
Frank D. Lackland	Leslie MacDill
Harrison H.C. Richards	Lawrence S. Churchill
Ira A. Rader	Clarence L. Tinker
Douglas B. Netherwood	Martin F. Scanlon
Lewis H. Brereton	Byron Q. Jones
Hugh J. Knerr	Davenport Johnson
Eugene A. Lohman	Walter G. Kilner
Herbert A. Dargue	Henry W. Harms

MAJOR TO LIEUTENANT COLONEL

William O. Butler	Albert M. Guidera
John G. Colgan	James F. Doherty
Vernon L. Burge	Lynwood B. Jacobs
William B. Wright, Jr.	Frank W. Wright
Raymond E. O'Neill	Edgar P. Sorenson
Frederick I. Eglin	Robert Olds
Dudley B. Howard	Ross Gordon Hoyt
Floyd E. Galloway	William B. Mayer
Calvin Earl Giffin	Richard H. Ballard
Stephen J. Idzorek	Ralph H. Wooten
Harrison W. Flickinger	Harold M. McClelland
Carl William Connell	Wolcott P. Hayes
Thomas S. Voss	Edmund W. Hill
Thomas W. Eastey	Walter F. Kraus
Morris Berman	William E. Farthing
Walter Bender	

CAPTAIN TO MAJOR

Charles C. Chauncey	Frederick D. Lynch
Walter E. Richards	Thomas L. Gilbert
Homer B. Chandler	William W. Welsh
Carl W. Pyle	Joseph W. Benson
John M. McCulloch	Caleb V. Haynes
Charles W. Sullivan	John F. Whiteley
Melvin B. Asp	Harold A. Bartron
George C. McDonald	Guy L. McNeil
Peter Emanuel Stanse	Lewis S. Webster
Alfred E. Waller	Alfred L. Jewett
Malcolm N. Stewart	Louis C. Mallory
Cdas Moon	Clarence P. Talbot
Arthur G. Liggett	Roy W. Camblin
Westside T. Larson	Cornelius J. Kenney
Newton Longfellow	Winfield S. Hamlin
Martinus Stenseth	Robert T. Zane
Rex K. Stoner	LePoy A. Walthall
Bushrod Hoppin	Lucas V. Beau, Jr.
John M. Davies	Newman R. Laughinghouse
Lloyd Barnett	James M. Gillespie
James B. Carroll	Frederick vonH. Kimble
James Edward Duke, Jr.	William J. Hanlon
Charles W. Steinmetz	David R. Stinson
John A. Laird, Jr.	Armor S. Heffley
Wendell B. McCoy	Joseph T. Morris
Walter T. Meyer	Howard A. Craig
James D. Givens	William R. Sweeley
William C. Farnum	George A. McHenry, Jr.
Charles M. Cummings	Carlyle H. Ridencour
William Turnbull	Russell C. MacDonald
James A. Woodruff	Bennett E. Meyers
Lester J. Maitland	Paul H. Prentiss
Arthur I. Ennis	Robert S. Heald

Warren A. Maxwell
Frederick M. Hopkins, Jr.
Leonard D. Weddington
Paul E. Burrows
George H. Brown
Dale V. Gaffney
Elmer D. Perrin
Edward M. Powers
Richard H. Magee
Kenneth B. Wolfe
John V. Hart
Henry H. Reily
Dayton D. Watson
Donald D. FitzGerald
Austin W. Martenstein
Edwin B. Bobzien
John D. Corkille

Levi L. Beery
Carlton F. Bond
John DeF. Barker
Warren R. Carter
Thad V. Foster
Harold A. McGinnis
Harry A. Halverson
Charles T. Skow
Morton H. McKimmon
Walter E. Hough
William M. Lanagan
George P. Tourtellot
Walter K. Burgess
Paul C. Wilkins
George H. Beverley
Norman D. Brophy

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NEW SKEET RANGE AT KELLY FIELD

The new skeet range at Kelly Field, Texas, is creating much interest and is giving the officers of the post an opportunity to compare skeet shooting with the more common trap shooting. The opinion is that it affords more practice in fast shooting and requires more ability than traps.

Captain Clyde K. Rich, Air Corps, has been placed in charge of the range and has organized five competitive teams of officers and cadets, not only for the practice but for the purpose of testing new equipment and determine the value of the training derived from fast shooting from all angles.

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VARIED ASSORTMENT OF PLANES AT BOLLING FIELD

Although Bolling Field has about 65 pilots assigned or attached for flying, it has no active tactical organization. Most of the pilots are on duty in the Office of the Chief of the Air Corps, and some are attending the Army War College and the Army Industrial College. They maintain their flying proficiency by coming to Bolling Field at intervals and making short cross-country flights or local practice flights.

To give these pilots every opportunity to fulfill missions called for by flying regulations, Bolling Field has a great variety of planes. There are approximately 38 planes assigned to this station. In that group are 14 different types, representing almost all types of flying equipment. One PT-3A is kept for practice and check flights for Reserve officers. Two Boeing P-12E's and one P-26A are available for Pursuit practice. A Fairchild C-8 is assigned for photographic work only, and is kept busy by the Photo Section. A Douglas C-29 Amphibian and a Curtiss Condor C-30 are used as transports along with the two Douglas C-34's assigned to the Office of the Secretary of War for special flights. Three BT-2B1's are kept busy in instrument flying training. For general practice and cross-country flights there are ten O-38B's, six O-38F's, six new Seversky BT-8's and one BT-9. The National Guard Bureau has one O-38D and one O-43A. The arrival of two new A-17A airplanes for the

Chief of the Air Corps and the Assistant Chief of the Air Corps adds another type to the group and practically covers all phases of flying except, perhaps, Bombardment. Since Washington is naturally a center of activity, these planes are all kept busy on various missions, and the variety of type is much appreciated.

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AWARD OF FRANK LUKE, JR. MEMORIAL TROPHY

The American Legion of Arizona will present the Frank Luke, Jr. Memorial Trophy to the 79th Pursuit Squadron, General Headquarters Air Force, U.S. Army, at Phoenix, Arizona, on Thursday, September 3rd. The award is made for the highest aggregate score in annual gunnery record firing.

This Trophy is presented in honor of one of the outstanding aviation heroes of the World War. It was awarded annually since 1931 to the Pursuit pilot of the Air Corps stationed on the West Coast who made the highest gunnery score. The conditions of the award were changed this year to provide that the presentation should be made to the organization having the highest aggregate score. The winning squadron will fly in a score of planes from its station at Barksdale Field to Phoenix to receive the award.

It is entirely appropriate that this ceremony should be held during the month of September, because it was during the period September 12th to 29th, 1918, that 2nd Lieut. Frank Luke, Jr., wrote his name in blood across the sky of the western front by performing the aerial feats for which his heroic death on September 29, 1918, placed his name among the four Army Air Corps pilots, who participated in the World War to be awarded the Congressional Medal of Honor. During this brief fortnight Luke's meteoric career was crowded with spectacular events.

On September 12, 1918, he shot down his first aircraft during the war, an observation balloon. The balloon was recognized, by experienced pilots, to be the most difficult of aerial targets, ringed about as it was by a wall of ascending bullets from anti-aircraft machine guns. From this time until he met his death on September 29th, Luke accounted for 21 enemy aircraft, mostly balloons. His death, the story of which has been pieced together since the War was most spectacular and heroic. One account reads as follows:

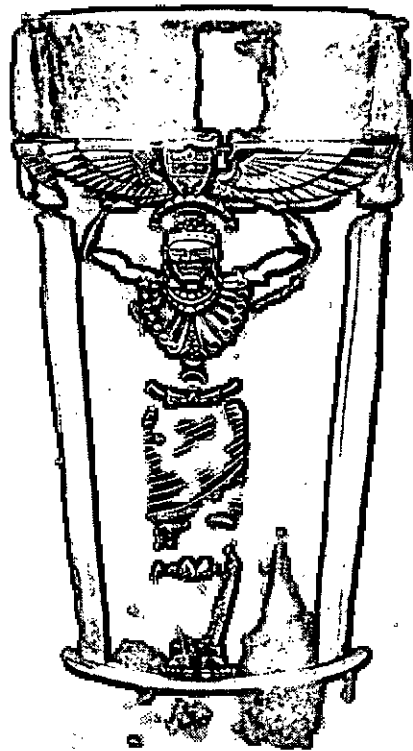
"After having first shot down three enemy balloons and two planes, he descended low over the ground and killed eleven of the enemy, either with hand bombs or machine gun bullets. While flying low, his plane was hit from the ground and he himself was apparently wounded.

He made a successful landing; got out of his plane and when the enemy called upon him to surrender replied by drawing his automatic and opening fire. Thus standing he continued to defend himself until killed."

The citation awarding him the Congressional Medal of Honor reads in part as follows:

"For conspicuous gallantry and intrepidity above and beyond the call of duty."

The detailed arrangements for the ceremony on September 3rd are being made by Mr. E.P.



TROFEO COLOMBIANO
PREMIADO POR LA AVIACION MILITAR COLOMBIANA
AL FIN DE LAS FUERZAS ARMADAS MILITARES DE LOS
ESTADOS UNIDOS EN LA GUERRA ANUALMENTE EN
HONOR AL MERITO

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COLOMBIA PRESENTS TROPHY TO AIR CORPS

During the GHQ Air Force Maneuvers in the vicinity of Miami, Florida, in December, 1935, Major Benjamin Mendez, one of the foremost flyers of the Colombian Army, presented a trophy to the GHQ Air Force in the name of the Republic of Colombia. Appreciation for the donation of this Trophy was made in a letter addressed to the Minister of War, Republic of Colombia.

This Trophy, a photographic reproduction of which appears on the opposite page, is of silver, except for the base, which is mahogany. It is approximately 16 inches in height. A silver plate attached to the base bears the following inscription:

TROFO COLOMBIA
PRESENIADO POR LA AVACION MILITAR
COLOMBIANA AL GHQ DE LAS FUERZAS
AEREAS MILITARES DE LOS ESTADOS
UNIDOS PARA JUGARSE ANUALMENTE EN
HONOR AL MERITO

In keeping with the intent of the donor, as expressed in the above inscription, and amplified by Major Mendez in making the presentation, it is proposed to award this Trophy annually to that group in the GHQ Air Force which has the lowest accident rate per 1,000 flying hours each training year, as determined by the Inspection Division, Office of the Chief of the Air Corps.

Formal recognition of the above described Trophy for the purpose outlined was given by the War Department on August 11, 1936.

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Award of Frank Luke, Jr. Memorial Trophy (Continued from page 20)

McDowell, Department Adjutant of the American Legion, Department of Arizona. Participating in the ceremony for the Army will be five officers, six enlisted men, and two airplanes from the Headquarters, First Wing, GHQ Air Force, March Field, and the 79th Pursuit Squadron, the winning organization, consisting of twenty officers, fifteen enlisted men, eighteen Pursuit airplanes and one Transport airplane from Barksdale Field, La.

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RETIREMENT OF STAFF SERGEANT WILLIAM J. CREMERS

Upon the completion of over 30 years' active service, of which two years, two months and seven days were accredited double time for service in the Philippine Islands, Staff Sergeant William J. Cremers, 70th Service Squadron, Hamilton Field, Calif., was placed on the retired list of the U.S. Army, July 31, 1936.

Sergeant Cremers first enlisted in Troop A, 1st Cavalry, October 3, 1907, and served with this organization to October 26, 1913.

Reenlisting Nov. 13, 1913, he was furloughed to the reserve at Douglas, Arizona, as a Sergeant, Veterinary Corps, February 29, 1920, and was discharged to reenlist June 7, 1920. He served with the Medical Department as a Staff Sergeant at Letterman General Hospital until July, 1924, and in the 11th Medical Regiment.

Hawaiian Department, to March 15, 1926. He then served a three-year enlistment in the Quartermaster Corps, and reenlisting for the Air Corps on August 29, 1929, his service in that arm was continuous until the date of his retirement. He served at March Field, Calif., until his discharge from the 64th Service Squadron, August 18, 1932; reenlisted the following day, was transferred to Hamilton Field, Calif., with the 7th Bombardment Group, and served until his discharge from the 69th Service Squadron, August 18, 1935; reenlisted the following day, was transferred to the 70th Service Squadron, May 14, 1936, and served continuously with that organization as a Staff Sergeant.

His record was excellent, and he was congratulated by the Commanding Officer of Hamilton Field, upon the completion of a highly successful career. The good wishes of the entire command of Hamilton Field were extended to Sergeant Cremers upon his well deserved retirement.

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TC-11 AIRSHIP FLIES OVER KENTUCKY WAR MANEUVERS

Captains George C. Cressey and Gerald G. Johnston, pilots, made a flight recently in the TC-11 airship to Fort Knox, Ky., during the last few days of the Second Army Maneuvers in that region. Leaving Scott Field, Ill., at dawn, Capt. Cressey piloted the airship to the vicinity of Fort Knox by early afternoon. He cruised around an hour looking down upon the highways massed with Second Army trucks and marching troops. Thousands of trucks and automobiles of all kinds were moving at a 20-mile-per-hour pace despite traffic conditions.

There were ambulances, cargo trucks, kitchen trucks, passenger trucks, photo trucks, reconnaissance and staff cars, gun carriages and limbers, ammunition trucks and motorcycles, also anti-aircraft guns and huge searchlights, machine guns, 37 mm. cannons and shoulder rifles. There were foot soldiers, motorized cavalry, tanks, airplanes and motorized units of all kinds. The Second Army had the appearance of an army advancing in real warfare.

Captain Cressey flew the airship over the new gold depository just completed at Fort Knox, into which billions of dollars worth of gold bullion is now being placed for storage under the watchful eyes of the Army.

All small brooks and streams were dry washes, and the Ohio and Wabash Rivers were lower than they had been for years. Despite this dryness, crops appeared to be in fair condition in the basins drained by these two rivers.

Each town or hamlet passed over had the appearance of prosperity if the number of automobiles lining the curbs was any criterion. And the majority of farmyards seemed to be brightened up with a new W.P.A. type of building, all of which were strangely similar in construction.

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Major Wolcott P. Hayes, Air Corps, has been relieved from assignment and duty at Kelly Field, Texas, and assigned to Headquarters, 4th Corps Area, Atlanta, Ga. First Lieut. Burton M. Hovey is assigned to duty at Kelly Field upon the completion of his tour of foreign service.

V-7091, A.C.

BOMBING AT SEA BY THE 7TH BOMBARDMENT GROUP

The 7th Bombardment Group, Hamilton Field, Calif., recently conducted a Group interception mission of a ship at sea, the ship intercepted being the U. S. Army Transport MEIGS.

The MEIGS position reports, as well as those of other ships, were plotted from data received over the teletype with the weather reports. From the plottings, the MEIGS plot showed she would be at a good position on the morning of July 17th for an interception problem.

A war condition was assumed, and the MEIGS represented an enemy fleet approaching our shores. The data received was supposedly transmitted by a friendly merchantman, a submarine and an observation airplane.

At 8:30 a.m., July 17th, the Commanding Officer of the 7th Bombardment Group ordered an airplane from the 88th Observation Squadron (LRA) to take off and definitely locate the MEIGS. The airplane from the 88th Squadron represented the whole squadron.

At 9:30 a.m., the Group Commander ordered the Group to take off and intercept the MEIGS. At the time of leaving the Golden Gate, the MEIGS was 186 miles out.

The Group echeloned to the right and left of the navigation airplane and guided on it at all times except when the Navigator was taking a double drift.

THE MEIGS was intercepted an hour and seven minutes after the Group left the Golden Gate. Smoke bombs and an aluminum "slick" were dropped from the Group Commander's airplanes

about a mile to the rear of the ship, and the rest of the Group used these marks as reference points for bombing. One 100# practice bomb was dropped from each airplane. The Group then returned to Hamilton Field.

Every safety precaution possible was used. All airplanes were carefully checked for life-preservers, water, etc., before the take-off. Three amphibians were to be used for rescue airplanes if need be. One amphibian airplane took off with the Group and flew out one hundred miles on the course followed by the Group. When the message that the MEIGS had been intercepted was received at Hamilton Field, the other two amphibians took off and started on the reciprocal course, followed by the Group on the way home. Position reports were sent back to the plotting room every fifteen minutes by the Group Commander and by the Navigators in the amphibians, times being staggered. These were immediately plotted and consequently, in the event of a forced landing, the distance and course of a rescue airplane from one forced down could be immediately determined. Two airplanes in each squadron were also designated as guard airplanes. These were to circle the airplane forced down to determine if life-preservers, etc., were needed and were to act as guides for helping vessels or rescue airplanes.

It is planned for the 7th Bombardment Group to fly one of these interception missions at least once each month.

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FAST NON-STOP FORMATION FLIGHT

In seven hours, five Northrop Attack airplanes from March Field, Calif., completed the trip from their home base to Kelly Field, San Antonio, Texas, after having made what is purported to be the longest military non-stop formation flight on record.

The planes, with Major Louie C. Mallory as leader, started off at 7:00 a.m. and landed at destination at 3:00 p.m. (P.S.T.) According to estimates made at March Field, the average speed for the trip was 143.4 miles per hour.

The flight, which was made on August 21st, was designed to test gasoline and oil consumption in the new Attack planes recently assigned to the 73rd Attack Squadron.

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NEW FRENCH BOMBING AIRPLANE

The latest Bombing airplane built for the French government is the Amiot 144, which is characterized by high power and high precision in bombing; great precision in defensive fire by means of automatic defensive arms; fast performance and a long flight radius.

This airplane is designed to transport from 2,200 to 4,400 lbs. of bombs and to be able to traverse a distance of 2,480 miles at a cruising speed of 186.3 miles per hour. The crew consists of pilot, navigator and bombardier, and two or three machine-gunner observers.

The overall length of the plane is 58.2 feet; total wing span, 76.8 feet; height, landing to gear down, 16.3 feet; landing gear up, 15.1 feet; wing surface, 978 sq. ft.; dead weight, 12,760 lbs.; weight of fuel, from 2,860 to 6,600 lbs.; total weight of plane (normal) 19,800 lbs.; maximum total weight, 25,300 lbs.; maximum speed at 13,120 feet, 241.8 m.p.h.; maximum speed at 19,860 feet, 223 m.p.h.; landing speed, 55.8 m.p.h.; run at take-off, 640 feet; run at landing, 800 feet; time to climb to 13,120 feet, 10 minutes; time to climb to 18,860 feet, 17 minutes; ceiling, 32,800 feet; maximum flight radius, 2,356 miles. This flight performance is calculated on the utilization of two 1200 h.p. engines.

Powered with two 800 h.p. engines, the maximum speed at 13,120 feet is 217 m.p.h.; at 19,860 feet, 201 m.p.h.; run at take off, 800 feet; landing speed and run at landing, same as above; time to climb to 13,120 and 18,860 feet, 13 and 22 minutes, respectively; ceiling, 27,880 feet, and maximum flight radius, 2,480 miles. By a variation of the curved profile of the wings, the lift coefficient passes from 125 to 170. The landing speed is also reduced by 15.5 m.p.h. The variation of the profile is mechanically affected by the ailerons, which can be deflected downwards some 20 degrees along the whole length of the trailing edge of the wing. These comprise the ailerons used for warping the plane and the special ailerons between them and the fuselage.

NOTES FROM AIR CORPS FIELDS

Kelly Field, Texas, August 21st.

Major Robert D. Knapp, Director of Flying Training, and Major Clifford C. Nutt, Post Engineering Officer, have gone to Wright Field to inspect the new Lockheed light bomber and transport. It is thought this airplane might be used for flying training at the Advanced Flying School, with but few alterations.

New officers reporting at Kelly and their duty assignments are given below, viz: Captain William Turnbull, Supply Officer; 1st Lieuts. Edgar R. Todd and Troup Miller, Jr., to the Bombardment Section as Flying Instructor; John H. Bundy and John H. Ives, to Pursuit and Attack Sections, respectively, as Flying Instructors.

Captain Thomas L. Gilbert was ordered to Oklahoma City, Okla., for duty in charge of Organized Reserves, effective September 1, 1936.

Luke Field, T.H., July 20th.

First Lieut. Thomas S. Moorman, Jr., Master Sergeant Elmer G. Costello, Sergeant George H. Wiesler, Privates Mason, DeWandel and Carnahan departed on the U.S.A.T. REPUBLIC on July 7th for stations on the mainland. An Aloha party was tendered the short-timers at the 4th Observation Squadron mess on July 3rd. The 4th Sqd. welcomed Staff Sergeant James Robinson, from Maxwell Field, and their new mess sergeant, Sergeant James L. Story, formerly of the 17th Pursuit Squadron, Selfridge Field.

50th Observation Squadron: The Squadron is operating on a somewhat curtailed schedule at present, with three pilots absent at Kilauea Military Camp, and the four attached Reserve officers attending school each day in preparation for commissions in the Air Corps, Regular Army. Second Lieut. John L. Dufrane, Air Res., recently reported for duty and is established in quarters at Pearl City.

72nd Bombardment Squadron: Major I.H. Edwards, Squadron Commander, and Lieuts. C.F. Born, Lewis R. Parker, John W. Egan and William J. Clinch, Jr., are on detached service at the Kilauea Military Camp. Recent orders indicate that the Squadron will lose two of its most popular officers in the near future, when Lts. Ford J. Lauer and John W. Egan leave for duty at Langley Field with the GHQ Air Force.

23rd Bombardment Squadron: The Squadron Mess Sergeant, Homer E. Ferris, was promoted to Sergeant on July 7th. This is the first time the Squadron has actually had a Sergeant as head of the mess for over two years.

Hawaiian Air Depot, Luke Field, T.H.

The volume of work passing through the Hawaiian Air Depot at this time has represented an "all-time high." All departments of this Depot have on hand an unprecedented amount of activity. This is occasioned very largely by the shipment of replacement airplanes arriving here at this time. In addition, an unusually large amount of property for stock replenishment is being received. Within the month of July, three transports brought Air Corps freight to this Department. The Transport MEIGS brought in 150,000 pounds;

the REPUBLIC, 100,000 pounds, and the SCOTTSBURG, 160,000 pounds, making a total of 410,000 pounds arriving within the one month. Much needed new machinery for the Depot Engineering Shops arrived on the REPUBLIC and will be installed shortly.

Air Corps Detachment, Municipal Airport, Oakland, Calif., August 20th.

On August 11th, this station received a surprise visit from Major General Westover, Chief of the Air Corps, and Colonel Henry B. Clagett, Air Officer, 9th Corps Area.

August 17th afforded us another surprise. General Gerald C. Brant, Commanding General of the Third Wing, GHQ Air Force, arrived in an A-17 for a short stay. Incidentally, when the A-17 airplanes arrive at this station there is a prompt rush by the air minded public to get a good look at this classy fighting machine. The personnel of this command also get a treat when the new equipment drops in. It gives us a chance to keep abreast of the times and affords the crews opportunity to become acquainted with all types of planes for future reference.

Clark Field, Pampanga, P.I., July 23rd.

Major C.W. Ford, Commanding Officer of Clark Field, was married June 12th to Miss Margaret Dow, daughter of Major and Mrs. William S. Dow, M.C., of Fort Stotsenburg. The ceremony took place in Manila with only the family and a few close friends in attendance. The honeymoon was spent in Hongkong.

Clark Field training has been handicapped during the past year by the deterioration of airplanes. The life of the P-12B's was twice extended, and it is doubtful if they will again be overhauled. This situation will throw the training load on P-12E's, which themselves are rapidly losing the vigor of youth.

Mrs. Sam W. Cheney recently won second prize in the ladies class at the Fort Stotsenburg horse show, competing with some of the best riders in the Cavalry and Artillery.

Chanute Field, Rantoul, Ill., August 24th.

July 31st closed another successful thirty-day period of training in the CMFC Camp at Jefferson Barracks, Mo. Of the eleven hundred in attendance, but few received noteworthy praise and awards. Included in the selected few was Edwin F. Carey, Jr., son of Major E.F. Carey, Air Corps, of Chanute Field, who received a scholarship to Wentworth Military Academy, Lexington, Mo.

In addition to the scholarship, young Carey was awarded a medal for being the outstanding Red Candidate (second year) in camp. Also he was selected as leading candidate for the Pershing Award, which is presented to the member completing three years' training and having the highest scholastic standing.

The Commanding Officer of Jefferson Barracks, Colonel Atkins, and the Camp Commander, Colonel Park, commended him very highly on his work. These things should prove that a lad, even though raised in the Air Corps, can make good in the Doughboys.

Langley Field, Va., August 7th.

The 49th Bombardment Squadron regrets the departure of one of its popular members, 2nd Lt. Clarence L. Schmid, who was recently transferred to Hamilton Field, Calif. At the same time congratulations are in order for Tech. Sgt. W.W. Fry, who was recently promoted from his Staff Sergeancy. Subsequent promotions included Sergeant Ernest Chaput to Staff; Corporal N.G. Stapleton to Buck Sergeant and Private C.G.H. Metcalf to Corporal.

July saw the advent of two new Caterpillars in the 49th Bomb. Sqdn., after the emergency jumps of Cadet Lloyd Eyre and Private M.S. Cranfill over Denbigh, Va., when the B-10B in which they were flying disintegrated at 10,000 feet. Cadet Eyre, pilot, reported that the ship apparently fluttered to pieces in a very shallow dive in which the approximate speed was about 230 miles an hour. The fuselage broke completely in half at the rear cockpit, forcefully ejecting Private Cranfill. Cadet Eyre's attempts to clear the wreckage, however, entailed considerably more effort. When he finally opened the hood and was rocketed from the cockpit, he estimated his altitude at about 5,000 feet. Both landed safely but were a bit unnerved from their experience.

Flying in the 20th Bombardment Squadron for its own pilots has been confined to bombing training in preparation for the demonstration to be staged at Fort Benning, Ga., August 12th. Three of the officers qualified as expert bombers, and it is expected that there will be more in the near future.

37th Attack Squadron: We regret the loss of Lieuts. Wolfenbarger and Grussendorf, who have been ordered to Maxwell and Chanute Fields, respectively, to pursue courses of instruction. Both officers were so active in this organization that they will be sorely missed.

San Antonio Air Depot, Texas, August 20th.

Numerous ferrying missions gave the Depot the opportunity of visits from several officers from Maxwell Field, Ala., recently. Major L.A. Dayton, Captain J.E. Parker and Lieut. E.J. Hale, accompanied by Pvt. 1st Cl. E.A. Logston, mechanic, came in August 14th with a B-4A for Kelly Field, and left next day with an A-12 and a B-6A for Maxwell Field. Major Dayton was busy greeting old friends here, as he was formerly Adjutant of this Depot and recently on duty at Kelly Field. Major L.A. Smith and Captain R.F. Stearley were visitors August 18-19 to ferry an A-12 back to their home station.

Captain J.E. Duke, Jr., of Chanute Field, Ill., was a visitor at the Depot, August 7-9, and again on August 15, passing through on a cross-country flight. He was on duty at this Depot several years ago, and renewed old acquaintances.

Major A.S. Albro, Technical Supervisor of the SAAD Control Area, and Mrs. Albro, have been enjoying a vacation on the West Coast since August 6th on a month's leave of absence.

Captain E.D. Perrin, 3rd Transport Squadron Commander and Assistant Engineering Officer of this Depot, left August 15th by air for Wright Field, Ohio, for about two weeks' temporary duty, serving as a member of the Board of Officers convened at the Air Corps Materiel Divi-

sion to evaluate new transport airplanes.

Lieut. M.H. Warren, Assistant Depot Supply Officer and 3rd Transport Squadron Supply Officer, and Mrs. Warren, departed August 10th on a month's leave of absence, visiting relatives in Girard, Kansas, and Mount Prospect, Ill.

Senior Machinist Carl A. Herbel, of the Depot Engineering Department, was on several days' temporary duty at the Fairfield Air Depot, Fairfield, Ohio, beginning August 17th, to obtain instruction in the operation of the new type cylinder honing machine to be placed in service at Air Depots.

Fairfield Air Depot, Patterson field, O., 8/14

Lieut. Colonel J.H. Houghton assumed command on July 28th. Much to his surprise, upon arrival he found that part of his household goods had been forwarded to Brooks Field, having been shipped in compliance with his original orders directing him to report to that station for duty.

Speaking of household goods - an officer was ordered from Wright Field to an eastern station, shipping his household goods by van. Not receiving them in normal time, he started tracers to locate them, but to no avail. One day he received a letter from a Reserve officer stating that while traveling through Pennsylvania he (the Reserve Officer) noticed a furniture van overturned in the bottom of a ravine. Upon investigation he found that it contained household goods addressed to _____ and thought that it might be of interest to him. It was.

Second Army Maneuvers necessitated several group landings and servicing at this station. Provision was made to handle all kinds of maintenance work, but much to our surprise - and pleasure - very little was required. Other than minor adjustments, trivial in nature, the maintenance crew had nothing to do. This performance speaks well both for the equipment and the inspection and maintenance work conducted at the several stations.

Scott Field, Belleville, Ill.

The Station Complement gave a farewell dinner August 12th in honor of Technical Sergeant John H. Kendall, who retired with 30 years' service on July 31st. Colonel Frank M. Kennedy, post commandant; Captain James C. Shively, Squadron Commander; Captain George G. Cressey, Air Depot Supply Officer; 1st Lieut. Ralph O. Brownfield, Post Adjutant; the enlisted men of the Station Complement, and friends of Sergeant Kendall from other organizations and departments attended. The organization purchased a complete fisherman's outfit as a retirement gift. Captain Shively made the presentation speech. Sergeant Kendall will make his permanent home in Belleville, seven miles from the field.

First Lieut. Benjamin H. Dally, Jr., Air Res., while on two weeks' active duty at Scott Field, suffered a fractured right elbow and a badly lacerated and cut arm when the automobile in which he and Major William C. Bausch, Air Reserve, were sitting was side-swiped by another car on the night of August 8th, 12 miles from Scott Field. Lieut. Dally was taken to the Station Hospital at Jefferson Barracks, Mo.

Construction on the new sedimentation type V-7091, A.C.

sewage disposal plant began July 15th. The plant, designed as a permanent unit to meet the demands of the present and a reasonable future increase in population, will consist of a filter bed, a sewage tank with siphon and chlorinating chambers, a sludge bed and a pumping station.

The Engineering Air Depot received several new machines for the machine shop, including a milling machine, universal grinder, hack saw, powered square shears, a hand brake and an electric furnace.

The Depot manufactured 100 spark plug:core testing fixtures, 300 elastic ties for inflation tubes (airship) and one tripod with hoist for installing and removing 3-blade variable pitch propellers on the new O-46 airplanes. The Depot overhauled a Marmon-Harrington, Type E-3 servicing truck sent here from Richards Field, Kansas City, Mo.

Major Michael G. Harbula and 2nd Lieut. Herman G. Portman, Jr., Air Reserve, arrived at Scott Field for two weeks' active duty with the 15th Observation Squadron.

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KEEPING FIT

Langley Field, Va.

The Military Police bat-wielders nosed out the Station Complement's soft ball aggregation on August 17th by a 5 to 4 score. The game was hard-fought throughout and was featured by a fast double play by Station Complement in the first inning and a homerun smash to right field in the last inning by Charles Hargis of the Station Complement, the only circuit drive of the game. The victory by the M.P.'s completed a three-game series. The M.P.'s won the first game, 5 to 6, and Station Complement won the second, 1 to 0. Batteries for the M.P.'s were Smith and Crabetz. For Station Complement, Smore pitched and was later relieved by his catcher, Adams; Hennesy then being on the receiving end.

Kelly Field, Texas:

Kelly and Randolph Fields, being tied in the Army League, indulged in a 3-game series to determine the championship. At Randolph Field, the home team won the first contest; then Kelly Field won the second on its home diamond. The third game was played at Duncan Field, where Randolph Field proved the superior team by taking the long end of a 10 to 7 score.

Scott Field, Ill.

A Tennis Meet for enlisted men was held during the afternoons from August 10th to 13th. Private Clement C. Mitchell, Jr., of the 15th Observation Squadron, won the singles eliminations over eight entries and received a fine tennis racquet as the prize. Private Robert A. Hall, of the Station Complement, the runner-up, was given a bronze medal. In the doubles, Corporals Charles E. Worthen, Jr., and Joseph Van Agtmael, both of the 9th Airship Squadron, topped three other doubles teams to win a tennis racquet apiece. The runners-up, Sergeant Clarence E. Ferguson and Private Russell A. Heim, both of the Medical Detachment, were presented bronze medals.

A swimming meet was scheduled for the evening of August 17th, with three classes of entries; the seniors, 17 years of age and up, including enlisted men and children of all post personnel; the juniors, from 12 to 16 years of age, and the beginners, children under 12 years of age.

An exhibition of diving and swimming was scheduled to be given by a 7-year old boy from Lawrenceville, Ill., this lad to be brought to Scott Field by his father to show the grown-

ups how swimming and diving should be done.

Although the boy, George Reasor, Jr., is not a professional performer, he is making early preparations for the Olympics. And in this direction he is doing things right by performing his diving and swimming according to A.A.U. rules.

Another golf meet for enlisted men was scheduled to be held on August 24th.

The first one of a monthly boxing tournament for enlisted men was scheduled to be held on August 28th.

A Track and Field Day is scheduled for Labor Day. It will be an inter-organization meet.

Chaplain James C. Bean, who with the assistance of the A & R Officer is sponsoring the athletic activities, has some sort of athletic competition planned for each week.

Clark Field, Pampanga, P.I.

Officers, ladies and enlisted men at Clark Field almost unanimously go in for bowling during the rainy season. The tropical rains having now started in earnest, enthusiasm is gathering momentum. Early season records show the officers' team averaging close to 800 per game, with indications of rapid improvement. The enlisted men's team shows possibilities of being really something to write home about, with the preliminary workouts hovering close to the thousand mark. Although the ladies are a bit more modest in their claims to fame, the pin boys are becoming deeply concerned over the number of "free" games turned in.

Brooks Field, Texas.

Refusing to be discouraged by the handicap of seven runs scored against them by the 12th Field Artillery nine in the first inning, the Brooks Field aggregation came back in their first turn at the bat and scored five. The Artillerymen then scored one in the second and four in the third, and called it a day, the airmen's pitcher, Villanueva, holding them scoreless during the remainder of the game.

With the score against them, 12 to 9, in the last half of the eighth inning, Brooks Field staged a four-run rally, their pitcher driving in the tying and winning runs with a double.

Brooks Field finished sixth in the Army League, being topped by Kelly and Randolph Fields, 9th Infantry, 15th Field Artillery and 23rd Infantry, The 12th Field Artillerymen finished seventh and Staff Troops, last.

TECHNICAL INFORMATION AND ENGINEERING NEWS

Air Corps Materiel Division

Photographic Laboratory Trailer and Transportable Photographic Laboratory Tent.

One experimental photographic laboratory trailer unit and one experimental transportable photographic laboratory tent have been sent to Camp Custer for test during the Sixth Corps Area Maneuvers. Each of these units is so designed and equipped to carry on completely the processing of aerial film and the making of such photographic prints as will be necessary for the satisfactory prosecution of Corps and Observation photography. Representatives of the Materiel Division accompanied these units to instruct personnel in the setting up and operation of this equipment.

Night Lighting Installations.

A representative of the Materiel Division returned August 11th from a visit to various Air Corps activities, which was made for the purpose of securing data for night lighting in-

stallations at those stations. The activities visited were Offutt, Hamilton, Hickam, Luke, Wheeler, Moffett, March, Biggs, Kelly, Duncan, Brooks and Randolph Fields. A report on this trip is being prepared.

Parachute Back Pad.

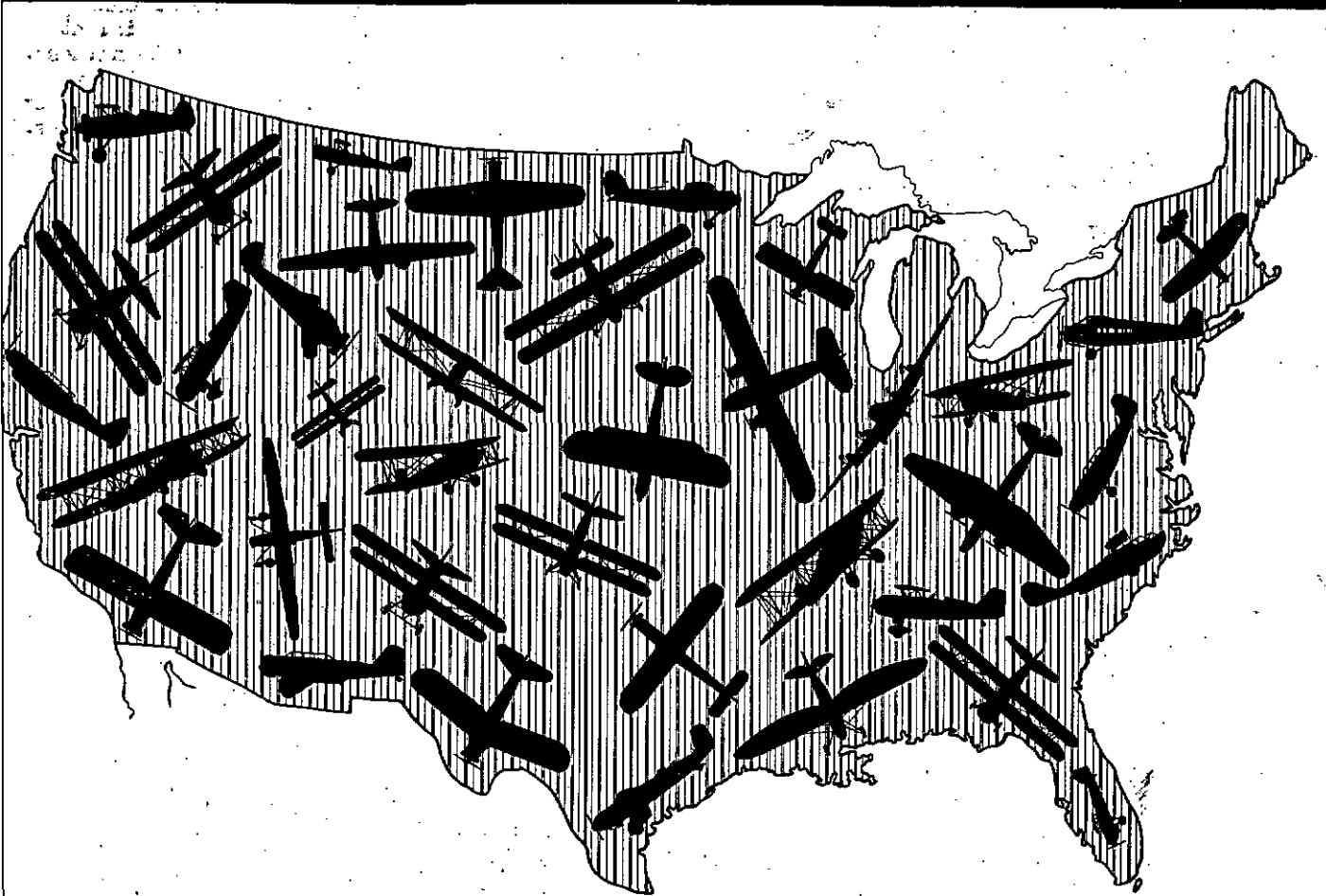
An Engineering Section Memorandum Report, prepared July 30, 1936, furnishes information for the service test of 100 rubberized hair parachute back pads. The pad is constructed of rubberized hair formed to fit the lower part of the back and is contained within a casing of cotton duck fabric which is of sufficient length for attachment to the parachute harness. Webbing tie tapes are provided at the lower end of the back pad casing and across the lower portion of the pad for securing to the harness. The top portion of the fabric is "V" shaped for attachment to the harness at the neck.

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NEWS LETTER

ISSUED BY THE OFFICE OF THE CHIEF OF THE AIR CORPS
WAR DEPARTMENT WASHINGTON, D. C.



THE NATIONS SHIELD "

Information Division
Air Corps

September 15, 1936

Munitions Building
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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AERONAUTICAL EXHIBIT AT GREAT LAKES EXPOSITION

By the Wright Field Correspondent

In 1796, General Cleveland's surveying party cut through the virgin forest in Ohio, where forty years later the settlers laid the foundation for the great city of Cleveland. Little did they realize that the vast area would in later years swarm with air-minded men who would welcome airplanes from all nations to one of the finest and largest airports in the world.

One hundred years after it was founded, this progressive city invited the States bordering on the Great Lakes, namely, New York, Pennsylvania, Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, and also the Dominion of Canada, to join in an exposition to celebrate the progress made during the past century. By joint resolution the Congress of the United States established a Commission, composed of the Secretary of State, the Secretary of Agriculture, and the Secretary of Commerce, to represent the United States Government in this Great Lakes Exposition. Under this Commission was created a Commissioner General for its administrator.

The progress in the field of aeronautics was to be included under the direction of the War Department. Exhibits were to be displayed by the Air Corps, the National Advisory Committee for Aeronautics, the Bureau of Air Commerce, the Navy Department and the Smithsonian Institute, in the Government section of the Hall of Progress.

The preparation and installation of exhibits were assigned to the Materiel Division by the Chief of the Air Corps, and the exhibits were arranged by personnel under the direction of Brigadier General A.W. Robins, Chief of Division.

We enter the Great Lakes Exposition through the main entrance on St. Clair Avenue, identified by its towering and impressive pylons. Here we pass through a section devoted to art, culture, education, and music. Then over the "Court of the Presidents," honoring the sixteen Presidents either born or elected from a Great Lakes State. Over this bridge which breathes the historic atmosphere of old medieval days, we enter Marine Plaza, a broad landscaped avenue which leads north to the lake. The vast automotive

building with its exhibits of the greater automotive industries is on the right. Nearer the lake is the Hall of Progress, a building in ultra-modern style of architecture, having no windows and ventilated by an unusual system of louvers.

In this huge and brightly colored structure is housed the United States government exhibit. We pass through the Erie side entrance and here in the spacious lobby of the Government section is the aeronautical display. The floor is inlaid with black composition tile, and around the edge of the lobby is a six-foot platform covered with a royal blue carpet which harmonizes with the blue gray walls. At the edge of the platform is a chromium rail which adds greatly to the artistic effect. The display cases have bases of finely finished walnut with plate glass tops.

The Air Corps exhibit is made up of specially selected items representing the very latest as well as some of the very earliest types of equipment used by the Air Corps. These items are arranged in groups to illustrate the progress made in various phases of military aeronautical development, viz: aerial photography, aerial navigation, aircraft bombs and machine guns, aircraft engines, propellers, wheels, and brake mechanisms, airplane and airdrome lighting equipment, aviator clothing and parachutes, several models of modern military airplanes, and two fully equipped Pursuit type airplanes.

The aircraft engine exhibit in particular includes four modern representative types of engines - Curtiss "Conqueror" V-1570-57 liquid-cooled, vee engine; the Pratt and Whitney "Hornet" R-1690-11, single row air-cooled radial engine; Pratt and Whitney "Twin Wasp" R-1535-7, two row air-cooled radial engine; and the Wright "Cyclone" R-1820-25 single row radial engine. Two sectionalized operative engines, the wartime Gnome Monosoupe rotary radial and the Wright J-5 static radial, of the type used by Lindbergh in his famous trans-Atlantic flight, are also on display. The latter engine is equipped with a mechanical synchronizer and machine gun arranged to fire through the propeller. A small electric lamp lights to indicate the bullet

V-7103, A.C.

leaving the muzzle.

Perhaps the most interesting of all the Air Corps exhibits is the diorama showing the Army system of instrument (blind) landing. This display is cleverly designed to show the actual landing of an airplane solely by the use of instruments and radio aids at an airport hidden by dense clouds representing fog, the path of approach and glide to the ground being realistically portrayed by a small model airplane in simulated flight. In this system the pilot employs a radio compass, an artificial horizon, and a directional gyro in conjunction with a marker beacon flasher on the instrument board to pick up the electric magnetic beams of two ground guiding stations in negotiating a "blind" landing without recourse to visual outside aid.

Another display of unusual interest is the Wright Brothers' propeller from the first United States Government airplane. This propeller, which was presented by General Foulois, is exhibited in the same case with the latest type of controllable pitch all-metal propeller now used on service aircraft.

The Air Corps exhibit includes two fully equipped modern service type airplanes, a single-seater Boeing P-26A Pursuit and a two-seater Consolidated PB-2A Pursuit. The latter airplane is equipped with a supercharged prestone-cooled engine and retractable landing gear. A special platform was erected to permit a close inspection of the cockpit of this airplane by the visiting public.

The principal item of interest in the exhibit furnished by the Bureau of Air Commerce, Department of Commerce, is a 36-inch rotating beacon of 1,500,000 candle power, the type used in the vast network of lighted commercial airways throughout the United States. This beacon was arranged to light and rotate by means of an electric eye whenever the control beam was intercepted by the hand of an interested visitor.

The Bureau of Aeronautics, Navy Department, exhibited a very interesting collection of enlarged photographs of several history-making and service type aircraft used in the carrier and patrol services.

The Smithsonian Institute, United States National Museum, provided a most interesting model display of early airplanes. This was flanked on either side by pictorial panels depicting natural flight and man's earliest conceptions of the flying art.

Up to the first of September, nearly two and one-half million people had visited the Exposition.

Six Reserve officers recently completed two weeks' active duty at Selfridge Field, Mich., viz: Major F.M. Showalter, Captains L.E. Arnold, Arthur J. Davis,

Lieuts. R.B. Kent, M.B. Skinner and J.F. Strickler, Jr.

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The annual Mitchel Trophy Race will be held at Selfridge Field, Mt. Clemens, Mich., on October 17th next. Committees to take charge of various features connected with this affair have been appointed, headed by Major Cornelius J. Kenney, General Chairman.

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AIR MINDED CITIZENS OF THE NORTHWEST

The 11th Bombardment Squadron recently returned to its home station, Hamilton Field, Calif., following the completion of its "Montana Flight." This flight took in the northwestern portion of the 1st Wing Area and, in addition to the airport and facility information obtained, there was evident throughout the entire flight a general air-mindedness of the people of the several States visited. The News Letter Correspondent states that it was extremely gratifying to encounter general good will towards the Air Corps as a whole.

The Governor of the State of Montana, Hon. Elmer Holt, and the people of that State outdid themselves in making the entire squadron feel welcome and in rendering assistance in every way possible. A banquet was given the squadron by Governor Holt and the Chamber of Commerce of Helena, Montana, which will be long remembered by all those fortunate enough to attend.

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RETIREMENT OF WARRANT OFFICERS

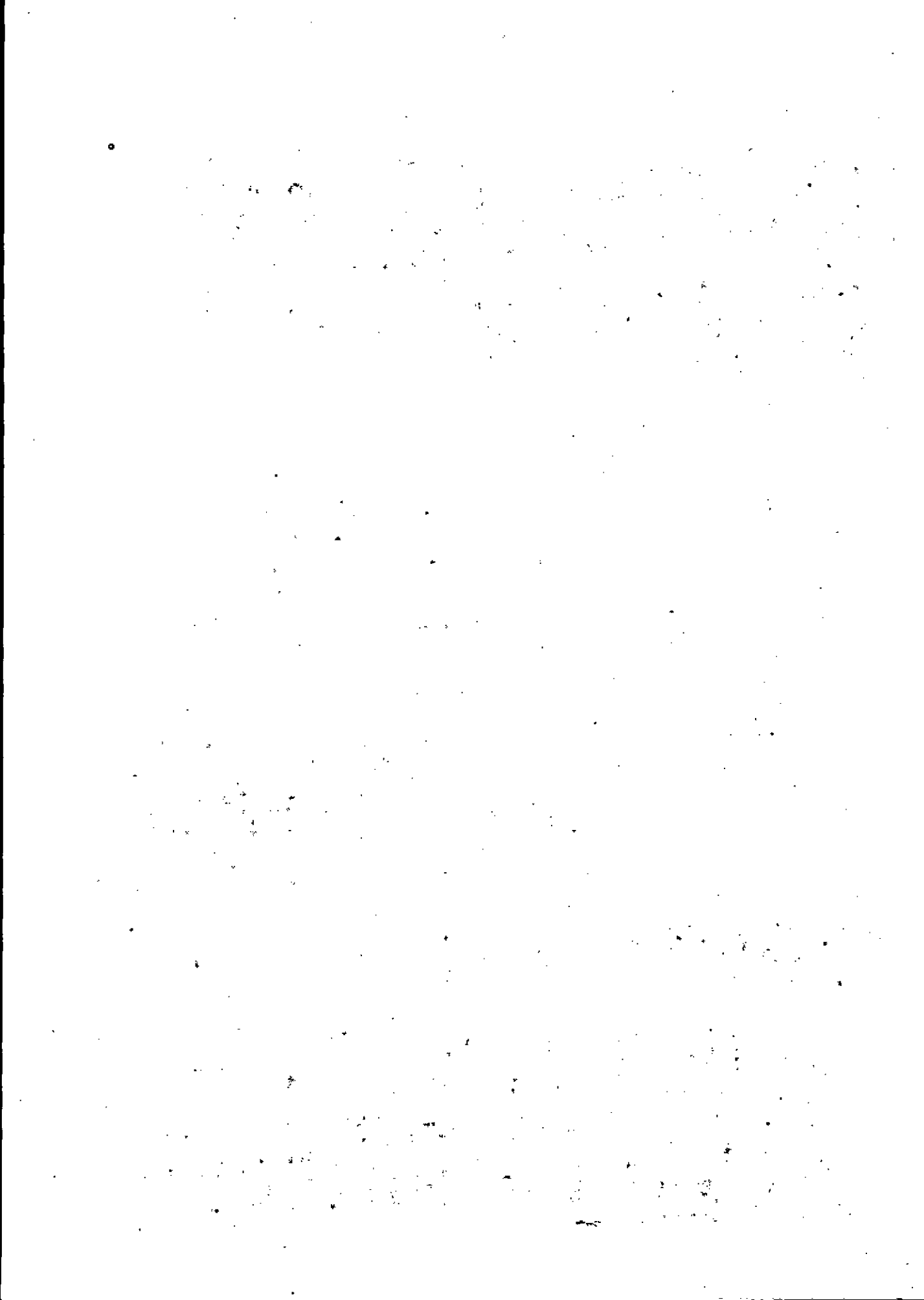
Three of the older and experienced Warrant Officers assigned to the Army Air Corps will be placed on the retired list within the next few months.

Warrant Officers Eugene Braig, of Langley Field, Va., will be retired in November; Michael J. Harley, of Wright Field, Ohio, in December, and Herbert G. Knight, of Selfridge Field, Mich., in January.

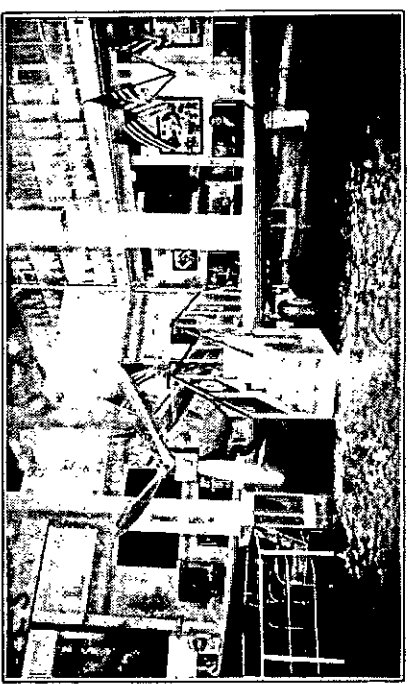
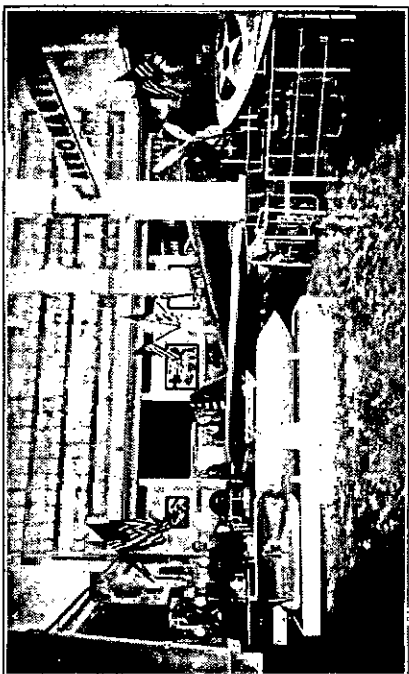
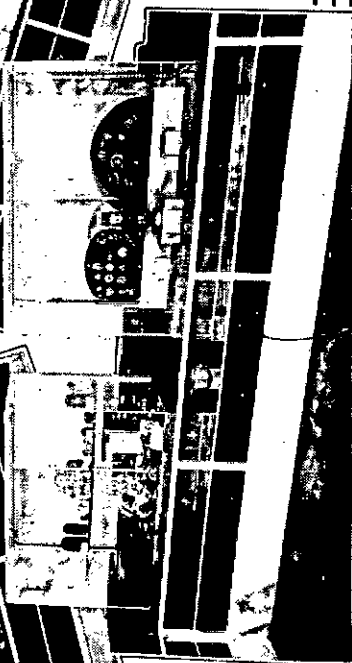
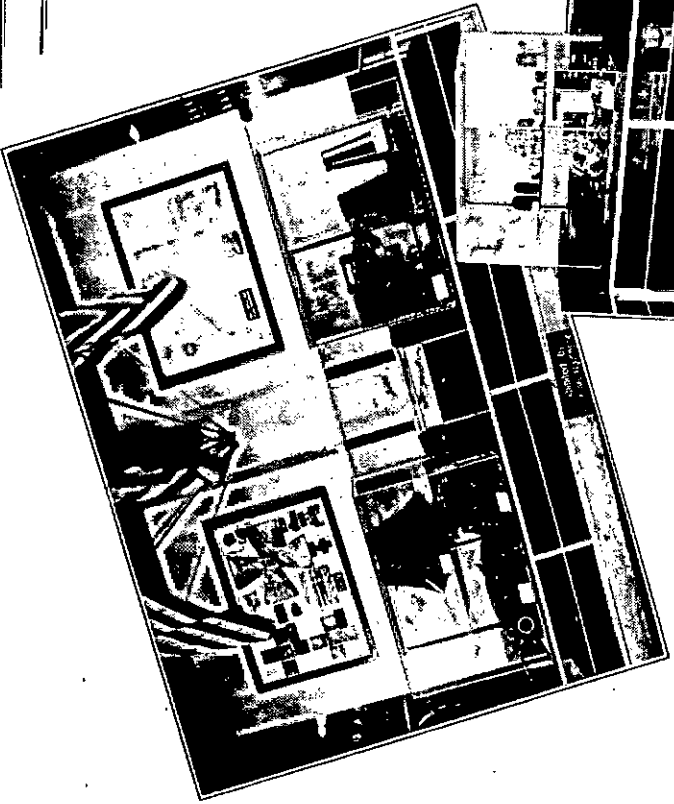
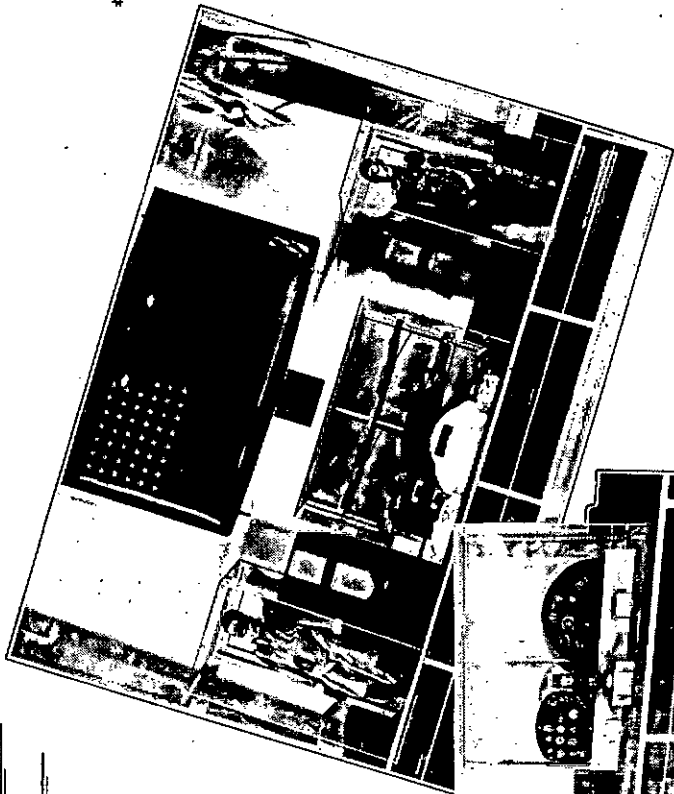
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Special Orders of the War Department recently issued announce the promotion of Captain (temporary Major) Edwin J. House to the permanent rank of Major, Air Corps, to date from September 1, 1936, and the appointment of Captain Bushrod Hoppin, Air Corps, to the temporary rank of Major from August 26, 1936.

Colonel Clarence L. Tinker, Air Corps, at present commanding the 7th Bombardment Group, Hamilton Field, San Rafael, Calif., is under orders to proceed to Washington, D.C., effective December 17th next, and report for duty in the National Guard Bureau.



AERONAUTICAL EXHIBIT AT GREAT LAKES EXPOSITION CLEVELAND, OHIO:



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AWAY from his desk for over a month, Major General Oscar Westover, Chief of the Air Corps, returned to Washington on the afternoon of August 27th, following the completion of a tour of inspection which embraced practically every Air Corps station in the continental limits of the United States. General Westover made the trip to the West Coast along the northern route by rail and returned along the southern route by air, ferrying homeward his new A-17 Attack plane which he obtained from the Northrop aircraft factory at Inglewood, Calif. He was accompanied on the flight by Staff Sergeant Samuel Hymes, of Bolling Field, who had previously been ordered to the Northrop plant to receive instruction on the operation and maintenance of this new type airplane.

During the course of his inspection trip, General Westover visited and inspected some of the foremost aircraft factories in the United States - the plants of the Bell Aircraft Corporation and the Curtiss Aeroplane and Motor Co. at Buffalo, New York; the Boeing Aircraft Company at Seattle, Wash.; the Lockheed Aircraft Corporation at Burbank, Calif.; the North American Co. and the Northrop Corporation at Inglewood, Calif.; the Douglas Aircraft Co. at Santa Monica, Calif., and the Consolidated Aircraft Co. at Glendale, Calif. He also inspected a number of proposed airport sites.

Leaving Washington on the evening of July 24th, General Westover arrived in Chicago on the evening of July 27th, making stops at Buffalo, N. Y., and Cleveland, Ohio. At the latter city he visited the Great Lakes Exposition grounds, where he was most pleased with the Air Corps Exhibit. At Chicago, he called at the Headquarters of the 6th Corps Area and conferred with the Commanding General, Major General Charles E. Kilbourne. Later, he inspected the office of the Air Corps Procurement Planning Representative.

At Omaha, Neb., on July 28th, General Westover had a conference at the Headquarters of the 7th Corps Area, and was a guest of the Chamber of Commerce at luncheon, during which he gave a short talk. In the afternoon he visited Fort Crook and Offutt Field.

On July 30th, at Cheyenne, Wyo., he visited the airport, conferred with the manager thereof, and inspected the hangar and maintenance shops. Later he called on Brigadier General Charles F. Humphrey, Jr., commanding Fort Francis E. Warren.

After inspecting the Ordnance Depot at Ogden, Utah, and an airport site, General Westover proceeded to Salt Lake

City, where he inspected the airport. Arriving at Spokane, Wash., on August 2nd, he met Colonel Clarence L. Tinker, Commanding Officer of Hamilton Field, Calif., and other members of his command, who had made a flight to that city. Following a visit to the Spokane Airport and a conference with the officer in charge, he departed for Seattle, Wash., and arrived there on the morning of August 3rd. At the Boeing Airport he conferred with Major John H. Gardner, in charge of Organized Reserves in that area. The latter stated that he had under him 38 active Reserve pilots, about half of which number are commercial airline pilots. Then followed a visit to the Boeing Aircraft Co. plant and a conference for several hours with officials of this company.

On August 4th, General Westover made trips to Port Townsend and Port Angeles, Wash., and the following day, upon his arrival at Tacoma, Wash., he had a conference with Brigadier General Casper H. Conrad, Jr., commanding Fort Lewis. Later he conferred with Major Floyd E. Galloway, Air Corps, commanding the 91st Observation Squadron at Fort Lewis, gave a talk to the officers under his command and inspected the lay-out of the flying field. He next visited the Tacoma Airport.

During the next four days, August 6th to 9th, inclusive, General Westover divided his time between Vancouver Barracks and Portland. He had a conference at the office of the Spruce Production Corporation; inspected Spruce Production Corporation properties; made official calls on the Commanding General and the Finance Officer at Vancouver Barracks, and inspected Pearson Field, the Air Corps landing field at that post.

Enroute to San Francisco on August 10th, he made a stop at Sacramento, Calif., to confer with the Construction Quartermaster and officials of the Chamber of Commerce. On August 11th, after calling at the Headquarters of the 9th Corps Area at the Presidio of San Francisco, and meeting Colonel Henry B. Clagett, on temporary duty there as Air Officer, he proceeded to Moffett Field, Sunnyvale, Calif., inspected that station and the Reserve training activities thereat. In the afternoon he inspected the Oakland Airport. On the following day, accompanied by Colonel Clagett, he visited Hamilton Field, San Rafael, Calif.; conferred with the Commanding Officer, Col. C. L. Tinker; inspected the post and quarters, and then gave a talk to all the officers of the field. Later he had a conference for several hours with Brigadier General Henry H. Arnold, Assistant Chief of the Air Corps, who had just arrived by air from Washington. Returning to San Francisco in the after-

noon, he called on the commander of the 9th Corps Area, Major General George S. Simonds.

Arriving at Los Angeles on the morning of August 13th, General Westover spent several days in that city and its vicinity inspecting aircraft factories. After receiving instructions regarding certain instruments in the A-17, the Army's new Attack plane, he made a 40-minute flight with Captain Edward M. Robbins, Air Corps representative at the Northrop plant, as passenger, and expressed himself as much pleased with its "handling" qualities. Shortly afterwards, he flew a BT-9, equipped with a "Wasp" engine. General Westover was enthusiastic regarding the performance of this basic training plane, finding it delightful to fly, easy to climb and easy to land. Flying for about half an hour, he maneuvered it freely in tight circles and spirals, steep wing-overs, steep dives and climbs. He characterized it as a good, speedy, all-purpose training plane.

Taking off with Sergeant Hymes in the A-17 on the morning of August 17th, General Westover landed at March Field, Riverside, Calif., after a 40-minute flight; had a conference with Brigadier Generals Delos C. Emmons, Gerald C. Brant and Colonel John H. Pirie; addressed the officers of the post and inspected the general lay-out of the field.

On the following day, after a 40-minute flight from March Field, he landed at Long Beach, Calif., and after a brief inspection departed for San Diego, landing at Lindbergh Field. After inspecting the plant of the Consolidated Aircraft Corporation, he proceeded to Rockwell Field, inspected the Rockwell Air Depot and then called on Naval officers at that field.

At 8:45 a.m., August 19th, General Westover started on his eastward flight. Just prior to that time he gave a talk to the officers of the Rockwell Air Depot. Going up through a low ceiling, he found clear conditions to Tucson, Arizona, where he arrived at 11:15 a.m. After a brief delay, during which Sergeant Hymes checked the oil consumption, the General departed at 1:20 p.m., Mountain Time, for El Paso, Texas, dodging thunder storms enroute, and arrived at 3:10 p.m. Here he conferred with Major William L. Boyd, Air Corps, on duty at Biggs Field.

Taking off from Biggs Field on the morning of August 20th, at 6:10 Mountain Time, General Westover climbed to an altitude of 15,000 feet and headed for Randolph Field, Texas, where he arrived at 10:40 a.m., Central Time. After inspecting the Primary and Basic Stages of the Primary Flying School, and the School of Aviation Medicine, he flew to the San Antonio Air Depot at Duncan Field and inspected all the activities thereat. He then returned to Randolph Field. That

night he was an interested spectator of the night flying operations at the Primary School.

Motoring to Kelly Field early the following morning, General Westover gave a talk to all the officers and then made an inspection of the post, accompanied by General James E. Chaney, Colonel Arnold A. Krogstad and Roy M. Jones. Arriving at Brooks Field, Texas, at 10:40 a.m., he inspected the Station Complex, barracks, etc., and found conditions excellent. He next inspected the post in general, and at noon called at the Headquarters of the 8th Corps Area at Fort Sam Houston. Following his return to Randolph Field, he talked to all the officers of the field for about half an hour and then conferred with General Chaney, Colonel Henry W. Harms and Major Aubrey C. Strickland on training policies.

On August 22nd, after reviewing the cadet battalion at Randolph Field, inspecting the cadet companies, barracks, mess, supply, and recreation facilities, the 67th Service Squadron, the 47th School Squadron, engineering shops, ground school hangar and assembly hangar, General Westover took off at 12:10 p.m. for Fort Sill, Okla., arrived there at 2:35 p.m.; inspected that post; left for Hensley Field, Dallas, Texas; arrived there at 5:00 p.m., and made an inspection. On the following day at 9:05 a.m., he took off for Shreveport, La.; landed at Barksdale Field at 10:55 a.m.; inspected the post in company with Lieut. Colonels Millard F. Harmon and Earl L. Naiden, and took off at 11:55 a.m. for Maxwell Field, Ala. Flying through rainy weather and dodging several thunder storms, he arrived at Maxwell Field at 2:55 p.m., and was met by Colonel Arthur G. Fisher, Commanding Officer, and Capt. Ray L. Owens.

Following an inspection of the gunnery camp at Valparaiso, Fla., the next day; proceeding to Fort Benning, Ga., and inspecting the flying field, the new hangar and other facilities, also the administration building and the school building of the Infantry School, General Westover took off for Atlanta, Ga., at 5:35 p.m. Early the next morning he took off for Miami, Fla., and, after a 4-hour flight, landed at the Navy field, finding, after circling the Municipal Field, that it contained various obstructions incident to repair work thereon. Completing the inspection of Chapman Field, Miami, he returned to Atlanta, after a flight of 3 hours and 50 minutes; and called on Major General George Van Horn Moseley, commander of the 4th Corps Area. The next day, in company with General Moseley, he inspected Candler Field, and at 3:00 p.m. took off for Pope Field, Fort Bragg, N.C., where he inspected Flight C of the 16th Observation Squadron, the lighter-than-air han-

gar and the officers' quarters.

The last day of General Westover's inspection tour was probably the busiest one of his entire trip. After inspecting the lighter-than-air activities at Pope Field, the balloon hangar and barracks, and viewing the entire Fort Bragg Reservation in company with Brigadier General Manus McCloskey, the post commander, he took off at 8:45 a.m. for Langley Field, Va., and arrived there in one hour and 35 minutes. He was met by

General Frank M. Andrews, Commanding General of the GHQ Air Force; Colonel Walter R. Weaver, and all officers of the Base Force. After a conference with officers of the Air Force Staff, with whom there were at that time present Lieut. Colonels Oliver P. Echols from the Materiel Division and Gerald E. Brower, from the Office of the Chief of the Air Corps, he took off at 1:15 p.m. for Bolling Field and made the trip in 55 minutes, landing at 2:00 p.m.

RESERVE TRAINING ACTIVITIES AT LONG BEACH, CALIF.

The Air Corps Detachment stationed at the Municipal Airport at Long Beach, Calif., concluded in July one of the most unusual months. On the tenth of that month, Captain Pardoe Martin, Air Corps, reported for duty from Washington, D. C., relieving Captain John K. Nissley, Air Corps, who was in command of the station for the past four years and who was ordered to duty as a student at the Air Corps Tactical School at Maxwell Field, Montgomery, Ala.

Upon assuming command, Captain Martin found himself very busy making preparation for the Summer Training Camp, which opened on July 19th. Of the nine airplanes available at the airport, eight were PT-3A's and one an O-19B. These were augmented by one O-19B and two PT-3's from the Air Corps Detachment at Lindbergh Field, San Diego. The camp opened with one Medical Reserve Flight Surgeon, 43 Air Corps Reserve officers assigned to the 479th Pursuit Squadron, and 10 Air Corps Reserve officers assigned to the 514th Observation Squadron, all of them reporting for 14 days' active duty. First Lieut. Walter W. Gross, Air Corps, Unit Instructor for the 514th Observation Squadron, was ordered to Long Beach for temporary duty to assist Captain Martin in carrying out this training.

Due to the large number of officers reporting for this training and the shortage of equipment, the officers were organized into a Composite Group consisting of two squadrons, "A" and "B", of two flights each. Intensive training was carried out by the squadrons, consisting of Observation, Bombardment, Attack and Pursuit missions, in addition to ground school and various duties each officer was assigned to perform.

Luncheon was served on July 23rd, in honor of Colonel Halsey E. Yates, Infantry, Executive Officer, First Reserve District, in charge of all the Reserves in Southern California, in the Officers' Club, which was attended by the Mayor of the City of Long Beach, the entire City Council and the Aviation Commission.

On July 25th, Squadron "A" performed a cross-country mission to San Diego and return, landing at Lindbergh Field and

visiting the San Diego Fair. On July 26th, Squadron "B" performed the same mission. The entire day of July 31st was devoted to Chemical Warfare training, which was given by the Chemical Warfare Officer, 63rd Coast Artillery, from Fort MacArthur.

On the evening of the 31st, a "Washout Dance" was given in the Officers' Club at the Army Air Base, which was attended by the officers in camp and their families, the honor guests being the newly appointed Unit Instructor, Captain Pardoe Martin, and Mrs. Martin.

FOREIGN OFFICERS INSPECT SELFRIDGE FIELD

During August, Selfridge Field, the station of the 1st Pursuit Group, was visited by two prominent foreign officers. A brief official visit was paid by Lieutenant General Frederick von Boettinger of the German Army, Military and Air Attache stationed in Washington. After an inspection of post activities, the General was guest of honor at a luncheon at the Officers' Club, at which Colonel Royce and his staff were present.

Commandant Norbert Champsaur, the French Attache for Air, visited Selfridge Field enroute to the Second Army Maneuvers as an official observer. He also inspected the post. Both officers expressed enthusiasm over the appearance of the post and its equipment.

According to the latest issue of the Air Commerce Bulletin, published by the Bureau of Air Commerce, Department of Commerce, there were in the United States, as of August 1, 1936, 750 municipal airports, 495 commercial airports, 289 Department of Commerce intermediate fields, 63 Army airdromes, 26 Naval air stations (including Marine and Coast Guard), 43 State-operated fields, 651 marked auxiliary fields, 64 private fields, and 25 fields for miscellaneous government activities, total 2,406. Airports and landing fields having any night-lighting equipment numbered 699, viz: Municipal, 252; Commercial, 96; Intermediate, 279; Army, 31; Navy, 13; State, 9; Auxiliary, 10; private, 9.

REOPENING OF SCHOOL TERM AT AIR CORPS TECHNICAL SCHOOL

On August 31st, the Air Corps Technical School at Chamute Field, Rantoul, Ill., reopened after the prescribed summer vacation during the months of July and August.

During the vacation period, the Department of Mechanics was the scene of intense activities for School personnel. Buildings were repainted inside and out; new class rooms and offices were arranged, and the school equipment in general was given a complete overhauling. This period was also utilized by divisional chiefs and instructors in revising and bringing up to date all texts and pamphlets in order to afford the incoming students the latest technical information in each particular subject.

The Chief Instructor, Mr. O. J. Moors, and Senior Instructors, Messrs. W. E. Browning (Airplanes) and W. H. Jackson (Engines), spent ten days each at Wright Field, Dayton, Ohio, during August, for the purpose of familiarizing themselves with the latest engineering developments.

Mr. C. O. Hobson, Instructor in the Instrument Branch, has just completed a special course of instruction on the Automatic Pilot and, after visiting the Sperry Pioneer and Kolsman factories, is prepared to instruct in the latest developments on the subject of Instruments.

Under the new schedules which became effective with the reopening of school on August 31st, the Department of Mechanics will conduct the following courses for enlisted men for the duration specified:

Airplane Mechanics - forty weeks.
Aircraft Machinists - twenty-eight weeks.

Aircraft Welders and Sheet Metal Workers, - thirty-two weeks.

Parachute Riggers - eight weeks.

In addition, a course for officers in the subject of Airplane Maintenance Engineering, which is a composite of all courses given enlisted men, is conducted annually and is of ten months' duration.

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BOMBING TESTS BY 7TH BOMBARDMENT GROUP AT MUROC, CALIF.

Eighteen planes of the 7th Bombardment Group, under the command of Lieut. Col. C. L. Tinker, left their home station, Hamilton Field, Calif., on August 19th, and arrived at March Field three hours later. There, the 19th Group was consolidated into the 32nd Bombardment Squadron and attached to the 7th Group to form one unit of three 9-plane squadrons.

The 7th Bombardment Group then conducted exhaustive tests of different methods of bombing an oblong target, etched on the alkali bed of Muroc Dry Lake, August 19th - 22nd. These tests were the first to be conducted under the new Wing Commander, Brigadier-General Delos C. Emmons.

The first mission, on August 20th, was merely introductory to familiarize bombers with the target, terrain, and their own bomb sights. During this mission, individual bombing was conducted by flight and squadron leaders.

That afternoon, bombs were dropped individually in squadron salvo, all sighting being conducted by the leading plane. Airplanes were in a stepped-down javelin formation, the wing men of the center element spaced out to give an oval pattern. In this phase nine bombs were dropped on each run. The first mission on the following day was similar to the one above, except that three bombs were dropped in train from each airplane, giving 27 bombs with a larger pattern. Simulated bombing of a moving target was conducted on the afternoon of August 21st and on the morning of the 22nd. Three trucks at 150 feet intervals represented a target moving at thirty knots. Sighting was done on this target both individually and by flights, with the

trucks moving on both simous and irregular courses. Each bombardier then "called" his shot, taking into consideration all possible sources of error.

It is noteworthy that the tests were conducted under as bad conditions as it would ever be encountered. The target was as small (300 by 30 ft.) as bombardment probably would ever be called on to destroy, and it was difficult to spot on the glaring desert. Bombs were dropped from 12,000 feet above the target at the cruising speed of the B-12, a strong quartering tail wind prevailing at that altitude. In spite of this, the target was within the pattern of the bombs on every mission.

These tests proved that with electric dropping mechanism, it is no longer true that the bombs from the rear planes will fall in front of those dropped from the leading plane. The pattern from the stepped-down formation was almost exactly the same size as the formation itself, with the bombs in the same order and not reversing. Squadron bombardiers found it necessary to aim ahead of the center of the target, which brought the center of impact of all bombs close to the center of the target.

One sidelight of the trip should settle the photograph vs. plotting controversy. After each run, the hits were plotted by triangulation from the craters, and each run was photographed both obliquely from low altitudes and vertically from the Bombardment airplanes. However, results are not now known.

After a Wing dinner on Saturday night, August 22nd, the 7th Group left March (Continued on Page 16).

NEW NINE-LENS AERIAL CAMERA

This nine-lens aerial camera was designed by the Coast and Geodetic Survey for increasing the accuracy and efficiency with which the photographing of charts can be accomplished. The camera takes nine separate photographs on one film 23 inches wide. The nine negatives are later projected on to a single sheet of paper to form a composite photograph 35 inches square. These photographs replace from 6 to 20 photographs made with single cameras.

Although the camera was designed and built with funds allotted the Coast and Geodetic Survey, it is really a cooperative product. The Fairchild Aerial Camera Corporation constructed the camera, and the lenses and mirrors were tested by the National Bureau of Standards. The Air Corps will test the camera at Wright Field, and its value for military mapping purposes will be determined by the Engineer Detachment.

Scientifically, the camera is of interest in the use of special stainless steel mirrors which are secured to a cone of similar billet of metal. This metal was selected after numerous tests at the National Bureau of Standards.

The National Bureau of Standards wanted to obtain a suitable metal which would have a constant coefficient of thermal expansion, since all of the optical elements are secured to a single billet of metal.

It is so designed that the large range of temperatures encountered in aerial photography will not change the optical adjustments of the numerous parts. The 8 lenses are arranged symmetrically around the center lens. The sizes and focal lengths of all the lenses are identical so that they can register the images on a single sheet of film. The 8 outer lenses have their objects reflected through an angle of 38 degrees outward so that a total field of 130 degrees square is photographed by the camera. With the bombing airplane from which the photographs were taken it is possible to photograph an area of about 600 square miles in a single exposure.

Nearly two years have been required for the design and construction of the camera. Many new features entailed additional research in production methods as the construction was started. The camera is entirely automatic in operation. It has an automatic sight with a grid in the field of view, whose motion has been kept in step with the image on the ground. The image is driven through the sight. The series of grid lines are also driven by electric mechanism. The size of the film is 23 inches wide and 200 feet long, sufficient for one hundred exposures. The camera can be reloaded in the air, although one film is usually sufficient to photograph for

four hours continuously.

The contract price for the camera is \$24,350. That, of course, does not include the salaries of the men connected with the finishing work. An amount of \$35,000 would be a conservative estimate for the camera and the finishing work in detail.

The weight of the camera is 305 pounds. It is proposed by the Air Corps to equip a Martin Bomber with the camera. Measurements correspond to the use of a steel tape instead of a yard stick, which takes care of a greater area, making only one measurement instead of twenty.

The type of lens used has been very carefully selected, although there are several types of lens that could be used. The ones used happen to be English. They have to be uniform.

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17TH ATTACKERS FLY NON-STOP TO KELLY

Streaking across the southern part of the United States like migratory swallows, five Attack planes from March Field, Riverside, Calif., flew to Kelly Field, San Antonio, Texas, on August 21st in seven hours and 45 minutes. According to the News Letter Correspondent, a new record for long distance non-stop flying for March Field was thus established. The five planes of the 73rd Attack Squadron, led by Major Louie C. Mallory, departed from March Field at 7:00 a.m. and landed at San Antonio at 2:45 p.m., Pacific Time. An average of 148.2 miles per hour was reported for the trip.

The pilots on this trip, in addition to Major Mallory, were Lieuts. Frederic C. Gray, Robert G. Polhemus, William Q. Q. Rankin and George H. Shafer. The mechanics were Sergeants Thomas J. Bullock, Richard Malone, Wilbur Booher and Corporal Thomas B. McIlhenny. The rear cockpit of Lieut. Polhemus' plane was empty until San Antonio was reached, but Lieut. David B. Kuhn, of the 73rd, occupied it on the return trip.

On their return from the gruelling test flight, the five pilots reported that they had experienced no unusual fatigue. In their words, it was just routine flying with no amusing incidents to brighten it up.

The Northrop Attack planes recently assigned to the Squadron on their arrival from the Inglewood factory were used in the flight. The pilots reported that the planes stood up satisfactorily. The return flight was made August 23rd, via El Paso, Texas.

The above supplements the item on this flight in the last issue of the News Letter and makes correction as to the duration of the flight and speed attained.

THE HURRICANE AT VALPARAISO, FLA.

An account of the hurricane which struck the Air Corps bombing and gunnery range at Valparaiso, Florida, and vicinity on the night of July 30-31, was recently submitted by Captain Arnold H. Rich, Air Corps, in command of this base. For over 24 hours the Air Corps radio station at the gunnery range was the only medium through which many civilians as well as army personnel could be informed as to the welfare of hundreds of visitors who were at the shore at that time.

In his report, Captain Rich states that frequent reports of a tropical disturbance centering west of Cedar Keys, Fla., and south of Apalachicola, Fla., were received on July 28th and 29th. No great concern was felt on those dates for the Valparaiso area. At about 11:00 a.m., on July 30th, reports were received which would indicate that the tropical disturbance was moving slowly to the northwest and was expected to strike between Pensacola and Apalachicola, Fla. Further reports were that the center should strike the coast about 8:00 p.m., in the vicinity of Pensacola. At noon that day, Col. Arthur G. Fisher, Commanding Officer of Maxwell Field, Ala., directed Captain Rich to proceed to Valparaiso and prepare the Bombing and Gunnery Base there for eventualities. Piloted by 1st Lieut. Carl R. Storrie, Captain Rich arrived at Valparaiso about 2:00 p.m., and found weather conditions good at that time, but there was a gusty wind from the northeast and the barometer was falling slowly. Lieut. Storrie returned his airplane to Maxwell Field.

The noncommissioned officer staff on duty at the Bombing and Gunnery Base was assembled and instructions issued as to action to be taken. Due to a half-day schedule, some of the enlisted personnel were absent with permission, leaving a reduced force to prepare for the disturbance. Radio reports received at this time indicated that the storm was moving to the northwest and would strike in the Panama City-Pensacola area about midnight if its course remained unaltered.

Suitable details were organized for the evacuation of the personnel quartered in tents to permanent buildings and the preparation of permanent buildings for the worst. It was realized that the safety of the station personnel and any refugees would depend upon the survival of the barracks and the mess hall. Both of these buildings were new and of exceptionally strong construction. It was decided, however, that 2" x 6" bracings be placed at six-foot intervals along the sides and ends of the buildings, and a suitable detail commenced this work.

The supply section was instructed to assemble two rescue kits to be placed in four-wheel drive trucks. The kits were

to be composed of the following: 1 air craft rescue kit; one 2-man cross cut saw; two axes, two shovels, one crow bar, two jacks, two lanterns, two flashlights, ropes, chains, first aid packets, etc. Staff Sergeant Clifton P. Smith, A.C.O., in charge of transportation and supplies, was placed in charge of the rescue squads and equipment. A first aid station was established in the mess hall. During the period of preparation the intensity of the wind continued to increase and the barometer to fall.

It was noted that the detail reinforcing the buildings could not make the desired progress, so instructions were given to the detail on the tents to drop the center poles, anchoring the tents inside of the frames with the center poles and to secure all loose doors and corners, and upon completion of this report to Master Sergeant Lunday who was in charge of preparing the buildings. At 5:00 p.m. the wind was from the north-east, 40 to 60 miles per hour. It was gusty and raining, making working conditions difficult.

Inspection of the boat house and boats was made. Corporal Nash, NCO in charge of boats, was given extra personnel and made all the necessary preparations. The rescue boats, P-9 and V-15, were anchored in the best protected bay, as were all privately owned water craft. Very little reinforcing could be done to the boat house. All small boats and equipment were secured.

It was decided not to evacuate the caretakers from White Point until later. However, they were evacuated about 12:00 midnight and brought to the field by one of the rescue squads, who found going very difficult due to the heavy rain, high winds and fallen trees.

By 8:00 p.m., all buildings had been braced to such extent as was possible with the available material and personnel. The barometer continued to fall. The wind rose to 50-70 miles per hour and it was raining very heavily. It was felt that an attempt to remove the canvas from the frames of the tents would prove futile and would endanger the lives of the personnel, as a few trees had blown down and electrical service was intermittent. All personnel were ordered into the mess hall and barracks, staff personnel excepted. Orders were issued that no personnel would leave the buildings except under orders. The cook prepared coffee and the majority of the enlisted men were given an opportunity to secure needed rest and dry clothing.

During the whole period, Radio Operator Private Bertrand D. Johnson had been on the alert and was contacting every possible source of information and transmitting reports on the conditions in the Valparaiso area. His task was extremely

difficult, due to the intermittent electrical service, static, unsuitability of equipment and general weather conditions. The antenna pole and flag pole had been braced and weathered the high winds. One antenna, however, was blown down and had to be replaced. Radio Operator Johnson contacted Mr. J. Long, an amateur radio enthusiast and operator residing in Valparaiso. They cooperated in the transmission and receipt of information. Contact was maintained with Fort Barrancas and the Naval Station until they went off the air. No information could be received from the east, but all other reports indicated, at 12:00 midnight, that the center of the disturbance was moving on the Valparaiso-Fort Walton area. The wind was still from about ten degrees north of east and was estimated at from 60 to 80 miles per hour. At this time it was raining so hard that it was nearly impossible to see over 50 feet.

Frequent inspections were made of the camp area and the personnel turned out to remove fallen trees from buildings and electrical wires. Inspections were also made of the boat house and personnel evacuated from there, as the building was shaking and rocking badly. Inspection of the Valparaiso area and town was made as frequently as possible, so that aid could be rendered if found necessary.

At about 12:00 midnight, it was found that additional stripping would be required if the roofs and roofing were to be saved on the buildings. Necessary personnel were turned out. Private, 1st Class, Fred Hobbs, and Private Charles A. Winters volunteered to attempt to make repairs on the roofs, and materials were passed up to them. They accomplished repairs where necessary at great risk to themselves. At 2:00 a.m., it was readily seen that the center of the disturbance was very close. Repeated inspections indicated that the barracks and mess hall would stand a terrific wind, as no movement could be discovered.

The headquarters building required further bracing at this time, as movement was being felt. All personnel, except Master Sergeant Lunday, Private, 1st Class, Milburn, and the radio operator, Private Johnson, were ordered into the barracks. Refugees present were the family of Master Sergeant Lunday and Mr. Knipper of the W.P.A.

At this time the electrical power supply failed, and Radio Operator Johnson was unable to receive. He continued, however, to broadcast on the half-hour.

Inspection of quarters showed that most of the personnel were resting and no great apprehension felt on their part. At 4:00 a.m., the barometer began dropping very rapidly and the wind increased to 80-90 miles per hour. Shortly thereafter, the barometer dropped very sharply and the full force of the hurricane

was on. Estimates placed the wind velocity in excess of 100 miles per hour. These estimates were later confirmed as being correct. All personnel remained under cover, except those making inspections and repairs. The velocity of the wind remained at approximately 100 miles per hour until 7:00 a.m., when it started to decrease, and by 8:00 a.m. a full lull was experienced. All personnel were turned out to make repairs in preparation for the counter blow.

The lull lasted until about 9:30 a.m., when the wind shifted to the south and it started raining. By 10:00 a.m., the wind was in the southwest and estimated at from 80 to 90 miles per hour. The counter blow was not as intense as the front area of the disturbance, and by 12:00 noon it was realized that the worst was over.

A 5:45 a.m., a survey was made in preparation for an attempt to remove to the field the family of Lieut. Hugh Fite who were vacationing at Postl's camp, 1 1/2 miles to the east of the field and located on a very exposed point. This site was approachable only by a sand trail and through badly timbered country. The survey indicated that the road was blocked by fallen trees and that trees were continuing to fall. A rescue squad properly equipped proceeded to Postl's camp and arrived there about 6:30 a.m. at the height of the storm. Mrs. Fite, her three children, and five other civilians were evacuated. Lieut. Fite's family remained at the field and the civilians, at their own request, proceeded to Valparaiso, Fla. Fortunately, the force of the storm decreased shortly after the return trip was started, and by the time the field was reached a near calm existed. Staff Sergeant Smith, Private, 1st Class, Milburn and Private Ray were the enlisted men who volunteered to compose the rescue squad.

By 11:00 a.m., the counter blow was on in full force, and all personnel were directed to remain under cover, inspection personnel excepted. Inspection of the boat house showed it to be in good condition. The boats could only be seen in the distance, having been blown from their anchorage, and both appeared to be on shore. All privately owned boats, except one, were either ashore or sinking.

Valparaiso was inspected and no serious damage or injury discovered. At 12:00 noon, the worst of the storm was over, and the wind had subsided to about 40 miles per hour. The barometer was rising rapidly. At 1:00 p.m., all precautionary instructions as to personnel were removed. At 2:00 p.m., a rapid survey was made, and another at 5:00 p.m. Results were as follows: Rescue boat P-9 on shore; rescue boat V-15 afloat and undamaged; barracks, mess hall, latrine, garage, boat house and storage

buildings were in good condition, except for minor damages to roofs. Tents and tent frames were blown from foundations and canvas damaged to an undetermined extent. All other equipment was in good condition, slight water damage excepted. At White Point, it was found that two

new frames for buildings had been blown down; all other new construction was in good condition. All old construction was in good condition, roofs excepted. Repairs were commenced without delay and personnel moved back into proper quarters and tents.

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VALUABLE SERVICE BY MAXWELL FIELD RADIO PERSONNEL

For a day or two before July 30, 1936, newspaper readers of Alabama and Florida had been following a hurricane in the Gulf of Mexico. At about noon of that day it became certain that the storm would strike the shore in the vicinity of Maxwell Field's Bombing and Gunnery Base at Valparaiso, Florida.

Radio transmitting and receiving station WM-6 is operated at the Base for communication with Maxwell Field's Communications Section, Station BB-1.

Both of these stations went permanently "on the alert" at 1:00 p.m., July 30th, when it became obvious to the Commanding Officer of the Base that the hurricane was going to strike within the next few hours.

The center of the storm did not hit until about ten o'clock on the morning of July 31st. The center of the hurricane passed about over Valparaiso, levelling small wooden buildings, boat houses, tents and similar structures. All telephone and telegraph lines in the vicinity came down, and most of the roads were rendered impassable by debris.

Persons in and around Valparaiso soon learned that the only means available to contact any outside point was by utilizing the army radio station at the Bombing and Gunnery Base. Upon being advised of the situation, Colonel Arthur G. Fisher, Air Corps, Commanding Officer of Maxwell Field, authorized the transmission of messages connected with hurricane reports during the time while the commercial communication companies were not functioning in that vicinity.

Fortunately, no lives were lost or serious injuries sustained by persons on shore. It is understood that one or two small fishing boats caught out in the Bay and Gulf were lost with several persons aboard.

Naturally, great anxiety was felt by Alabama citizens and others having relatives and friends in the hurricane area, and many messages were received from the Base for addresses in Alabama and neighboring States. These messages were relayed by telephone to Montgomery, to the newspapers and to the commercial telegraph companies.

Both radio stations remained constantly on the alert and maintained communication until 4:00 p.m., Saturday, August 1st, at which time all messages had been cleared and there was no further necessity for emergency operation. It was

notable that there was a period of only ten minutes during the emergency when the Base radio station was out of commission, due to power troubles. The Maxwell Field station operated throughout the period. Atmospheric caused great interference during a major part of the operation.

In a casual examination of the many messages handled it was interesting to note that one was relayed to Benzonia, Mich., and one to Xenia, Ohio. While no loss of life or injuries were involved, the mental relief afforded thousands of persons is incalculable.

The radio operators, Privates Bertram D. Johnson and George M. Belesky, remained at their post of duty with hardly any rest during the entire period of emergency operation. The radio set is located inside a small temporary wooden building, and they were constantly in danger of death or injury during the blow.

Privates Foyl Beasley and Douglas D. Moore, both of the 51st Attack Squadron, Maxwell Field, likewise remained on duty equally conscientiously, although they were not exposed to danger from the elements.

A letter to the Commanding Officer of Maxwell Field from a Birmingham, Ala., attorney, who was at Valparaiso, Fla., on the night of the hurricane, commended most highly the services of Privates Johnson and Moore which proved of incalculable benefit to the many people in distress, and in conclusion stated: "As a citizen I am glad to know that men with such ability and devotion to duty are engaged in the public service."

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SELFRIDGE FIELD BECOMES LONESOME

"With the completion of the Second Army Maneuvers, Selfridge Field has the appearance of a partially deserted camp," says the News Letter Correspondent, and he then adds: "The 18 visiting Bombers from Langley and 9 Attack ships from Barksdale have departed, together with their attendant personnel, leaving us with pleasant memories of the association. Not only were the maneuvers valuable from our standpoint tactically, but we were happy to have had the opportunity to play host and renew acquaintances."

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WARRANT OFFICER HURLEY LEAVES WRIGHT FIELD

WRIGHT Field will lose one of the most valued members of its military staff in the retirement of Warrant Officer Michael J. Hurley, who is leaving the field shortly after more

than 30 years of continued service.

Hurley has served continuously at the local field longer than any other person of military rank. As Warrant Officer he has acted as assistant to the Adjutant, in charge of individual military personnel records. Officers have come and officers have gone, but never has one not felt protection in Hurley's knowledge of the exceedingly intricate military regulations which form the law of military living. Always have they counted on Hurley's telling them what they could and could not do, confident of his interest and help in steering them through the proper procedures in proper manner.

When officers have traveled, post cards have streamed back for "Mike" Hurley, also sea food to satisfy his well-known weakness, if they went near the sea. Now that he is leaving, letters are arriving with "You can't leave, Mike. It won't seem the same place without you." Thus Hurley has proved that a kernel of humanity can soften the hardest and most abstract of regulatory shells.

Born in Peabody, Mass., Hurley had his education in Boston and Salem public schools. He enlisted in the Army in May, 1899, and was sent to join the 19th U.S. Infantry at Middletown, Pa., which was at that time mobilizing for the purpose of quelling the insurrection in the Philippine Islands. He left Middletown in July and entrained for San Francisco, sailing from that port in August.

Upon arrival in the Philippines, the regiment was assigned to the 8th Army Corps, commanded by General MacArthur, father of General Douglas MacArthur, former Chief of Staff. The regiment moved to the southern islands, but active campaigning was not begun until the rainy season had ended in November. The United States had come into possession of the Philippine Islands only in 1898, and campaigning there in guerilla warfare brought the American soldiers face to face with conditions they had never before known. Rations consisted partly of native foods to which they had to become accustomed. Sleeping was on the ground.

Hurley took part in many major engagements, continuing in the southern islands until March, 1901. From there he was sent to the Island of Cebu, where the natives had also become insurgents. Returning to the United States in May, 1902, upon reporting at Angel Island, Calif., he was given his honorable discharge.

In July, 1905, Hurley reenlisted and received a special assignment at the Allegheny Arsenal, Pittsburgh, with the 1st Infantry. In February, 1906, he again sailed for the Philippine Islands, this time by way of New York and the Suez Canal. Sailing half around the world, they were out of touch with the United States for a long time and hence were not aware of current happenings in their native land. Approaching Manila on a Sunday morning, a government launch put out to carry the news by means of canvas stretched over the side and painted in huge letters that San Francisco had been destroyed by an earthquake. In Manila the Sunday morning papers were being cried by the newsies with the words, "San Francisco no get chow. Fine Business." - this being the native way of expressing consternation.

Hurley was sent to Camp Stotsenburg and later to Camp Connell on the Island of Samar. Again insurrection was raging among the Fulahans, a fanatic tribe of the Philippines, and Hurley had continuous campaigning until August, 1907. Upon his return to the United States in May, 1908, he was stationed at Vancouver Barracks, Washington.

In May, 1912, he sailed for Hawaii, remaining until 1918. Upon his return to the mainland he was sent to Camp Lewis, Washington, and received appointment as 2nd Lieutenant in the Aviation Section, Signal Corps. It was here that he met Mrs. Hurley, the wedding being a military one, with the ceremony at Vancouver Barracks. Later he was transferred to Vancouver Barracks as Assistant Division Property Officer. In July, 1919, he went to Indianapolis as Station Supply Officer.

Hurley came to McCook Field in January, 1921, and he has been allied with the present organization ever since. During the years before 1918, he served through all the grades in noncommissioned ranks. Besides General MacArthur, he has served under Generals Hughes, Funston, Murray, Wade and Morse.

Upon leaving Wright Field, Warrant Officer Hurley expects to reside in Portland, Oregon.

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SELFRIDGE AIRMEN OBSERVE FOREST FIRES

Forest fires within the last several weeks in upper Michigan have become so serious that PB-2 airplanes from the 1st Pursuit Group, Selfridge Field, Mt. Clemens, Mich., have been dispatched on several occasions with Federal officials as observers to survey the situation and map out defensive measures.

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THE NATIONAL AIR RACES AT LOS ANGELES, CALIF.
By Flying Cadet Robert C. Love, Air Corps

As a daily feature of the National Air Races held recently in Los Angeles, a squadron of A-17 Attack planes, coming from March and Barksdale Fields, demonstrated various types of attack and show formations. Eighteen planes and pilots took part in the swooping, low maneuvers and the novelty formations depicting the letters "L" and "A" that passed daily over the sky-turned faces of consistently record-breaking crowds of spectators.

Enthusiastic crowds cheered the long line of Northrop Attack planes as Major L.C. Mallory led his charges in column past the stands at the conclusion of each day's performance. At a radio command from the Major, the eighteen ships stopped simultaneously, and like trained circus horses pivoted in perfect unison to face the throng. The mechanical difficulties involved in making the airplanes bow was all that prevented the formations rivalling certain well known equine routines. The maneuvers, while fundamentally simple, proved spectacular and interesting by virtue of its novelty and perfect coordination on the parts of the pilots.

A near tragedy and the only mishap to mar the otherwise flawless record of March Field's four-day participation occurred on the second day of the Races. While 60,000 spectators watched in spell-bound apprehension, L.S. Whittman, lanky "flying professor" of Oshkosh, Wisconsin, maneuvered his tiny racing craft, its Menasco motor coughing asthmatically, past the home pylon and into a wide turn preparatory to an emergency landing at the east end of the field. Half way through an 180 degree turn, his motor failed completely, dropped him dizzily toward the mass of planes parked at the edge of the field, and practically into the cockpit of an A-17. Barely clearing the parked Attack ship, he sheared off his frail undercarriage on the antenna mast and the tip of a three-bladed propeller, ^{and} pancaked with considerable force to an expensive but fortuitous landing. Whittman was thoroughly shaken up, but was only slightly injured, suffering bruises and a gash over one eye.

Attack pilots from March Field participating in the events were: Major L.C. Mallory, 1st Lieuts. Nathan B. Forrest and E.H. Lawson, 2nd Lieuts. George H. Shafer, William Q.Q. Rankin, William A. Hatcher, David B. Kuhn, Frank R. Cook, Donald W. Eisenhart, Frederick W. West and Robert Ashman.

Pilots from Barksdale Field included Captain C.O. Percy, Lieuts. J.L. Daniels, J.H. Davies, F.M. Gavin, J.C. Houston, W.H. Wise, C.D. Jones, J.S. Templeton, J.F. Guilmartin, D.N. Motherwell, F.B. Hay, F.B. Scott, Cadets B.B. Bruce and W.D. Camp.

High ranking Air Corps officers at the meet were Major Generals Oscar Westover, Chief of the Air Corps; Frank M. Andrews, Commanding the General Headquarters Air Force; and Brigadier General Delos C. Emmons, commanding the First Wing of the General Headquarters Air Force.

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WORK BEGINS ON NEW AIR DEPOT AT SACRAMENTO

Ground was broken on September 8th for the construction of Sacramento's new \$7,000,000 air repair depot. In the presence of approximately 15,000 spectators, and while four Army Air Corps squadrons soared over the site near Ben Ali, Hon. Frank F. Merriam, Governor of California, pushed down on a plunger which set off a blast of dynamite as the signal for the start of work. This site, when the project is completed, will house the Army's repair center for planes on the Pacific Coast, Hawaii and the Philippines.

Congressman Frank H. Buck, the opening speaker, stated that "this institution must be locked upon as part of our national defense. We are not anticipating a disturbance, but it behooves us to provide every necessary means of national defense."

The acting president of the Sacramento Chamber of Commerce, Mr. Percy Reese, then presented a silver shovel to Captain Arthur W. Parker, constructing quartermaster for the project.

Other speakers on the program were Brigadier General Henry H. Arnold, Assistant Chief of the Air Corps; Major General George S. Simonds, 9th Corps Area Commander; Brigadier General Delos C. Emmons, Commander of the First Wing, GHQ Air Force; Captain Parker and Governor Merriam.

The four Air Corps squadrons, following the conclusion of the ceremonies, returned to their air depot site, flying in formation. They had come from Hamilton and March Fields, and were led by Colonel Clarence L. Tinker, Air Corps, commanding the 7th Bombardment Group at Hamilton Field, Calif.

A number of prominent Army officers stationed on the West Coast, also many civic leaders, attended the ceremonies and were introduced to the assemblage. Mr. Arthur S. Dudley, Secretary-Manager of the Sacramento Chamber of Commerce, was the master of ceremonies.

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Flying Cadet Troy Keith, of the Pursuit Section, Advanced Flying School, Kelly Field, Texas, became the 65th member of the Caterpillar Club at that field when, flying a P-12 plane, he fell into a spin and was unable to bring it out.

Lieut. Colonel Wolcott P. Hayes, Air Corps, departed from Kelly Field on September 3rd to assume his new duties as Air Officer of the Fourth Corps Area, with headquarters at Atlanta, Ga.

Colonel Henry B. Clagett, Air Corps, arrived at Selfridge Field, Mich., on August 27th, and on the following day at an officers' meeting he informally met all the officers and cadets of the garrison. Colonel Clagett has been assigned to take command of Selfridge Field.

Now that the vacation season is over, it is hoped to receive contributions of news items and articles from some of our Correspondents, who have not been active of late. Names of delinquent scribes are not mentioned at this time.

21ST PHOTO SECTION IN MANEUVERS

The 21st Photo Section, Scott Field, Ill., having been ordered to participate in the 2nd Army Maneuvers, departed on August 4th and joined the Sixth Infantry motor convoy from Jefferson Barracks, Mo., arriving at the Allegan, Mich., airport at noon on August 6th. First Lieut. Kurt M. Landon, Commanding Officer of the 21st Photo Section; Master Sergeant Nico G. Loupos, 21st Photo Section, and Sergeant Wesley T. Cummins, airplane mechanic from the 15th Observation Squadron, arrived in the C-8 type photographic airplane at approximately the same time.

By morning of August 7th, the photo section had established "Camp Neal," which was named in honor of Private Jesse Neal, who died in an airplane crash near Scott Field on August 1st, and was ready to begin their work.

The organization was attached to the Umpire Section of the Second Army for photographic purposes and carried out its aerial photographic missions as a neutral unit. During the period of the maneuvers, the 21st made 829 negatives on 22 flight missions, covering a total of 41:15 hours flying time. From the 829 negatives a total of 2731 prints were made. Fifteen small mosaics were assembled from a number of these prints for the umpires. Each mosaic was speedily assembled with a stapling machine and was delivered to the umpires within from one and one-half to two hours after the plane landed from its photographic mission. While being taken, each print was automatically marked by the camera mechanism with the time of exposure and the date, and all obliques and verticals were plotted on maps before being sent to the umpires at Second Army Headquarters. Photographs were made to show the following: Advance portions of the different armies, troop concentration areas, bivouac or camp areas, camouflages, truck convoys, troops on the march and all other phases of the warfare.

Photographs were made with excellent results under all conditions, including complete overcast sky and heavy haze. Vertical aerial photographs were made at altitudes from 8,000 to 12,000 feet with both clear and overcast sky. Oblique photographs were made from 2,000 to 3,500 feet on clear days, at 1,000 feet when the ceiling was low, and at lower altitudes for special publicity photographs for G-2 Publicity Section.

Since speed was the primary factor in the simulated war conditions, only the quickest methods of turning out work were used. This explains not only the stapling machine used on the mosaics, but also the five-minute quick developing formula used on the 75 foot rolls of aerial film. These negatives were excellent in spite of the high speed process and the facilities available, and the prints obtained from these negatives were of excellent quality.

A K-3-B camera with a 12-inch lens was used exclusively for the aerial photographs. The Signal Corps made all ground photographs.

The Chief Umpire commended the 21st Photo Section for the good results obtained and for the information furnished through the use of aerial photographs.

Camp Neal was inspected by General Kilbourne and by Lieut. Colonel Hill on August 14th, and the Photo Section was highly commended by both for the set-up, the technical equipment and the results obtained.

This was the first time the 21st had ever gone out into the field on maneuvers. The personnel found the old style photographic trucks, which were borrowed from Chanute Field, to be too slow for the production methods required by present simulated wartime conditions. The new photographic trailer used by the National Guard unit at Kellogg Field is quite an improvement over the old type.

"Now, let us look at the other side of the story - the humorous side," says the News Letter Correspondent. "The 21st Photo Section was the only Army outfit assigned to the Allegan airport; it was based there to be near the umpire section of maneuver headquarters to which it was attached and which had its headquarters in the Allegan High School building. Four days after the 21st arrived at the airport, Sergeant Cummins, who was sent there to keep the C-8 photographic ship tuned up, became a line chief, trouble shooter, emergency crew and what have you for sometimes as many as a dozen planes. These other planes were brought to the airport by pilots reporting to Second Army Headquarters. Lieut. Colonel Hill immediately had additional mechanics assigned when conditions were brought to his attention.

The orderly tent, where four men of the 21st slept, became an information bureau, operations office, clearing house, dressing room and official bunkhouse for visiting pilots. The four bunks were occupied practically all of the time by someone. On one occasion Staff Sergeant Norman C. Bullivant wanted to get into his bunk, but being of small stature was unable to oust a six-foot, 220-pound occupant thereof. Master Sergeant Loupos often had to push through officers with rank from second lieutenant to lieutenant colonel in order to get into the orderly tent. Lieut. Landon likewise had to push his way into the tent to sign papers.

The personnel found the Michigan climate 'air-conditioned.' Though they were on duty twenty-four hours a day, most of them worked only eighteen hours out of those twenty-four. The boys did not know whether they got sleepy from the cool air or from fatigue, but they were sleepy, and then they had to solve the eternal problem of finding a place to lie down.

Well, those maneuvers were great, and the 21st is ready for more of the same sort, come what may."

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The 21st Airship Group, Scott Field, Belleville, Illinois, consisting of the 21st Airship Group Headquarters Detachment and the Ninth Airship Squadron, will go on maneuvers from September 15th through the 29th in the vicinity of Springfield, Ill.

Colonel Roy C. Kirtland, of the Inspector General's Department, arrived at Scott Field on Sept. 9th to inspect the technical facilities.

V-7103, A.C.

B I O G R A P H I E S

COLONEL ALBERT L. SNEED

Colonel Albert L. Sneed, Air Corps, at present on duty in the Philippine Department, was born in Conway, Arkansas, April 24, 1884.

Graduating from the United States Military Academy in 1908, he was commissioned a second lieutenant and assigned to the 25th Infantry, at that time stationed in the Philippines. Upon returning to the United States he was stationed at Fort George Wright, Washington, from Oct. 5, 1909, to January 3, 1913. He was then assigned to duty in Hawaii. Transferred to the 7th Infantry, September 22, 1914, he joined that regiment at Galveston, Texas, on November 26, 1914. From that date until December, 1915, he was on duty at various localities - Vera Cruz, Mexico; Fort Bliss, Texas; Douglas and Nogales, Arizona, and back at Fort Bliss. He was at Douglas with his regiment during the attack of Villistas on Agua Prieta in November, 1915. From August 14, 1916, to May 26, 1917, he was Assistant District Quartermaster and Assistant Division Quartermaster, El Paso district.

During the World War, Colonel Sneed, from June 6 to September 22, 1917, was stationed with his regiment at Gettysburg National Park, Pa., except for a period of three weeks in July, when he was on duty at Philadelphia, Pa., mustering the 6th Pennsylvania Infantry.

Detailed to the Aviation Section, Signal Corps, he was assigned, on October 1, 1917, as Commandant of the School of Military Aeronautics, Massachusetts Institute of Technology, Cambridge, Mass. He was relieved from this duty on April 25, 1918, in order to undergo flying training, and he reported at Rockwell Field, San Diego, Calif., May 3, 1918. Upon the completion of his training he was assigned to Love Field, Dallas, Texas, and was in command of this station August 19, 1918, to April 23, 1919, when he was transferred to Washington, D.C., for duty in the Supply Group, Office of the Director of Air Service. From May 26 to October 28, 1919, he was on duty as Assistant to the Chief of the Supply Group.

On November 7, 1919, Colonel Sneed reported at the Engineering Division, McCook Field, Dayton, Ohio, for duty as Assistant to the Commanding Officer. He was also a student at the Engineering School, graduating therefrom upon the completion of the one-year course. In October, 1920, he was assigned to duty as Air Officer of the Third Corps Area, Fort Howard, Md. In January, 1922, he was assigned to duty in the Office of the Assistant Secretary of War, Washington, and served there until October 1, 1922, when he was detailed as Assistant mili-

tary Attache for Aviation in Constantinople, Turkey, and reported for duty on November 5, 1922. After nine months' service in the Turkish capital, Colonel Sneed, following several weeks' temporary duty in the Office of the Chief of the Air Corps, was assigned as a student at the Air Corps Tactical School, Langley Field, Va., and upon his graduation therefrom, June 15, 1924, reported as student at the Command and General Staff School, Fort Leavenworth, Kansas.

Colonel Sneed's graduation from Fort Leavenworth was followed by a little over two years of service at Kelly Field, Texas. He served as Post Executive Officer until September 8, 1926, and thereafter in various other capacities, including membership on the Faculty Board of the Advanced Flying School and as temporary commanding officer until August 1, 1927, when he was transferred to Crissy Field, Presidio of San Francisco, Calif.

After commanding Crissy Field and the 91st Observation Squadron until November 15, 1927, and the Rockwell Air Depot, San Diego, Calif., until July 14, 1930, he assumed command of the Fairfield Air Depot on August 15, 1930, and occupied this position until March 13, 1933, when he was transferred to Langley Field, Va. for duty as Executive Officer. On several occasions he was in temporary command of this field.

Assigned to foreign service, Colonel Sneed arrived in the Philippines on December 1, 1934. In addition to duty as Air Officer of the Philippine Department, he performed additional duty as Commanding Officer of the 4th Composite Group at Nichols Field, and was for a short time on detached service as Military Attache in Japan.

Colonel Sneed received his promotion to 1st Lieut., October 7, 1915; to Captain, May 15, 1917; to Major (temporary) Signal Corps, September 22, 1917; to Major, Regular Army, July 1, 1920; to Lieut. Colonel, August 1, 1932, and to Colonel, Air Corps (temporary), June 16, 1936. His flying rating dates from August 2, 1918.

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COLONEL JOHN H. PIRIE

Colonel John H. Pirie, Air Corps, at present Commanding Officer of the 17th Attack Group, GHQ Air Force, March Field, Riverside, Calif., was born in San Antonio, Texas, November 26, 1882. He graduated from the Agricultural and Mechanical College of Texas in 1906 with a B.S. degree, and on September 25, 1908, he was appointed a second lieutenant, Coast Artillery Corps.

Colonel Pirie served at Forts DeSota and Dade, Florida, from November 6, 1908, to December 12, 1910, when he was trans-

ferred to Fort Hamilton, New York, where he remained until December 30, 1912. He then attended the Coast Artillery School at Fort Monroe, Va., completing the course as a distinguished graduate on November 20, 1913. He was then assigned to duty with the Coast Artillery Corps at Fort Warren, Mass., to October 29, 1915; at Fort Strong, Mass., to June 16, 1916; and at Gloucester, Mass., in connection with radio experiments, to February 22, 1917. He served in connection with the coast defenses of Baltimore, at Fort Howard, Md., to July 19, 1917; and with the 8th Regiment, Coast Artillery, at Fort Adams, R.I., to August, 1917.

Colonel Pirie sailed for Europe in August, 1917, where he served as a member of the Heavy Artillery Board at Headquarters Railway Artillery Reserve, to June 5, 1918; as a student at the Staff College, A.E.F., to July 18, 1918; with Operations Branch, Headquarters Railway Artillery Reserve, to August 29, 1918; with the 43rd Artillery, A.E.F., in command of group and grouping, Railway Artillery Reserve, during St. Mihiel and Meuse-Argonne Operations to October 24, 1918; with Training Branch, Headquarters Railway Artillery Reserve, A.E.F., to December, 1918; and in command of Camp No. 1, Mailly, France, to February 1, 1919, when he was ordered back to the United States. While in France he participated in the Champagne-Marne, Aisne-Marne, St. Mihiel and Meuse-Argonne operations. He was a member of the Coast Artillery Board at Fort Monroe, Va., from February 28, 1919, to March 15, 1921.

Detailed with the Air Service on March 5, 1921, Colonel Pirie attended the Primary Flying School at Carlstrom Field, Arcadia, Fla., and upon his graduation on August 28, 1921, was transferred to the Advanced Flying School, Kelly Field, Texas, for training as a Bombardment pilot. He completed the course on January 21, 1922, and received the rating of "Airplane Pilot."

Colonel Pirie's first duty assignment in the Air Service was as commanding officer of Air Service troops at Aberdeen Proving Ground, Md., where he remained until October 19, 1923. While at the Proving Ground he worked with the Ordnance Department in the development of bombs. He next commanded the Second Bombardment Group at Langley Field, Va., to June 4, 1925; attended the Command and General Staff School, Fort Leavenworth, Kansas, to June 18, 1926, and upon graduation took command of the San Antonio Air Depot to May 19, 1927.

Ordered to the Philippines in June, 1927, Colonel Pirie served there as Assistant Chief of Staff for Personnel, Philippine Department, Manila, to August 28, 1927; and as Assistant Chief of Staff for Supply, Philippine Department, to May 16, 1930. During the course of his service in the Philippines as a mem-

ber of the General Staff, he performed various tactical flying missions with the 2nd Observation and 28th Bombardment Squadrons at Nichols Field. Upon the completion of his tour of duty in the Philippines and his return to the United States in June, 1930, he was assigned to duty in the Office of the Chief of the Air Corps, Washington, where he served in the Plans Division until June 30, 1932, and as Chief of the Training and Operations Division to July 17, 1933.

Following a year of duty as a student at the Army War College, Washington, Colonel Pirie, upon his graduation on June 26, 1934, served as Air Officer of the 5th Corps Area, Fort Hayes, Ohio, to March 31, 1935. He commanded the 17th Attack Group, March Field, Calif., to January 10, 1936; was Post Commander, March Field, to February 28, 1936; temporarily commanded the 1st Wing, GHQ Air Force, and is now again commanding the 17th Attack Group.

Colonel Pirie was awarded the Purple Heart "for services as Commanding the Central Railway Grouping, A.E.F. During the extensive Air Corps Maneuvers in 1931, he commanded the 11th Provisional Wing, the organizations comprising same being equipped with a varied assortment of service type planes whose pilots executed formation flying in a most efficient manner despite the fact that they had not previously flown together as a unit. He was leader of a ferry flight of 17 airplanes from San Antonio, Texas, to France Field, Panama Canal Zone, via Mexico and Central American republics.

Colonel Pirie was promoted to the rank of 1st Lieutenant, August 28, 1909; to Captain, July 1, 1916; to Major (temporary), May 1, 1918; to Lieut. Colonel (temporary), October 26, 1918. He reverted to his permanent rank of Captain on March 28, 1920; was promoted to Major, Regular Army, July 1, 1920; to Lieut. Colonel, November 1, 1932, and to Colonel (temporary), June 22, 1936.

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LOW PARACHUTE JUMPS PROVE FATAL

Second Lieut. William W. Harding, Air Reserve, and Private Francis J. Maier, of Selfridge Field, Mich., were killed when they jumped from their burning PB-2 airplane four miles from Otsego, Mich., on August 17th. The airplane was in formation, operating from Marshall, Mich., a temporary base used in conjunction with the Second Army Maneuvers. According to witnesses, both men jumped at an altitude too low for the successful operation of their parachutes. Lieut. Harding had been stationed at Selfridge Field for about two years. He was 26 years of age and a resident of Los Angeles. Pvt. Maier, 19 years of age, was a native of Dowagiac, Mich.

PROGRESS IN MOTORLESS FLIGHT

The August issue of the "Gliding and Soaring Bulletin" in giving a detailed report of the 7th Annual National Soaring Contest at Elmira, New York, June 20 - July 5, 1936, states that it was the most successful contest ever held in the United States; that it was a milestone in the history of the motorless flight movement in this country and it was also a turning point.

While the number of pilots and soaring craft entered were somewhat less than in other years, the number of hours flown was about twice the best previous figure, the miles flown across country were many times the best total flown in any other contest, the number of high altitude flights far exceeded the previous altitude performances, and the number of international and national records established reached the impressive total of five.

In the 16 days of the contest, there were only two days on which no soaring flights were made. The total number of pilots entered was 82, and the soaring craft entered numbered 23.

The total soaring time was 353 hours and 49 minutes; total number of take-offs, 337; total distance flown across country (distance of five miles or more), 1,233 miles; altitude flights of 500 feet or better, 145; flights of 30 minutes or better, 185; flights of five miles or better, 52; greatest distance, 146 miles; highest altitude, 6,516 feet, and greatest duration, 8 hours and 48 minutes.

By virtue of his altitude flight of 6,516 feet on June 29th, Emerson Melhouse, of Wyandotte, Mich., received the Warren E. Eaton Memorial Trophy. He also received the A. Felix Dupont \$500 cash prize for being the first to exceed the existing American altitude record.

The 146-mile flight on July 5th, from Elmira to Ottsville, Pa., was made by Chester J. Decker, and his reward was the Bendix Gold Trophy and a \$500 cash prize. Henry N. Wightman, on July 4th, made a flight of 135 miles from Elmira to Middletown, N.Y., and received the Bendix Silver Trophy and a \$50.00 cash prize. The total amount of prize money amounted to \$2,686.00.

Among those present at the contest were Mr. Igor Sikorsky, designer of many famous American aircraft; D.W. Tomlinson, one of the ranking pilots of the TWA; Dr. George W. Lewis, of the National Advisory Committee for Aeronautics; Mr. Earl D. Osborne, of the Edo Aircraft Corporation; Dr. Charles F. Brooks, head of Blue Hill Observatory, Harvard University; Prof. Otto C. Koppen, head of the airplane design section, Aeronautical Engineering Division, M. I. T.; Mr. R.P. Lansing, Vice President, and Lieut. Zeus Soucek, Development Engineer, Eclipse

Aviation Corporation, and Col. J. Carroll Cone, Assistant Director of the Bureau of Air Commerce.

The 1937 contest will be held at Elmira N. Y., June 26-July 10, and will take the form of the first International Soaring Contest ever held in this country. Soaring pilots from Japan, Russia, Germany, England, France, Hungary, Italy, Austria, Switzerland, Holland, Belgium and Poland are being invited. The preparations for this contest are already under way.

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NEW COMMANDER OF 19TH BOMBARDMENT GROUP

Important shifts in the administrative structure of the First Wing of the General Headquarters Air Force were recently announced by Brigadier-General Delos C. Emmons, the commander thereof.

Lieut. Colonel Hubert R. Harmon was relieved from the position of First Wing Executive and assigned as commander of the 19th Bombardment Group, stationed at March Field, Calif. Colonel Harmon, a West Point graduate of the class of 1915, formerly served as Assistant Military Attache for Air to the American Embassy at London, England. In this capacity he traveled many places in the British Empire, notably Iraq and Egypt. A World War flyer, he brings to his new position a wealth of experience in the administration and training of Air Corps organizations. He came to March Field late in 1935.

The new Executive of the First Wing is Colonel Harmon's West Point classmate, Lieut. Colonel Leo A. Walton, formerly commander of the March Field district of the Civilian Conservation Corps before that district was amalgamated with the Los Angeles District. Colonel Walton has more March Field service than any other officer in the Army, coming to that station a year after it was reopened. For the past several months he has been serving as post inspector at March Field.

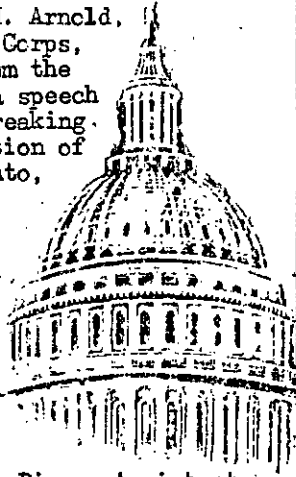
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Bombing Tests by 7th Bombardment Group (Continued from page 6)

Field Sunday morning to return to Hamilton Field. To test the ability of the Group to penetrate as a unit any bad weather encountered, a fog was simulated in the San Joaquin Valley between Bakersfield and Fresno, Calif. Through this area, pilots proceeded individually under the hood, at one minute intervals with 200 feet difference in altitude between planes. At the end of the fog area, squadrons reassembled and the Group rendezvoused at Tracy, Calif., flying the remainder of the way in formation.

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An article on GHQ Air Force Observation will appear in our next issue.



Brigadier General Henry H. Arnold, Assistant Chief of the Air Corps, returned September 10th from the West Coast, where he made a speech upon the occasion of the breaking of ground for the construction of a new Air Depot at Sacramento, Calif.

Lieut. Colonel Howard C. Davidson, who until recently commanded the 19th Bombardment Squadron at March Field, Calif., reported for duty on September 9th, and was assigned as Executive Officer.

Lieut. Colonel Vincent B. Dixon, Assistant Executive, returned September 12th from leave of absence.

Major Arthur E. Easterbrook left August 28th for duty as umpire of the 3rd Army Maneuvers.

Colonel Rush B. Lincoln, Lieut. Colonels Rosenham Beam and William E. Lynd were at Wright Field, Ohio, on September 4th for a planning conference.

Colonel Harrison H.C. Richards and Lieut. Col. Ross G. Hoyt, Information Division, returned on September 7th from a cross-country flight to Selfridge Field, Mich.

Officers who recently departed on leaves of absence were Lieut. Colonel Robert L. Walsh and Major Malcolm C. Grow (Medical Corps),

Officers who recently returned from leaves of absence were Major W.B. Souza, Captains Donald F. Stace, Luther S. Smith, Evers Abbey, and Robert V. Laughlin.

Major Charles Y. Benfill returned from a navigation flight to San Antonio.

Lieut. Colonel William B. Wright, Air Officer of the 5th Corps Area, Fort Hayes, Ohio, was a visitor during the course of a navigation flight.

Colonel Frank D. Lackland, Majors Barney M. Giles, B.E. Meyers and 1st Lieut. John A. Austin arrived from Wright Field on September 8th for the purpose of a conference.

Major Russell L. Maughan reported for duty as student at the Army Industrial College.

Captain James W. Spry reported on September 10th and was assigned to duty in the Supply Division.

Second Lieut. E. S. Nichols reported on September 4th for temporary duty.

Colonel Chalmers G. Hall, Chief of the Supply Division, returned on September 3rd from a leave of absence.

In accordance with orders from the Office of the Chief of the Air Corps, the reorganization at Kelly Field, Texas, was carried out on September 1st. This reorganization is practically the same set-up which was in effect in February, 1935, with the exception of a 12th Air Base Squadron.

The 81st Service Squadron was redesignated the 12th Air Base Squadron.

The 68th Service Squadron was redesignated The Headquarters and Headquarters Squadron, Air Corps Advanced Flying School.

Units constituted were the 61st School Squadron (Pursuit); 62nd School Squadron (Observation); 63rd School Squadron (Attack); 64th School Squadron (Bombardment).

The Air Corps Advanced Flying School Detachment was discontinued, and the 39th Observation Squadron, the 40th Attack Squadron and the 41st Observation Squadron were rendered inactive.

Major George M. Palmer commands the 12th Air Base Squadron; Major Louis N. Eller, the 61st School Squadron; Major Walter E. Richards, the 62nd School Squadron; Major Arthur G. Liggett, the 63rd School Squadron; Major Roderick N. Ott, the 64th School Squadron; Major Mark M. Woodward, the Headquarters and Headquarters Squadron, and Captain Ralph E. Holmes, the 22nd Photo Section.

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WAR DEPT. ORDERS AFFECTING AIR CORPS OFFICERS

Changes of Station: To Air Corps Training Center, Randolph Field, Texas: 1st Lieuts. James W. Brown, Jr., and Nelson P. Jackson from Panama Canal Department.

To Fort Lewis, Wash.: 1st Lieut. George G. Northrup from Panama Canal Department.

To Inglewood, Calif.: Major Leland C. Hurd to duty as Air Corps representative at the plant of the North American Aviation, Inc., from duty as Air Corps Representative at the Consolidated Aircraft Corporation, San Diego, Calif.

To Farmingdale, L.I., New York: Major Cortland S. Johnson to duty as Air Corps Representative at the plant of the Seversky Aircraft Corporation from duty as Air Corps Representative at the plant of the Glenn L. Martin Co., Middle River, Md.

To Panama Canal Department: Major William O. Butler, upon completion of course of instruction at the Advanced Flying School, Kelly Field, Texas.

To Mitchel Field, L.I., New York: Major Clarence H. Welch from duty as Air Corps Procurement Planning Representative at New York City. Major Welch is assigned to duty with the GHQ Air Force.

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Lieut. Colonel Chang Tsu Chein, Commandant of the Air Force Technical School, Nanchang, Republic of China, recently visited Kelly Field. He was particularly interested in the method of training Attack and Bombardment students, as the new equipment in China is comprised mainly of these branches.

Advanced Flying School, Kelly Field, Texas.

Major L.C. Mallory, Commanding Officer of the 73rd Attack Squadron, at March Field, Calif., led five A-17's on a non-stop flight to Kelly Field as a training experimental flight to determine the actual range of this new type airplane. Head winds were encountered most of the way, and the cruising r.p.m. were cut down slightly to save fuel. The planes, however, still averaged 153 miles an hour for the trip and arrived at Kelly Field with an average of fifty gallons left. No mechanical trouble developed, and the return flight was started with only servicing and the routine checks of motors.

Lieut. Charles Densford, Air Corps, is on leave and will attend the National Rifle Matches at Camp Perry. Lieut. Densford recently placed first in two events and second in another in the Michigan State Matches, and second in the Texas Pistol Matches.

Selfridge Field, Mich., August 29th.

On August 16th, Lieut. Murray C. Woodbury was injured in a polo game in Detroit, when the Gold Hats trounced the Polo Club aggregation. Lieut. Woodbury suffered a broken collar bone.

Major Dana W. Morey, Selfridge Field Finance Officer, fell down several weeks ago and sustained a broken hip. He was transferred on August 25th to Walter Reed Hospital. His many friends at Selfridge are deeply sympathetic, and extend their wishes for a quick recovery.

San Antonio Air Depot Duncan Field, Texas.

On the afternoon of August 20th, the Depot enjoyed a visit from Major General Westover, Chief of the Air Corps, who inspected Air Corps stations in this vicinity while returning from his recent air tour to the West Coast.

Lieut. Colonel D. B. Howard, Chief of the Administration Section, Air Corps Materiel Division, and Captain S.M. Umstead, of the Materiel Division, passing through this vicinity on a navigation flight, were visitors at the Depot on August 28th, conferring with the Depot officers on supply and engineering matters.

Recent visitors at the Depot from Maxwell Field, Ala., were Captain U.G. Ent with Corporal Wm. B. Miller, mechanic, and Private H.A. Schmid, pilot, ferrying a B-4 plane to Kelly Field, and ferrying back from this Depot to Maxwell Field an O-19B, pilot by Captain Ent, and a B-6A piloted by Private Schmid, with Corporal Miller; Lieuts. J.H. Fite and E.J. Hale; Major Bob E. Nowland and Lieut. E.F. Everest; Major J.W. Monahan and Captain J.M. Gillespie, all ferrying A-12's back to Maxwell Field.

Among the visitors at the Depot during the past month were several officers of Selfridge Field, Mich., on ferrying missions. Captain N. D. Frost arrived in a PB-2 to return Lieut. F.J. Coleman, who ferried a P-26A to the Depot; Lieut. J.V. Crabb came in on the 25th to pick up Lieut. L.S. Harris, who ferried a P-26A to the Depot. Lieuts. H.L. Neely, R.P. Todd, J.O. Neal and Wm. T. Hudnell, Jr., ferrying four P-26's, arrived September 1st, and returned to Selfridge Field the next day in four PB-2's,

with Captain H.T. McCormick and Lieuts. A.Q. Mustoe, C.F. Hegy and L.O. Brown of that station. Lieut. Mustoe was formerly on duty at this Depot.

Lieut. C.K. Moore, of the Air Corps Materiel Division, Wright Field, Ohio, who was formerly on duty at this Depot, was a recent visitor while on leave in this vicinity, and renewed old acquaintances.

Mr. Ansel Dekle, Foreman of Engine Repair of the Hawaiian Air Depot, on a visit to the State on leave, and also on a temporary duty tour of the Rockwell Air Depot, Calif.; this Depot, and Wright Field, Ohio, studying shop methods and overhaul and maintenance systems at these stations, visited this Depot August 24th to 29th, and expressed himself as greatly pleased with his visit and as having obtained much valuable information in this work.

Private D.T. Dillon, of the 3rd Transport Squadron, this Depot, is being transferred to the Air Corps, Panama Canal Department, and is scheduled to sail on the transport from New York on September 16th.

Luke Field, T.H., August 11th.

Fifth Composite Group: Everything is a hustle and a-bustle these days in the 50th Squadron. The reason? We move out for ten glorious days at Waimanalo. There will be ground machine gun firing by all personnel, and aerial gunnery will follow the ground firing. And then the Squadron will conduct its usual Organization Day Celebration, a gala occasion which comes but once a year but is looked forward to with great expectation, as a grand time is always had by all who participate in the festivities.

First Lieuts. John G. Fowler, Emery S. Wetzel and Edward D. Marshall returned from a two weeks' stay at Kilauea, on the big island, where, they report, the hunting is very good. Lieut. Fowler had the luck to bag five wild goats in one day, on the "fringe of the Kau Desert," one of them at 600 yards on the wing, or should we say on the hoof? He confessed that it took six shots to down the "Monarch of the Hawaii Steppes," but even at that it was "a right smart piece of shooting."

Staff Sergeant James F. Vickery, who has been one of the 23rd Squadron's eligible bachelors for the last ten years, was married to Miss Betty Lou Thornton, daughter of Master Sergeant L.G. Thornton, of Fort Shafter.

The 23rd Squadron received a couple of B-12A airplanes, and all the pilots are finding out that they are only airplanes after all. The crews, under the able supervision of Captain Dunton and his Hamilton Field assistants, had the planes assembled and flying ten days after they were received. Not only that, but they have kept the planes flying while the pilots were becoming accustomed to the new planes.

The 4th Squadron is busy preparing for its annual outing at Bellows Field, Waimanalo, where this organization will fire the ground course in machine guns and also qualification with the pistol.

Orders were received for the return of Captain Signa A. Gilkey, Commanding Officer of the 4th Squadron, to the mainland, he having been assigned to duty at Wright Field, Ohio. Lieut. Carl W. Carlmark left the Department for duty at Chanute Field, Ill., taking the long way home by traveling via the Orient and Europe before reporting to his new station.

A number of the officers of the 4th Squadron just returned from two weeks' vacation at Kilauea. All report a very good time. The 4th and 50th Squadrons, supposed to be Observation organizations, have at the present time P-12A's, B-12A's and an OA-4A.

Hawaiian Air Depot.

Additional B-12A airplanes arrived on the U.S. Army Transport MEIGS on August 17th. Lieut. Franklin S. Henley has been designated as Assistant Depot Supply Officer.

Mr. Ansel Dekle, foreman of the Engine Repair Branch, left for the mainland on the USAT GRANT. He will spend approximately ten days studying methods of operation at the Rockwell, San Antonio and Fairfield Air Depots, following which he will visit his home in Georgia for his first vacation in several years.

The Depot made plans for an Organization Picnic for September 5th at Kailua, which has an excellent bathing beach, and ample space for games. A good time is anticipated by all.

Wheeler Field, T.H., August 28th.

Nothing ever happens at Wheeler Field, that is not much. Just between the 26th Attack, the 6th and 19th Pursuit, and the 75th Service Squadrons, we seem to be sweating out the best of field inspections. The most recent was the uniformity of the leather equipment and the proper fitting of cotton uniforms.

The 18th Pursuit Group has given much instruction to contact officers from the line outfits of Schofield Barracks quite recently, and in a final attack on ground troops the new A-12's stole the show for their efficiency.

The recent addition of three BT's for instrument flying purposes, coupled with the new radio equipment and new radio trucks, has greatly facilitated this training.

Hamilton Field, Calif., August 17th.

Following the completion of its "Montana Flight," the 11th Bombardment Squadron, on its arrival at Albuquerque, was visited by the charming wife and daughter of a former member of the Squadron, Major T.S. Ring, who served with the Squadron in the days of "Wooden Ships and Iron Men" during the World War. Mrs. Ring reported the Major sick in quarters. Refusing to accept that condition, the 11th promptly invited the Major to attend the banquet which was given by Governor Tingley and the Chamber of Commerce of Albuquerque. His acceptance and attendance was keenly appreciated by all concerned. During his visit Major Ring inspected the planes and gossiped to his heart's content with members of the Squadron. There will ever remain for him in the hearts of members of the 11th a keen feeling of respect and admiration.

It is hoped the information obtained regard-

ing landing fields and facilities will compensate for the flight, but we are sure in our own minds that the general good feelings of the people of the various places visited is worth more than all the sundry values obtained, and the 11th Squadron solemnly joins hands in sincere thanks to its many generous hosts and in wishing happy landings to all.

Scott Field, Belleville, Ill., Sept. 11th.

The Base Headquarters and 7th Air Base Squadron became active on September 1st.

Major Walter T. Meyer reported on September 1st for duty with the 15th Observation Squadron.

In the golf meet held on August 24th in which there were seven enlisted men competing for three golf club prizes, Private Robert A. Hall, 7th Air Base Squadron, won two events, viz: driving for distance (262 yards) and place shot with No. 5 iron (6 feet from pen). The drive from fairway with No. 2 iron was won by Pvt. John E. Friedrick, 9th Airship Squadron.

Private Robert A. Hall figured rather prominently in the preliminary track meet held on Labor Day, September 7th, winning the 220-yard dash and the half-mile run, taking second place in the 50-yard dash and third place in the 100-yard dash.

Private Merrill B. Witters won the 100-yard dash, with Pvt. Clarence L. Arnold, runner-up. Both are members of the 7th Air Base Squadron.

The 50-yard dash was won by Private Arnold, and Corporal Jos. Van Agtmael, 9th Airship Squadron, took third place.

Corporal Van Agtmael took second place in the 220-yard dash, and Sgt. Homer E. Montgomery, 7th Air Base Squadron, third.

Corporal Van Agtmael also took second place in the half-mile run.

The mile run was won by Pvt. Jos. Schoebert, 9th Airship Squadron. Pvt. Elton T. Siebert, 7th Air Base Squadron, came in second.

The winners of the first three places in each event were given Post Exchange credits by Chaplain James C. Bean.

A big track and field meet is planned for October 7th. Inter-squadron competition will be close.

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AIRCRAFT ACCIDENTS IN FRANCE

According to a report prepared by the French National Union of Tourism, covering the year 1935, accidents due to air mishaps represent .02 percent of the total. Next in order come accidents involving horse vehicles, accounting for 1.35%; pedestrians, 7.15%; motorcycles, 11.38%; bicycles, 20.86%. The greater proportion of accidents appears to have been caused by automobiles - 51.46%.

The experience of flying personnel is said to have much to do with the favorable result. Special badges are issued to pilots and radio operators who have reached the mark of a million kilometers (621,400 miles) flown. Three chief pilots, 12 pilots and 5 radio operators now hold this valued decoration.

During the year 1935, French airplanes flew a total of 6,202,507 miles and carried 68,985 passengers.

TECHNICAL INFORMATION AND ENGINEERING NEWS
Air Corps Materiel Division

Safety Belt, Pilot's Shoulder:

An Engineering Section Memorandum Report furnishes results of tests on an experimental type pilots' shoulder safety belt. This belt is constructed of two linen webbing cross straps attachable at one end to the lap type belt fastening latch by means of steel links threaded to the male side of the latch. The cross straps pass over the wearer's shoulders and converge in a single strap extending down the back and under the seat. A metal chain is attached to the end of the single strap and threaded through a short length of metal tubing containing a slot with a spring cover attached to the underside at the center front of the seat. Adjustment of the belt is accomplished by drawing the chain through the metal tubing which is held in position by the slot and spring cover. The pilot's shoulder can be held against the seat or forward movement permitted with this type belt, depending on the adjustment of the chain. Release of the belt is automatically accomplished by release of the lap type belt latch.

Tests indicated that the arrangement of the shoulder type belt with the lap type is feasible. It was recommended that a study be made for the purpose of providing the necessary installation data for this type belt on all the present type airplanes, especially Pursuit airplanes.

Tandem Mount for two T-3A (5-Lens) Cameras:

An Engineering Section Memorandum Report was prepared covering the results of study of mounting two T-3A cameras in tandem for obtaining 9-lens composite pictures. In the conclusions the following statements were made: The mounting of two T-3A cameras to obtain a composite 9-lens photograph is readily feasible. The quality of the resulting photograph is good. The amounts of mis-match along the lines of juncture are not excessive. The resulting photograph does give some slight increase in accuracy in map compilation by graphical methods (radial line plotting) through an increased base between successive photos, although some of this effect may be more apparent than real due to the inability of the observer to level the camera as well as he might the single T-3A. The camera installation is bulky and heavy and can only be used in bombardment or cargo type airplanes. Either of these types require modification to accommodate this installation.

Application of Aerial Photography to Mapping:

An Engineering Section Memorandum Report has been prepared covering tests to determine the most practical means of utilizing aerial photographs with Air Corps cameras in the preparation of the various types of maps required by the Army in time of hostilities.

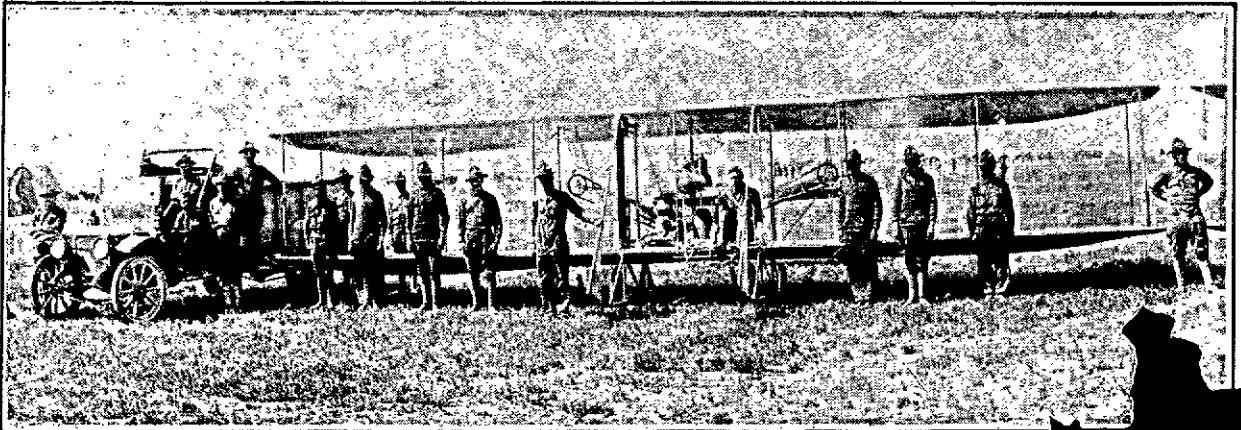
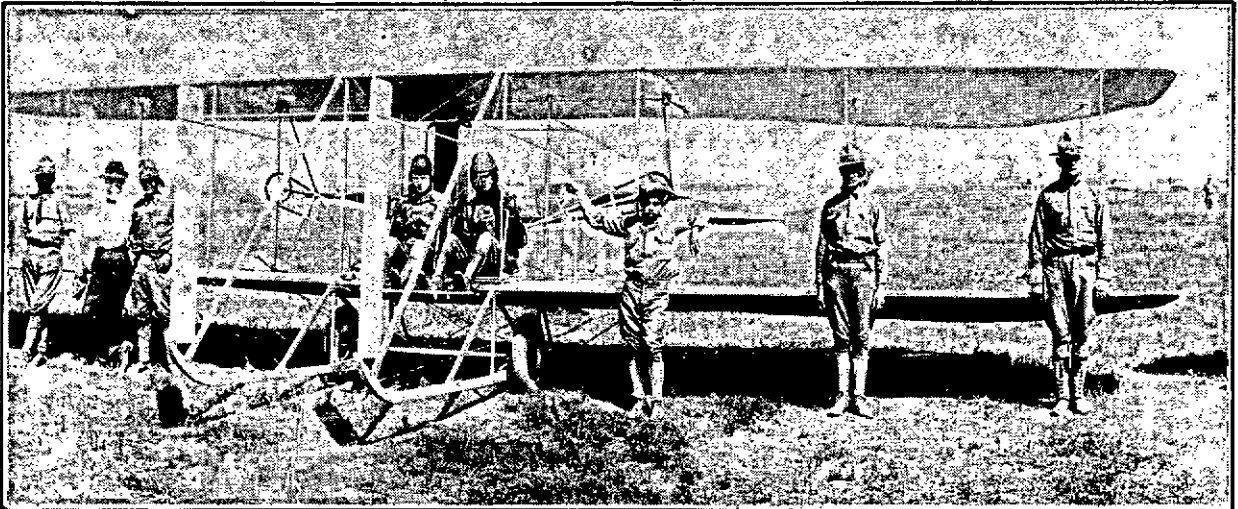
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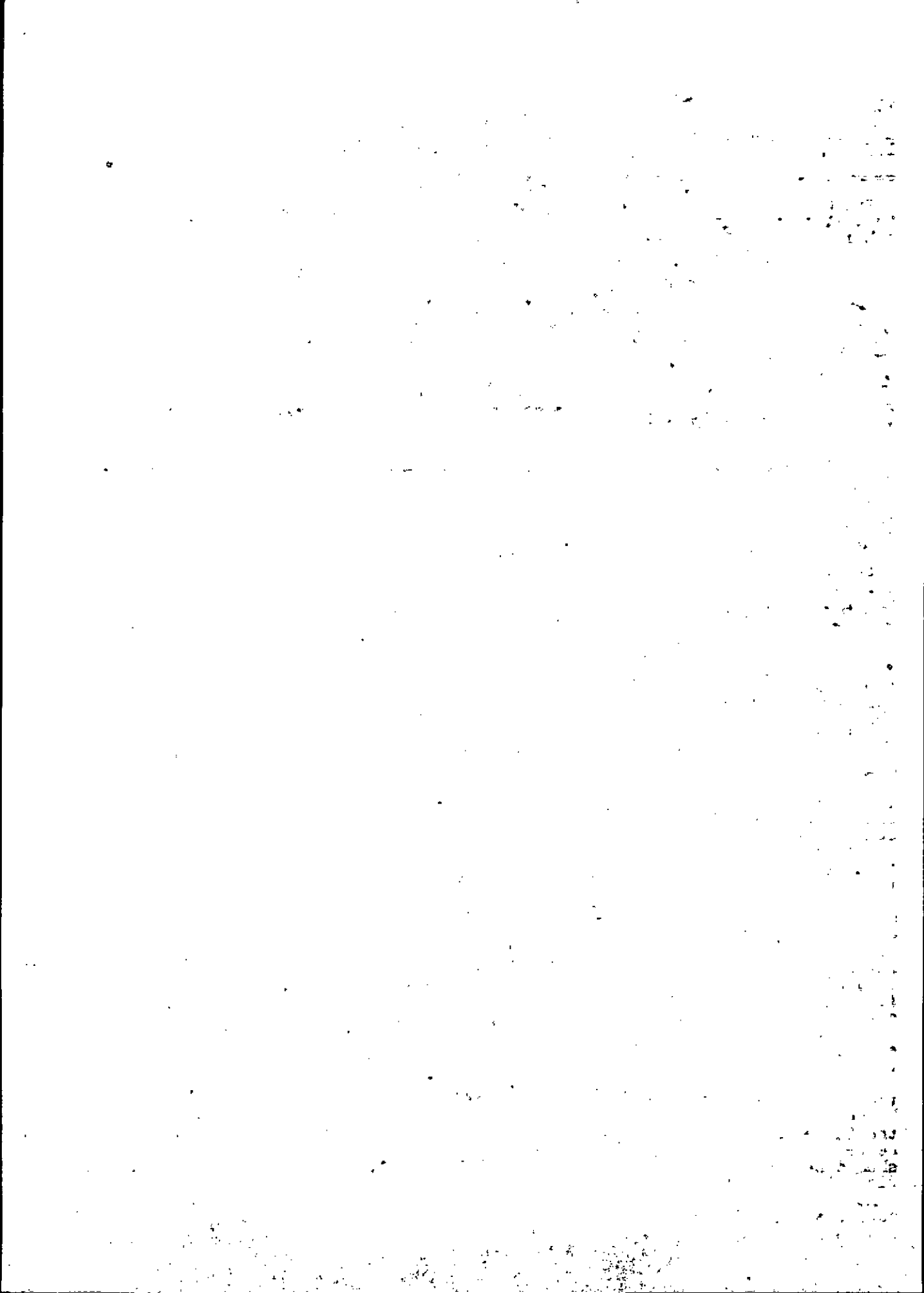
NEWS

LETTER

ISSUED BY OFFICE OF THE CHIEF OF THE AIR CORPS
WAR DEPARTMENT WASHINGTON, D.C.



1913 - First U.S. Army Aero Squadron in Texas.



Information Division
Air Corps

October 1, 1936

Ammunitions Building
Washington, D. C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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G. H. Q. AIR FORCE OBSERVATION

As the Air Force, with the advent of the "Superbomber," has taken on a new conception of duties and powers, so Observation must prepare itself to render an entirely new and extended service in its role of "eyes for the National Defense."

It is believed to be a well established principle of Air Corps tactics that Bombardment Aviation should not be required to conduct an original search for the targets it may be directed to attack. And, in order to plan a Bombardment attack intelligently, much information is necessary.

Prior to any mission over land or sea, the nature of the target must be known so that bombs of proper type and size may be carried. If the objective be on land, the exact location, the best routes of approach, useful landmarks, location of anti-aircraft units and hostile airdromes all should be known and oblique photos of the target should be available. If the target be at sea, its exact location at a given time, its course and speed and the weather enroute to the target must be known and, in addition, constant surveillance should be maintained in order that changes in course may be reported.

This task of location and identification of objectives at a distance falls to a new type of observation - the Air Force Reconnaissance Squadron. Its primary mission is to conduct distant reconnaissance service for the GHQ Bombardment and Attack Aviation and for the GHQ Air Force Commander. These squadrons, equipped with the latest development in long range airplanes, and manned by crews of highly trained specialists, must be available for one hundred percent operation as an M day force. Since distant reconnaissance must start on or prior to M day, it is obvious that the organization and training of these units cannot be postponed until after that date. In the interest of adequate National Defense and to prevent surprise, they should be ready and available for service always.

At the outbreak of hostilities, the duties of existing reconnaissance squad-

rons will be the patrol of areas - land and sea - within their operating radius and the collection of information on and furnishing of photos of all points of interest to the Air Force and GHQ Commander.

At the instant contact is gained with a hostile target, the problem of the Observation unit is doubled. Not only must the patrol be maintained or increased, but the specific objective should be observed at all times until its destruction is completed or the importance has ceased. Constant information should be supplied the local Air Force Commander of the precise location, composition, course and speed of a moving enemy target to permit an interception by our Bombardment units. As additional objectives make their appearance, the call upon Observation facilities will be further increased.

There are two lines of thought as to how the Long Range Air Force Reconnaissance Squadrons will fit into the Air Force functional organization chart. One line of thought is of the opinion that these Reconnaissance Squadrons should be under Base control for training rather than under mobile Bombardment Group control. This plan allows the members of such a reconnaissance squadron to be thoroughly and completely conversant with the entire area over which it will operate in time of war, to know and operate with all radio stations that can and will assist, and will not require a period of time to become familiar with its area before it can start operating efficiently for the tactical unit for which it is gathering the necessary information. The assignment of Long Range Reconnaissance Squadrons as area units to the vital military areas of the United States would create a set-up so that this type of reconnaissance service would be waiting for Bombardment or Attack groups in any area in which they might be required to operate in time of war.

Another line of thought suggests the plan of having a reconnaissance squadron as an integral part of each Bombardment group. Where the Bombardment group would be ordered there would go also the

reconnaissance squadron. It would be necessary under such a plan for a reconnaissance squadron to become familiar with its area before it would be of maximum value to the Bombardment Group which it was supporting. Since cooperation between the reconnaissance squadron and Bombardment groups mainly is one of communication, it is believed that, as communication procedure becomes more standardized, very little efficiency in operation would be suffered by having the reconnaissance squadrons belonging to a Base rather than being a part of the Bombardment group itself. In any event, the tactical operation of the reconnaissance squadron should be under the senior Air Force combat commander in each case.

The two schools of thought each have their relative merits. Only experience will determine which finally will be adopted and which will prove the more efficient.

Another idea, of course, would be to provide certain squadrons as permanent Base or Area Reconnaissance Squadrons, and to have still additional ones assigned to each Bombardment group.

The general requirements of an airplane to perform these missions will be first, approximately double the range of the Bombardment served in order to permit patrol, search and surveillance at the extreme radius of action of the bombers; second, accommodations for a com-

bat crew large enough to relieve the pilot, navigator, radio operator and flight mechanic during the mission, and that part of the crew off duty would act as gunners in defense of the airplane. A ship commander, with no assigned flight duties, would complete the crew. All possible improvements to increase comfort of the personnel, such as sound proofing, cabin heaters, etc., should be provided to maintain efficiency at its highest peak during extended missions. Dependable radio communication and all-round defense are essential.

Standards of personnel requirements of such an organization as outlined above should be extremely high. Pilots should be graduated to this service via other "big ship" types and then must learn that nice cooperation with the navigator which makes possible accurate navigation. Navigators understanding the theory and practice of the various means of navigation must perfect themselves by repeated missions accurately to locate and report distant bombardment objectives. Radio operators and flight mechanics, each in their own sphere, must obtain a standard of proficiency not now required in other classes of aviation and finally, by constant association in the air, the entire crew must be welded into a harmonious unit under the ship commander, instantly responsive to his commands and, in most cases, anticipating his desires.

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THE LINK TRAINER

Link Trainers now in Air Corps service, for the purpose of providing preliminary flight training for flying cadets, total twenty-one. An improved model of these trainers has recently been delivered to the Materiel Division and five of the existing service models will be reworked to incorporate improvements in the new model and will be known as Link Trainer, Type C.

The Link Trainer, Type C, consists of a fuselage which can assume all the different positions of an airplane in flight and an instructor's table. The fuselage contains the normal airplane controls (rudder and stick) and a complete set of flight instruments, including a magnetic compass, airspeed indicator, bank and turn indicator, rate of climb indicator, directional gyro, artificial horizon, altimeter, radio compass indicator, marker beacon indicator, and tachometer. It has ear phones and a microphone for use in radio training and also for receiving instructions from an instructor. Two cockpit lights are provided for use when the hood is placed over the cockpit.

The instructor's table has a keying device which will properly key and identify six radio range beacons and two oral marker beacons. The oscillator and key-

ing device are built into one drawer for convenience. In addition, there are the following controls: beam phone switch, phone volume control, radio range control, radio range volume control, radio compass control, radio compass sensitivity control, marker beacon selector switch and marker beacon volume control, and ultra-high frequency beacon light switch. Charts are mounted on the instructor's table which show the radio range and marker beacons. Problems may be set up on these charts involving cities, mountains, etc., located on them. The student is given an additional chart, and during the problem an automatic course recorder plots the course the student flies. This makes it possible for the student, after completing the flight, to see where he has flown, find out what mistakes he has made, and discuss the problem with the instructor.

The original six Trainers now in the service do not have a complete set of instruments for instrument flying, the recording device essential for properly instruction, nor provision for simulating instrument landing conditions, and it is these improvements which will be incorporated to bring these Trainers up to date.

77TH PURSUIT SQDN. COMPLETES MANEUVERS

A most enjoyable and successful week was spent in Natchitoches, La., by the 77th Pursuit Squadron of Barksdale Field, La. The greater part of the week was spent on interception problems. Lieut. Puryear proved himself capable and at times quite mystifying as a plotting board operator. The enemy was intercepted and defeated on every occasion, for which due credit was claimed jointly by Lieuts. Puryear and Piper.

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FLYING BY RESERVE OFFICERS AT OAKLAND

The activities of the Air Corps Detachment at the Municipal Airport, Oakland, Calif., in connection with flying by Reserve officers, were augmented by the delivery of their first BT-9 airplane on September 10th. The arrival of the first basic training plane of this type at the Municipal Airport affords all Group I Air Corps Reserve pilots added incentive to greater interest in inactive flying.

"The new creature," says the News Letter Correspondent, "was fondly eased in among our five ancient but loyal PT-3A's. The attention of everybody was drawn to the apparent consternation of those proud old girls and one could almost vision the PT's turning pale and shudder, feeling that the day is not far away when they will be relegated to that place where all the good and faithful some day must go."

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AIR DEPOT HEAVEN FOR LANGLEY FIELD PLANES

On September 17th, The Middletown Air Depot, Pa., became host to 19 pilots and 12 enlisted mechanics who arrived from Langley Field, Va., in 19 airplanes of the GHQ Squadron and 2nd Base Squadron of that station. This visit was occasioned by the arrival of a hurricane off the Virginia Capes which threatened to flood Langley Field.

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LIVE BOMBING PRACTICE PHOTOGRAPHED

The 20th Photo Section, Langley Field, Va., made photographs of the live bombing practice of the 20th Bombardment Squadron. On the 1100-lb. mission, Lt. Rogers was pilot; Lieut. Sutherland, bomber; and Master Sergeant Leiby, photographer. Lieut. G.E. Williams was pilot on the 600-lb. mission; Lieut. Glantzberg, bomber, and Staff Sergeant Taylor, photographer. On the 300-lb. mission, Lieut. Sutherland was pilot, Major Giles, bomber, and Staff Sergeant Boland, photographer.

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MODERN EQUIPMENT AT A.C. TECHNICAL SCHOOL

It may be of interest to graduates as well as to prospective students to know that the course for Airplane Mechanics at the Air Corps Technical School, Chanute Field, Rantoul, Ill., is probably better supplied at this time with modern equipment for instructional purposes than at any other time since this course was inaugurated.

In addition to the many smaller sectionalized components used to demonstrate specific features, the following complete airplanes and engines are in use:

Airplanes:

3 BT-2A	3 O-19B
1 P-6A	2 A-11
1 P-12D	1 A-12
2 P-26A	1 A-17
1 XP-29B	1 B-10
1 PB-2A	1 XB-14

Engines:

<u>Pratt & Whitney</u>	<u>Wright</u>
19 R-1340	1 XR-1510
6 R-1340D	2 R-1750
2 SR-1340D	12 R-1820
1 R-1830	<u>Curtiss</u>
	1 V-1870-CM
	19 V-1570

These airplanes and engines are used exclusively for school purposes, and with the exception of the PB-2A, A-17, B-10 and XB-14 which are assigned to the Model Flight, are "not to be flown."

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AN ILL WIND, ETC.

An item released to the press by the Bureau of Aeronautics, Navy Department, is to the effect that one of the pilots of VB-1 Squadron, on landing at the field at Tucson, Arizona, turned rather sharply to the right at the end of his roll. The result was the customary broken wing and wheel. On walking up to the Army hangar he was met and profusely thanked by a small boy who displayed the results of a winning bet. A little investigation disclosed the fact that a regular practice is indulged in by the children who hang around the airport of betting on whether a plane will ground loop or not on landing. The odds are even, it was further found. It seems the winds on the field change quite radically and very quickly. A local civilian proudly asserted that Tucson has the ground-loopingest field in the country.

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With the return of the 4th Observation Squadron from Bellows Field on September 5th, the 5th Composite Group completed its seasonal field training. While in the field, the training of enlisted aerial gunners was accomplished as well as training of ground anti-aircraft men.

V-7111, A.C.

chine gun crews. Pistol practice, in accordance with the requirements of Headquarters Hawaiian Department, was also accomplished by all ranks.

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AIRPLANE MAINTENANCE AT LUKE FIELD

The newly organized Group Maintenance Department, 5th Composite Group, Luke Field, T.H., established for the purpose of performing 20 and 40-hour inspections on the B-12 airplanes, began to function on August 24th, under the direction of Captain Signa A. Gilkey, who was transferred from the command of the 4th Observation Squadron to this important position. Much is expected from this new organization, which was adopted largely on the recommendations of Captain Delmar H. Dunton, Engineering Officer at Hamilton Field, who recently returned to that station after spending three months at Luke Field instructing the engineering and piloting personnel of the Group in the assembly, maintenance and operation of the recently arrived B-12's.

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MOVING OF SHOPS AT MIDDLETOWN AIR DEPOT

The gradual moving of the Air Corps shops at the Middletown Air Depot, Pa., is progressing steadily. A total of 45% of the Depot shops were moved into the new location and the remainder is following rapidly. It is estimated that another month should see the entire equipment moved and each department functioning 100% in its new quarters.

Many discouraging delays were encountered in the construction of the new shop building. The two greatest factors of delay were the many difficulties experienced in obtaining the new machinery for the shops and the flood of the Susquehanna River early this past Spring, when several feet of water covered the floor and caused the wooden block paving of the shops proper to swell and buckle. While many of the blocks could be used again, the expense of repaving the floors was quite large.

Ground was broken on May 24, 1934, and the first steel was erected on July 20th of that year. The new shops have better than five acres of floor space, same being erected at a contract price of \$679,000.

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The officers and men of the 77th Pursuit Squadron returned to Barksdale Field at the end of the maneuvers and immediately started a heavy schedule of ground gunnery. Although closely pressed by several others, Flying Cadet Chester W. Cecil at present seems to be the best shot of this organization.

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The News Letter would like to hear from National Guard Division Aviation units.

MANEUVERS BY 79TH PURSUIT SQUADRON

Monday, August 17th, found the 79th Pursuit Squadron, stationed at Barksdale Field, Shreveport, La., proceeding to and occupying the field camp at the Municipal Airport, Natchitoches, La.

Commanded by Major Carlton F. Bond, Air Corps, the detachment consisted of eight officers, five flying cadets and 56 enlisted men. The truck convoy under the command of the "Genial Doctor," Captain Robert E. Lee, Medical Corps, arrived at 10:00 a.m.

At noon when the twelve P-26 airplanes arrived, the camp was completely organized and a piping hot lunch was awaiting the pilots.

The camp was visited the next day by Lieut. Colonel Millard F. Harmon, commander of the 20th Pursuit Group, and his Adjutant, Lieut. McConnell.

There was both work and play at the camp, and swimming was the most popular sport. Camp was broken very quickly and effectively, the tents were packed and the airplanes were on their way home by nine o'clock on the morning of August 22nd.

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NO TROUBLE LANDING AT LUKE FIELD

The landing mat at Luke Field, T.H., is now bigger and better than ever, having been lengthened by 500 feet and widened by 100 feet, making a landing mat 3,000 feet by 400 feet. In addition to being enlarged, it has been tastefully decorated by the addition of an elaborate system of longitudinal and transverse lines, topped off with a pleasingly symmetrical circle in the center. The News Letter Correspondent says the chief artist responsible for this work, 1st Lieut. Robert W. Warren, is deserving of commendation.

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35TH PURSUIT RECEIVES QUOTA OF PB-2A's

The 35th Pursuit Squadron, Langley Field Va., having received its quota of ten new PB-2A's from the factory, is rapidly becoming familiar with the maintenance and performance of the new equipment. The Squadron is engaged in ground gunnery at present, and all pilots have expressed satisfaction in the way the new airplanes perform on the gunnery range.

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As part of a test for the Commanding General of the 3rd Corps Area, the 2nd Photo Section, Langley Field, Va., made a photographic mosaic of Fort Meade, Md., covering 36 square miles, for lithographic reproduction. A K-3B camera was used at 10,000 ft. altitude, and 164 exposures were required to cover the area. Lt. Odom was the pilot, and Mr. Sgt. Leiby the photographer.

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LANGLEY FIELD BOMBING PERSONNEL IN SECOND ARMY MANEUVERS (Continued)

By the News Letter Correspondent

As the 2nd Army Maneuvers came to a close, the 2nd Bombardment Group, with a feeling of pride, looks back over the several missions which it contributed to the Maneuvers as a whole.

These missions are briefly summarized and outlined in the following paragraphs:

On August 1st, flight echelons of the 49th and 96th Bombardment Squadrons, consisting of eighteen B-10B airplanes, and led by the Group Commander, Lieut. Colonel Charles B. Oldfield, departed from Langley Field at 6:00 a.m., and executed a simulated bombing assault on Chamute Field. The attack was made precisely at the scheduled time. After a brief stop at Chamute Field for lunch and servicing the ships, the Group proceeded to Selfridge Field for the night. On the following day, with support of Attack units from Barksdale Field, the Group assaulted the enemy ground forces at Fort Knox, Ky., and then proceeded to Patterson Field. The return flight to Langley Field was made the following day.

On the night of August 7th, a 3-plane formation from the 49th Squadron made an attack on Fort Knox. Because of inclement weather, it was necessary to abandon the original plan of leaving Langley Field in late afternoon, assaulting Fort Knox, and then continuing to Patterson Field for the night. Instead of this arrangement, three planes, led by Captain C.V. Haynes, Commander of the 49th Squadron, took off from Langley Field at 2:30 p.m., direct for Patterson Field, arriving there at 6:00 p.m. After dark, the flight left Patterson Field and proceeded to Fort Knox. The approach to the mythical target was made at an altitude of 15,000 feet with running lights turned off, as an attack was anticipated from ground forces, which consisted of two regiments of anti-aircraft artillery. The run was successfully accomplished and, as predetermined, the flight leader released a flare over the target and turned on his running lights before being picked up by the searchlights.

On August 9th, Lieut. Colonel Oldfield led a formation of 15 B-10B airplanes, consisting of flight echelons of the 96th and 49th Squadrons, from Langley Field to Selfridge Field, preparatory to an aerial review over the Allegan area. This review took place the following day, and was very successful. Attack units from Barksdale Field, Pursuit from Selfridge Field, and the 15 airplanes of the 2nd Bombardment Group participated in this demonstration.

An interesting part of the Second Army Maneuvers was performed by the 96th Bombardment Squadron on August 13th at 4:30 p.m. Three B-10B airplanes, led by Captain B.E. Nugent, departed from Langley

Field to attack by night enemy ground forces concentrated in the Allegan Area. Weather conditions were none too good. Due to an opaque haze, visibility was very poor.

The wing positions were flown by Lieuts. Simenson and Armstrong, and the navigation for the flight was performed by Lieut. Joe Miller.

Each ship was equipped with oxygen for high altitude operation, and the orders called for an attack on the Allegan Area at an altitude of 20,000 feet. Despite the surface heat, the men were forced to don their heavy winter flying equipment. The formation climbed to 10,000 feet and headed towards the objective through the thick haze. Thunderstorms were encountered and the three planes were separated shortly after leaving Langley Field. By radio instructions, each ship flew by instrument and maintained a heading of 300°. By the time Camp Custer was reached, the weather had improved, and at this point the three ships were re-assembled just below the clouds. The trio then climbed up through the clouds individually, assembled, and headed towards the target. By skillful navigation the formation glided down through the clouds, breaking through directly over the target at an altitude of 8,000 feet, and the flares were released at the designated time. After maneuvering about in that vicinity and working with the searchlights, the flight proceeded to Selfridge Field, arriving there near midnight, after having remained in the air for over seven hours. A check of gasoline showed that each pilot had enough left for over two more hours' flying.

It is obvious that this mission was successfully executed under adverse conditions with a high degree of accuracy and precision. Much credit is due those who participated.

The last mission to be flown in connection with the Second Army Maneuvers was an aerial review over the Allegan Area. The 2nd Bombardment Group furnished 18 B-10B airplanes for this review, composed of flight echelons of six airplanes each of the 96th, 49th and 20th Bombardment Squadrons. The formation was led by Lieut. Colonel Oldfield and departed from Langley Field for Selfridge Field on the morning of August 19th. The review took place on August 20th, after which the Group returned to Langley Field.

One of the interesting features of this mission was the simulated landing through the clouds upon return. The following conditions were assumed:

1. That the ceiling at Langley Field was 600 feet.
2. That the top of the clouds was at 3,000 feet.

With these assumptions, the landing was carried out in accordance with the following instructions taken from the Operations memorandum:

a. Group Commander will approach Langley Field on the North leg of the radio beam, flying a course of approximately 169°, at 5,000 feet altitude, until the cone of silence is reached.

b. Group Commander will circle the cone of silence in Group javelin down formation. Beginning at the tail of the column, the Group Commander will order flights to drop out of formation at two-minute intervals.

c. Each flight leader, after leaving formation, will immediately head on a compass course of 253° and will fly on this course at 150 m.p.h. for six minutes, losing altitude to top of clouds.

d. Flight leaders, after flying for six minutes on a compass course of 253°, will make a left turn of 180° and fly on a heading of 73°. Flight leaders will then give rudder signal to open formation.

e. Upon signal from flight leader to open formation, No. 2 and No. 3 of each

flight will fly 88° and 58° respectively, for two minutes, at 150 m.p.h., above the clouds. The flight leader will continue on a course of 73° at 150 m.p.h. for two minutes.

f. Exactly two minutes after the signal from the flight leader has been given to open formation, each airplane of the flight will fly a compass course of 73°, descend at 400 feet per minute, at 90 m.p.h., to an altitude of 300 feet.

g. Immediately upon descending under the clouds, proceed to Langley Field and land. Join flight formation if the airplanes are visible, if not land individually.

Under simulated conditions this system proved very satisfactory, and it is believed that with a few minor changes it may be adopted by the Group as a standard indoctrination for landing a formation through the clouds.

During the month of August, the Engineering Department of the San Antonio Air Depot overhauled 20 airplanes and 56 engines and repaired 21 airplanes and 15 engines.

TRAINING ENLISTED MEN TO SPEAK IN PUBLIC

The News Letter Correspondent from Luke Field, Hawaii, states that although the Army has never developed a Demosthenes, a scheme is on foot in the Blue and Gold Club of Luke Field to cultivate public speakers among the soldiers who will compete in three-minute talks on professional Air Corps subjects, such as: "What It Takes to be a Good Airplane Mechanic." A prize is to be given to the winner. The three judges are to be selected from among the line chiefs on the hangar line.

As the first anniversary of the Blue and Gold Club nears, the program committee, of which Private Lloyd D. Miller is the chairman, states that the policy of guest speakers will be gradually abandoned, although occasionally it is planned to have Air Corps officers who are experts in their line to lecture on technical subjects which will benefit directly the Air Corps soldier. Thus, a professional spirit is to be strengthened in the Air Corps by using the Blue and Gold Club as the medium.

In furtherance of the professional spirit, Captain Signa A. Gilkey, Squadron Commander of the 4th Observation Squadron at Luke Field, delivered a thorough and brilliant lecture on the Martin B-12A Bomber which has seen service at Luke Field for only a few months. On August 30th, 1st Lieut. Daniel A. Cooper lectured on Air Corps Communications. As the latter officer is both the Group Communications Officer for the 5th Composite Group as well as the Wing Radio School Officer, he covered both the theo-

retical and the practical phases in a brilliant manner.

It is the belief of Chaplain Milton O. Beebe, who with his assistant, Private Lloyd D. Miller, fathered the Club, that the development of speaking in public for the enlisted man will not only increase his mental alertness but also his capacity as a noncommissioned officer. In this way the efficiency of the Air Corps can be aided. Morale is also greatly aided by the development of the professional spirit in the individual soldier.

NAVIGATION TRAINING IN 88TH SQUADRON

The 88th Reconnaissance Squadron, stationed at Hamilton Field, Calif., has completed the class room work in Dead Reckoning, and is now taking up the theory of Celestial Navigation, under the instruction of 1st Lieut. Richard C. Lindsay, Air Corps. The practical application of both Dead Reckoning and Celestial Navigation will be combined in flying the assigned missions.

The commanding officer of the 88th, Lieut. Colonel Calvin E. Giffin, Air Corps, has the unique distinction of advancing from the rank of Captain to that of Lieut. Colonel while commanding the same Squadron. Colonel Giffin assumed command of the 88th on March 17, 1932, as a Captain. On March 1, 1935, he was advanced to Major, and on August 26, 1936, to Lieutenant Colonel (Temporary).

ILLINOIS NATIONAL GUARD AIRMEN IN SECOND ARMY MANEUVERS

By 1st Lieut. Monro MacCloskey,
Adjutant, 33rd Division Aviation.

On August 8, 1936, Major C.A. McElvain led the flight of the 33rd Division Aviation, composed of the 108th Observation Squadron, 108th Photo Section, and 108th Medical Department Detachment, from the Municipal Airport at Chicago for its two weeks field training at Camp Custer, Michigan. Ordinarily summer training is held at Camp Grant, Ill., but our locale was changed this year in order to participate in the Second Army Maneuvers.

Normally, our base would have been in the rear of the front lines, but in view of the fact that suitable facilities were not available we were based at the Kellogg Airport, with an advance landing field in the Allegan district two and one-half miles in the rear of the Division Command Post. We had ten planes, one O-31 and the rest O-38's, two of which were E's. Most of the ships were equipped with the new type two-way radios. The ships, equipment, and men were put to a severe test during the maneuvers, because there were several occasions when crews worked on 24-hour shifts. The total flying time of the pilots for the two weeks was 324 hours and 45 minutes, with one pilot having logged 59 hours and 25 minutes, but the combined pilot and observer time for the same period amounted to 673 hours and 10 minutes.

During the maneuvers in the Allegan District we served a three-fold purpose, having ships on Division, Corps, and Army observation missions. The planes operating on the Division missions were divided into radio ships and drop and pick-up message ships. The Corps missions were the same type, but the Army missions were conducted entirely by radio. The Division planes worked with the front line troops as well as with Division Headquarters, but the Corps planes worked only with Corps headquarters. Of course, ships were on the advance landing field for command missions. The war really began after the troops moved from their concentration areas into the concealment zones. We were able to assist the ground troops by notifying them wherein their gun emplacements, trucks, or men were visible from the air. From then on our various assignments to the missions took place, and we cooperated with all branches of the service.

One of the most interesting phases was the locating of the 1st Cavalry (Mechanized). They penetrated through our Army observation line, but were picked up by our Corps ships and their entire progress reported by Corps observation until they reached the bivouac areas. Before daylight on the morning on which the mechan-

ized Cavalry was to make its first attack, we had ships in the air assigned to Division and Corps to report on their movements. We were able, because of the headlights on the vehicles, to report the strength, movement, and disposition of the enemy from the time they left their camp. We did this on two successive mornings. Our reports were received at the Division CP by our own trailer receiving the Division messages and by a radio mounted on a truck for the Corps messages. By means of our radio communications, General Keehn and his staff were able to follow practically every move of the mechanized Cavalry.

One of the greatest factors contributing to the success of our radio communication was the construction of a radio trailer to be towed by a Chevrolet truck, which would be a mobile unit that could work with any of our ships in the air, an idea conceived by our enterprising engineer officer, Captain W.V. Newhall. Although started only a month before we went to camp, by dint of strenuous labor this trailer was completed. It was constructed of angle iron, steel tubing and plywood, with a gasoline engine to drive the motor generator. We had set up this trailer at the Kellogg Airport, but upon the request of Division Headquarters it was installed at the Division CP. The Division Staff were so pleased with its operation that a loud speaker was attached, so that the two-way conversation could be heard by all officers in the vicinity.

One of the other features of the camp was the utilization of a photo trailer which the Air Corps Materiel Division, Wright Field, Ohio, had sent up for testing. During the one-day war between the 32nd and 33rd Divisions, which took place on the Camp Custer area, this trailer was set up outside the Division CP. An illustration of how successfully this trailer worked may be readily shown. A telephone message was received at the Kellogg Airport requesting photographs of a certain terrain in front of the objective of the 33rd Division. Being on the alert, the photo ship took the air immediately, and eight minutes from the time the phone call was received wet prints of the area were delivered to the staff officers at Division CP. This was only one instance of how efficiently this trailer functioned. Many photographs, as well as mosaics, were taken during the Maneuvers, and a real test was made of the photo trailer. In a test run, the 108th Photo Section, headed by Lieut. Roscoe Burley, turned out 316 prints in one hour's work.

(Continued on page 9)

WEATHER FOR THE ARMY
By Sergeant William S. Giles,
Hamilton Field, Calif.

ONE of the fifty odd military meteorological stations strategically located throughout the United States and its possessions daily supplying detailed weather information and flying conditions to the fighting forces of our country is the Meteorological Station maintained and operated by the Signal Corps at Hamilton Field, Marin County, Calif.

Heading the local organization which consists of two commissioned officers, two noncommissioned officers and four other enlisted men, is Major Walter B. Hough, Air Corps, as Post Meteorological Officer. The Assistant Meteorological Officer is Lieut. Harold H. Bassett, Air Corps, a recent graduate of the course in Meteorological Forecasting at the California Institute of Technology, who has direct supervision of the Forecast Section of the Station.

In active charge and supervising the operation of the Station is Staff Sgt. Walter J. Olszowy, Signal Corps Meteorologist, recently in charge of the Crissy Field Station at the Presidio of San Francisco, Calif., before its abandonment as a landing field several months ago. Sgt. Olszowy replaces Sgt. William S. Giles, Signal Corps Meteorologist, in charge of the Hamilton Field Station for the past year and a half, who after eight years of meteorological work in various posts throughout the Army, is returning to civilian life the latter part of September.

The station personnel is completed with Private Francis T. McHenry as Assistant Forecaster, and Privates, 1st Class, William A. Boutillier, Macrodtt, and Private Lynn H. Robson as Junior Observers.

Observations of all meteorological phenomena such as sky conditions, regarding cloudiness; unsettled conditions of weather; ceiling heights, determined by visual observations during the day and by the use of the ceiling light projector and clinometer at nights; temperature and dew point of the air; direction and speed of the surface wind from anemometers and the barometric pressure with the pressure tendency of change are some of the data included in the hourly reports which are distributed by the radio and Department of Commerce teletype system. Voice radio broadcast of these weather reports are made at five and thirty-five minutes after the hour throughout the twenty-four hours daily, advising pilots and others of the existing weather conditions at the field.

In addition to the above reports of weather, upper air soundings are made at eight and ten o'clock in the morning and at noon each day to furnish pilots with directions and speed of winds at various

altitudes above the earth's surface in order that they may take advantage of the more favorable winds for flying. These soundings are taken with a free pilot balloon of rubber inflated to rise at the approximate rate of 200 yards per minute. A theodolite, an instrument somewhat similar to a surveyor's transit, is trained on the balloon, and it is followed by an observer, who at the end of each minute relays the readings of the elevation and azimuth angles to an observer in the station by telephone. The observer in the station plots the position of the balloon at the end of each minute and from the plots extracts the wind speed and direction by the use of a protractor. Wind speeds and directions well over an altitude of 50,000 feet have been determined. This is much higher than our present day airplanes have been able to attain. These winds after being determined are reported to the radio station for transmission by broadcast, and are sent out by teletype also.

At 7:00 a.m. each day, a consolidated report is received from Washington showing the weather in code form from well over 250 stations in the United States, Canada, Mexico, Cuba, Alaska, and certain islands in the Pacific, and from a number of ships on both the Atlantic and Pacific Oceans which take meteorological observations. All pertinent weather data is included from each station, and this information plotted on a map. On this completed map is shown the disposition of the various pressure areas and the locations of the various frontal lines of the air masses from which the forecaster is able to make his forecast or prediction of the weather that may be expected in the immediate future. From this completed map, pilots are enabled to picture in a detailed manner the weather conditions that they may expect to encounter along any airway and are informed of unfavorable conditions such as adverse winds, storms and low ceilings, fog areas and so forth, as well as areas in which they can expect favorable weather and advantageous winds at various levels.

Statistical meteorological records are maintained at all times so as to be available to those desiring information as to seasonal and normal values. A complete knowledge of current and statistical meteorology enables the proper authorities to take the necessary measures in advance to protect supplies, equipment, provide shelter for both troops and animals, make ample preparation to provide against enemy gas attacks, as well as providing information of weather which would be favorable for attack on the enemy by either land or air.

At the International Convention of the Photographers' Association of America, held in Chicago, August 24th to 28th, Mr. Harold Hedger, Senior Instructor, Ground Photo Division, Department of Photography of the Air Corps Technical School at Chanute Field, Rantoul, Ill., had three of his pictures accepted by the Jury of Selection for hanging in the picture exhibit of the Convention.

One of these pictures attained a position of honor in the prize class by the award of a Blue Ribbon in the commercial classification. Any place in the picture exhibit must be won in open competition with all photographers in the world, as the Convention is International. Several thousand pictures are submitted from all parts of the world. The prizes, which include the medal and Blue Ribbon winners, are awarded among the fifty best pictures.

The picture which won the Blue Ribbon was a field artillery piece in action at night, the photograph itself being made by its own light, namely, the flash of gunfire. The officer in command and the gun crew are all plainly visible. The pictures awarded the honor of hanging in the exhibit were also interesting. One was an example of the circular symmetric composition in an exterior commercial subject, a system of scaffolding used in the repair of a smokestack being selected to exemplify this feature. The other picture, an example of night photography made with the aid of nothing more than a 2-cell pocket flashlight for the illumination, was of a subject very common in the Southern States but somewhat rare in Illinois - an ugly cactus which blossoms only at night; the very beautiful flower it gives is sometimes known as "Star of the East."

All three of the above mentioned pictures are typical of the varied kinds of work a photographer may be called upon to do at any time and are in line with instruction at the Air Corps Technical School.

Mr. Hedger was appointed as Instructor in Photography, U.S. Army Air Corps, with assignment to Chanute Field, in March, 1931, and is a graduate of the Illinois College of Photography. This occasion marks the second time Mr. Hedger has won international honors, the first at the Convention in 1932.

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Illinois Airmen in Second Army Maneuvers

(Continued from Page 7)

The enemy air corps interrupted the work at the airdrome on its daily visits by subjecting us to a gas attack, but it did us no harm. We returned home August 22nd, war-worn and weary, but well pleased over an exceedingly interesting and instructive camp.

A new device, known as an air trainer, has recently been developed at the Air Corps Materiel Division, Wright Field, Dayton, Ohio, for the purpose of instructing students while flying in the art of flying and landing by instrument alone without the use of the radio range beacon and truck equipment usually employed in instrument flying and landing. The need of such equipment is apparent when it is realized that a large number of students at a training center could not without great danger make practice flights under the hood with all of them using the same standard radio landing equipment and tuning in on the same radio range beacon. By means of the air trainer it is possible to simulate actual instrument flying and landing conditions.

The equipment consists of two sets of controls, one for the student, seated in the front cockpit of the airplane under the hood, the other for the instructor in the rear cockpit. The former set has a radio compass indicator and marker beacon flasher, and a frequency selector so that the student may tune to different frequencies and thereby receive the signals that would normally be heard from different frequency beacons. The student tunes to the frequency desired, which is indicated by visual signal on the instructor's panel. The instructor in turn throws a switch to correspond to this frequency which operates the correct keying device for setting up the radio range beacon signals with the corresponding station identification.

The instructor's control box includes, in addition to the frequency selector, a radio compass control, radio range beacon control, radio range volume control, ultra high frequency visual marker beacon light switch, a polarity reversing switch, marker beacon selector switch, and marker beacon volume control. Another unit mounted on a vibration absorbing gear contains an oscillator for producing the audio frequency used on the radio range beacon and instrument landing system. A second oscillator provides audio frequency for the audio marker beacon. This unit also contains the keying device for reproducing the beam of five radio range beacons and four audio frequency marker beacons. The equipment is so constructed that it can easily be placed in any type airplane and can be transferred from a primary trainer to a Bomber in a few minutes' time.

With this type trainer, a pilot may secure the necessary flying time and at the same time become proficient in the instrument flying and landing systems so essential for safety in modern flight.

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AN EXCITING INITIATION INTO THE CATERPILLAR CLUB

Initiations into the mythical Caterpillar Club having become a rather commonplace occurrence within recent years, it seems that nowadays most of those joining this Order have very little to say regarding their great adventure - their experience and reactions while taking leave of their airplanes in the extreme emergency and trusting to their parachutes to ease them down safely to terra firma.

Once in a while a report comes in from a new member which narrates a story of compelling interest. Such a report was recently received from Flying Cadet Lloyd Eyre, of the 49th Bombardment Squadron, GHQ Air Force, Langley Field, Va.

Cadet Eyre was flying in a Bouncing plane at 10,000 feet altitude over Denbigh, Va., and was accompanied by Private Marvin S. Cranfill, of the same organization. He states that he had banked the airplane to the right slightly, and then nosed down about 25 degrees into a power-on dive. "The airspeed slowly increased to 220 miles per hour," he said, "at which time I eased the throttles back to full off position. As I did that, the rudder pedals started vibrating at a high rate of speed. Knowing the plane was in a dangerous condition, I pulled back steadily on the stick to try to level up, but the elevators didn't seem to have much effect. After six or seven seconds, during which the vibrating got worse, everything seemed to let loose. I didn't know it then, but the rear half of the fuselage had snapped off right through the rear cockpit and thrown my passenger, Private Cranfill, out into space.

The part of the plane I was in whipped over to an upside down position. As it did so, all I can remember is hearing what sounded like glass breaking, and the ship vibrating terrifically before I passed into unconsciousness with a hopeless sickening feeling. It seemed to me that I instantly came to and realized that I was whirling dizzily in an inverted spin. Actually I had fallen about 3,000 feet with the wreckage before regaining consciousness, during which time the wings had snapped off just beyond the motor mounts. But I didn't know the plane had gone to pieces. I thought it was still all intact, except possibly the rudder.

I haven't any odea what speed the motors were turning at this time. I seemed to be spinning so fast I couldn't see anything. All I could think of was to get out of the plane and get out quick. Due to being pressed against the hood with considerable force, I had a little trouble reaching the latch. When I pulled it, the hood opened easily. Then when I reached down and unlatched my safety belt, I shot out of the cock-

pit like a rocket. I went so fast that I can't remember leaving the plane at all. The next thing I knew was that I was out in space, spinning in every conceivable direction, with my arms and legs outstretched to the limit. After a second or two, I tried to bring my right hand over to pull the rip cord. But it wasn't as easy as that. I could bend my arm at the elbow, but I seemed to be helpless in getting my hand across my chest.

I tried once, then twice, and the third time I was getting a little excited. I managed to get my hand where the ripcord should normally be, but it wasn't there. Then I made a frantic effort and reached clear around under my left arm. It was there alright and, believe me, I got it. I yanked it with such force that it flew out of my hand as it came free and went sailing off to one side through space.

I was watching it go, with a satisfied gleam in my eye, when all of a sudden, without any warning, I got jerked up with a terrible jolt. For a second it took all the energy out of me. I was just hanging there limp. Then I looked up, and there was the good old chute rippling in the breeze and working perfectly. I looked on past it to see if I could see the plane anywhere. I can't describe the strange feeling I had when I saw thousands of small pieces, none of them over two or three feet in diameter, hurtling down through the air.

I had cleared the plane at about 6,000 feet, and my chute opened at about 5,000 feet. But I didn't know then that the main piece, the piece I had been in, hit the ground about the time my chute opened. I sat there in a daze for a little while, wondering what had really happened. I had been thrown clear out of the zone of falling pieces, so I didn't have to worry about anything hitting my chute.

Then with a flash I remembered my passenger. Where was he? I looked up, and there he was about 4,000 feet above me, safely riding his chute down. I felt better then and relaxed a little. Then another thought flashed through my mind, and I fairly froze. Where was I going to land? Was I going to come down in water? I had just been flying over the James River a few minutes before. The thought made a cold chill run through me. I finally managed to bend my neck and look down. What a relief that was to see good dry ground below me.

Again I relaxed, and as I looked around I saw cars stopped along the roads and people standing out beside them. Apparently they were watching the excitement. Then I noticed my chute wasn't behaving very well. I was swinging violently from side to side, describ-

ing an arc of about 90 degrees, with me as the pivot. I wondered if there was any chance it would go so far over that it would fold up. Each time it would start swinging from one extreme position to the other the inside edge of the chute would sort of cave in. Several times it swung so far over it scared me. I was still a long ways from the ground, and I didn't want it to fold up yet. So I reached up and took hold of the lines and started see-sawing against the swinging motion. That worked fine. Within a few seconds I had it quieted down nicely. And then without any warning, it suddenly started swinging crossways to the way it had been going.

I reached around and got hold of another set of lines and stopped the swinging. But each time I would stop it one way, it would start the other way. I looked down, and we were still a couple of thousand feet up. It seemed that we were just hanging there in space, rocking. My arms got so tired I couldn't pull any more, so I gave it up as a bad job and let it rock. Strange, but it didn't seem to rock very much after that.

Then I looked down again. I was about a thousand feet high now, and I could see I was falling pretty fast. I looked to see where I was going to land. I was headed straight for the middle of a heavy patch of timber. I couldn't tell which way I was drifting, so I pulled down on one side of the chute to try to guide it over toward the edge of the timber. I was down to three or four hundred feet now, and my efforts at guiding the chute hadn't helped at all, so I let go of it. As I looked down, those tree tops looked like big needles sticking up. I wondered which one I was going to hit. They were so thick I didn't think it possible for the chute to go down through them. But luck was with me 100%, and I came sailing down through an opening not much bigger than the chute. I was trying to look out for tree limbs, but they flashed by so fast I couldn't see them. Then with a bang I hit the ground and fell over in a heap on a carpet of pine needles.

Cadet Eyre stated that outside of a couple of very sore thigh muscles for several days he experienced no ill effects from the parachute ride. His nose received rough treatment and he sustained minor cuts and bruises before he got out of the plane.

Private Cranfill stated in his official report of his parachute jump that when he was thrown out after the fuselage broke at the rear cockpit he was surprised to find himself in the air, as he had tried to open the cockpit enclosure and could not do so. "My first thought upon finding myself out in the air," he said, "was to get my chute open. This was accomplished quickly, although

I was jerked severely when it opened. My next thought was to find the ship, and I saw it falling in numerous pieces. As I neared the ground I thought about landing with my legs and body as limp as possible so as not to break any bones. I also tried to slip my chute so as to land in an open space, but failed in this and landed in a tree. I suffered no ill effects or injuries due to the jump."

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PICK-UPS FROM ADVANCED FLYING SCHOOL

Colonel Eugene H. Lohman, Air Corps, who was stationed at March Field, Riverside, Calif., has been assigned at Kelly Field, Texas, as Assistant Commandant of the Advanced Flying School. He replaces Major Wolcott P. Hayes, Air Corps, who has been assigned as Air Officer of the Fourth Corps Area.

The anxiety of the students to be away on the extended aviation flight to which they have looked forward throughout the year of their training was strained somewhat when continued rains held them at Kelly Field for several days. However, the long awaited break has come and they are now testing their instructor's ability - and patience - to teach them how to find, unaided, their way from here to there and back.

The complete reorganization of the post has been completed and, with the exception of routine troubles of housing, messing, etc., the post is once more operating in normal fashion. Training operations were suspended for one day only - Pay Day - so as not to interfere with the limited time available for the amount of flying necessary to graduate the present class on the scheduled date.

Barring unforeseen interference, the present class at Kelly Field will graduate on the 7th of October. This early date was necessary by reason of the fact that room must be made for the incoming students from Randolph Field, they being scheduled to graduate from the Primary Flying School on October 10th and to report to the Advanced Flying School immediately thereafter.

A REVIEW FOR SERGEANT HERBERT CASSETY

On August 31st, Albrook Field, Canal Zone, had its first review in honor of a retiring enlisted man. Sergeant Herbert Cassety, 24th Pursuit Squadron, took a review of the 16th Pursuit Group parading in his honor. The News Letter Correspondent, Albrook Field, states: "We hereby extend heartiest congratulations, wishing him a long retirement and a happy one."

55TH PURSUIT COMPLETES AERIAL GUNNERY

Establishing a record of 81.9 for average individual score, the 55th Pursuit Squadron, 20th Pursuit Group, Barksdale Field, La., returned from Shushan Airport in New Orleans as the first squadron in the Group to complete aerial gunnery for the year.

Firing from September 2nd to September 10th, the 55th formed the advance echelon for the camp, held this year at the Shushan Airport for the first time. During the month, firing will have been completed, with the 79th and 77th Squadrons following in that order.

Pilots of the Squadron, under the command of Major Armin F. Herold, left Barksdale Field on September 1st, flying to Shushan via Galveston, where a short stop was made for lunch and servicing. Completing the flight to New Orleans early in the afternoon, the flying personnel found a permanent camp set up and ready for occupancy, the ground echelon having made the trip on August 31st and September 1st, with an overnight stop at Baton Rouge, La.

Firing started on the morning of September 2nd with the first mission scheduled at 7:00 a.m. Although an intense schedule was necessary to complete training, and cancellation of seven missions due to rain further handicapped the personnel, the Squadron was able to fire six and one-half days of the ten, and was able to qualify fifteen men and fulfill the training requirements for formation firing. Led by Lieut. William Eades, Air Reserve, Squadron Armament Officer, with a record of 141, the fifteen pilots established an average mark of 81.9 for record score, individual, and 74 for formation firing.

During the firing periods, the 55th fired a total of slightly over 25,000 rounds of ammunition during 71 missions and 68 hours of flying. Ninety-three tow targets were used, towing time reaching slightly over 90 hours. During the firing period, a total of only eight stoppages was reported, and only 19 targets were lost due to failure of release or towing mechanism and shooting of rope, cable or release. A tremendous improvement in getting targets successfully off the ground and onto the tow cable was shown over past gunnery missions, due in a great degree to a new system of releasing targets developed by Staff Sergeant Arthur King, Armament Sergeant. Only five targets failed to function perfectly due to faulty functioning of the cable and release, many times that number being an average figure for former years.

A fuller explanation of Sergeant King's release method will be offered after further test by the remainder of the Group.

Although a section of the camp had to be moved due to the failure of a drain on the field, which allowed a heavy rain

to inundate the officers' area to the depth of 12 to 15 inches, the 30-day camp established by the ground echelons proved satisfactory practically, in all particulars, and the permanent personnel remained with only a few changes for the remainder of the month.

The 55th returned direct by air on September 10th, arriving at Barksdale Field about 4:00 p.m. The training camp was considered highly successful by all concerned, and the scores, considering the lack of comparative figures due to the new method of scoring and shooting, were believed to be well up in the lead when data on other squadrons become available.

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FIELD EXERCISES BY 90TH ATTACK SQUADRON

The 90th Attack Squadron, Barksdale Field, La., under the command of Captain William N. Amis, Air Corps, and consisting of 9 officers, 4 flying cadets, 82 enlisted men, and one medical officer and 11 enlisted men attached, departed for Fort Crockett, Texas, on September 7th to carry out squadron field exercises.

The movement was made in two echelons, air and motor vehicles. Twelve A-17 Attack airplanes, necessary spare parts, organization equipment, and a ground radio set were taken. Gasoline and oil were available in drums on the airdrome, and the airplanes were serviced by hand pumps.

The squadron base was approximately 100 miles from a general hostile front which had been established by a theoretical state of war. With ideal weather prevailing throughout the week's stay, two missions per day were flown against typical attack targets, with the objectives in some cases being 200 miles distant from the home airdrome. Machine guns, smoke, 17-pound fragmentation bombs, 100-pound demolition bombs, and mustard gas were the weapons used against the mythical enemy, with all armament loadings being simulated. A total of 205 hours was flown by the squadron in connection with the exercises. The return to Barksdale Field was made on September 12th, with no casualties reported other than those inflicted by the mosquitoes which undoubtedly had enlisted with the hostile forces.

In future war games it is hoped that these enemy activities will also be simulated.

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GENERAL BRETT ARRIVES IN PANAMA

Brigadier General George H. Brett, Air Corps, recently arrived on the Isthmus, coming from Bolling Field, D.C., and assumed command of the 19th Composite Wing, which embraces all Air Corps forces in the Panama Canal Department.

V-7111, A.C.

NIGHT LANDINGS BY INFANTRY SEARCHLIGHTS

A new type of light, portable infantry searchlight, has been received by the Hawaiian Division and issued on the basis of three to each infantry regiment. The lights are designed to provide night illumination for machine gun targets. They are equipped with either glass or metal reflectors and are mounted on collapsible tripods. The lights stand about 3½ feet above the ground and are activated by battery current. The batteries for each light when fully charged have a capacity sufficient to keep the light burning throughout the hours of darkness.

Since many of the outlying landing fields on Oahu are located reasonably close to the beaches defended by infantry regiments, it was considered desirable to ascertain whether the infantry lights would be of value to the Air Corps for operations from landing fields adjacent to the infantry. The Inter-branch Lighting Board cooperated fully with the 18th Pursuit Group and sent three lights equipped with metal reflectors and three equipped with glass reflectors to Wheeler Field for practical test. The infantry regiments furnished

the personnel to operate the lights.

One Attack Squadron and one Pursuit Squadron conducted the test, the Pursuit using P-12's and the Attack A-12's. Each pilot made one landing using the metal reflector lights, one landing using the glass reflector lights and one landing using all lights. In all, about ninety landings were made.

The new infantry portable searchlights were found to be entirely suitable for use in the Air Corps. One light is sufficient to illuminate a landing field. The News Letter Correspondent expresses the belief, however, that if used the lights should be employed in pairs in order to provide for any contingency incidental to the failure of one light. The beam lies close to the ground and has sufficient intensity to illuminate a strip varying from ten to fifty feet in width, and about ¾ of a mile long. He does not believe that the Air Corps is interested in procuring any lights of this type but thinks that this item should prove of interest to Air Corps units occupying airdromes in the vicinity of ground units equipped with the new portable searchlights.

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NIGHT LANDINGS BY HAND SEARCHLIGHTS

In connection with night flying training of the 18th Pursuit Group, Wheeler Field, T.H., an exercise was conducted recently in which all pilots of all squadrons in the Group made several landings using only the so-called smokepots for illumination. These smoke pots consisted of an ordinary No. 2 tin can, two-thirds filled with waste saturated in a mixture of oil and gasoline. The cans are laid in a straight line about 100 yards apart and the limits of the field are illuminated by pairs of cans. Considerable experience with this simplified night landing system has conclusively indicated that the smoke pots furnish sufficient illumination for field operations.

The cans will always be available, and the necessary oil and gasoline is always on hand.

At the conclusion of the last smoke pot tests, an experiment was conducted in landing by hand searchlights. Ten ordinary pocket flashlights were used. They were laid on the grass with the light projected down wind. The lens ends of the flashlights were raised above the edge of the ground about 30°. The lights were visible only during the actual approach for a landing and could not be seen from directly overhead or from any angle except approaching into the wind. Numerous landings were made without difficulty. For actual operations a soldier could be stationed at

each hand flashlight. The lights could be blinked on only when a plane was approaching and extinguished when the plane had passed the light. "Some of the pilots of the 18th Pursuit Group have suggested that the next night landing exercise be conducted using matches for illumination," says the News Letter Correspondent, and he adds: "It is understood that one squadron has gone a step further and is training lightning bugs."

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CHIEF OF STAFF VISITS SAN ANTONIO DEPOT

The San Antonio Air Depot, Duncan Field, Texas, enjoyed its first visit from General Malin Craig, the Chief of Staff. General Craig, accompanied by Major General Frank M. Andrews, Commanding General of the GHQ Air Force, Lieut. Colonel A.D. Surles and Captain C.B. Lee, of the Office of the Chief of Staff, Washington, visited the Army activities in San Antonio on September 18th in the course of an air tour of GHQ Air Force units in the South and West.

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Major Dushal D. Luchitch, of the Yugoslavian Air Corps, Air Attache to the Royal Yugoslav Legation at Washington, was a visitor at the San Antonio Air Depot on September 18th in the course of a visit to a number of Air Corps stations in the Eastern and Central States.

V-7111, A.C.

B I O G R A P H I E S

COLONEL MARTIN F. SCANLON

Colonel Martin F. Scanlon, Air Corps, now serving on his third detail abroad as Assistant Military Attache for Air, was born at Scranton, Pa., August 11, 1889. He was a student both at the University of Pennsylvania and Cornell University.

Appointed a 2nd Lieutenant of Infantry on April 24, 1912, he was assigned to the 19th Infantry. On March 23, 1916, he was attached to the Aviation Section, Signal Corps, as an aviation student and reported to the Aviation School at San Diego, Calif., for training. He was rated a Junior Military Aviator October 28, 1916.

Transferred to the Philippine Islands, he was on duty from February to October, 1917, as pilot and Commanding Officer of the 2nd Squadron at Corregidor, flying Martin seaplanes.

Returning to the United States in November, 1917, Colonel Scanlon for a period of about a month received instruction on Deperdussin controlled Curtiss airplanes at Kelly Field, Texas. He was then assigned to duty at Fort Worth, Texas. In January, 1918, he sailed for duty overseas, and during the period from February to August, 1918, he took an advanced flying course with the British Royal Flying Corps at Scampton, Lincolnshire, England, training on Avros and on Sopwith Pups, equipped with Gnome, LeRhone and Clerget engines.

From August 23 to September 16, 1918, he was on duty as pilot with the 91st Aero Squadron in the Toul Sector, flying Salmson, Spad and DH-4 planes. From September 16 to October 23, 1918, he was Commanding Officer of the Colombey-les-Belles Airdrome, flying Spads and SE-5 airplanes.

Colonel Scanlon was on duty as Corps Air Service Commander, 5th Army Corps, from October, 1918, to March, 1919, during which period he flew Salmson, DH-4, Spad and Avro planes. In March, 1919, he was also Corps Air Service Commander, 1st Army Corps. In the following month he was a student, Army Center Artillery Studies, Treves, Germany, and in May he was on duty at the 3rd Army Air Service Headquarters, Coblenz, Germany.

Upon returning to the United States in July, 1919, Colonel Scanlon was assigned to duty as Commanding Officer of Bolling Field, D.C., and he remained there until August, 1922, when he was assigned as student at the Air Service Engineering School at McCook Field, Dayton, Ohio.

Graduating from the Engineering School in August of the following year, he was assigned to the Militia Bureau (now National Guard Bureau), Washington, D.C., as representative to the Chief of Air Service.

In May, 1924, Colonel Scanlon was detailed to duty as Assistant Military Attache, American Embassy, Rome, Italy, and he remained on this duty until August, 1927, when he was detailed as a student at the Air Corps Tactical School, then at Langley Field, Va. Upon his graduation, he pursued the one-year course of instruction at the Command and General Staff School at Fort Leavenworth, Kansas, which he successfully completed in June, 1929. He was then again detailed as Assistant Military Attache, this time at the American Embassy at London, England. Completing four years on this duty, he was assigned to Scott Field, Belleville, Ill., for duty with the 15th Observation Squadron. He served with this organization until January 14, 1935, and thereafter, for exactly one year, he was on duty as Commanding Officer of Bolling Field, D.C.

On February 6, 1936, Colonel Scanlon returned to London, England, for another tour of duty as Assistant Military Attache for Air.

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LIEUT. COLONEL CARL SPATZ

Lieut. Colonel Carl Spatz, Air Corps, now on duty at 2nd Wing Headquarters, GHQ Air Force, as Executive and Inspector was born at Boyertown, Penna., June 28, 1891. He was a cadet at the U.S. Military Academy March 1, 1910, to June 12, 1914, when he was graduated, commissioned a second lieutenant, and assigned to the 25th Infantry. He served with this regiment at Schofield Barracks, Hawaii, from October 4, 1914, to October 13, 1915.

Detailed to the Aviation Section, Signal Corps, he was a student at the Aviation School at San Diego, Calif., from November 25, 1915, to May 15, 1916, and on duty with the 1st Aero Squadron at Columbus, New Mexico, from June 15 to November 1, 1916. He served with the Punitive Expedition in Mexico under General Pershing.

Colonel Spatz was on duty at San Antonio, Texas, with the 3rd Aero Squadron, December 1, 1916, to May 5, 1917, and was in command of the 5th Aero Squadron from May 5 to July 14, 1917.

Ordered to duty overseas, he was in command of the 31st Aero Squadron in France from August 11 to September 17, 1917; at Aviation Headquarters, Paris, September 21 to October 15; at Chaumont, to November 15. He was in charge of training at the American Aviation School at Issoudun, France, to August 30, 1918, (except for one month spent at the British Front).

During the time Colonel Spatz was at Issoudun, organizing the Aviation School, it grew from a few buildings with no course of instruction outlined and no

definite plan of organization, to probably the largest aviation school in the world. The greater percent of all American aviators and mechanics sent to the front were trained at this school. Practically every plan for the location of the field and buildings, for the methods of maintenance and supply of airplanes and for system and methods of instruction were drawn up by him or submitted to him for approval.

During the period from September 2 to 21, 1918, he served with the 2nd Pursuit Group at the front, most of this time as pursuit pilot in the 13th Squadron, and shortly before leaving he was promoted to Flight Leader. He participated in several aerial combats during the St. Mihiel Drive and Argonne Forest Fight, and was officially credited with having shot down two German planes.

Colonel Spatz was awarded the Distinguished Service Cross, the citation accompanying same being as follows:

"For extraordinary heroism in action during the St. Mihiel offensive September 26, 1918. Although he had received orders to go to the United States, he begged for and received permission to serve with a pursuit squadron at the front. Subordinating himself to men of lower rank, he was attached to a squadron as a pilot and saw conditions and arduous service through the offensive. As a result of his efficient work he was promoted to the position of flight commander. Knowing that another attack was to take place in the vicinity of Verdun, he remained on duty in order to take part. On the day of the attack west of the Meuse, while with his patrol over enemy lines, a number of enemy aircraft were encountered. In the combat that followed he succeeded in bringing down two enemy planes. In his ardor and enthusiasm he became separated from his patrol while following another enemy far beyond the lines. His gasoline giving out, he was forced to land and managed to land within friendly territory. Through these acts he became an inspiration and example to all men with whom he was associated."

Upon his return to the United States, Colonel Spatz served as Assistant Air Officer of the Western Department at San Francisco, from July 29, 1919, to July 13, 1920; as Commanding Officer of Kelly Field No. 2, from October 5, 1920, to February 4, 1921; as Air Officer of the 8th Corps Area from April 25, 1921, to November, 1921, and as Commanding Officer of the 1st Pursuit Group, Ellington Field, Houston, Texas, and Selfridge Field, Mt. Clemens, Mich., from November 21, 1921, to September 24, 1924.

In April, 1919, Col. Spatz was in charge of a Flying Circus to cover the Western States and assist in the Victory Loan Drive. Flights were made in 27 cities, and the Circus was on the road

30 days. In October of 1929, he participated in the Transcontinental Reliability Test Flight.

Following his graduation from the Air Service Tactical School at Langley Field, Va., June 15, 1925, Colonel Spatz was assigned to duty in the Office of the Chief of Air Service. He commanded the Army airplane "Question Mark," when it established a new record in refueling endurance flights of 150 hours, 40 minutes and 15 seconds, in January, 1929.

Assigned to station at Rockwell Field, Coronado, Calif., in April, 1929, Col. Spatz commanded the 7th Bombardment Group to October 26, 1931; the 1st Bombardment Wing to March 15, 1933, at March Field, Calif.; and up to June 10, 1933, he was Executive Officer of the 1st Bombardment Wing. He then returned to duty in the Office of the Chief of the Air Corps, Washington, as Chief of the Training and Operations Division.

During the operation of the air mail by the Army Air Corps, early in 1934, Col. Spatz was on duty as Chief of Operations, G-3.

Following a year of duty as student at the Command and General Staff School, Fort Leavenworth, Kansas, Colonel Spatz, upon his graduation, June 30, 1936, was assigned to the GHQ Air Force at Langley Field, Va.

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AIR FORCE REORGANIZATION IN PANAMA

The News Letter Correspondent from Albrook Field, Panama Canal Zone, states that, due to the many problems peculiar to the Panama Canal Department, the reorganization of the Air Corps forces there has been somewhat behind that in the United States. "The problem has by no means been neglected, however," he says, "and after many months' intensive study and preparation it is contemplated that in the very near future reorganization will take place.

"As with the GHQ Air Force, the new plan provides for Base Squadrons for both Albrook and France Fields, and the regular tactical squadrons in addition.

"It is felt that the new set-up will have many advantages over the old, although of necessity there are disadvantages. Among the advantages hoped for are greater ease and centralization of Post Administration, such as guard, fatigue, etc., and greater ease of maintenance of equipment, since almost all men in tactical squadrons will be available, having few post duties.

"It will be interesting to see exactly what plan is eventually adopted, and we hope soon to be in a position to describe the Panama Canal's brand new Air Force."

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Captain Corley P. McDarment, A.C., was placed on the retired list September 30, 1936, for disability incident to the service. He was on duty at Pittsburgh, Pa.

THIRD ATTACK GROUP PARTICIPATES IN LOS ANGELES AIR RACES
By the Barksdale Field Correspondent

THE flight of eight A-17 Attack airplanes scheduled to participate in the National Air Races at Los Angeles, California, departed from Barksdale Field, La., at 7:00 a.m., Tuesday, September 1, 1936. The first stop was made at Midland, Texas, for gas, and the next was at El Paso, Texas, where the flight remained overnight. Total time to El Paso was five hours and forty minutes. The take-off from El Paso was toward the mountains, and the planes climbed over in straightaway flight, with ample room to spare.

The remainder of the flight to March Field, Calif., was uneventful, with the exception of occasional thunder storms. The arrival at March Field was made exactly at twelve noon. The total time from El Paso to March Field was four hours and thirty minutes.

On Thursday the members of the flight assembled in the flight commander's office for preliminary instructions. Two formations were practiced, one a column of flights and the other, the letters "LA." Also, a flight was made to Mines Field and return to look over the airport.

The Attack flight moved from March Field to Mines Field on Friday, September 4th, arriving at that place at 12:40 p.m., which was a few minutes prior to the arrival of the airplanes of the Ruth Chatterton Derby, officially opening the Races. One formation was flown in the afternoon.

On Saturday morning, while personnel of the Army flight were assembled in the headquarters tent for instruction, a sharp crash was heard in the parking area occupied by Army, Navy and Marine airplanes. The engine of a small racing plane had cut out over the field and the pilot, in attempting to land, had crashed into the propeller and radio mast of a March Field A-17 Attack plane. The racing plane was demolished but the pilot was uninjured.

When the flight took off on Sunday, moisture could be seen streaming from the propeller tips, and by the time it reached the end of the field patches of fog were encountered. After forming the letters "LA," the fog had rolled in until it was impossible for members of the flight to see the field, and it was necessary to break up and land at Dycer Field, Long Beach and March Field. The organization reassembled at Mines Field on Monday to complete the scheduled mission for that day, after which it returned to March Field.

After devoting Tuesday to maintenance, the Third Attack Group flight departed from March Field at 7:00 a.m., Wednesday, September 9th, for Albuquerque, New

Mexico, by way of Boulder City, Nevada. Ten minutes out of March Field, one plane, piloted by Lieut. Guilmartin, was forced back to March Field by a loose collector ring. The remainder of the flight reached Albuquerque at 11:40 a.m., and departed for Hensley Field at 3:10 P.M., arriving at 8:00 p.m. The return trip to Barksdale Field was completed on Thursday morning. Lieut. Guilmartin arrived at Barksdale Field at 1:30 p.m., Thursday, having returned by the southern route and remaining overnight at El Paso.

The total time to and from March Field was 168 hours and 45 minutes. The total time at the Races was 71 hours and 5 minutes.

The morale of the enlisted personnel was high. Their duties were performed in a very satisfactory manner and, in addition to maintaining their own planes while at the Races, it was necessary for them to start and maintain the Barksdale P-26's.

The Department of Commerce radio facilities were used to great advantage on the return trip. Stations worked were: Kingman, Winslow and Albuquerque. Kingman was used from a distance of over 70 miles; Albuquerque and Winslow, from thirty to fifty miles.

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MISSIONS OF MERCY

During the past two months, the 18th Pursuit Group, Wheeler Field, T.H., was called upon to transport two appendicitis cases from the Kilauea Military Camp on Hawaii to John Rodgers Airport on Oahu. The seats on one side of an OA-3 Transport were removed and a stretcher securely and comfortably mounted for the patient. In both cases the patient was moved safely to Oahu and delivered by ambulance to Tripler Hospital for necessary medical attention.

On August 23, 1936, during the Hawaiian National Guard encampment at Kawaihapai, three men swimming off the north shore were washed out to sea by the current and were unable to get back. The 18th Group was called upon for assistance and promptly dispatched an A-12 to the rescue. The 26th Squadron was unable to reach the scene in time to deliver life jackets before one of the men had drowned. The other two reached the shore safely. The 18th Pursuit Group has been commended officially for its prompt and efficient rescue work.

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War Department orders, recently issued, direct 1st Lieuts. Reginald Heber, Jewell B. Shields and Cordes F. Tiemann, Air Corps, to proceed to Randolph Field, Texas, for duty upon the completion of their tour of duty in the Hawaiian Department.

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NAVIGATION MISSIONS AT LUKE FIELD

Since the arrival of B-12A airplanes at Luke Field, T.H., the organizations of the 5th Composite Group have been active in conducting long-distance navigation missions. With the older type airplanes it was considered necessary to send an amphibian escort plane to accompany each cross-water flight. With the newer planes, which are capable of flight on one motor even though fully loaded, navigation flights up to sixty miles from land are permitted to be conducted, and sometimes even greater distances.

After a series of preliminary navigation flights to the northwest of Kauai and Nihoa, the 5th Composite Group successfully executed an interception mission with the U. S. Army Transport REPUBLIC on September 7th. The transport was intercepted while approximately 175 miles from Makapuu Head, equivalent to a half day's steaming. The formation consisted of eight B-12A's, under the command of Major Idwal H. Edwards; Air Corps. First Lieut. John W. Egan, Air Corps, acted as navigator for the flight. The interception was scheduled for 2:00 p.m., Honolulu Standard Time, and was actually effected at 15 seconds past 2:00 p.m. After circling the transport at 1,000 feet, the planes returned to Luke Field.

Incidentally, one of the passengers aboard the transport was Brigadier General Barton K. Yount, the new Wing Commander and Department Air Officer.

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NEW LANGUAGE TO DESCRIBE AN AIRPLANE

Touching on the ferrying of the first of their C-53's from March Field to Patterson Field, Fairfield, Ohio, recently, the News Letter Correspondent from the last named station describes this cargo plane thusly: "In many respects she resembles a nice, stout, old lady, not fast on the turns but good on the straight-away, amiable and comfortable but commanding a certain respect and consideration."

Major J.G. Williams and Master Sergeant Cecil B. Guile were the pilots on the above mentioned ferrying flight. They reported that the automatic pilot functioned perfectly, and if the trip had not terminated when it did they would have become a couple of old "knob turners."

Extensive training is now being conducted with this first cargo carrier in order to qualify the personnel necessary to pilot the Fairfield Air Depot's "Silver Fleet." The News Letter Correspondent says: "The rapidity with which the new pilots learn to handle this type of airplane speaks well for their training and the qualities of the airplane itself."

ARMY TEST NAVIGATORS LAND AT BROWNSVILLE

Heralding a new era in the science of air navigation, the Air Corps flying laboratory landed at Brownsville, Texas, shortly before noon on September 24th, completing a trip across the Gulf of Mexico from New Orleans.

The purpose of the flight, which started from Wright Field, Dayton, Ohio, was to conduct extended tests on a combination of celestial and dead reckoning navigation equipment on which the Army Air Corps has been working for some time.

The crew of the big flying laboratory, a Douglas twin-engined airplane, report the tests successful and, although the data obtained during the flight have not been entirely reviewed, the results of the flight indicate that a tremendous step has been made towards the simplification of air navigation.

The Army personnel making the test flight include Captains S.M. Umstead, C.J. Crane, Lieut. T.L. Thurlow, Dr. S.M. Burka, Messrs. A.R. John and Lester Marks, all stationed at Wright Field, the Army Air Corps experimental station.

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AN AERIAL REVIEW AT ALBROOK FIELD

Brigadier General Halstead, Pacific Sector Commander, and Brigadier General George H. Brett, 19th Wing Commander, witnessed an aerial review at Albroke Field, Panama Canal Zone, on August 29th. The entire Pursuit strength of the Isthmus, plus O-19 planes of the 44th Observation Squadron, participated. General Halstead spoke from the ground to Colonel Phillips, who was leading the formation. General Halstead was visibly impressed with the ease and clarity of communication between plane and ground.

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Wing Commander A. Hepburn, of the Royal Australian Air Force, on a visit to several Air Corps stations in the United States on his return to Australia from a round-the-world journey, visited the San Antonio Air Depot, Duncan Field, Texas, on September 10th, and expressed great interest in viewing the workings of this Depot, especially in matters of shop, warehouse and hangar construction.

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Upon the termination of their tour of duty in the Hawaiian Department, the following-named Air Corps officers, in accordance with War Department orders, will proceed to the stations named for duty:

First Lieuts. Douglas M. Cairns to March Field, Riverside, Calif.; John G. Fowler and Lewis R. Parker to Bolling Field, Anacostia, D.C.; Travis M. Hetherington to Chamute Field, Rantoul, Ill.; and Carlyle W. Phillips and Earl F. Signer to Scott Field, Belleville, Ill.

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WASHINGTON OFFICE NOTES

Major General Oscar Westover, Chief of the Air Corps, visited Cleveland on September 21st and attended the American Legion Convention.

Officers who recently returned from leaves of absence were Lieut. Colonel Robert L. Walsh, Major James A. Mollison, and Major Malcolm C. Grow, Medical Corps.

Colonel Clarence L. Tinker, Commanding Officer of Hamilton Field, Calif., was a visitor on September 25th during the course of an extended navigation flight.

Recent visitors to the Chief's Office were Majors Earl H. DeFord, Austin W. Martenstein and Ray A. Dunn, from the Air Corps Tactical School, Maxwell Field, Ala.; Majors James P. Hodges and Lawrence P. Hickey from Langley Field, Va.; Major John V. Hart, during the course of leave of absence from Kelly Field, Texas; Captain Milo N. Clark, during the course of an extended navigation flight from Randolph Field, Texas; and 1st Lieut. Ralph P. Swofford, Jr., during the course of a navigation flight from Wright Field, Ohio.

Lieut. Colonel William E. Lynd left for the West Coast on September 19th for the purpose of ferrying a plane eastward.

Major Charles Y. Banfill returned from a navigation flight to Bangor, Maine, on Sept. 27th.

Captain Mervin E. Gross returned September 27th from temporary duty at Wright Field.

Captain Robert V. Laughlin returned September 26th from a conference in New York City.

Major Edward V. Harbeck, Jr., of the Inspection Division, returned September 25th from detached service.

Captain Francis H. Vanderwerker, who was on temporary duty in the Chief's Office, returned to Wright Field.

First Lieut. William T. Hefley, from the Materiel Division, Wright Field, reported for temporary duty.

AIR CORPS PERSONNEL NOTES

First Lieut. Albert W. Shepherd was retired from active service on September 30, 1936, for disability incident to the service.

First Lieut. Charles G. Goodrich, Langley Field, Va., was ordered to duty with the Air Corps in the Panama Canal Department, sailing from New York on October 30th.

First Lieut. David D. Graves is assigned to duty at Bolling Field, D.C., effective upon the completion of his tour of duty in the Panama Canal Department.

AERIAL DEMONSTRATION AT FORT BENNING, GA.

An item which may be of interest to readers of the Air Corps News Letter is the recent Aerial Demonstration at Fort Benning, Ga., which was given for the benefit of the senior class, U.S. Military Academy, and was participated in by the following units from Langley and Barksdale Fields:

- 20th Bombardment Squadron
- 13th Attack Squadron
- 37th Attack Squadron
- 79th Pursuit Squadron

The 20th Squadron, led by Major B.M. Giles, departed from Langley Field for Fort Benning on the afternoon of August 11th for participation in this demonstration. The formation was composed of nine B-10B airplanes, carrying 13 officers, 5 flying cadets and 18 enlisted men. The Squadron arrived at Lawson Field that afternoon at 5:45 o'clock. The Commanding Officer of the 2nd Bombardment Group, Lieut. Colonel Charles B. Oldfield, arrived from Langley Field the following day to witness the demonstration.

The bombing demonstration consisted of bombing an upright target by three individual flights of three planes each. Despite extreme cloudiness, which delayed "B" and "C" flights in getting their bombs off on scheduled time and greatly increased the difficulty of the actual sighting operation, the results obtained were very satisfactory and may be outlined as follows:

FLT.	BOMBER	TYPE	ALTITUDE	MEAN CIRCULAR
		BOOMB	IN FEET	ERR
"A"	Major Giles	300 lb.	10,000	12 miles
"B"	Lt. Glantzberg	600 lb.	7,000	18 miles
"C"	Lt. Sutherland	1100 lb.	3,600	20 miles

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WAR DEPT. ORDERS AFFECTING AIR CORPS OFFICERS

CHANGES OF STATION: To Randolph Field, Tex. 1st Lieut. Sydney D. Grubbs, Jr., upon completion tour of duty in Hawaii.

To Boston, Mass.: Captain Milton M. Murphy, March Field, for duty with Organized Reserves of 1st Corps Area.

To Selfridge Field, Mich.: Major Benjamin B. Cassidy, from Primary Flying School, Randolph Field, Texas.

To Wichita, Kansas: 1st Lieut. Samuel R. Brentnall, from Mitchel Field, N.Y., for duty as Air Corps representative at the Stearman Aircraft Factory.

To Hqs. 1st Corps Area, Boston, Mass.: Captain Raymond R. Brown, from duty as student, Harvard Graduate School of Business Administration, Cambridge, Mass.

To Kelly Field, Texas: Colonel Eugene H. Lohman, from March Field, for duty as Assistant Commandant, Advanced Flying School.

RELIEVED FROM DUTY WITH AIR CORPS: 2nd Lt. Willard L. Egy and Wm. S. Van Nostrand, former assigned to 10th Infantry, Fort Hayes, O., and latter to 1st Cavalry Division, Fort Bliss, Texas.

O B I T U A R I E S

September proved a rather unfortunate month for the Air Corps in the matter of aircraft accidents, three of them proving fatal and resulting in the loss of six lives.

On September 12th, while flying near March Field, Calif., 2nd Lieut. James T. Carter, Jr., Air Reserve, pilot, and Private Milton J. Cutting, mechanic, were killed as the result of a crash.

On September 16th, Captain Francis P. Booker, veteran Air Corps pilot, who was attending the Air Corps Tactical School at Maxwell Field, Montgomery, Ala., was so severely injured in a crash near the field that he died at the station hospital the following morning.

On September 23rd, during the course of a night flight, 2nd Lieut. Jack J. Neely, Air Corps, piloting a bombing plane from Mitchel Field, N.Y., with Corporal Angelo Mozzacco as bomber and Private, 1st Class, Thaddeus F. Makuszewski as radio operator, crashed in a fog near Providence, R.I., all three men being killed.

Lieut. Carter, a native of Bowman, S.C., was born on February 25, 1909. He graduated with a B.S. degree in 1930 from the Citadel, Charleston, S.C., and was commissioned a Second Lieutenant in the Infantry Reserve. Appointed a Flying Cadet in the Army Air Corps, he graduated from the Primary Flying School, Randolph Field, Texas, October 14, 1933, and from the Advanced Flying School, Kelly Field, Texas, February 20, 1934, on which date he was rated "Airplane Pilot." He specialized in Pursuit Aviation.

Lieut. Carter was assigned to duty under his cadet status with the 95th Pursuit Squadron (later redesignated Attack) at March Field, Calif. A year later he was commissioned a Second Lieutenant in the Air Reserve, and he continued on active duty at March Field.

Private Cutting, of Hayward, Calif., enlisted in the Air Corps on June 8, 1934. He was also stationed at March Field.

Captain Booker, who was born at San Antonio, Texas, July 22, 1896, became affiliated with Army aviation during the World War. He attended St. Mary's College and San Anthony's College. After enlisting in the Quartermaster Corps, he transferred to the Aviation Section, Signal Corps, attended ground school at the School of Military Aeronautics, Austin, Texas, and received his flying training at Ellington Field, Houston, Texas. Upon the completion of his flying training he was, on September 18, 1918, commissioned a second lieutenant in the Aviation Section, Signal Corps, and assigned to active duty at Ellington Field. He remained on duty at this station until August 18, 1919, when he was honorably discharged from the service.

Passing the examination for appointment as an officer in the Regular Army, Captain Booker was commissioned a second lieutenant, Air Service, with rank from July 1, 1920, and assigned to the Primary Flying School at Carlstrom Field, Arcadia, Fla., to take a refresher course in flying. Upon graduating from Carlstrom Field,

he specialized in Bombardment Aviation at the Advanced Flying School at Kelly Field, and he was rated an "Airplane Pilot" on August 4, 1921.

Captain Booker subsequently served at Langley Field, Va.; France Field, Panama Canal Zone; returned to Kelly Field, and was one of the original officers to be assigned to duty at Randolph Field when it was established in 1931. He served at the last named station until August, 1936, when he was detailed as student officer at the Air Corps Tactical School at Maxwell Field, Ala.

His survivors are the widow, three children and his mother, Mrs. Mary C. Booker, of San Antonio.

Lieut. Neely, who was a member of the Air Corps for less than a year, was born in North Dakota, February 4, 1911. Upon his graduation from the United States Military Academy in 1934, he was assigned to the Air Corps to undergo flying training. He completed the course at the Primary Flying School, Randolph Field, July 1, 1935; specialized in Bombardment Aviation at the Advanced Flying School, Kelly Field, Texas, and graduated therefrom on October 12, 1935, when he was rated an "Airplane Pilot."

Lieut. Neely's first duty assignment as an Air Corps officer was with the 99th Bombardment Squadron at Mitchel Field, N.Y., as Athletic Officer, Assistant Adjutant, and Supply Officer.

Corporal Mozzacco was born on April 21, 1910, at Funkston, Pa. He enlisted in the Air Corps on August 31, 1934, and served with the 99th Bombardment Squadron at Mitchel Field, N.Y.

Private Makuszewski was born at Ehengethdy, New York, February 18, 1908. He enlisted in the Army Air Corps June 19, 1931, and was stationed at Mitchel Field, N.Y., serving with the 99th Bombardment Squadron.

The Air Corps extends its sincere sympathy to the families of the deceased officers and enlisted men.

TRAINING ACTIVITIES OF 77TH PURSUIT SQUADRON

Operations for the 77th Pursuit Squadron, Barksdale Field, La., during the first half of September were devoted primarily to gunnery in preparation for the aerial gunnery maneuvers scheduled to be held in New Orleans, La., from September 21st to 30th. Other phases of training during this period, however, were not neglected, and unit navigation, both day and night, individual combat and unit combat exercises received a good share of the time. Intensive training in instrument flying, and miscellaneous missions were also carried out.

Major Carlton F. Bond, Air Corps, acted as temporary squadron commander during part of the period when Major Claire L. Chennault was on leave. Five cadets of the 77th flew with the 79th Pursuit Squadron to Phoenix, Arizona, in connection with presentation of the Luke Trophy.

NOTES FROM AIR CORPS FIELDS

Albrook Field, Panama Canal Zone, Sept. 20th.

Well, affairs at Albrook Field are at last sufficiently in hand to permit of a little extra-curricular activity.

Lieut. Colonel C.T. Phillips sailed September 15th for the United States. From his assignment as Commanding Officer at Albrook Field he goes to Washington for duty in the Chief's Office. Heartiest wishes for success at his new post come from his old command.

Although quite a number of the officer personnel of Albrook Field are scheduled to return to the United States within the next two months, there appear to be no replacements ordered to Panama to take their places. If replacements are not ordered here soon, Albrook Field will have the unaccustomed sight of several vacant sets of officers' quarters - something that not even the oldest inhabitant can remember.

Middletown Air Depot, Pa., September 18th.

During the month of August, the pilots of this post made 18 flights hauling freight. A total of 7,533 miles was flown, over which 53,171 pounds of freight were carried.

The recent transfer of Staff Sergeant Layman, formerly from Mitchel Field, and Private Hamish, of Aberdeen Proving Grounds, increases the number of enlisted pilots at this post to six.

Fairfield Air Depot, Fairfield, O., Sept. 24.

Mrs. Hez McClellan has assumed the duties of Hostess at the Wilbur Wright Officers' Club. No further comment is necessary as, no matter how well conducted before, we know that from now on everything will be improved.

Langley Field, Va., September 20th.

8th Pursuit Group: Due to the reorganization of GHQ Air Force Units, the 8th Pursuit Group Headquarters, GHQ Air Force, curtailed their Field Exercises at Virginia Beach, Va., and returned to their proper station on August 22nd instead of on the 26th, as had been previously planned.

Captain Walter L. Wheeler returned to the Group from detached service at Fennville, Mich., as liaison officer with the Second Army, and was reassigned to the 36th Pursuit Squadron, GHQ Air Force. Captain Wheeler is now the commanding officer of the 36th.

2nd Bombardment Group: The group welcomes to its membership Captain C.W. Cousland and 1st Lieut. W.J. Davies. Both of these officers recently returned from duty in Panama, the former being stationed at Albrook Field and the latter at France Field.

Flight A, 16th Observation Squadron: Our own Car Wood was left high (though not quite so dry) on the James River Sunday afternoon when he melted a piston head on his outboard engine. Quite a few people have been wondering how that little outboard could push Phil Haug's mighty figure around at such a rapid rate, and their incredulity has been somewhat lessened by the breaking down of the engine. Fortunately, however, no lives were lost, and as soon as the

engine is repaired, the exhilarating sight of the "Asterisk" bounding from wave to wave will once again be presented to the eye.

Sergeant Samson Smith returned on August 29th from a lengthy cross-country to Indiana. He looks rather worn from the ordeal of dragging a trailer out there and back, and it has been reported that his right foot is blistered from an attempt to push the accelerator through the floor boards of his car when a horse and buggy passed him somewhere between here and Indianapolis.

Private John M. Teten of this organization is again on detached service with the Kellett Autogiro at Fort Bragg. He returned a short while ago from the Kellett Autogiro Factory at Philadelphia, where he had been taking a course of instruction in autogiro maintenance.

San Antonio Air Depot, Duncan Field, Texas.

Among visitors ferrying planes to the Depot during September were Captain L.S. Smith, of the Office of the Chief of the Air Corps, with a P-26A from the Fairfield Air Depot; Lieut. H.M. McCoy, of Wright Field, with a C-4A, and Lieut. R.W. Stewart, of Selfridge Field, with a P-26, all departing September 5th in a C-34, piloted by Lieut. G.W. McGregor, of Bolling Field. Major P.E. Skanse and Lieut. C.B. Claassen came in from Maxwell Field on Sept. 7th to ferry back two A-12's to that station.

Major George R. Gaenslen, Air Reserve, construction engineer of San Antonio, reported Sept. 14th for his ninth two-weeks' tour of active duty training at this Depot.

Captain John H. Price, Air Reserve, on duty with the Civilian Conservation Corps at Davel, Ala., visited here September 10th while on leave, and greeted old friends. He will be remembered as Sergeant Price, pilot, of the 3rd Transport Squadron here until his discharge by purchase from the Regular Army a year ago this month.

The monthly Control Area Supply and Engineering Conference and Luncheon at this Depot was held on September 17th and was attended by six officers from Randolph, Kelly and Brooks Fields, and the Depot officers. Stormy weather prevented the usual attendance by air of officers from other stations in the Area.

3rd Transport Squadron: Staff Sgt. F.O. Tyler, airplane pilot, of the Base Headquarters and 1st Air Base Squadron, GHQ Air Force, Langley Field, Va., arrived September 10th for detached service with this Squadron.

Sergeant I.K. Redding, who has been with the Squadron since its organization last year, was honorably discharged by purchase September 16.

Private, 1st Class, S.L. Fahey, airplane pilot, was transferred to the Squadron on September 1st from the 62nd Service Squadron, Brooks Field.

Private C.B. Cockett was transferred from the Squadron on September 12th to the Headquarters Troop, 1st Cavalry (Mech.), Fort Knox, Ky.

Luke Field, T.H., September 3rd.

4th Observation Squadron: First Lieut. Fay R. Upthegrove, formerly Post E. & R. Officer,

was assigned to the command of the Squadron, vice Captain Gilkey, who has taken over the Group Maintenance Department.

50th Observation Squadron: First Lieut. Charles F. Born was transferred from the 72nd Bombardment Squadron to the command of this Squadron upon the departure for the mainland of Major Lucas V. Beau, Jr., who was assigned to duty at March Field. Also departing on the Transport REPUBLIC are Tech. Sgt. Wallace H. Williams, Line Chief; Sergeant Stanley Modzaleski, Crew Chief; Private, 1st Cl., Samuel Ross, Squadron Carpenter, and Private Zomir Domnitz, Radio Operator.

Second Lieut. John P. Stewart, recently the victim of an accident at John Rodgers Airport, which resulted in an unusually complete wash-out of a P-12, is now out of the hospital. He was severely cut around the face and head and it is still too early to tell whether his "beauty" will be permanently marred as the result.

23rd Bombardment Squadron: First Lieut. Ford J. Lauer, formerly of the 72nd Bombardment Squadron, was assigned to the command of this Squadron. A heavy program of towing for Coast Artillery units is to be carried out by the Squadron for September.

EIGHTEENTH'S WING ANNUAL JAMBOREE

The officers and ladies of the 18th Wing held their annual get-together at Luke Field, T.H., on Labor Day, September 7th. The attendance from Wing Headquarters, the 18th Pursuit Group at Luke Field, and the Hawaiian Air Depot, was about 100%, and all reported a most enjoyable day.

Officers and their families began gathering at the Luke Field Club about 10:00 a.m. The first events on the day's program were tennis matches between Wheeler and Luke Field. In the men's doubles, Stone and Cairns, of Wheeler Field, defeated Heber and Streeter from Luke; Smith and Sanders from Wheeler defeated Armstrong and Crickets from Luke; and Campbell and Spicer from Wheeler defeated Warren and Boyer from Luke. Gallagher and Ladd from Luke defeated Webster and Lee from Wheeler; Melville and Phillips from Luke defeated Frierson and Wriston from Wheeler. Bradley and Higgs from Wheeler defeated Upthegrove and Cochran from Luke. In the mixed doubles Lieut. and Mrs. Streeter, from Luke, defeated Lieut. and Mrs. Stone, from Wheeler. Wheeler Field forfeited one mixed doubles match to Luke Field.

At noon, Wheeler Field served a luncheon to all officers and ladies of the Wing at the Luke Field Officers' Club.

The first event on the afternoon program was a 7-inning men's indoor baseball game. Lieuts. Truesdell, Griswold, Webster, Bradley, Spicer, Kreps, Sanders, Campbell, Cairns and Lelway, representing Wheeler Field, defeated Luke by the score of 9 to 7. Colonel Peabody, Acting Air Officer, was chief umpire. Captain Whiting and Commander Mullenix (U.S. Naval Air Station) umpired bases. Both teams played excellent ball.

Following the men's baseball game, a novelty game was played by two teams composed of all officers from Wheeler and Luke Fields who had not played in the first game. Luke put on the

diamond between 30 and 40 players, and Wheeler Field opposed them with 25 of the world's best athletes. The game proved to be a real burlesque, with fun galore. It was almost impossible to hit the ball without knocking it directly into someone's hands. Wheeler Field triumphed by the score of 3 to 2.

The next ball game of the afternoon was a real feature. The Wheeler Field ladies lost to the Luke Field ladies by the score of 14 to 5. After the ball games a large number of officers and ladies enjoyed the Luke Field swimming pool. An eight-man relay swimming team was improvised from each field, and Wheeler continued its winning streak to take this event by nearly the length of the pool. Many Luke Field couples gave informal parties preceding the dinner and dance. The officers and ladies of Luke Field were hosts for the Wing for dinner. Dancing and games rounded out one of the best get-togethers the 18th Wing has ever enjoyed. All are enthusiastic, and the jamboree will become a regular annual event.

Hawaiian Air Depot, Luke Field, T.H.

First Lieut. Donald D. Arnold was assigned to the Hawaiian Air Depot during the month of September and was appointed Depot Engineering Officer and Cost Officer, relieving Captain Harvey F. Dyer and Lieut. Franklin S. Henley, respectively, of those positions.

Congratulations to Lieut. Henley are in order. He was married on Saturday, September 12th.

Mr. Earl M. Baker, Principal Storekeeper of the Supply Department, is leaving on the USAT REPUBLIC for an extended mainland visit. He will contact the Rockwell, San Antonio and Fairfield Air Depots, also Wright Field. Mr. Baker has been employed at the Depot since 1929. This will be his first trip from the Islands in about twelve years.

Barksdale Field, Shreveport, La.

77th Pursuit Squadron: Instrument flying winds up the month's training, with the pilots getting the lion's share of the yearly requirements in two months.

A farewell party was given for the Squadron Commander, Major Oliver P. Gothlin, Jr., and Captain Leedham, M.C.

79th Pursuit Squadron: During the week that the Squadron occupied the field camp at Natchitoches, La., many opportunities were afforded the personnel to indulge in various sports - swimming, fishing, softball games, and exploration trips.

A fast seven-inning softball game between the officers and enlisted men resulted in a victory for the former, 4 to 0.

Several cars took members of the Squadron to an ice cold creek in the Kisatchie National Forest. A litter of picnic supplies supplied the subject matter for several pictures and a lot more laughs when the watermelon was cut. Their complexions were varying shades of tan until neutralized by the watermelon juice.

The Nackitish Softball Club, the local bat swingers, challenged the Squadron nine to a game of softball. With the aid of a smaller ball the Nackitish club won by a score of 13 to 8. The matter of the small ball was our only excuse.

Fairfield Air Depot:

After meeting stubborn resistance which necessitated playing an extra hole, General Robbins is now the Golf Champion of the Wilbur Wright Officers' Club. Mr. Cornelius, the runner-up, has been Club Medalist and Champion for some time. It is not definitely known whether the General was particularly 'hot' or that Mr. Cornelius had an off day. Both, however, are steady, consistent players, and when the 'breaks' are with them they will crowd par rather closely.

Colonel Arnold N. Krogstad, Commanding Officer of Kelly Field, showed utter disdain for one of Kelly's younger golf stars when he trounced Lieut. Roger Browne one up in the first round of the Air Corps Golf Association Championship. Lieut. Browne had been medalist in the tournament and was a ranking favorite, but two under par for the last ten holes proved too much for him, and now he must wait another year before he will have another opportunity to convince the Colonel that youth will be served.

Kelly Field, Texas:

Under the very capable hands of Lieut. E.J. Timberlake, the football team at Kelly Field is rounding into form and from early prediction the outlook seems a mite gloomy. The old guard who have brought Kelly championships in the past have disappeared, and the problem of replacing them with green material is not balm to the heart of a new coach who is finding it difficult to have men made available for practice in the afternoons.

ADVANCED SCHOOL GRADUATES ASSIGNED TO STATIONS

War Department Special Orders, recently issued, direct that, upon completion of their present course of instruction at the Advanced Flying School, Kelly Field, Texas, the following-named Air Corps officers proceed to the stations indicated for duty:

Lieut. Colonel William O. Butler to the Panama Canal Department.

Captain Courtland M. Brown to Brooks Field, San Antonio, Texas.

Major James F. Powell to the Materiel Division, Wright Field, Dayton, Ohio.

Captain Robert R. Selway, Jr., to Pope Field, Fort Bragg, N.C.

Wind Cones:

An Engineering Section Memorandum Report covers the results of experimental development and tests of a 24" wind indicator cone assembly. This type indicator cone is fabricated from mercerized cotton cloth which is first impregnated with commercial synthetic rubber. This treatment of the fabric produces a smooth waterproof surface with high resistance to soiling by the elements, thus prolonging the maximum visibility of the cone over dyed fabric cones.

Results of the experimental tests indicate that this type wind cone provides for prolonged maximum visibility and service life, and it was recommended that a quantity of five cones be procured for service test.

Effect of Flights at High Altitude on Teeth:

An Engineering Section Memorandum Report covers the results of tests to determine the injurious effects of environmental conditions encountered in flights at altitudes above 10,000 feet on human teeth and dental restorations.

It was stated that there is no clinical or experimental evidence that human teeth are injured by environmental conditions encountered in flights between 10,000 and 40,000 feet.

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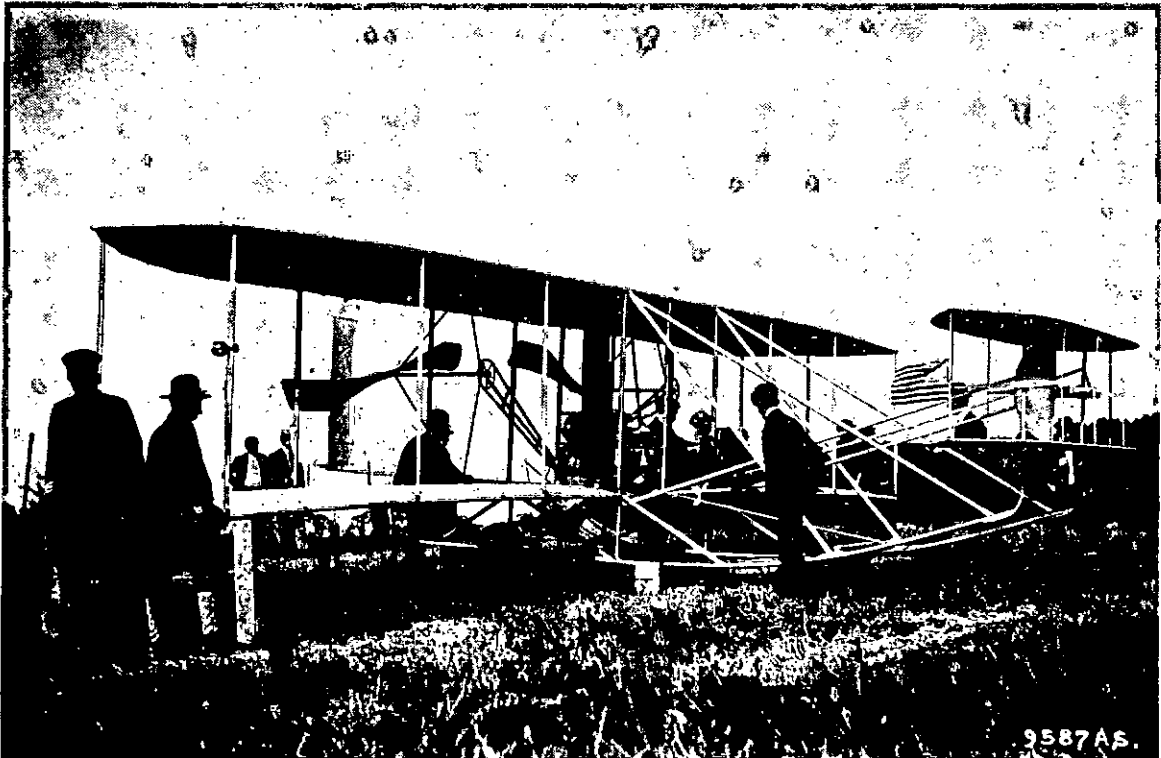




NEWS

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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VERSATILE PURSUITERS
By 1st Lieut. D.N. Motherwell, Air Corps

THARIED assignments have fallen to the 79th Pursuit Squadron of Barksdale Field, Shreveport, La., in quick succession lately. Winners of the Frank Luke, Jr. Memorial Trophy for best Pursuit Gunnery during the past year, the 79th pilots were ordered to Phoenix, Arizona, for the presentation of the Trophy.

Captain Charles G. Percy, Squadron Commander and leading gunner, led the Squadron in three 6-plane flights of P-26's. Eight enlisted members of the Squadron were ferried in two transport planes. Departing from Barksdale Field at 7:00 a.m., the Squadron arrived over Phoenix, Arizona, at 6:30 p.m., September 2nd. As a "Beau Geste" to the American Legion of Arizona, holding their convention in Phoenix, the eighteen planes formed a huge letter "A" as they passed over town. The sun was low and the beautiful coloring of the sky made a most effective background. The welcome was overwhelming; the city was ours as soon as we landed. Western hospitality and the generous efforts of Mr. A. Lee Moore, well known local pilot, assured the Squadron a most enjoyable visit.

On the following day, the eighteen planes demonstrated Pursuit maneuvers for thirty minutes over the city, and Captain Percy fell out of the formation long enough to drop flowers on the Frank Luke, Jr. Memorial Statue in front of the State Capitol. Mr. T.T. Brooke, Department Commander of the American Legion, assisted by the Governor of Arizona, made formal presentation of the Trophy immediately afterward.

The ceremonies concluded, Captain Percy departed with "A" Flight for March Field and the National Air Races at Los Angeles. The Air Race Committee expressed the desire that the entire Squadron participate, but shortage of planes at Barksdale Field made this impracticable. First Lieut. James A. Ellison led "B" and "C" Flights back to Barksdale Field on September 4th.

At the National Air Races, "A" Flight fell heir to a large responsibility. The little flight of six was called upon to

uphold the traditions of Army Pursuit in competition with eighteen fast Grumman "Fighters" of the Navy, eighteen U.S. Marine "Devil Dogs" and a composite Army Attack Squadron of eighteen Northrop A-17's. "A" Flight, billed as the "U.S. Army Air Corps Sextette from Barksdale Field," flew a daily twenty-minute mission of Pursuit maneuvers and combat exercises in close "Vee" and string formations with individual acrobatics.

Brother officers from March Field expressed a hearty approval of our work. Lieutenant-Commander C.D. Glover, leader of the eighteen Navy "Fighters," came searching through the crowd to congratulate us for an "excellent performance."

Upon our return to Barksdale Field from March Field on September 8th, a tired "A" Flight climbed out of their collective cockpits. Smilingly the others greeted us - "You are ordered into the field at Shushan Airport, New Orleans, La., immediately for ten days' aerial gunnery!"

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SEVEN NEW OFFICERS FOR MARCH FIELD

Seven members of the command at March Field, Riverside, Calif., dedicated themselves to a lifetime of service with the United States Regular Army Air Corps on October 2nd, when they took their oath of office as Second Lieutenants in the regular service. This was administered by First Lieut. Hunter Harris at March Field Headquarters.

Reserve officers receiving commissions were Jack Lindley Randolph and Leslie Raybold, both serving as Privates, Air Corps, with the Fourth Air Base Squadron, March Field, and five Second Lieutenants, Air Reserve, on active duty. These were Douglas W. Smith, Adjutant of the 34th Attack Squadron; Paul Engberg Todd, also of the 34th; Boyd Hubbard, Jr., of the 19th Bombardment Group; Frank R. Cook, of the 34th Attack Squadron, and John A. Hilger, Assistant Communications Officer of the 95th Attack Squadron.

Commenting on the award of regular commissions to these seven pilots, Brigadier General Delos C. Emmons, Commander

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of the First Wing, General Headquarters Air Force, stated that they were a fine lot of men. He regretted that there were not available more regular commissions for other splendid Reserve officers.

"It may be truthfully stated," says the March Field Correspondent, "that the choices were popular ones, as everyone at March Field seemed to be happy that these seven men were named."

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ENLISTED PILOTS LEAVE BOLLING FIELD

The piloting personnel of Bolling Field, D.C., was decreased by the departure of three enlisted pilots for duty at other stations. "Their genial personality and their hearty cooperation will be sincerely missed by all with whom they have worked," says the Bolling Field Correspondent.

Sergeant Herman E. Hurst, Second Staff Squadron, was placed on detached service at the Middletown Air Depot, Pa., where he will receive valuable experience ferrying aircraft and supplies. Privates Franklin K. Paul and John A. Way, both of Base Headquarters and 14th Air Base Squadron, will receive appointments as Second Lieutenants, Air Reserve, on active duty, to report to their stations by October 15, 1936. Private Paul departed for Langley Field, Va., where he will report to the Commanding Officer and then proceed to the Panama Canal Zone. Private Way departed for Barksdale Field, Shreveport, La., where he will be assigned to a Pursuit Squadron.

The personnel of Bolling Field extend their best wishes and hope that these men have gained valuable experience during their stay at this field.

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COMBAT MANEUVERS IN MARYLAND

Flight "A" of the 16th Observation Squadron, stationed at Langley Field, Va., arrived at Bolling Field on September 19th and was encamped there for three weeks while performing cooperative missions with the Infantry from Fort George G. Meade, Md., and the Field Artillery from Fort Hoyle, Md. Both of the line organizations were having combat maneuvers in nearby Maryland.

The equipment of Flight "A" consisted of two O-25C airplanes, a field radio set and five trucks. The personnel comprised two pilots, Captain O.L. Beal and Lieut. B.W. Armstrong, and a detachment of 20 enlisted men, including radio operators, airplane mechanics, and truck drivers. The enlisted men were quartered in barracks at Bolling Field, and their equipment was set up in field tents at the south end of the hangar line. They operated their own communications system and set up their own radio antenna on the flying field.

During the time the line organizations were on maneuvers, the pilots performed cooperative radio communications and observation missions daily, one with the Infantry and the other with the Field Artillery.

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GROUND BROKEN FOR NEW AIR DEPOT

The 7th Bombardment Group, commanded by Colonel C.L. Tinker, participated in the ground-breaking ceremony on September 8th at the site of the Army's newly acquired \$7,000,000 Air Depot, with location at Sacramento, Calif.

The Group, composed of 18 Martin Bombers, flew from Hamilton Field to Mather Field, landing at 9:00 a.m., and was joined at 9:10 by the 17th Attack Group, commanded by Major L.C. Mallory, and at 9:20 a.m. by the 19th Bombardment Group, commanded by Lieut. Colonel Hubert R. Harmon. Both groups were composed of nine planes each and were from March Field, Riverside, Calif.

At 10:55 a.m., the Wing, commanded by Colonel Tinker, took off, assembling at 1500 feet to fly directly to the site, where several thousand spectators were congregated, thrilling all with beautiful formation flying and the never-to-be-forgotten "Pass in Review."

On the ground, high officials of both civil and military circles were very much in evidence. Governor Merriam, General Henry H. Arnold, Assistant Chief of the Air Corps; General Delos C. Emmons, Commanding the 1st Wing, GHQ Air Force, were just a few of the notables present. The Governor, as Executive of the State of California, touched off the charge of dynamite to turn the first dirt of the Air Corps' latest contribution to the West Coast's defenses.

Following the aerial demonstration, if the planes of the 17th Attack and 19th Bombardment Groups were flown to Hamilton Field to be refueled and made ready for the flight back to their bases at March Field. The 7th Bombardment Group landed at Mather Field, the personnel being transported to Sacramento, where the officers enjoyed a luncheon at The Sutter Club, and the enlisted personnel were entertained at the Hotel Sacramento.

The 7th Group left that afternoon for Hamilton Field. Thus came into being another spike in the defenses of this nation.

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The National Air Races held in Los Angeles on September 4, 5, 6 and 7, proved to be the greatest held since their inception. The largest "gate" ever to attend these Races witnessed this affair during these four days. The Races daily attracted crowds estimated at 80,000 people, making the total attendance for the four days approximately 320,000.

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THE PHOTOGRAPHIC TRAILER
By the Materiel Division Correspondent

A new Photographic Trailer has been developed at the Materiel Division, Wright Field, Dayton, Ohio. It is especially equipped to make possible the obtaining of completed photographs in a very short time and serves an important purpose because of the ease with which it may be transported to any location where photographs are desired and where there is no laboratory for developing and printing negatives.

The Trailer has been under development for the past six months. It is 16 feet long by 6 feet wide by 8 feet high and weighs 2840 pounds. It is divided into two compartments; one for the development of roll films, cut films and the drying and sorting of prints, and the other, for printing. The main equipment within the trailer is the film developing apparatus, film dryer, printer, plotting table, and the usual accessories, such as timers, etc. The film developer, dryer, printer, and plotting table are newly designed equipment.

The electric power for the Trailer is furnished by a small generating plant of light weight. The water supply is obtained by the use of city water when it is available. More often, a lake or small creek is the only source of water supply, and is furnished to the Trailer through a small electric pump. Where no water is available, a reserve water tank in the Trailer furnishes the supply.

The roll of film goes through the following cycle of operation: It is delivered to the Trailer from the airplane and is developed in a light-tight compartment. It is then run through a drying machine, after which it is numbered on the plotting table. From this room, it is taken to the printing room and printed on a special light weight printer. From the printer, the prints go through the regular process of developing, rinsing, and fixing. After the prints have been sufficiently fixed, they are placed in a special washer and from the washer are transferred to a tray located in the dividing wall of the Trailer. This tray is so hinged that it pivots in a window-like arrangement from one compartment to the other. Water from the prints drain back into the washer, after which the tray is swung so that they may be taken off in the opposite compartment where the operator either places them on ferrotype plates or blots them before putting them on the drying trays. After the prints have dried, they are sorted and ready for delivery.

All single lens camera work may be carried on within the Trailer; also, the laying of small mosaics. In case of emergency, or where the saving of time is

important, the film is dropped in a parachute container from the airplane, is picked up and carried to the Trailer for development. The shortest time on record required for this process was an instance where exposed cut film was dropped from the airplane by parachute container and in five minutes after it was received by the photographer, one print was delivered. In another instance, a roll of exposed aerial film was delivered to the Trailer and the roll was completely processed and one print from each of 40 negatives was made and dried in one hour and 15 minutes.

The ventilating system in the Trailer is taken care of by two blowers, one in each compartment. These blowers pull the air through an air cleaner, thereby keeping the air fresh at all times.

The Trailer development, prosecuted under the direction of Brigadier General A. W. Robins, Chief of the Materiel Division, will undoubtedly be a valuable addition to Air Corps equipment for Corps and Observation photography where a transportable laboratory is required.

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SEPARATION OF FRANCE FIELD AND AIR DEPOT

The news Letter Correspondent from France Field, Panama Canal Zone, states that to former members in good standing of the France Field Officers' Club it may be of interest to note that the much discussed separation between France Field proper and the Panama Air Depot has at last been effected, with few traces left of the former liaison. The Officers' Club, the Post Exchange, the Post Office, the Surgeon's Office, the Theatre and the Athletic Field are the only interests that are retained as common to the two independent organizations.

Lieut. Colonel Vernon L. Burge commands the Panama Air Depot as an independent departmental unit, and Lieut. Colonel Richard H. Ballard is in the same manner in command of France Field.

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CHIEF OF STAFF INSPECTS HAMILTON FIELD

The Chief of Staff, General Malin Craig, accompanied by an official party composed of Major General Frank M. Andrews, Commander of the GHQ Air Force; Brigadier General Delos C. Emmons, Commander of the First Wing, GHQ Air Force; Colonel Follett Bradley, Lieut. Colonel A. C. Surles, Major J. W. Persons and Captain M. J. Lee, with a crew of three enlisted men, landed at Hamilton Field, San Rafael, Calif., on the afternoon of September 20th, after a flight from Clover Field, Santa Monica, Calif. After making an informal inspection and

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observing the personnel of the base in their routine duties, General Craig and his party, less General Emmons, left on September 22nd enroute to Salt Lake City, Utah. General Emmons flew to his station at March Field, Calif.

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PHOTOGRAPHIC ACTIVITIES AT BOLLING FIELD

The Photographic Section at Bolling Field, D.C., recently completed an aerial mosaic map of the District of Columbia and vicinity. It was assembled in the form of a circle and included all the territory within a radius of eighteen miles from the Post Office Building.

In the original form, the map was nine feet in diameter and was composed of 872 separate 7" by 9" prints. The photographs were taken in eleven flying hours, and the map was completed in eleven days by ten men working fourteen hours per day. Several copies of the map were made, and the original was delivered to the Office of the Chief of the Air Corps.

At the present time the Photographic Department of Bolling Field is engaged in photographing the Susquehanna River basin for use in flood control development. The territory from Havre de Grace, Md., to Sayre, Pa., and from Sunbury, Pa., to Altoona and Emporium, Pa., is to be covered by a series of overlapping photographs. All towns and cities along the river front are to be covered by vertical mapping photos, taken at low stage and again at flood stage of the river. It is estimated that about sixty flying hours will be required to complete the mission.

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REPRESENTATION IN NEW CLASS AT RANDOLPH

Texas, the Lone Star State, has always been a close rival to California in the matter of representation of native sons in the various classes entering the Air Corps Primary Flying School at Randolph Field, Texas. It has been the rule rather than the exception for the State of California to take the lead, although on several occasions Texas forged to the front by a narrow margin.

In the new class which has just started at Randolph Field, Texas is far in the lead with a total of 20 students, followed by California with 10 native sons and Illinois with nine. The cities of Chicago, Ill., and Washington, D.C. are tied in student representation, each having four.

The list of Flying Cadets entering the October, 1936, Class at the Primary Flying School appears on page 6 of this issue of the News Letter. The list of West Point graduates who are members of this class was published in the News Letter of August 15, 1936.

NEW CLASS AT THE PRIMARY FLYING SCHOOL

The October, 1936, class at the Air Corps Primary Flying School at Randolph Field, Texas, comprises a total of 164 students. Of these, 61 students are Second Lieutenants of the Regular Army who graduated from the United States Military Academy on June 12, 1936, and were assigned to duty with the Air Corps for flying training; 95 are candidates from civil life; 4 are enlisted men of the U.S. Army Air Corps and four are enlisted men of other branches of the Regular Army.

The civilian and enlisted students will undergo their training under the status of Flying Cadets.

The course at the Primary Flying School is of eight months' duration and is divided into the Primary and Basic stages, each being over a four-month period. It is the general rule that students who pass successfully through the primary stage - the first four months of the year's course - also make the grade in the Basic stage and in the four months' advanced course at the Advanced Flying School at Kelly Field, Texas.

Graduation from Kelly Field means the award of the "Wings" and the rating of "Airplane Pilot." The officer graduates are transferred to the Air Corps and are added to the piloting personnel of this combat branch of the service.

With respect to the Flying Cadet graduates from the Advanced Flying School, it was the practice in the past to assign them to active duty for the period of one year under their Cadet status with Air Corps tactical units, and at the end of that time commission them second lieutenants in the Air Reserve and assign them to extended active duty with Air Corps tactical units under their status as Air Reserve officers.

Nothing definite can be stated at this writing as to what the status will be of those Cadets of the present class who are fortunate enough to make the grade and will graduate next October from the Advanced Flying School. Legislation was enacted at the last session of Congress providing for an increase in the number of Air Reserve officers to be placed on extended active duty. Just how many Reserve officers will be placed on extended active duty during the Fiscal Year 1938 depends upon the amount of funds there will be appropriated during the coming session of Congress for this purpose. No decision has therefore been made by the War Department as to whether the Flying Cadet graduates will, as in the past, be assigned to extended active duty with tactical units as Flying Cadets, or be commissioned Second Lieutenants in the Air Reserve immediately upon graduation and assigned to extended active duty with Air Corps tactical units as Reserve officers.

ADDITIONAL OFFICERS FOR THE AIR CORPS

A recent War Department announcement is to the effect that, under authority of an Act of Congress, approved August 30, 1935 (Public No. 408 - 74th Congress - known as the Thorason Act), the following, listed alphabetically, are appointed as Second Lieutenants in the Air Corps, Regular Army.

Under the above quoted act, the 50 appointments are apportioned to the various arms, but since none of the group of 1,000 Reserve officers authorized for active duty for one year with the Regular Army could be eligible for appointment prior to July 1, 1937, the entire 50 officers are awarded to the Air Corps for this year.

The list follows:

Allen, Brooke Empie	Wilmington, N.C.
Aring, Wilbur Walter	Montgomery, Ala.
Black, Robert Kirkland	Manila, P.I.
Boushey, Homer A., Jr.	Stanford Univ., Calif.
Brown, William Melville	Long Beach, Calif.
Cecil, Chester Witten, Jr.	Abilene, Texas
Clausen, Radcliffe C.	Los Angeles, Calif.
Coddington, Lawrence C.	Seattle, Wash.
Cook, Frank Richardson	Riverside, Calif.
Cornett, John Beaumont	Waco, Texas
Cunningham, Tom Jefferson	Hampton, Va.
Darrow, Don Orville	Hollywood, Calif.
DeMarco, James Arthur	Rockville Centre, N.Y.
Fisher, William Parker	Southern Pines, N.C.
Ford, Oliver Edwin, Jr.	Crockett, Texas
Gist, Wm. Henry, Jr.	Carlisle, S.C.
Greenback, Lawrence W.	Ashtabula, Ohio

Gunn, Harold Austin	Nunn, Colo.
Guthrie, James Oscar	Bismarck, N.D.
Hall, Robert Windeck	Washington, D.C.
Haugen, Victor Raymond	Olympia, Wash.
Hilger, John Allen	Houston, Texas
Hollstein, Chas. Phillip	Kunkle, Ohio
Holtner, Joseph Stanley	New York, N.Y.
Hopwood, Floyd Pauahi	Honolulu, T.H.
Hubbard, Boyd, Jr.	Adair, Iowa
Hutchinson, Donald Robert	Cleveland, Ohio
Jeffus, John Hal	Plainview, Texas
Kellogg, Ralph McKenzie	Plattsburgh, N.Y.
Lee, Joseph Day, Jr.	Pleasantville, N.Y.
Miller, Frederic H., Jr.	Union City, Ind.
Mundell, Lewis Leo	Alameda, Calif.
Nelson, Hilmer Cannon	Burton, Wash.
Paige, Potter Brooks	Washington, D.C.
Peterson, Norman Lewis	San Antonio, Texas
Pierce, George Everill	Montague, Mass.
Proper, Louis William	Modesto, Calif.
Randolph, Jack Lindley	Porterville, Calif.
Raybold, Leslie	Pine Knot, Calif.
Reynolds, Joan Markward	Mobile, Ala.
Rivard, Francis Leslie	Detroit, Mich.
Robertson, Wm. Ross, Jr.	Charlotte, N.C.
Rockwood, Ralph Charles	Sapulpa, Okla.
Root, Barton	Madison, S.D.
Schmid, Herman Alfred	Pasadena, Calif.
Selser, James Clyde, Jr.	New Orleans, La.
Smith, Douglas Whitehill	Mill Valley, Calif.
Snyder, Graves Hubbard	Charleston, W. Va.
Todd, Paul Engberg	San Antonio, Texas
Williams, Douglas Ellsworth	Washington, D.C.

STATION ASSIGNMENT OF NEWLY APPOINTED OFFICERS

Special Orders of the War Department, recently issued, announce the date of rank of the 50 newly appointed officers of the Air Corps, Regular Army, as October 1, 1936, and their assignment to Air Corps stations, as follows:

To Barksdale Field, La.:
Lieuts. Ford, Cecil, Hall and Kellogg.

To Brooks Field, Texas:
Lieuts. Haugen, Cornett, Peterson and Snyder.

To Hamilton Field, Calif.:
Lieuts. Mundell, Pierce, Coddington, Proper, Randolph and Reynolds.

To Hawaiian Department:
Lieuts. Rockwood, Paige and Hopwood.

To Langley Field, Va.:
Lieuts. Jeffus, Selser, Gist, Cunningham, Lee, Greenback, Williams, Robertson and Dane.

To Fort Lewis, Wash.:
Lieuts. Boushey and Gunn.

To March Field, Calif.:
Lieuts. Cook, Smith, Darrow, Hubbard, Hilger, Todd, Raybold.

To Maxwell Field, Ala.:
Lieuts. Aring, Root, Schmid.

To Mitchel Field, N.Y.:
Lieuts. Hollstein, Nelson, Fisher, Allen, Rivard, DeMarco and Black.

To Panama Canal Department:
Lieut. Hutchinson.

To Patterson Field, Fairfield, Ohio:
Lieut. Miller.

To Randolph Field, Texas:

Lieut. Brown.

To Selfridge Field, Mich.:

Lieuts. Holtner and Guthrie.

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PERMANENT PROMOTIONS

The following-named Air Corps officers holding the temporary rank of Major were promoted permanently to that rank as of October 1, 1936:

Major Ray A. Donn

Major Frederick F. Christine

Major Earl S. Schofield

The following-named Air Corps officers holding the temporary rank of Lieutenant Colonel received permanent promotion to that rank, as of October 1, 1936:

Lieut. Colonel Michael F. Davis

Lieut. Colonel Hubert R. Harmon

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Special Orders of the War Department, recently issued, direct that the following-named Air Corps officers, upon completion of their tour of duty in the Hawaiian Department, to proceed to the stations indicated for duty:

To March Field, Calif: Lieut. Colonel Asa N. Duncan.

To Mitchel Field, N.Y.: 1st Lieuts. Milton F. Summerfelt and William L. Travis.

To Randolph Field, Texas: 1st Lieuts. William G. Bowyer and Charles H. Pottenger.

To Chanute Field, Ill.: 1st Lieut. Franklin S. Henley.

FLYING CADETS ASSIGNED TO OCTOBER, 1936, CLASS
at Primary Flying School, Randolph Field, Texas

Candidates from Civil Life

Daniel, William Allen	Birmingham, Ala.	Sarson, Ralph Douglas	Omaha, Neb.
Tacon, Avelin Paul, Jr.	Mobile, Ala.	Livingston, Joseph Alfred	Meredith, N.H.
Peterson, Arman	Flagstaff, Ariz.	Leary, Richard W.	Brooklyn, N.Y.
Leisenring, William Pearson	Tucson, Ariz.	Erhardt, Alfred John	Dobbs Ferry, N.Y.
Daly, John William, Jr.	Tucson, Ariz.	Crane, Preston Milton	Germentown, N.Y.
Tyler, Kermit A.	Berkeley, Calif.	Alberi, Americo	Mt. Vernon, N.Y.
Rawlins, Jack Leo	Chico, Calif.	Wilhelm, Don Louis, Jr.	Dayton, Ohio
Heflin, Clifford John	Fresno, Calif.	Mahon, Don Louis, Jr.	Chickasha, Okla.
Bleasdale, Jack Walter	Palo Alto, Calif.	Mills, Frederick Willson	Ponca City, Okla.
Randall, Clifford	Pasadena, Calif.	Hug, George Wallace	Salem, Ore.
Fletcher, Gene B.	San Diego, Calif.	Keys, Paul Eugene	Ligonier, Pa.
McGinn, Fred L., Jr.	Canon City, Colo.	Dwyer, Thomas A.W., Jr.	Philadelphia, Pa.
Heintz, Adam J.	Greeley, Colo.	Beacham, Frank Shirley	Honea Path, S.C.
Mitchell, Marvin G.	Weldona, Colo.	Alexander, Clay D.	Seneca, S.C.
Varsell, Earl	New Britain, Conn.	McNickle, Marvin Leonard	Vermillion, S.D.
David, Joffre Cleo	Orlando, Fla.	Gross, Valie C., Jr.	Nashville, Tenn.
Field, Charles William	Rocky Face, Ga.	Torrey, Alfred James	Nashville, Tenn.
Callaway, Richard C.	Washington, Ga.	James, Clyde Wolfe	Amarillo, Texas
Palmer, Paul M.	Carlinville, Ill.	Dyess, Edwin	Albany, Texas
Ewing, Willard G.	Chicago, Ill.	Caldwell, Howard D.	Austin, Texas
Maloney, Robert G.	Chicago, Ill.	Strother, M.B., Jr.	Austin, Texas
Rogers, Floyd William	Chicago, Ill.	Olmsted, Charles T.	Brownsville, Texas
Hatch, Edwin Harley	Lisle, Ill.	Taylor, Ray D.	Brownwood, Texas
Miller, Warren M., Jr.	Rockford, Ill.	Agan, Arthur C., Jr.	Corpus Christi, Texas
Taylor, J. Francis, Jr.	Columbus, Ind.	Gallagher, Francis B.	El Paso, Texas
Connor, Albert	Winslow, Ind.	Dillard, W. Ward	Garner, Texas
Grogan, Charles E.	Indianapolis, Ind.	Beal, Lester Lee	Houston, Texas
Dianich, Ben	Cedar Falls, Iowa	Harper, Carl	Lubbock, Texas
Zwack, John A.	Dubuque, Iowa	Atkinson, Gwen Grover	Lufkin, Texas
Runchey, Lyle W.	Sioux City, Iowa	Korges, Woodrow	Kingsville, Texas
Tannahill, Floyd A.	Phillipsburg, Kans.	Mason, Robert Louis	Post, Texas
Younkin, William Lodge	Summerfield, Kans.	Reese, John T.	Quitman, Texas
Seward, Donald Earl	Topeka, Kans.	Wurzbach, Clemens K.	San Antonio, Texas
Young, Charles H.	Wellington, Kans.	Huber, Paul O.	Salt Lake City, Utah
Elder, William Erwin	Wichita, Kans.	Leavitt, Carl J.	Salt Lake City, Utah
Williams, Edwin T.	North Quincy, Mass.	Morgan, Dale O.	Salt Lake City, Utah
Bridgman, Harold V., Jr.	Winthrop, Mass.	James, Herbert Walker	Harrisonburg, Va.
Dach, Kenneth M.	Minneapolis, Minn.	Williams, John Stuart	North Garden, Va.
Barrett, Everett R.	St. Cloud, Minn.	Williams, Jerome	Spokane, Wash.
Cassell, Raymond W.	Wirth, Minn.	Keeffe, Harold Michael	Adams, Wis.
Lowery, Herman F.	Hattiesburg, Miss.	Caldwell, Robert Melville	Madison, Wis.
Truitt, Homer M.	Booneville, Mo.	Schoephoester, Melvin W.	Madison, Wis.
Pusey, Ralph L.	Kansas City, Mo.	Mattioli, Joseph E.	Milwaukee, Wis.
Hughes, Jack Wesley	St. Joseph, Mo.	Prokopovitz, Julian K.	Pulaski, Wis.
Ragsdale, Gerald H.	Columbus, Mont.		
Miller, Wilbur G.	Livingston, Mont.	Adams, Richard E.S.	Honolulu, T. H.
Haight, Standley S.	DuBois, Neb.	Gregg, Raymond L.	Bryan, Texas
Long, Charles Frank	North Platte, Neb.	Warren, Roy Edward	Washington, D.C.

Enlisted Men, Army Air Corps

Rindom, Frank O., Jr. (Private)	Liberal, Kans.	Stewart, Gordon Augustus (Private)	Midland, Ohio
Primary Flying School,	Randolph Field, Tex.	98th Service Squadron,	Chanute Field, Ill.
Davey, Force (Private)	Fryeburg, Me.	Paul, Joseph E. (Private)	Marriottsville, Pa.
Air Corps Detachment,	Boston Airport, Mass.	14th Air Base Squadron,	Bolling Field, D.C.

Enlisted Men, Other Branches of the Army

O'Neal, Wilton E. (Corporal)	Hot Springs, Ark.	Kravetz, Jack	Baltimore, Md.
Finance Office, Army and Navy General	Hospital, Hot Springs, Arkansas.	51st Signal Battalion,	Ft. Monmouth, N.J.
Morton, Robert James	Berwyn, Ill.	Koshko, John R.	Bethlehem, Pa.
Cc. E, 20th Inf., Fort F.E. Warren,	Wyo.	51st Coast Artillery (Headquarters Battery)	Fort Monroe, Va.



KELLY FIELD GRADUATES MORE ARMY FLYERS

Thirty-four Regular Army officers, thirty-eight Flying Cadets, and one officer of the Philippine Constabulary comprised the class which graduated from the Advanced Flying School at Kelly Field, Texas, on October 7th.

Of the 34 officer graduates, four are members of the Army Air Corps, namely, Lieut. Colonel William O. Butler, Capt. Courtland Brown, James F. Powell and Robert R. Selway, Jr. These officers received the rating of "Airplane Pilot", making a total of four flying ratings which they now hold, the other three being "Airship Pilot," "Balloon Observer," and "Airplane Observer."

Col. Butler, Captains Brown and Powell specialized in Observation Aviation and Captain Selway in Bombardment Aviation.

Colonel Butler has received orders to report to the Commanding General, Presidio of San Francisco, Calif., for temporary duty awaiting sailing date to the Panama Canal Department, where he will be on duty with the Air Corps. Captain Brown has been assigned to duty at Brooks Field, Texas; Captain Powell to Wright Field, Dayton, Ohio, and Captain Selway to Pope Field, Fort Bragg, N.C.

Of the remaining thirty officer graduates of the Advanced Flying School, all of whom are West Pointers, 23 are members of the June, 1935, Class of the U. S. Military Academy. There were 47 members of this class who were assigned to the Air Corps for flying training. It will, therefore, be noted that 50% of the number who entered upon their flying training successfully completed the one-year course.

The October, 1935, Class at the Air Corps Primary Flying School originally numbered 146 students. The total number of graduates was 73. Thus, exactly 50% of the students who started the course came through with flying colors, received their "Wings" and the rating of "Airplane Pilot."

The thirty officer graduates who were originally commissioned in other branches of the service and who have been ordered transferred to the Air Corps are enumerated below, as follows:

MEMBERS OF THE 1935 WEST POINT CLASS

All Second Lieutenants

Berquist, Kenneth P., C.E.	Crookston, Minn.
Chapman, Willis F., Sig. Corps	Jackson, Miss.
Daly, Charles J., Inf.	Pacific Grove, Calif.
Davis, Leighton I., C.E.	Lyndhurst, N. J.
Ellsworth, Richard E., Cav.	Erie, Pa.
Fickel, Arthur A., F.A.	Fort Sam Houston, Texas
Freudenthal, Wilhelm C., Cav.	Worcester, Mass.
Gent, Thomas J., Jr., Inf.	Crestwood, N. Y.
Glassford, Pelham D., Jr., Cav.	Washington, D. C.
Ingram, Downs E., F.A.	McElhattan, Pa.
Knowles, Samuel B., Jr., Inf.	Beechhurst, N. J.
Mitchell, Samuel C., Inf.	Westerleigh, N. Y.
Musgrave, Thomas C., Jr.	Atlanta, Ga.

Presnell, David G., F.A.	Atlanta, Ga.
Roberts, Jack, Inf.	New York, N.Y.
Russell, Joseph G., Inf.	Fort Worth, Texas
Saxton, Lamont, Inf.	Lynchburg, Va.
Showar, Albert J., C.E.	Madison, Wis.
Simons, Maurice M., Inf.	Ft. Leavenworth, Kans.
Smith, George R., Jr., C.E.	Coronado Beach, Fla.
Stillman, Robert M., F.A.	Pueblo, Colo.
Sumi, Raymond W., F.A.	Nashhauk, Minn.
Thompson, Glenn C., Inf.	Roanoke Rapids, N.C.
Totten, James W., C.A.	Fort Omaha, Neb.
Tyer, Aaron W., Inf.	Natchez, Miss.
Walsh, James H., F.A.	Carbondale, Pa.
Wildes, Thomas, Cav.	Brooklyn, N.Y.
Wilson, James V., F.A.	Elwood City, Pa.

OTHER WEST POINT GRADUATES

Ruestow, Paul E., C.E.*	Lynbrook, N.Y.
Thatcher, Herbert B., Inf.	East Orange, N.J.

*First Lieutenant

FOREIGN OFFICER

Francisco, Jose, 3rd Lieut., Philippine Constabulary.

FLYING CADERS

Adkinson, Bourne	A	Compton, Calif.
Anderson, Arthur R.	O	Crafton, Pa.
Anderson, George R.	B	Worcester, Mass.
Anderson, James W., Jr.	B	Kansas City, Mo.
Averill, James C.	A	Brattleboro, Vt.
Barrett, Henry G.	O	Little Rock, Ark.
Eoyd, Robert	B	Asheville, N.C.
Bradshaw, John O.	O	Highland, Ind.
Childre, Cecil H.	B	Westaco, Texas
Corfield, Michael J.	A	Los Angeles, Calif.
Couch, Alexander P.	B	El Centro, Calif.
Ferris, John M.	B	Detroit, Mich.
Funk, Ben I.	A	Denver, Colo.
Gardner, Raymond H., Jr.	P	Albion, Mich.
Gray, Howard W.	B	St. Paul, Minn.
Howe, Charles J.	O	Clairton, Pa.
Huish, Frederic G.	O	Portland, Ore.
Keith, Troy	P	Little Rock, Ark.
Kennedy, William J.	B	Oklahoma City, Okla.
Kent, Billy W.	B	Braddyville, Iowa
Kilgore, John R.	B	Nashville, Tenn.
Kunze, Royce G.	A	Detroit, Oregon
Learned, Park R., Jr.	P	St. Paul, Minn.
Leber, Harry P., Jr.	B	Philadelphia, Pa.
McIntyre, Patrick W.	B	Chicago, Ill.
Nelson, Charles K., Jr.	B	Hammonton, N.J.
Ogden, Alban B., Jr.	B	Des Moines, Iowa
Orlike, Harold W.	A	Kansas City, Mo.
Orth, Robert C.	O	Los Angeles, Calif.
Pharr, Marion N.	A	Gainesville, Ga.
Ranney, George F.	B	Grecnville, Mich.
Rohrbough, Leonard M.	P	Tacoma, Wash.
Schmitt, Arthur W., Jr.	B	Madison, N.J.
Scott, Churchill L. Jr.	A	Brownsville, Texas
Stetson, Loring F., Jr.	P	Lilliwaup, Wash.
Thompson, Milton E.	O	Portland, Oregon
Todd, Jack F.	A	Visalia, Calif.
Wangeman, Herbert O.	A	Moorpark, Calif.

NOTE: A-Attack Aviation; B-Bombardment Aviation; C-Observation Aviation; P-Pursuit Aviation.

The officer graduates specialized in the various branches of combat aviation, as follows:

Attack: Lieuts. Berquist, Daly, Roberts, Showar, Sumi, Tyler.

Bombardment: Lieuts. Ruestow, Chapman, Fickel, Glassford, Ingram, Mitchell, Musgrave, Presnell, Simons, Stillman, Thompson, Walsh, Wildes.

Observation: Lieuts. Thatcher, Ellsworth, Smith, Totten.

Pursuit: Lieuts. Davis, Freudenthal, Gent, Knowles, Russell, Saxton, Wilson.

The above-named officers have been assigned to Air Corps stations, as follows:

To Hawaiian Department: Lieuts. Ruestow, Thatcher, Simons and Stillwell.

To March Field, Calif.: Lieuts. Daly, Tyer, and Presnell.

To Brooks Field, Texas: Lieut. Smith.

To Langley Field, Va.: Lieuts. Berquist, Musgrave, Thompson and Totten.

To Barksdale Field, La.: Lieut. Saxton.

To Mitchel Field, N.Y.: Lieut. Ellsworth.

To Scott Field, Ill.: Lieut. Wilson.

To Panama Canal Department: Lieuts. Fickel, Freudenthal, Gent and Walsh.

To Hawaiian Department: Lieuts. Chapman, Davis, Glassford, Ingram, Knowles, Mitchell, Roberts, Russell, Shower, Sumi and Wildes.

With respect to the station assignments of the Flying Cadet graduates, the Attack Pilots are slated for Barksdale Field, La.; the Pursuit also for Barksdale Field; the Observation for Brooks Field, Texas; and of the 16 Bombardment pilots, five will go to Hamilton Field, Calif., and eleven to March Field, Calif. These pilots will be assigned to active duty with tactical organizations under their Cadet status for the period of one year.

Major General Herbert J. Brees, U.S. Army, who was recently assigned to the command of the 8th Corps Area, replacing Major General Frank Parker, retired, delivered the graduation address. Speaking in the Post Theatre before 800 persons, General Brees cautioned the graduates not to take unnecessary chances after they are assigned to tactical units. He pointed out that most of the casualties in the Air Corps resulted among the younger officers, recently graduated.

General Brees stressed the desirability of the Air Corps officers to coordinate with officers from other branches of the service and to learn more about the activities of the ground forces. He also reminded the Cadets that upon their showing of proficiency with tactical units depends their chances of winning regular commissions in the Air Corps.

Lieut. Jose Francisco, of the Philippine Islands, the only foreign officer of the class, was praised for his work. General Brees pointed out the future for the officer as a leader in air defense of the newly formed government in the Pacific.

In addition to the officers of Kelly Field, there were many visitors from the other Air Corps fields near San Antonio. A total of 104 Cadets and 54 officers of the flying class of Randolph Field was present and made up part of the reviewers of the flights of the graduates which preceded the presentation of diplomas and the address by General Brees.

Lieut. Colonel Roy M. Jones, acting commander

of Kelly Field in the absence of Colonel Arnold N. Krogstad, who was ill, was master of ceremonies.

Brigadier General James E. Chaney, Commandant of the Air Corps Training Center, Randolph Field, presented the principal speaker, General Brees. Chaplain George J. McMurry, of Randolph Field, gave the invocation and benediction.

Honored guests were Colonel Henry W. Harms, commander of Randolph Field; Colonel Arnold D. Tuttle, of the School of Aviation Medicine, Randolph Field; Lieut. Colonel E. B. Lyons, Director of Flying at Randolph Field; and Major R. D. Knapp, Director of Flying at Kelly Field.

An interesting incident in connection with the graduation exercises was the presentation of the "Wings" to Lieut. Arthur A. Fickel by his father, Colonel Jacob E. Fickel, Air Corps, Air Officer of the 9th Corps Area, San Francisco, Calif., who came to Kelly Field to see his son graduate.

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AERONAUTICAL EDUCATION IN ITALIAN SCHOOLS

An educational movement, along lines laid down by the Ministry of Aeronautics, is being carried on in Italian schools in cooperation with the Royal National Aeronautics Union. The purpose is to imbue and familiarize Italian youth with the elemental phases of aeronautics. The program provides that the first educational steps along these lines be sufficiently elemental that they may be grasped by very young children whose minds are still plastic. Simple cardboard models by the thousand, aerodynamically correct in all details, are distributed to schoolboys with the idea of arousing, from the outset, a spirit of competition. School teachers are instructed by the R.N.A.U. so that they may encourage the boys to build flying models and organize contests. When the primary interest has been aroused, the students receive more advanced instruction on different types of aircraft.

At the age of about 11 or 12 years, the second period of instruction begins. From the cutting out of models already designed, they are now taught some of the rudiments of aerodynamics. At this age the boy attends the school work-shop for aircraft modelling.

Schools of this kind, all of which are under the supervision of the R.N.A.U., have already been opened in 32 Italian cities. An experimental aircraft modelling center has been set up at R.N.A.U. headquarters for training school teachers.

Each year model aircraft competitions are held in the larger towns, and the winners are sent to Rome to take part in the annual contest held at Littorio Airport. Last year a race was held at Trieste exclusively for seaplane models.

When a boy completes the full aircraft modelling course he receives a certificate which is recognized if he decides to go in for more advanced aeronautical work.

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The Editor of the News Letter would appreciate contribution of material from Randolph, Chanute and Mitchel Fields.

21ST AIRSHIP GROUP MANEUVERS
By the Scott Field Correspondent

THE 21st Airship Group (less the 19th Airship Squadron and the 21st Airship Group Headquarters) conducted its annual maneuvers during the period September 15th to 29th at Lake Springfield, six miles from Springfield, Ill. Major Neal Creighton, Commander of the 9th Airship Squadron, was in command of the camp.

At 4:00 a.m. September 15th, 100 men and 5 officers departed from Scott Field, Belleville, Ill., in a 24-truck convoy. They arrived at the camp site, 90 miles away, at 7:00 a.m. Four hours later the 32 tents that formed the encampment were erected and ready for service.

The maneuvers of an Airship Group naturally do not consist of mimic warfare. Instead, the maneuvers are confined to living in the field and carrying out airship operations without the usual air-drome facilities. During the fifteen days an airship flew to and landed at the make-shift landing field on six different days. The airships were sheltered in the airship hangar at Scott Field at night and on non-flying days. On each flight the airship, whichever one landed, was moored for a period varying from 15 minutes to four hours. This mooring experience is valuable both for the pilots and for the maneuvering party, because the changing directions and velocities of the wind and the variations in temperature keep everyone alert.

On the mornings when airship operations were not scheduled, military and technical lectures were given to the men. All afternoons, except Sundays, were devoted to lectures and supervised athletics.

The camp was located in a wonderful spot at the edge of an artificial lake on park property owned by the City of Springfield. The tents were shaded from the sun by tall, shady oak and walnut trees. There was a water pipe line handy which supplied water for drinking and cooking purposes and for shower baths. Swimming, boating and fishing were excellent in the clear, deep lake.

First Lieut. James C. Bean, Chaplain, arranged various kinds of entertainment.

Other officers participating in the maneuvers were: Captain John A. Tarro, Air Corps, Communications and Transportation Officer; Captain Gerald G. Johnston, Air Corps, Adjutant and Publicity Officer, and Captain John B. Herman, Medical Corps, Medical Officer.

Colonel Frank M. Kennedy, Commanding Officer of Scott Field, made numerous visits to the encampment by airplane and airship.

First Lieut. Ralph O. Brownfield, Air Corps, Adjutant of Scott Field, Ill., was

scheduled to depart from that field on October 6th on a 4,800-mile training flight in a new Douglas O-46A airplane. The flight was to include fourteen stops, the route being through the following places: Fort Riley, Kansas; Denver, Colo.; Salt Lake City, Utah; Elko, Nevada; San Francisco, Calif.; Medford and Portland, Oregon; Seattle and Spokane, Wash.; Billings, Montana; Belle Fourche and Rapid City, South Dakota; North Platte, Nebraska, and Kansas City, Missouri.

Lieut. Brownfield estimated that the flight would require 28 hours' flying time stretched over a period of five days.

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AIR CORPS SUMMER TRAINING CAMPS
Seventh Corps Area

The Air Corps Reserve of the 7th Corps Area, under the command of Captain Harry C. Wisheart, Air Corps, Richards Field, Kansas City, Mo., just completed two excellent summer training camps.

Both active duty camps were held at Camp Ripley, Minn. The first, from Aug. 23rd to September 5th, and the second from September 6th to September 19th. Camp Ripley proved an ideal reservation for summer training camps.

The equipment made available for training consisted of two O1-G's, one O1-E, one O-25A and four PT-3A's. The O-25A was not received until after the first camp was almost over. However, with only those few airplanes, over 751 hours were flown during the two training camps.

For training, each Reserve Pilot received the following program of instruction:

1. Fired 75 rounds on sleeve target towed by O-25.
2. Fired 75 rounds on ground target.
3. Flew tow target airplane.
4. Dropped average of sixteen 17-pound dummy bombs at 100-ft. circle as a target.
5. Received three artillery adjustments using the Bishop trainer.
6. Observed at least one actual artillery mission using 75 mm guns.
7. Infantry contact missions.
8. Two-way radio problems with both Artillery and Infantry problems.
9. Used drop message and pick up messages with Infantry problems.
10. Panel work both training and with Infantry units in operation.
11. Mosaic photography.
12. Oblique photography.
13. Formation.
14. 90 deg., 180 deg. and 360 deg. approaches to spot landings.
15. Approximately average of 50 minutes night flying.

(Continued on page 12)

V-7122, A.C.

B I O G R A P H I E S

LIEUT. COLONEL HOWARD C. DAVIDSON

Lieut. Colonel Howard C. Davidson, now on duty as Executive in the Office of the Chief of the Air Corps, Washington, D.C., was born at Wharton, Texas, September 15, 1890.

Graduating from the United States Military Academy June 12, 1913, he was commissioned a second lieutenant and assigned to the 22nd Infantry. He served with this regiment at Texas City, Texas, from September, 1913, to November, 1914; at Naco, Arizona, to February, 1915, and at Douglas, Arizona, to July, 1915. On July 1, 1915, he was transferred to the 24th Infantry, and he served with this regiment in the Philippines until September, 1915, when he was transferred to the 27th Infantry.

Detailed to the Aviation Section, Signal Corps, he attended the Aviation School at San Diego, Calif., and upon the completion of the course of flying training received the rating of Junior military Aviator.

Colonel Davidson joined the 1st Aero Squadron at Columbus, New Mexico, in September, 1916, and served on border patrol and also with the Punitive Expedition at El Valle, Mexico. In February, 1917, he joined the 3rd Aero Squadron, and served with this organization until May, 1917, when he was assigned as Commandant of the School of Military Aeronautics, Cornell University, Ithaca, N.Y.

In October, 1917, he sailed for duty overseas, and was stationed at Paris and later at Tours as Personnel Officer at Air Service Headquarters to February, 1918. He was Officer in Charge of Flying at the 2nd Aviation Instruction Center at Tours, France, to August, 1918; Corps Air Service Commander, 7th Army Corps, September, 1918, to April, 1919; at Paris as student at Sorbonne University, April to July, 1919.

Upon his return to the United States in August, 1919, Col. Davidson was assigned to McCook Field, Dayton, Ohio, for duty in the Power Plant Section. He assumed the duty of Supply Officer on November 1, 1919; Quartermaster from August to October, 1920, in addition to his other duties, and upon his being relieved from this position in September, 1921, he was assigned as student at the Air Service Engineering School, McCook Field. Upon his graduation from this School in July, 1922, he was assigned to duty as Assistant Military Attache at the American Embassy, London, England.

At the end of his four-year tour of duty in London, Colonel Davidson, in September, 1926, was assigned to duty at Mitchel Field, N.Y., where he served as Operations Officer and performed various other duties, until December 16, 1927.

After several weeks of duty as commanding officer of Mitchel Field, he was, on January 4, 1928, assigned to the command of Bolling Field, D.C. Relieved of the command of Bolling Field August 24, 1932, in order to attend the Air Corps Tactical School, Maxwell Field, Ala., Col. Davidson upon his graduation pursued the course of instruction at the Command and General Staff School, Fort Leavenworth, Kansas. His next assignment was with the 19th Bombardment Group at Rockwell Field, Coronado, Calif. He commanded this organization both at Rockwell Field and at March Field, Calif., to which station the 19th was transferred following the abandonment of Rockwell Field as a station for Air Corps troops.

Colonel Davidson was transferred to the Office of the Chief of the Air Corps and assigned as Executive Officer on September 9, 1936.

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LIEUT. COLONEL ASA NORTH DUNCAN

Lieut. Colonel Asa N. Duncan, Air Corps, who is being relieved at this writing as Commanding Officer of the 5th Composite Group, Luke Field, T.H., by reason of the expiration of his tour of foreign service, was born at Leighton, Alabama, March 30, 1892. He attended Sheffield, Ala., High School from 1906 to 1909; State Normal College, Florence, Ala., from 1909 to 1911; and Alabama Polytechnic Institute from 1911 to 1913.

Enlisting in Company K, 2nd Infantry, Alabama National Guard, September 14, 1914, he served therewith until September 26, 1916, when he was commissioned a first lieutenant, 1st Alabama Cavalry. He was on duty with this organization in Federal Service, with station at San Antonio, Texas, from December 9, 1916, to May 1, 1917.

On January 9, 1918, Col. Duncan was detailed to the Air Service School for Aerial Observers at Fort Sill, Okla., and upon his graduation therefrom, April 27, 1918, he was stationed at the Aviation Concentration Camp at Camp Dick, Dallas, Texas, May 1 to June 1, 1918, and at Taliaferro Field, Hicks, Texas, where he took the aerial gunnery course, June 1 to June 22, 1918. On the latter date he was rated as Aerial Observer.

Ordered to duty overseas, he was stationed at the 2nd Aviation Instruction Center at Tours, France, August 14, 1918, to September 20, 1918. On September 23rd he was assigned to the 91st Aero Squadron, 1st Army, at Vavincourt, France, being on duty as Observer and Operations Officer. He served with the 91st Squadron, when attached to the Third Army, from November 18, 1918, to April 9, 1919.

Colonel Duncan was cited in orders by the Air Service Commander, First Army, to V-7122, A.C.

for having set an excellent example to the officers and enlisted men of his organization by his remarkable exhibition of coolness and bravery in combat and his exceptional devotion to duty under all circumstances.

On October 9, 1918, while taking photographs from the leading airplane of a formation of three from Damvillers to Jametz, over the latter town fourteen enemy pursuit airplanes were encountered and a running fight ensued all the way back to Brioules-Sur-Meuse. Colonel Duncan, then a Captain, who was observer in an airplane piloted by Lieut. George C. Kenney (now Major, Air Corps) finished taking his photographs during the attack, shooting down one hostile aircraft for which he received official confirmation, and taking part in the remainder of the fight during which two other enemy aircraft were destroyed.

On October 10, 1918, while acting as observer in an airplane protecting a photographic mission between Dun and Stenay, Colonel Duncan's effective fire kept off an attack by six hostile aircraft and enabled the photographic plane to finish its mission and return safely home.

On October 23, 1918, while protecting another photographic mission from Dun to Stenay, a patrol of approximately fifty hostile aircraft was encountered over Sassy-Sur-Meuse. Colonel Duncan fought until both his guns were hopelessly jammed by shots which pierced both his magazine drums. During the combat he was twice knocked down by the impact of shots against his gun mount, but with his cockpit and flying clothes riddled with bullets he got up and continued to operate his guns as long as they functioned. The photographic plane was thus enabled to escape with photographs which were of considerable military value.

On October 31, 1918, after being driven from the course twice by hostile pursuit in superior numbers, Colonel Duncan succeeded in getting the photographs between Stenay and Montmedy that he had been assigned to take. Although his ammunition was partly used up during the first and second combats, he succeeded in holding off a third attack of nine enemy aircraft in a running fight which lasted all the way from Stenay to Verdun.

On November 3, 1918, Colonel Duncan completed an exceptionally successful reconnaissance mission from Jametz to Montmedy, and to the east of that line to which special attention was called in the Air Service operations report of that day. On account of adverse weather conditions, the mission was flown for the most part at low altitudes, and the airplane was continuously subjected to heavy anti-aircraft fire. Twice hostile pursuit endeavored to drive the airplane off, but each time by temporarily taking advantage of concealment in clouds the

mission was continued.

Colonel Duncan returned to the United States with the 91st Aero Squadron, and he was stationed at Park Field, Millington, Tenn., until March 24, 1921, when he was assigned to duty as student at the Air Service Primary Flying School at Carlstrom Field, Arcadia, Fla. Completing his primary flying training, he proceeded to the Advanced Flying School at Kelly Field, Texas, for advanced training as a Bombardment pilot. He graduated in January, 1922, and was rated "Airplane Pilot."

For four years thereafter, Colonel Duncan was stationed at Birmingham, Ala., as Instructor of the National Guard Air Service, State of Alabama. He was then transferred, in August, 1927, to Langley Field, Va., where he was a student at and graduated from the Air Corps Tactical School, June, 1929. He remained at Langley Field and commanded the 20th Bombardment Squadron, and at various periods temporarily commanded the Second Bombardment Group.

After completing a two-year course at the Command and General Staff School at Fort Leavenworth, Kansas, Colonel Duncan, in July, 1931, was assigned to duty in the Schools Section, Training and Operations Division, Office of the Chief of the Air Corps, Washington, D.C.

During the operation of the Air Mail by the Army Air Corps, he was assigned as Chief of the Intelligence and Press Relations Section, G-2, Office of the Chief of the Air Corps.

Following a brief period of service as Assistant Executive, Office of the Chief of the Air Corps, Colonel Duncan was transferred to the Hawaiian Department, where he was placed in command of the 5th Composite Group and of Luke Field. He is now under orders to proceed to March Field, Riverside, Calif., for duty.

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NEW ALTITUDE RECORD BY BRITISH PILOT

Subject to official homologation by the Federation Aeronautique Internationale, the world's altitude record stands at present to the credit of Great Britain. Squadron Leader F.R.D. Swain, of the Royal Air Force, piloting a Bristol monoplane powered with a Bristol Pegasus engine of a special type, recently reached an altitude of 15,230 meters (49,967 feet), thus eclipsing the record of 48,674 feet made by the French pilot, Detre, who flew a Potez airplane.

Squadron Leader Swain took off on this altitude flight at 7:30 a.m. and landed at 10:50 a.m.

Known as the Bristol 138, the monoplane used on this record-breaking altitude flight is a low-wing type, constructed mainly of wood, except the engine mounting and cowling. Loaded for the flight, the plane weighed 5,310 pounds.

16. Cross-country flight overnight.

The scores on aerial machine gunnery and bombing were very satisfactory, some scores being exceptionally high.

Night observation missions were made on Artillery in camouflaged positions. These positions were again observed with dawn patrol with excellent results from the pilots and observers. Battery F, 14th Field Artillery, was the only unit not found of the four units in position.

Night flying was accomplished by the use of several automobile headlights to light the landing area and colored flash lights for running lights.

Artillery adjustment missions were completed with an average of less than ten minutes from target designation to the end of the problem.

Motor transportation and supplies were moved from Kansas City, Mo., to Camp Ripley, a distance of 610 miles; camp set up; airplanes maintained; and supply, photographic gunnery, bombing, radio, guard, camp police and other departments were operated with a total of 14 men.

The entire operation of all flying and training of Reserve officers was accomplished without a single airplane being damaged or even scratched.

In view of the fact that very few Reserve pilots had ever received some of this training in previous years, the results achieved were most gratifying. All reservists worked hard and tried their utmost to perform each mission in an excellent manner, with the result that a letter of commendation was received from Colonel J. H. Wallace, commanding the Field Artillery Brigade.

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BRITISH DEVELOP "H" TYPE AVIATION ENGINE

The unorthodox "H" shaped engine, Rapier Series V, has received a certificate of type approval from the British Air Ministry following the completion of official test runs. This engine, rated to deliver 315 h.p. at 10,000 feet with a maximum power output of 340 h.p. at 13,000 feet, has been designed to reduce head resistance normally encountered by air-cooled engines. The net dry weight of this 16-cylinder, air-cooled engine is 720 pounds; fuel and oil consumption are claimed to be low. This engine has been selected to power the upper component of the Mayo composite aircraft, which component is launched in mid-air from a large flying boat.

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On the cover page of this issue of the News Letter is a photograph of the first Army airplane, which was accepted by the U.S. Government following a successful demonstration by Mr. Orville Wright at Fort Myer, Va., in 1909.

Fifty-two hours and 57 minutes following the start of the air race from Portsmouth, England, to Johannesburg, South Africa, the winning plane, a Percival Vega Gull monoplane, powered with a Gipsy VI (Series II), 200 h.p. engine, landed at destination, covering the distance of 6,150 miles at an average speed of 116 miles per hour, elapsed time, and 156.3 miles per hour actual flying time.

The winning team, Messrs. C.W.A. Scott and Giles Guthrie, competed with eight other contestants for £10,000 prize money, the donor being Mr. J.W. Schlesinger, a prominent aviation enthusiast.

Originally there were 13 entries for this gruelling test of present-day aircraft of British manufacture, but at the starting time in the semi-darkness of the morning of September 29th, four airplanes failed to appear on the line.

The contestants, aside from the winning team, were -

C.M. Alington, Lieut. Booth and H.V. Alington in a B.A. Eagle, powered by a Gipsy Major engine. Major A.M. Miller in a Vega Gull.

Flight Lieut. Tommy Rose and Jack Bagshaw in a Double Eagle plane, powered with two Gipsy Six engines.

Victor Smith in a Miles Sparrowhawk plane, powered with a Gipsy Major engine.

D. Llewellyn, and C.L. Hughesdon in a Vega Gull plane.

Waller, Findlay, Peachey and Morgan in an Envoy plane, powered with two Cheetah IX engines.

Captain S.S. Halse in a Mew Gull plane, powered with a Gipsy Six engine.

A.L. Clouston in a Hawk Six plane, powered with a Gipsy Six engine.

All the Vega Gull planes flown in this race were powered with the Gipsy Six engine.

The route of the contestants took them through France, Germany, Austria, Yugo-Slavia, Greece, across the Mediterranean Sea, and from Cairo, Egypt, almost in a straight line down Africa to Johannesburg.

Two of the contestants - Alington and Booth and Major Miller failed to clear Europe, the first-named team, while refueling their plane at Nurnburg, experiencing the misfortune of striking a bad bump while taking off, causing the undercarriage of their plane to fold up.

Major Miller was out of the race when he had fuel feed trouble at Belgrade, Yugo-Slavia.

Rose and Bagshaw, who were forced down at Linz, Austria, by an air lock but who continued on and lost several valuable hours at Athens trying to remove the trouble, were forced to give up at Cairo, Egypt, where in landing one leg of the retractable landing gear gave way and one propeller was broken.

Victor Smith dropped out of the race at Cairo. He was forced down several times due to oil trouble and delayed to such an extent that he found it useless to continue in the race.

Llewellyn and Hughesdon, who had been running a neck and neck race with Scott and Guthrie, were forced to land, due to fuel exhaustion caused by a leak in one tank, on the shores of

(Continued on page 19)

OBITUARIES

An airplane accident on the afternoon of September 15th, near East Schertz, Texas, cost the lives of the pilot, 1st Lieut. Andrew F. Solter, Air Corps, and his passenger, Flying Cadet Carl L. Smalley.

Lieut. Solter, who was on duty as flying instructor at the Air Corps Primary Flying School at Randolph Field, Texas, was at the time of the accident giving flying instruction to Cadet Smalley. Due to causes unknown, the plane went into a spin from a comparatively low altitude. Observers of the accident noted that the airplane appeared about to come out of the spin just as the crash occurred. An investigation disclosed no structural defects in the airplane.

Lieut. Solter was born at El Paso, Texas, March 4, 1904. After passing through the grammar schools and graduating from the Hollywood, Calif., High School, he attended the University of Southern California for four years, specializing in law. Prior to his appointment as a Flying Cadet in the Air Corps, he was a member of the 115th Observation Squadron, California National Guard Air Service.

Lieut. Solter reported at the Primary Flying School at March Field, Riverside, Calif., for flying training, on November 1, 1927. He completed the eight months' course at this school on June 28, 1928, and was thereupon transferred to Kelly Field, Texas, to complete the four months' advanced work at the Advanced Flying School. Specializing in Pursuit Aviation, he graduated on October 20, 1928, on which date he was appointed a second lieutenant in the Air Reserve. His rating as an "Airplane Pilot" dates from October 30, 1928.

Assigned to active duty at Rockwell Field, Coronado, Calif., Lieut. Solter joined the 95th Pursuit Squadron and performed the duties of Squadron Athletic Officer. He was greatly interested in athletics and coached and played with the March Field basketball team.

Passing the examination for a permanent commission in the Regular Army, Lieut. Solter was commissioned a Second Lieutenant in the Air Corps February 25, 1929, and retained his affiliation with the 95th Pursuit Squadron.

During the Air Corps Maneuvers in Ohio in the Spring of 1929, Lieut. Solter joined the ranks of the mythical Caterpillar Club. The accident which necessitated his emergency parachute jump was caused by a collision of two planes of the 95th Pursuit Squadron at 13,000 feet altitude over the northern section of Columbus, Ohio. He jumped after leaking gas from the tank ignited, but not before he received burns on portions of his face not covered by his flying helmet.

On September 3, 1929, Lieut. Solter reported for duty as student at the Air Corps Technical School, Chamute Field, Rantoul, Ill., to pursue a course of instruction in aircraft armament. Following the successful completion of this course and his graduation on March 14, 1930, he returned to Rockwell Field, rejoined the 95th Squadron, and was assigned to duty as Squadron Armament Officer. He was transferred with his Squadron to March Field, Riverside, Calif., in October, 1931.

Lieut. Solter at different times performed various other duties as a member of the 95th, such as commander of "A" Flight, Squadron Engineering Officer, and Squadron Supply Officer. In May, 1934, he was transferred to the Air Corps Primary Flying School at Randolph Field, Texas, for duty as Flying Instructor.

During the nine years he was with the Air Corps, Lieut. Solter accumulated over 2500 hours' flying time. He held a Department of Commerce license as Transport Pilot.

An able and efficient young officer, he was always cheerful, alert and cooperative. Modest and unassuming, he was well liked by all with whom he came in contact, and those who knew him keenly regret his untimely death.

Flying Cadet Carl Lothrop Smalley was born at Somerville, Mass., August 28, 1913. He graduated from Somerville High School in June, 1931, and from Boston University College of Business Administration, in June, 1936.

In his application for a Flying Cadet appointment, Cadet Smalley stated that he had been interested in aviation since the age of ten; that in 1931 he took his first dual instruction at East Boston Airport; that he soloed in four hours, held a Private License with a total of 85 hours. He further stated that his flying experience had been varied, including cross-country flights, forced landings, etc., in about 25 different ships; that he had about 100 hours as passenger, and worked at an airport for two summers during college as mechanic, pilot, etc.

Following his appointment as a Flying Cadet, in June, 1936, Cadet Smalley reported for flying training at Randolph Field on the 29th of that month.

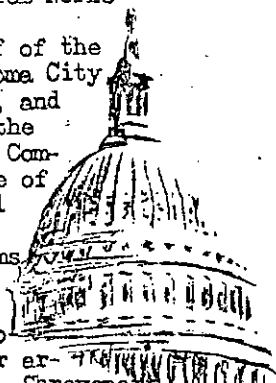
Cadet Smalley is survived by his mother, Mrs. Helen Smalley, Somerville, Mass.

Lieut. Solter is survived by his widow and three children - the oldest, five years of age. His father, Mr. Edwin M. Solter, resides in Los Angeles.

The heartfelt sympathy of the Air Corps is extended to the bereaved families of these men who died in the service of their country.

WASHINGTON OFFICE NOTES

General Westover, Chief of the Air Corps, visited Oklahoma City Oklahoma, on October 9th, and was a luncheon guest of the Oklahoma City Chamber of Commerce. During the course of the luncheon, the General delivered an address on military aviation problems of today.



Leaving Washington at 9:45 a.m., Thursday, October 8th, General Westover arrived at Barksdale Field, Shreveport, La., before dark, and remained overnight at that post. On the following morning he took off for Oklahoma City and arrived there at 10:50 o'clock.

During the afternoon of October 9th, General Westover held conferences at Oklahoma City with Unit Instructors of the Air Reserve, and delivered an address in the evening at a banquet of the Air Reserve Association at the Hotel Biltmore.

On the morning of October 10th, the General gave a radio broadcast at 9:30 o'clock, and an hour later he spoke at a joint meeting of the Unit Instructors of the Air Reserve, following which he departed for Wichita, Kansas, where he arrived at 11:45 o'clock. He visited and familiarized himself in turn with the factories of the Stearman Aircraft Company, the Cessna Aircraft Company and the Beech Aircraft Company. At 6:30 p.m., he attended a banquet under the auspices of the Wichita Chamber of Commerce, held in commemoration of the Diamond Jubilee of Kansas and dedicated particularly to the progress of aviation. He also delivered an address on that occasion.

Leaving Wichita at 7:00 a.m., CTS, Sunday morning, October 11th, he made the distance to Washington in slightly more than seven hours, arriving at Bolling Field at 3:10 p.m. EST.

Lieut. Colonel Robert L. Walsh, Chief of the Reserve Division, and Major Rowland C. W. Blessley, of that Division, also attended the Reserve Officers' Convention at Oklahoma City. Before returning to his duties in the Chief's Office, Colonel Walsh will make an inspection trip to various Air Corps activities relative to Reserve matters. Major Blessley returned to Washington on October 12th.

Majors Lowell H. Smith and Edward V. Harbeck, Jr., returned October 12th to their duties in the Inspection Division from detached service at Wright Field, Dayton, Ohio.

On October 13th, the Chief's office had a rather unusual visitor in the person of Major Arthur I. Ennis, who is on duty at St. Paul, Minn., as Instructor of the National Guard Air Service of the State of Minnesota. Major Ennis, who was accompanied on his extended navigation flight to the east by Captain John W. Williams, Flight Surgeon, was formerly on duty in the Information Division, and the personnel

of that Division extended him the glad hand. The climate up north appears to agree with "Art," as we were wont to call him.

Colonel Chalmers G. Hall and Captain James C. Cluck, of the Supply Division, returned on October 13th from the Engineering-Supply Conference held at Wright Field, Ohio.

Major Alfred W. Marriner returned October 8th from temporary duty at Chanute and Wright Fields. Captain Mervin E. Gross also returned the same day from a conference at Wright Field.

Major Arthur E. Easterbrook, who was the senior Air Corps officer at the 3rd Army Maneuvers, returned to his office on October 2nd.

Lieut. Colonel William E. Lynd returned on October 2nd from a ferrying mission to the West Coast.

Major Karl S. Axtater, of the Supply Division, returned October 7th following a navigation flight, in the course of which he stopped at Pittsburgh, Pa.; Wright Field, Ohio, and Indianapolis, Ind.

Colonel William C. McChord, Chief of the War Plans and Training Division, recently visited Patterson, Chanute and Selfridge Fields in connection with training matters.

Colonel Rush B. Lincoln returned on October 10th from leave of absence.

Recent visitors to the Chief's Office were Major Aubrey C. Strickland, of Randolph Field, who came for a conference, and 2nd Lieut. Edward S. Allee during the course of a navigation flight from Chanute Field, Ill.

Major William B. Souza, of the War Plans and Training Division, departed October 11th for temporary duty at Wright Field.

AIR TRAVEL ACROSS THE PACIFIC

It appears that a definite date has now been set for the beginning of a passenger service on Pan American Airways line to Manila. It is reported that a weekly service will start on October 21st from San Francisco and that an eastbound service will start from Manila on October 29th. When the mail contract was given to Pan American Airways last year, it was understood a passenger service would start within one year. The opening of the service took place on November 22, 1935.

Loads thus far carried during mail service on the line have averaged about two tons per load between California and Hawaii, and as much as five tons on the shorter inter-island legs. The number of passengers to be carried in future, in addition to cargo, and the rates of fare are yet to be announced. It is understood the Traffic Department of the line has on file 1100 applications for tickets.

CADETS TO BE COMMISSIONED IN AIR RESERVE

The Chief of the Air Corps has recommended to the War Department that 31 Flying Cadets, who graduated from the Air Corps Advanced Flying School, Kelly Field, Texas, October 12, 1935, and who will complete their year of active duty under their cadet status with Air Corps tactical units on October 14, 1936, be commissioned second lieutenants in the Air Reserve, and that they be placed on extended active duty as Air Reserve units. Since three of these Flying Cadets recently passed the examination for appointment as second lieutenants in the Air Corps, Regular Army, 28 of these Cadets will be actually commissioned in the Air Reserve. The three newly appointed Regular officers are:

W. G. Graves Hubbard Snyder, of Lewisburg, W. Va., stationed at Brooks Field, Texas.
 Robert Windeck Hall, of Washington, D.C., stationed at Barksdale Field, Shreveport, La.
 John Markward Reynolds, of Mobile, Ala., stationed at Hamilton Field, San Rafael, Calif.

The Flying Cadets recommended for Reserve commissions are at present on duty at the Air Corps stations indicated below, viz:

Barksdale Field, Shreveport, La.
 Shepard, Horace Aimor * Mobile, Ala.
 Coulter, Theron Eufalia, Ala.
 McKissack, Thomas LeRoy Englewood, Colo.
 Paul, Robert Copeland Watertown, Fla.
 Macklin, Raleigh Hunter * Ottawa, Kans.
 Wilson, Cy * Longview, Texas
 Kleine, Bingham Trigg* San Antonio, Texas
 West, Herbert Madison, Jr. San Antonio, Texas

Hamilton Field, San Rafael, Calif.

Reid, Edward Lewis Little Rock, Ark.
 Knight, Richard Thomas Claude, Tex.

Langley Field, Hampton, Va.

Allen, James William * Ithaca, N.Y.
 Bockman, Charles Eugene, Jr. * Portland, Ore.
 Thayer, Merrill Elmer Brattleboro, Vt.
 LePenske, Edward August Tacoma, Wash.

Mitchel Field, L. I., N.Y.

Randall, John Laverne * Moscow, Idaho
 Remington, Peter Havens * Watertown, N.Y.

Brooks Field, San Antonio, Texas

Ellis, James Oldham Greeley, Colo.
 Zidiales, Stanley Anthony * Middleboro, Mass.
 Crank, Howell G. Tulsa, Okla.
 Lazarus, Willard Wright * Corvallis, Ore.
 Chapman, James W. Austin, Texas

March Field, Riverside, Calif.

Herlick, Conrad Joe Helendale, Calif.
 Love, Robert Carter Los Angeles, Calif.

Selfridge Field, Mt. Clemens, Mich.

Malcolm, Marion * Iowa City, Iowa
 Cochran, Franklin Miller, Jr. * Davidson, N.C.
 Nichols, Howard Fish Marion, Ohio
 Hedlund, Evert Wilbur * Beresford, S.D.
 Quick, Quentin Timson Bellingham, Wash.

These Flying Cadets already hold commissions in the Reserve Corps of other branches of the Service, and they are being recommended for transfer to the Air Reserve.

WAR DEPT. ORDERS AFFECTING AIR CORPS OFFICERS

Changes of Station: To Belling Field, D.C.: Major Benjamin F. Griffin (Captain) from Brooks Field, Texas. - 1st Lieut. Ralph C. Rhudy from Kelly Field, Texas.

To Barksdale Field, La.: 1st Lieut. George W. Mundy from the Philippines. - 1st Lieuts. Frank A. Armstrong, Jr., Otto C. George and Thayer S. Olds from Panama Canal Department.

To Rockwell Air Depot, Calif.: Major Lionel H. Dunlap from the Philippines.

To March Field, Calif.: Major Harold A. McGinnis (Captain) from Hamilton Field, Calif.

To Langley Field, Va.: 1st Lieut. John S. Mills from the Philippines. - 1st Lieut. George H. Macnair from Panama Canal Department.

To Boston Airport, Boston, Mass.: 1st Lieut. Richard E. Cobb from duty with the 94th Division, Boston, Mass., and from further detail with Organized Reserves, First Corps Area.

To Selfridge Field, Mich.: 1st Lieut. John K. Gernart from Hawaiian Department.

To Pope Field, Fort Bragg, N.C.: 1st Lieut. Richard J. Meyer, from Hawaiian Department.

To Air Corps Training Center, Randolph Field: 1st Lieut. Robin B. Ecler, from Panama.

To Hamilton Field, Calif.: 1st Lieut. James D. Underhill from Panama Canal Department.

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THIRD ATTACK GROUP TO RECEIVE COLOMBIAN TROPHY

In a recent communication from the Headquarters of the GHQ Air Force, Langley Field, Va., to the Commanding General of the Third Wing, GHQ Air Force, Barksdale Field, Shreveport, La., it is stated that the Third Attack Group at that station, credited with having the lowest accident rate per 1,000 flying hours in the training year 1935-1936, will be presented the Colombian Trophy by the Commanding General of the GHQ Air Force in November, 1936, the exact date to be announced later.

The Trophy above mentioned was presented to the GHQ Air Force, in the name of the Republic of Colombia, by Major Benjamin Mendez, one of the foremost flyers in the Colombian Army, during the GHQ Air Force Maneuvers in the vicinity of Miami, Fla., in December, 1935. It is proposed to award this Trophy annually to that Group in the GHQ Air Force having the lowest accident rate per 1,000 flying hours each training year, as determined by the Inspection Division, Office of the Chief of the Air Corps.

A photographic reproduction of the Colombian Trophy appeared in the issue of the Air Corps News Letter of September 1, 1936.

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In the record-breaking altitude flight of the British pilot, Squadron Leader Swain, referred to on page 11 of this issue, it is reported that he wore an air-tight, electrically heated suit which later on almost spelled disaster. The transparent panel in the helmet became covered with ice and Swain had to cut the panel with a knife, which he could only do at a lower height to prevent the sudden difference in pressure becoming too high.

No attempt is being made here to publish a complete history of the early days of U.S. Army Aviation. Perhaps it may be possible to do this at some future time when the necessary material shall have been collected to furnish the basis for a full story of the pioneering days of a combat branch of the Army, the importance of which is assuming greater prominence with each passing day.

For the present, what is presented here is copied from a collection of disjointed items touching on various events which have transpired between twenty and twenty-five years ago, when military aviation in the U.S. Army was under the supervision of the Signal Corps. Some of these items may prove of interest in affording a comparison between conditions today and those which prevailed in the days of the pioneer military aviators.

It was not until June 30, 1909, that the first military plane was delivered to the Army. Proposals for this plane were opened by the Signal Corps, U.S. Army, on February 1, 1908.

The specifications for this first airplane appear elsewhere in this issue of the News Letter.

There were 22 bidders, and the bids ranged from \$500 to \$10,000. The bid of the Wright Brothers was \$25,000, and the War Department, evidently convinced that they were the only ones competent to fulfill the contract, finally awarded it to them.

In September, 1908, Orville Wright arrived at Fort Myer, Va., and started demonstrating the Wright machine to interested Army officials. On September 9th, he moved his odd-looking mechanism out of its shed, and with only a little effort rose gracefully and easily into the air. In less than an hour he circled the parade ground 57 times at a height of about 100 feet. In the afternoon, he accomplished the first flight exceeding an hour's duration, completing 55 rounds in 63 minutes and 15 seconds. Later he took Lieut. Frank P. Lahm as passenger for a flight of six minutes and 42 seconds.

Continuing his exhibition flights, Mr. Wright on September 12th established a new duration record for pilot and passenger, although the plane was in the air only 9 minutes and 6 seconds. His passenger on this flight was Major George O. Squier, Signal Corps, who was Chief Signal Officer of the Army during the World War and was well known for his activities in the field of radio.

The first Army officer to meet his death in an airplane crash was Lieut. Thomas E. Selfridge of the Field Artillery. Flying as a passenger with Mr. Wright on September 17th, the plane went out of control, due to the breaking of the propeller, and crashed. Mr. Wright was severely injured and Lieut. Selfridge died a few hours after the accident. Further experiments in 1908 were discontinued.

1909

In July, the Wright Brothers returned to Fort Myer with a new airplane. Towards the end of that month, Orville Wright, with Lieut. Lahm as

passenger, exceeded the duration requirement for this first Army airplane by remaining in the air for one hour, 12 minutes and 40 seconds. On July 30th, with Lieut. Benjamin D. Foulois as passenger, Mr. Wright, on a cross-country trip totalling ten miles, five with the wind and five against it, exceeded the speed requirement by averaging 42 miles per hour, which entitled him to a bonus of \$5,000 over the contract price of \$25,000.

Following the formal acceptance of the airplane by the U.S. Government, Orville Wright left for Germany while his brother Wilbur remained in this country to give flying instruction to Lieuts. Lahm, Foulois and Humphreys. The two first named officers completed the course, but Lieut. Humphrey was relieved from aviation duty and subsequently left the Army.

Army aviation as it existed in the latter part of 1909 boasted of a personnel of 3 officers and 10 enlisted men. The equipment consisted of one airplane, an airship, a free balloon, a small captive balloon, and a 200-ft. balloon and airship shed at Fort Omaha, Neb.

1910

At Fort Sam Houston, Texas, during the month of June, Lieut. B.D. Foulois made six flights in the Army's Wright airplane, the longest being one hour and two minutes. High winds and considerable rain prevented flights on most of the days.

Three instructors and 17 student officers of the Army Signal School from Fort Leavenworth were on temporary duty at Fort Omaha from May 10th to 15th. Captain Charles DeF. Chandler was ordered from Washington to Fort Omaha as instructor. Lectures were given, also practical instruction in the generation and compression of hydrogen, spreading and inflation of balloons. The Drachen captive balloon made several ascents, and there was one free balloon trip with Captain Chandler as pilot and Captain R.J. Burt and Lieut. W.N. Haskell as aids. Signal Corps Dirigible Balloon No. 1 was also used, being manned by Captain Chandler as pilot and Lieut. Haskell as engineer.

From June 1 to June 7, Lieut. Foulois made five flights at Fort Sam Houston, Texas, in gusty winds up to 15 miles per hour, varying in length from 5 to 14 minutes. No flights were made after June 7th, as the aeronautical detachment was sent to Leon Springs to assist in installing the annunciator buzzer system at that place.

Captain Arthur S. Cowan, Signal Corps, was placed in charge of the Aeronautical Division on June 1st, relieving Captain Chandler.

1911

The Senate passed the bill containing an appropriation of \$125,000 for army aeronautics, previously passed by the House, on February 7th, and made \$25,000 immediately available.

During July, the Army Wright machines were kept busy at College Park, Md., the site of the first Army Aviation School, established

by the Signal Corps in June, 1911. No less than 127 flights were made up to July 20th, during which 56 passengers were carried. Flights over Washington from College Park occurred twice during the month by army aviators.

On July 6th, Lieut. Milling, when trying for a pilot's license, landed five feet from point marked as starting and landing point. On July 7th, an altitude of 3,260 feet was reached by Lieut. H.H. Arnold. Lieut. Milling with Lieut. Kirtland as passenger flew to Washington Barracks, D.C., landed, and flew back; highest altitude 2,200 feet. On July 10th, Lieut. Arnold with Lieut. Kirtland as passenger flew to Washington and returned, without intermediate landing; time 40 minutes; highest altitude, 2,400 feet. On July 18th, Lieut. Arnold, during a flight of 27 minutes, 35 seconds, reached an altitude of 4,167 feet. The following officers were on duty at the Signal Corps Aviation School, College Park: Captain C. DeF. Chandler, Commanding; Captain Paul W. Beck, Lieuts. R.C. Kirtland, Henry H. Arnold, Thomas DeW. Milling.

The U.S. Army Aviation Squad at College Park, Md., settled down more or less to a matter of routine. The aviators so far are Lieut. Milling, handling the Burgess-Wright plane; Lieut. Arnold, the straight Wright. Both of these officers were trained at the Wright factory at Dayton, Ohio. They have in turn trained Captain Chandler and Lieut. Kirtland.

The longest cross-country flight from the camp was to Frederick, Md., 41 miles, by Lieut. Arnold with Captain Chandler, to visit the National Guard camp there. They returned that night.

Captain Paul W. Beck is flying an 8-cylinder Curtiss. Lieut. Frank M. Kennedy, 10th Infantry, is to be the first Curtiss pupil. There is a good deal of rivalry between the Wright and Curtiss men.

The Signal Corps Aviation School departed from College Park on the afternoon of November 28th, and arrived at Augusta, Ga., at midnight on the 29th. Captain Chandler, Lieuts. Arnold, Kirtland, Milling and J.P. Kelley (Medical Reserve Corps) and 19 enlisted men of the Signal Corps made the trip in a special train of nine cars.

The Wright, Burgess-Wright and two Curtiss airplanes, and all other equipment pertaining to the school was taken along, including horses, wagons and mules.

The new site for the Aviation School during the winter is on the Barnes farm near the east boundary of Augusta. There are several hundred acres of level land used only for raising hay; these fields afford ideal conditions for the instruction of beginners. The average wind velocity of Augusta during the winter months is very low, and it is expected that many airplane flights will be made practically every day.

During the first week of December, the Aviation School got well started for the winter season. The Wright, Burgess-Wright and eight-cylinder Curtiss airplanes were assembled and flown.

The flights of special interest were: one

around the city on December 7th at an altitude of 2500 feet by Lieut. Kirtland, and on the 9th both Lieuts. Kirtland and Arnold went around the city at an average altitude of 2500 feet.

On the 8th, Lieut. Arnold ascended to an altitude of 4100 feet. Lieut. Milling has been learning to fly the Curtiss type. His instruction began at College Park under the direction of Captain Beck.

During the fall of 1911, flying officers from College Park participated in flying meets, and were highly successful. One officer established a new world's endurance record of one hour and 53 minutes, flying with two passengers at the meet on Long Island. Three military airplanes were used during the maneuvers held in the vicinity of Bridgeport, Conn., during August, and thoroughly demonstrated the value of aerial reconnaissance. The first successful night flight was made at College Park in October.

1912

From January 14 to February 11, the officers at the Army School at Augusta, Ga., made 75 flights, totalling 24 hours, 33 minutes. The heavy fall of snow and bad weather prohibited a bigger aggregate.

Mr. Wilbur Wright was a visitor the last of January, and he cheerfully answered a steady flow of questions from the officers concerning prospective improvements in military airplanes and aviation in general.

On February 9th, Lieut. F.M. Kennedy, 10th Infantry, qualified for an aviation pilot license. The tests were made with a Curtiss biplane. On the same day, Lieuts. Kennedy and Arnold in the Wright plane flew over and around the city of Augusta at an altitude of about 1500 feet. Later in the afternoon, while starting in the fast Curtiss airplane, Captain Beck met with an accident which completely wrecked the machine. Fortunately, Captain Beck escaped without injury.

Lieut. Arnold was up for 59 minutes on January 25th, attaining an altitude of 4,764 feet. The Army aviators have agreed not to try altitudes above a mile, as that is sufficiently high for practical purposes.

The last day of flying at Augusta for the Aviation School was March 28th, after which the airplanes were packed for shipment and the loading of the cars proceeded for the next three days.

On the afternoon of April 1st, the School departed on a special train of ten cars, arriving at College Park on the afternoon of the 2nd. While at Augusta, the School made a total of 436 flights, having a total duration of 81 hours and 18 minutes. Out of the 124 days at Augusta, not including Sundays and the time engaged in packing or unpacking airplanes, the officers were flying 58 days. On some of these days, rain or high winds permitted a few flights only early in the mornings or late in the evenings.

The Signal Corps now owns 3 Standard Wright, 1 Burgess-Wright and 2 Curtiss airplanes, and there have been ordered 1 dual control Curtiss (lately delivered), 1 Burgess and 4 Wright ma-

chines.

During the week of March 17-24, the attention of the Army Aviation School was taken up principally with the tests of the new dual control Curtiss airplane designed especially as a military weight-carrying machine. Aviator Charles A. Walsh of the Curtiss Company did the flying and represented the manufacturer. During the trials Mr. Walsh made a total of 17 flights, and, in addition to these, the officers made 18. The speed of the new plane was 53.1 miles per hour, an excess of 8.1 miles over the 45 m.p.h. called for in the specifications. The two-hour endurance test was also exceeded, the plane maintaining continuous flight of 2 hours, 11 minutes, at 300 feet altitude.

The airplane shed of the U.S. Signal Corps at Manila, P.I., has been erected on the plains on the shore of Lake Laguna, near Fort McKinley, above five miles from Manila. Great flat lands which are covered with rice fields afford splendid landing spots. Lieut. Laum has charge of the aviation work. The climate is most favorable.

An innovation in signal work in the Philippine Division has resulted from the fact that an airplane was received in February.

The machine is a type B, Wright airplane, 30 h.p., with floats, and a supply of spare parts. A hangar, 50' x 75', inside dimensions, with concrete floor, galvanized iron roof, sliding doors entirely across the front, and large enough to accommodate two assembled machines, was erected by the Quartermaster's Department on the reservation, adjacent to the polo field at Fort William McKinley, at a cost of \$1,809.91.

First Lieut. Frank P. Laum, 7th Cavalry, was detailed for temporary duty with the Signal Corps for aviation work, and entered upon this duty March 11, 1912. Two noncommissioned officers and four men of the Signal Corps, selected for their mechanical ability and especially for their experience with gasoline engines, were assigned to duty as mechanics.

The airplane was assembled and flown for the first time March 21st. Thereafter flights were made every morning. The total time in the air up to June 30th was 34 hours and 5 minutes.

On June 14th, Corporal Vernon L. Burge, Signal Corps, of the aviation detachment, successfully fulfilled the requirements of the International Aeronautical Federation for an aviation pilot's license, and on June 28th Lieut. Moss L. Love, Signal Corps, successfully passed the same test.

There are at present three aviators (Lieuts. Laum and Love and Corp. Burge) in the Philippine Division and one airplane. Requisition has been submitted for two airplanes, one a high power machine suitable for use in connection with the defenses of Corregidor Island, the other a type "B", Wright machine suitable for use at maneuvers or wherever needed.

NOTE: Lieut. Love was killed in an airplane accident in 1913, and Love Field, Dallas, Texas, was named in his memory. Corporal Burge is now a Lieut. Colonel in the Air Corps.

During the year ending June 30, 1912, 1500 flights were made by officer aviators at the Aviation School at College Park. This number does not include the hops across the field by beginners.

In June, the first fatality occurred at College Park. Al Welsh, civilian flying instructor of the Wright Company, was sent there with a new type of military plane for demonstration purposes. During the course of a climbing test, when a dive preceded the climb, the airplane disintegrated in the air and crashed, resulting in the death of the pilot and his passenger, Lieut. Leighton W. Hazelhurst.

An accident at San Antonio, Texas, May 10, 1911, which resulted in the death of Lieut. C.E. Kelly, in whose honor the present field there is named, resulted in the suspension of flying activities there, and Captain Beck, the remaining pilot at San Antonio, was sent to College Park. Training activities continued at College Park throughout the summer, further experiments being conducted with radio and photography. Frequent flights were made to Washington Barracks, some twelve miles distant, where an auxiliary landing field had been constructed.

With the entire Air Service concentrated at College Park, the personnel comprised 12 officers and 39 enlisted men, and the equipment consisted of 12 Wright and Curtiss planes.

On September 24th, an order issued at the Signal Corps Aviation School at College Park, Md., announced the following organization:

Commandant: Capt. Charles DeF. Chandler, 15th Signal Corps.
Secretary: 1st Lieut. Roy C. Kirtland, 14th Infantry.
Quartermaster: 2nd Lieut. Lewis C. Rockwell, 10th Infantry.
Commissary: 2nd Lieut. Frank M. Kennedy, 10th Infantry.
Surgeon: 1st Lieut. John P. Kelly, Medical Reserve Corps.
Officer Commanding Enlisted Detachment: Capt. Frederick B. Hennessey, 3rd Field Artillery.
Instructors: 1st Lieut. Kirtland; 2nd Lieut. Henry H. Arnold, 29th Infantry; Thomas DeW. Milling, 15th Cavalry.
Summary Court Officer: 1st Lieut. Harry Graham, 22nd Infantry.

Other officers stationed at College Park in 1912 were Captain Paul W. Beck, 17th Infantry; 1st Lieuts. Harold Geiger, Coast Artillery Corp. Samuel H. McLeary and L.W. Hazelhurst, Jr.

An automatic machine gun was fired from an airplane on the College Park Field, demonstrating the possibilities of airplanes for offensive warfare. This is the first case known of the use of a machine gun from heavier-than-air flying machines. Other experiments were conducted with various signaling systems and a device for dropping explosives. Later, this device was taken to Europe, where it won first prize in the competition conducted by the French Army

the winning record being 12 out of 15 projectiles (15 pounds each) hitting a target 60 feet in diameter from an altitude of 658 feet; also 8 hits out of 15 on a target 125 by 375 feet from an altitude of 2,624 feet.

Two airplanes from College Park were sent to Connecticut for participation in the maneuvers during the month of August. As these machines were of the old type, it was impossible to carry observers, except under the most favorable conditions. As the conditions during the maneuvers were far from ideal, it was necessary for the operator to make his own observations in addition to piloting the machine. Under these disadvantages, however, the results were good. The information obtained was accurate and covered the whole field of operations.

Airplanes were used for the first time in the United States in connection with the observation of Field Artillery fire from November 5 to November 13, 1912. The airplanes were used to locate targets, give the range and direction from the battery, and locate the hits with reference to the targets, giving the necessary corrections.

There were three methods used to transmit information from the airplane to the firing battery. The first and most successful was radio telegraphy. By this means it was not found necessary for the airplanes to remain in special position with reference to the battery, as the airplanes can observe the effects of fire from front, rear, or either flank, and communicate with the battery without difficulty. Second, dropping cards. It is found necessary in this method for the airplane to remain over the battery when the cards are dropped. If the cards are dropped when the airplanes are some distance from the battery, there is considerable delay in obtaining the information. Third, the smoke-signal method. This was not found as successful as the other two on account of the churning of the air by the propellers of the machine and the lampblack accordingly dissipated. However, this method may be used for short distances very satisfactorily.

The tests proved conclusively that the use of observers in airplanes in connection with artillery fire at hidden targets is entirely practicable and furnishes means of reaching the targets which could not be found otherwise.

When the airplane ascended to an altitude of about 2,000 feet it was possible to see the reverse side of slopes of hills and locate targets thereon that could be found in no other way, and when the battery opened fire the position of hits could be located much more accurately and the range corrected by this kind of observation with more certainty than by any other means of fire control tried so far.

Delivery was made by the Wright and Curtiss companies of scout airplanes of the latest type up to that time, and the first tests of machines under these new specifications were held during October and November at Fort Riley, Kansas.

In November, for reasons of climate, the training school at College Park was discontinued.

ued for the winter, and during the winter months the aviation school was again conducted at Augusta, Ga. There were five officers present for duty and seven airplanes for instruction purposes, including a Burgess-Wright tractor.

At San Diego, Calif., there had been established a temporary school of instruction, for the use of which the Government paid nominal rental, and instruction was carried on with hydroairplanes and flying boats.

Four officers detailed for aviation duty with the Signal Corps and who reported at College Park, were ordered to the factories and schools of manufacturers for preliminary instruction. Lieuts. Park, Goodier and Brereton proceeded to Hammondsport, N.Y., and Lieut. Call to Marblehead, Mass.

September 28, 1912, marked the second fatal accident at College Park, when Lieut. Lewis C. Rockwell and his passenger, Corporal Frank Scott were killed as the result of a crash. It appears that the pilot misjudged his distance from the ground and failed to bring his airplane out of a glide in sufficient time to clear the ground.

NOTE:

Further data on the early days of military aviation in the United States will be published in a future issue of the News Letter.

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The England-Johannesburg Flight
(Continued from Page 12)

Lake Tanganyika. Their plane was considerably damaged, but they escaped injury.

Tragedy marked the flight of the team of Messrs. Waller, Findlay, Peachey and Morgan. After their plane had landed at Abercorn, Northern Rhodesia, in poor visibility, the wind changed so that the only possible take-off was both uphill and towards some trees. Had they been flying in anything but a race, Findlay and Waller would have waited for the wind to veer again, particularly as Abercorn is at an altitude of 6,000 feet. Unwilling to delay their take-off and believing that the run would be ample to clear the field, the start was made, but it proved a fatal decision. The plane struck the trees and both Captain Max Findlay and Mr. A.H. Morgan, radio operator were so severely injured in the crash that they died almost at once. Mr. Ken Waller and Mr. Derek Peachey, passenger, suffered minor injuries.

Captain Halse seemed to be a certain winner of the race, for in 35 hours when he covered some 5,300 miles, he had maintained a long lead over his nearest competitor. When he arrived at Kisumu he was very tired and suffered from air sickness. Stopping at M'Beya for an hour's rest, he took off for Salisbury and almost reached there as darkness was falling. Bush fires confused him and, rather than risk a forced landing while looking for Salisbury as his fuel was running low, he landed on a plowed field in the dusk. The mud clogged his landing wheels to such an extent that the plane overturned. He escaped severe injury.

A.L. Clouston, who arrived at Belgrade first; and was in second place when he reached Cairo, still found himself second at Khartoum in the Sudan. Here he had engine trouble and parts were flown to him from Cairo and repairs made. After three days' delay he took off and arrived at Abercorn. He reported that he was forced to proceed in easy stages, as a forced landing at

Masindi had left his plane and engine in a bad condition. He nevertheless hoped to reach Johannesburg several hours before the time expired. He stopped at M'pika, Rhodesia, and had another forced landing at Mtoko, due to exhaustion of fuel. Overdue by several hours at Johannesburg, he was later found with his wrecked machine about 150 miles south of Salisbury.

THE FIRST AMERICAN MILITARY AIRPLANE

The specifications for the first Army airplane, Signal Corps Specification No. 486, were as follows:

Advertisement and Specification for a Heavier-than-Air Flying Machine.

To the Public:

Sealed proposals, in duplicate, will be received at this office until 12 o'clock noon on February 1, 1908, on behalf of the Board of Ordnance and Fortification for furnishing the Signal Corps with a heavier-than-air flying machine. All proposals received will be turned over to the Board of Ordnance and Fortification at its first meeting after February 1 for its official action.

Persons wishing to submit proposals under this specification can obtain the necessary forms and envelopes by application to the Chief Signal Officer, United States Army, War Department, Washington, D.C. The United States reserves the right to reject any and all proposals.

Unless the bidders are also the manufacturers of the flying machine they must state the name and place of the maker.

Preliminary.— This specification covers the construction of a flying machine supported entirely by the dynamic reaction of the atmosphere and having no gas bag.

Acceptance.— The flying machine will be accepted only after a successful trial flight, during which it will comply with all requirements of this specification. No payments on account will be made until after the trial flight and acceptance.

Inspection.— The Government reserves the right to inspect any and all processes of manufacture.

GENERAL REQUIREMENTS

The general dimensions of the flying machine will be determined by the manufacturer, subject to the following conditions:

1. Bidders must submit with their proposals the following:

(a) Drawings to scale showing the general dimensions and shape of the flying machine which they propose to build under this specification.

(b) Statement of the speed for which it is designed.

(c) Statement of the total surface area of the supporting planes.

(d) Statement of the total weight.

(e) Description of the engine which will be used for motive power.

(f) The material of which the frame, planes, and propellers will be constructed. Plans received will not be shown to other bidders.

2. It is desirable that the flying machine be designed so that it may be quickly and easily assembled and taken apart and packed for trans-

portation in army wagons. It should be capable of being assembled and put in operating condition in about one hour.

3. The flying machine must be designed to carry two persons having a combined weight of about 350 pounds, also sufficient fuel for a flight of 125 miles.

4. The flying machine should be designed to have a speed of at least forty miles per hour in still air, but bidders must submit quotations in their proposals for cost depending upon the speed attained during the trial flight, according to the following scale:

40 miles per hour, 100 per cent.

39 miles per hour, 90 per cent.

38 miles per hour, 80 per cent.

37 miles per hour, 70 per cent.

36 miles per hour, 60 per cent.

Less than 36 miles per hour rejected.

41 miles per hour, 110 per cent.

42 miles per hour, 120 per cent.

43 miles per hour, 130 per cent.

44 miles per hour, 140 per cent.

5. The speed accomplished during the trial flight will be determined by taking an average of the speed over a measured course of more than five miles, against and with the wind. The time will be taken by a flying start, passing the starting point at full speed at both ends of the course. This test subject to such additional details as the Chief Signal Officer of the Army may prescribe at the time.

6. Before acceptance a trial endurance flight will be required of at least one hour during which time the flying machine must remain continuously in the air without landing. It shall return to the starting point and land without any damage that would prevent it immediately starting upon another flight. During this trial flight of one hour it must be steered in all directions without difficulty and at all times under perfect control and equilibrium.

7. Three trials will be allowed for speed as provided for in paragraphs 4 and 5. Three trials for endurance as provided for in paragraph 6, and both tests must be completed within a period of thirty days from the date of delivery. The expense of the tests to be borne by the manufacturer. The place of delivery to the Government and trial flights will be at Fort Myer, Va.

8. It should be so designed as to ascend in any country which may be encountered in field service. The starting device must be simple and transportable. It should also land in a field without requiring a specially prepared spot and without damaging its structure.

9. It should be provided with some device to permit of a safe descent in case of an accident to the propelling machinery.

10. It should be sufficiently simple in its

construction and operation to permit an intelligent man to become proficient in its use within a reasonable length of time.

11. Bidders must furnish evidence that the Government of the United States has the lawful right to use all patented devices or appurtenances which may be a part of the flying machine and that the manufacturers of the flying machine are authorized to convey the same to the Government. This refers to the unrestricted right to use the flying machine sold to the Government, but does not contemplate the exclusive purchase of patent rights for duplicating the flying machine.

12. Bidders will be required to furnish with their proposal a certified check amounting to ten per cent of the price stated for the 40-mile speed. Upon making the award for this flying machine these certified checks will be returned to the bidders, and the successful bidder will be required to furnish a bond, according to Army Regulations, of the amount equal to the price stated for the 40-mile speed.

13. The price quoted in proposals must be understood to include the instruction of two men in the handling and operation of this flying machine. No extra charge for this service will be allowed.

14. Bidders must state the time which will be required for delivery after receipt of order.

JAMES ALLEN,
Brigadier General,
Chief Signal Officer of the Army.
Signal Office,
Washington, D.C., December 23, 1907.

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REPORT OF BOARD ON TRIALS OF WRIGHT PLANE

Apprized of the fact that it was proposed to publish in the News Letter from time to time data connected with the early history of U.S. Army aviation, Colonel Charles DeF. Chandler, U.S. Army, Retired, furnished the Information Division, Office of the Chief of the Air Corps, a copy of the proceedings of a Board of Officers convened to observe the trial of the Wright airplane under Specification No. 486, as previously quoted.

The proceedings of this Board are quoted below, as follows:

WAR DEPARTMENT

Office of the Chief Signal Officer
Washington

August 2, 1909.

PROCEEDINGS OF THE BOARD OF OFFICERS CONVENED BY OFFICE MEMORANDUM NO. 18, OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, DATED JUNE 21, 1909, FOR THE PURPOSE OF OBSERVING TRIALS OF AERONAUTICAL DEVICES, ETC.

The Board met, pursuant to the call of the President, at 9:30 A.M., July 31, 1909, at the Office of the Chief Signal Officer of the Army, and from time to time previously in connection with the duties prescribed for it.

The Board conducted the official tests of the

aeroplane furnished by the Wright brothers of Dayton, Ohio, under contract with the Signal Corps, according to Signal Corps Specification No. 486.

Having been notified by the Wright brothers that they were ready for the endurance tests prescribed by paragraph 6 of the above-named specification, this test was carried out on the afternoon of July 27, 1909, at Fort Myer, Virginia.

The aeroplane made a flight, with Mr. Orville Wright as aviator and carrying First Lieutenant Frank P. Lahm, Signal Corps, (a member of the Board) as passenger, which lasted one hour, twelve minutes, and forty seconds, and in the opinion of the Board complied with the specification in every respect as far as the endurance test is concerned, which test required the machine to remain in the air but one hour.

The speed test prescribed in paragraph 5 of the above-named specification was carried out on the afternoon of July 30, 1909, between Fort Myer, Virginia, and Shuter Hill, Alexandria, Virginia, over a measured course of five miles across broken country. The Board was divided into two committees, one stationed at the starting point, Fort Myer, Virginia, the other at the turning point near Alexandria, Virginia, and determined the intervals of time independently for the passage from Fort Myer, Virginia, to Alexandria, and again from Alexandria to Fort Myer, the starting point. After careful consideration of the data obtained by the individual members, the Board finds, under paragraph 5 of the specification, as follows:

Speed from Fort Myer, Virginia, to Alexandria end of course	37.735 miles per hour
Speed from Alexandria end of course to Fort Myer	47.431 " " "
Average speed, according to contract	42.583 " " "

There being no further business before it, the Board adjourned at 10:30 o'clock A.M.

GEORGE O. SQUIER,

Major, Signal Corps, U.S.A.,
President.

C. McK. SALTZMAN,

Major, Signal Corps, U.S.A.,
Member.

C. DeF. CHAMBLER,

Captain, Signal Corps, U.S.A.,
Member.

G. C. SWEET,

Lieutenant, U.S.N., Member.

FRANK P. LAHM,

First Lieutenant, Signal Corps, U.S.A.,
Member.

BENJ. D. FOULOIS,

First Lieutenant, Signal Corps, U.S.A.,
Member.

F. E. HUMPHRIES,

Second Lieutenant, Corps of Engineers, U.S.A.,
Recorder.

V-7122, A.C.

Kelly Field, Texas, October 6th.

First Lieut. Charles Densford again distinguished himself as a pistol shot when on September 26-27 he competed in the Southwestern Pistol and Rifle Matches at Dallas, Texas, and returned with five first places, two second places, one third place, and the title for the Southwestern Pistol Champion.

First Lieut. Ralph C. Rhudy finally received orders to leave Kelly. Being one of our oldest settlers he has become such a part of the field that his transfer to Bolling Field marks quite a loss.

Major William R. Sweeley has received orders for duty at Selfridge Field, Mich., effective October 1st.

Scott Field, Belleville, Ill., October 5th.

The steel framework for the new post theatre now under construction arrived October 1st and is now in process of erection. When completed this theatre will accommodate 308 persons and will be modern in every respect.

Four of the six O-46A Observation planes grounded August 1st are now in service. Within a few days the other two will be completed. Following the crash on August 1st in which two enlisted men were killed, the new planes were grounded until the defect was determined. A number of changes have been made and the ships have been released for flight.

Colonel Frank M. Kennedy, Commanding Officer; Major Michael E. McHugo, Air Depot Engineering Officer, and Captain George C. Cressey, Air Depot Supply Officer, departed from Scott Field on October 4th to attend the annual Engineering Supply Conference at the Materiel Division, Wright Field.

San Antonio Air Depot, Duncan Field, Texas.

Colonel J.H. Howard, Depot Commander, was taken with a severe spell of sickness on September 14th. He recovered and returned to duty on October 2nd.

En route to the Middletown Air Depot, Pa., ferrying a new C-37 Transport from Santa Monica, Calif., Lieut. Colonel William O. Ryan, of Bolling Field, visited this Depot September 28-29.

Major H.A. Bivins of the Field Service Section, Air Corps Materiel Division, Wright Field, piloting an O-25, arrived at the Depot September 24th for temporary duty, conferring on supply and engineering matters, and departed October 2nd on his return to Wright Field.

Major E.V. Harbeck, Jr., of the Inspection Division, Office of the Chief of the Air Corps, passing through in an O-38, was a visitor at the Depot September 21st, conferring with the Depot officers and renewing old acquaintances. He was formerly Chief Engineering Officer here.

Major N.D. Brophy, Air Corps Instructor with the Colorado National Guard, Denver, formerly Adjutant at this Depot, visited here September 23rd, ferrying in an O-19E and greeting old friends.

Lieut. Colonel Morris Berman, Executive Offi-

cer; Major J.M. Clark, Depot Supply Officer, and Major J.P. Richter, Chief Engineering Officer of this Depot, left October 2nd to attend the annual Engineering-Supply Conference of the Materiel Division at Wright Field, October 5th to 10th. Lieut. Colonel Berman and Major Clark went by air, and Major Richter by rail. Major Ames S. Albro, Technical Supervisor of the San Antonio Air Depot Control Area, with his assistant, Technical Sergeant Elliott Scott, also left by air, October 3rd, to attend this Conference.

Captain D.J. Ellinger, Operations Officer of the Depot, departed by rail October 1st for the Douglas Aircraft Company's factory, Santa Monica, Calif., to ferry a new C-33 Transport, via March Field, to this Depot. Two of these Transports are scheduled for assignment to the Depot, and the flying personnel, particularly the 3rd Transport Squadron, are looking forward with pleasure to their acquisition.

Mr. G.T. Urbani, Warehouse Superintendent at the Rockwell Air Depot, Calif., was on temporary duty at this Depot September 28-30, studying methods used in the various phases of storage, receiving, shipping, and inspection of Air Corps supplies.

Private E.T. Hausafus, pilot, was transferred from the Base Headquarters and 8th Air Base Squadron, Brooks Field, to the 3rd Transport Squadron, this Depot, October 1st, having been on several days' detached service with the Transport Squadron prior to that date.

During annual Fire Prevention Week, October 4-10, a Board of Officers has been appointed at this Depot to make the fire prevention inspection, consisting of Major Walter Hitzfeldt, QMC, and Major E.D. Perrin and Lieut. M.H. Warren, Air Corps, and that week was specially observed, in addition to the Depot's regular and constant efforts along the lines of safeguarding against fire.

Hamilton Field, Calif., September 29th.

Major General George S. Simonds, Commanding General of the Ninth Corps Area, was flown to Denver, Colorado, by Colonel C.L. Tinker, commander of Hamilton Field Air Base, the flight taking place September 16th and the Colonel returning the following day, having left the General at Denver.

Colonel C. L. Tinker left this field September 22nd, flying east on an extended navigation mission. Colonel Davenport Johnson assumed command during Colonel Tinker's absence.

The 11th Bombardment Squadron, although handicapped by lack of serviceable equipment and having at times only three planes on the line ready for flight, accomplished an average of 19:55 hours per day in the period from September 1st to 15th, inclusive.

Four units of Brooks Field left October 12th for aerial maneuvers for one week at Corpus Christi, Texas, under the direction of Colonel Henry J.F. Miller. Participating in these maneuvers are 12th Obs. Group Hqrs., and Hqrs. Sqdn. 12th and 22nd Obs. Sqdns. and 1st Photo Sec.

Scott Field, Belleville, Ill.

The post football team has been working out since September 15th. The usual exercises for strengthening muscles were featured before the football gear was issued. Second Lieut. Benjamin G. Holloway, Air Reserve, the coach, laid plans for a team of 25 men. The final decision as to who those 25 men will be was expected to be determined by



October 10th. Among the men who have turned out are a number of old timers who have been playing from three to six seasons with the post team.

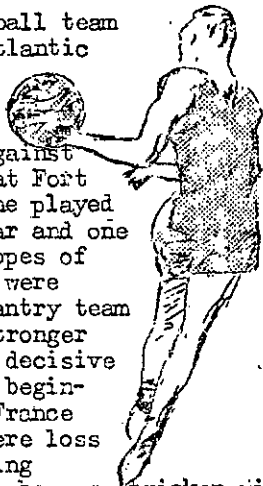
Special mention goes to Corporal Andrew J. Oltz; 9th Airship Squadron, who is on his sixth season, and Private, 1st Class, Victor Aebel, 21st Airship Group Headquarters, who is playing his fourth season. There are a few other old timers who are able to play but who at the present writing merely watch enviously from the sidelines.

The Scott Field team plans to visit other posts this year if transportation can be provided. Usually the season's game line-up is almost wholly filled with the names of civilian teams. These games are fine, of course, but there is more fun in defeating other Army elevens. And it is more fun losing to an Army team.

The next two weeks will reveal the full details for the team, the scheduled games and a lot of other little things that pop up unexpectedly.

France Field, Panama Canal Zone.

The France Field basketball team came from behind in the Atlantic Sector and won the Sector Trophy and the opportunity of competing for the Department Championship against the strong Infantry team at Fort Clayton. In two games, one played at Coco Solo balloon hangar and one played at Fort Clayton, hopes of Departmental Championship were dashed to earth. The Infantry team showed itself decidedly stronger and took the two games by decisive margins. Just before the beginning of this series, the France Field team suffered a severe loss in the person of its playing coach, Lieut. R.P. Epler, who was stricken with acute appendicitis. Had Lieut. Epler's skill as a basketeer been added during the two games with the Infantry, it is conceivable that the results might have been much different.



Boxing at France Field has died a natural death, due to the absence of qualified instructors and, perhaps, to the disinclination of the technician for any activity that might lessen his efficiency on the job. It is hoped at least a few rugged fistic artists may be developed before the beginning of next season.

Medical Kit.

An Engineering Section Memorandum Report has been prepared covering a study, the object of which was the development of an Air Corps medical kit for use with flying units.

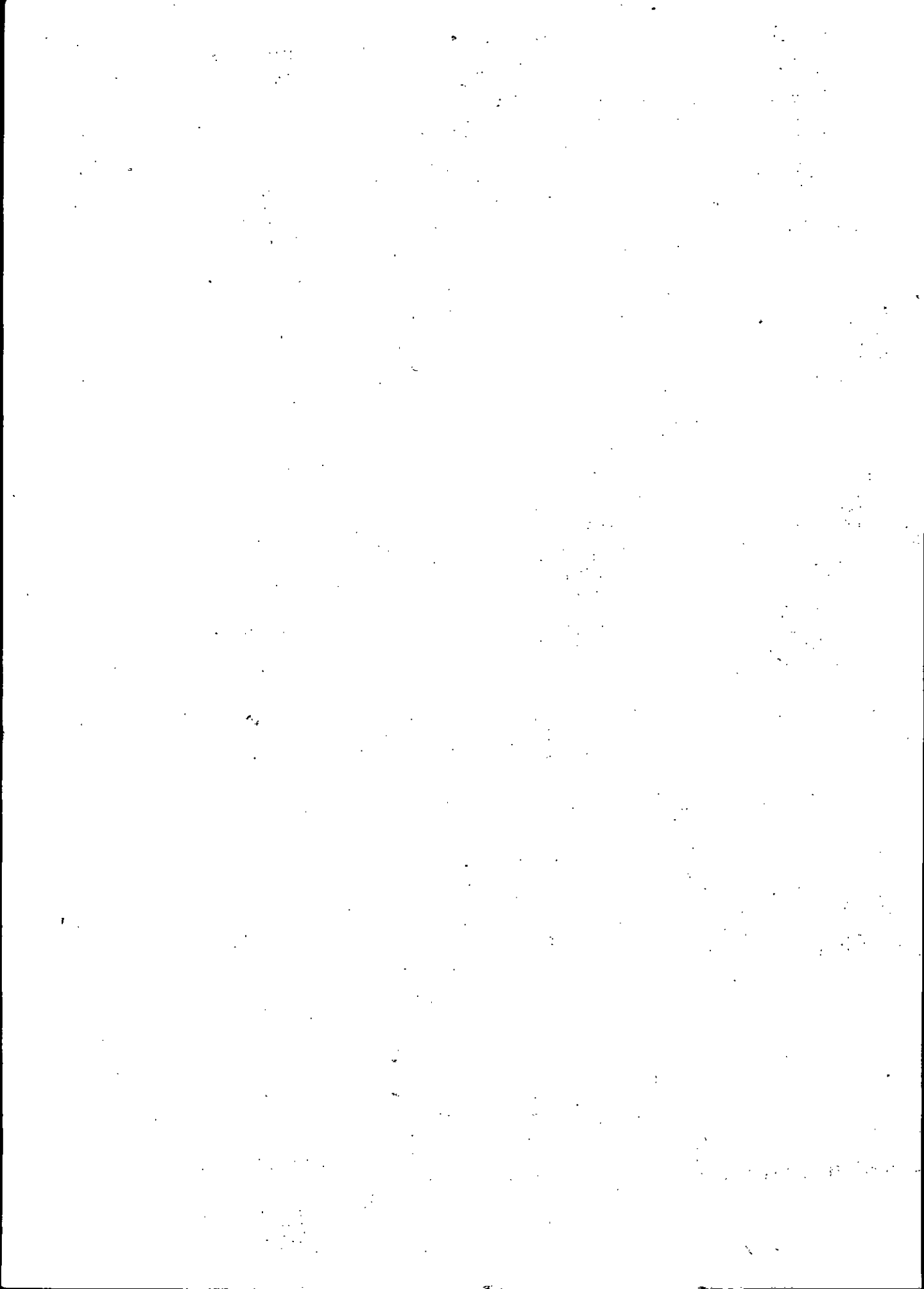
The study, which was concentrated upon detached Air Corps squadrons in the field, showed the need of a kit which was light and compact, capable of being carried in any combat airplane, handled by one man, and containing sufficient medical supplies to provide medical and minor surgical service for 100 men for 14 days.

To fulfill this requirement, an aluminum kit 24 by 14 by 12 inches, containing two cantilever trays, was fabricated at the Materiel Division. This was filled with the required medical supplies and forwarded to the Medical Field School, Equipment Laboratory, Carlisle, Pa., for test, adoption as standard purchase, and issue.

Parachute Harness.

An Engineering Section Memorandum Report furnishes information regarding service test of the Type S-4 quick release parachute harness. It is constructed with four lengths of 3,000-pound tensile strength linen webbing, forming a swing suspension to which is attached one horizontal and two diagonal back straps, with a quick release metal fastener on the front for attachment of a breast and two leg straps. The back straps are arranged to extend down the back and under the wearer, terminating in the leg straps which provide added support to the wearer for high speed opening of the parachute. Fastening of the breast and leg straps to the release fitting is accomplished by insertion of three metal eye fittings in separate slots on the release which are held in place by spring loaded steel plungers. Unfastening of the harness is accomplished by turning a metal disk on the release $\frac{1}{4}$ turn clockwise, then depressing. This simultaneously releases the eye fittings on the breast and leg straps permitting free egress from the harness. Adjustment for size is accomplished by increasing or decreasing the length of the horizontal and diagonal back straps.

The Douglas C-33 airplane assigned to the Equipment Branch with a crew of six departed on September 23rd for Brownsville, Texas, via New Orleans, La., on a test of celestial navigation equipment. The flight from New Orleans to Brownsville involved more than 500 miles over water, during which a very complete test was made on a new type of sextant and a navigator computer. Although the purpose of the flight was essentially to test celestial navigation equipment, this was the first flight in which the modified radio compass was given an extended test. A new navigator's drift sight and experimental drift signals were also carried in the airplane. The various items of equipment were tested under conditions of automatic pilot control as well as manual control, and the flight varied in altitude from just above the water to 14,000 feet. The test crew on the flight was greatly pleased with the results of the test, and a report thereon is being made.

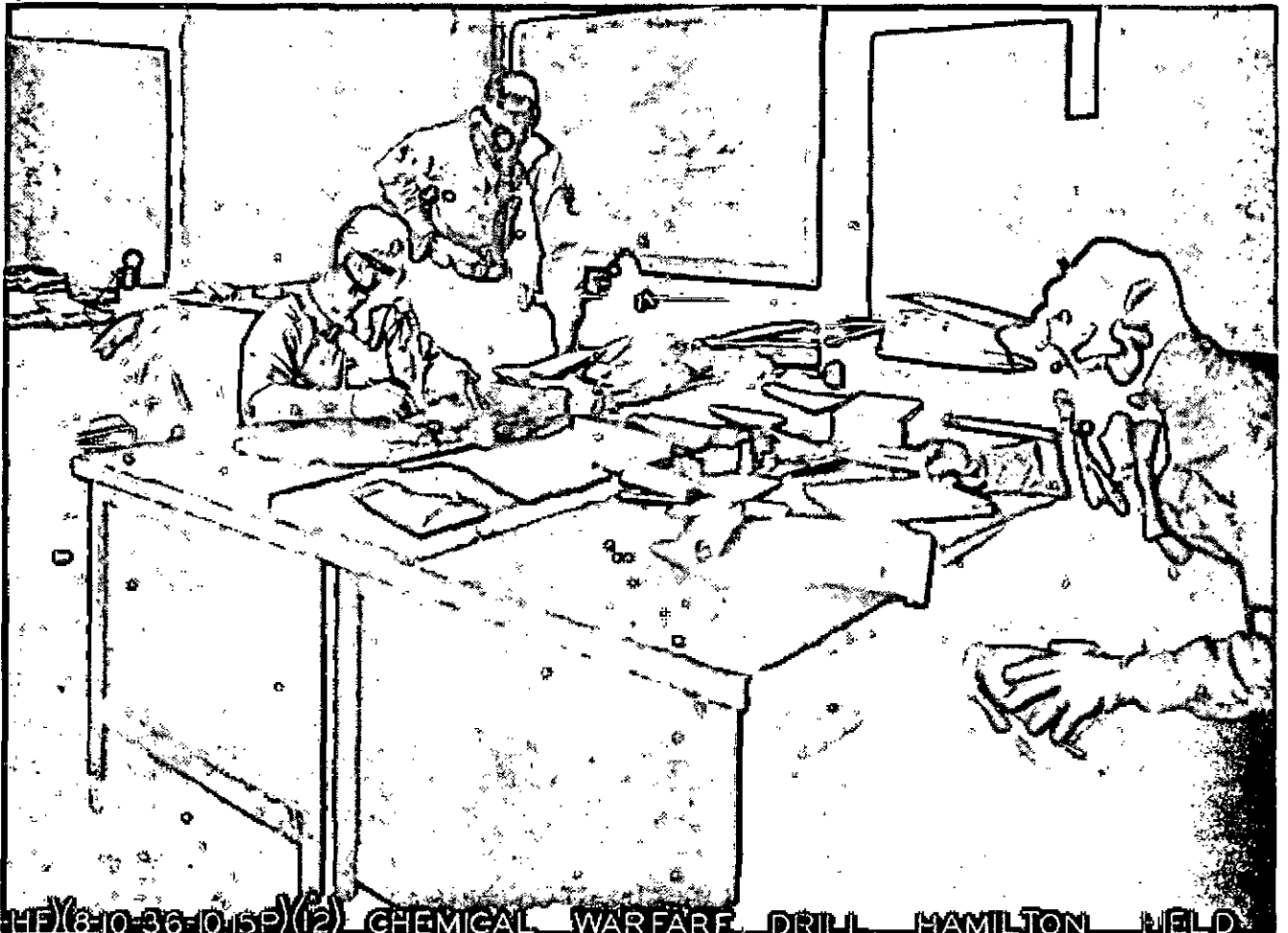




NEWS

LETTER

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Washington, D. C.



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Information Division
Air Corps

November 1, 1936

Munitions Building
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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TACTICAL EMPLOYMENT OF AERIAL PHOTOGRAPHY By Captain Roland Birnn, Air Corps

THE degree to which aerial photography may be employed in the ground or air forces is dependent upon the production capacity of the photographic agencies with the forces in question. These photographic agencies fall under the heading of that often mentioned phrase - "means available" - and include all units which are necessary in the taking of the aerial photograph, its conversion into a print or series of prints, and even the conversion of a number of prints (mosaic) into a map. They are:

With Air Corps

Observation Group	1 Photo Section 1 Off. 50 E.M.
Observation Squadron (Separate)	1 Photo Section 1 Off. 20 E.M.
Bombardment Group	1 Photo Section 1 Off. 10 E.M.

Reconnaissance Squadron (Air Force) - a tentative organization but if adopted will probably be equipped for photography. If made an organic part of each Bombardment Squadron it may result in increase in size of Bombardment Group Photo Section.

With Ground Forces

Infantry)	{ Brigades } Reinforced, when
or)	
Cavalry)	{ Divisions } sions:- Photo Section

Squadron (Separate) which would be normally attached.

Corps - Photo Section of Organic Observation Group.

Field Army	{ Photo Section of Organic Observation Group.
	{ Photo Company of Army Signal Unit.
	{ Engineer Topographic Battalion.
	{ Plus Photo Section with the Several Corps' Obs. Groups).

The Topographic Battalion with the Field Army would probably be equipped with an aero-cartograph and a multiplex outfit and therefore capable of transforming a photo mosaic into a well contoured and controlled map.

The Photo Company with the Army Signal troops would concern itself primari-

ly with ground photography, but its facilities would certainly be available for emergency work in developing and printing new photos and repairing aerial cameras.

The Aerial Photograph

Nothing more than a machine-made, but man-interpreted substitute for maps or for visual reconnaissance. When we break that down we see that aerial photography is employed tactically as follows:

✓ Employment of Aerial Photography

1. Substitute for Maps.
2. Furnish Details on Existing Maps.
3. Detect Enemy Camouflage.
4. Determine Adequacy of our own Camouflage or cover.
5. Substitute for Visual Reconnaissance for following reasons:
 - a. Comparative safety of photo missions.
 - b. Comparatively better appreciation of military indications by trained intelligence personnel.
 - c. Less interference by ground haze.
 - d. Comparatively less time to cover a certain area.
6. Furnish accurate record of aperiodic changes.
7. Allow detailed study of projected bombardment subject.
8. Confirm efficacy of artillery or bombardment operations.

Interpretation of Aerial Photographs

The interpretation of aerial photos is the job of trained intelligence personnel in corps or higher units. In the Air Corps we should find such personnel in the GHQ Air Force G-2 Section.

Yet every person supplied with an aerial photo will, or must, make studies thereof and interpret those details in which he is primarily interested. The Bombardment Group Commander is certainly able and willing to interpret photos of destruction wreaked by his bombers; these photos, let us say, having been taken by a reconnaissance squadron in his group and developed and printed in his organic photo section.

Photo interpretation is covered in Training Regulations 210-10.

Limitations of Aerial Photography

Photography must not be thought of as

a panacea, or cure-all, for the ills of practical aerial observation. The commander will do well to understand these limitations before embarking on an ambitious photographic enterprise, or resorting too quickly to the camera when visual observation or existing maps do not come up to his expectations.

The aerial photo of a wooded area seldom shows trails or roads through such woods. Here, low-flying visual reconnaissance, or better yet, ground reconnaissance, is necessary to fill in such valuable means of communication. Visual reconnaissance is still the best method of conducting artillery adjustment. Surveillance of moving troops, fleets, trains, etc., is best conducted visually.

Also, it takes time to develop photographs and print them so that they may be interpreted without error. Not only the actual time of developing and printing must be considered, but also the time of taking the camera from the plane to the photo hut and the print from the hut to the interested commander. An observer's report of a visual reconnaissance mission can often be dropped directly from the airplane to the CP of the commander concerned.

Aerial photography means the use of one more piece of expensive, complicated, and none too plentiful item of procurement -- the aerial camera.

Details of Tactical Employment of Photography

1. Substitute for Maps. -- We are prone to think of the United States as completely mapped on the Gettysburg or Leavenworth basis, yet until emergency Federal units recently started mapping work, only about 46% of this country had been carefully mapped. Some of these maps were 50 years old. We could say, roughly, that only about 25% of the country was satisfactorily mapped.

Some of our service school maps have the legend, "surveyed in 1902," or "edition of 1911" or "1918."

How much of Siberia is mapped? Or China, Canada, or Mexico? The answer is "very little."

Situation. -- A Field Army is advancing into unmapped territory of which little is known. Obviously, the army commander would request, and probably be furnished, more than the one organic Topographic Battalion to enable him to keep the supply of maps up to the demand therefor. But let us further imagine the enemy barring the operations of our ground reconnaissance units with their topographic personnel attached.

The solution appears to be to concentrate on mosaic mapping; the Air Corps to take the photos and the Engineers to convert them into maps and distribute them.

2. Furnish details on Existing Maps. -- We may expect to find aerial photographs used to a great extent to furnish de-

tails on existing maps.

It should be borne in mind that: Not all existing maps are on such a large and readable scale as 1/21,120.

Mere enlargement of a map will not furnish any more details on such a map, and

not all maps are up-to-date.

An artillery commander is given the mission to "harass enemy reserves beyond Wolf Hill." There are insufficient airplanes or balloons on hand to furnish artillery adjustment for the artillery unit given that mission. Ground observation posts do not allow observation on all parts of the woods NW of Wolf Hill (see Gettysburg, 3" = 1 mile, map). Reserves would normally be held under cover in the woods. The map shows the extent of woods to the NW of the hill, but the map was made in 1925, over 11 years ago. Due to lack of observation, both ground and air, map firing is necessary. As this form of firing is the best wasteful of ammunition, the artillery commander will use every endeavor to place his fire where the enemy reserves are: in the wooded areas only, without firing into too general an area. He is furnished an aerial photo made some time previously of the Wolf Hill area.

If there is one thing in which an aerial photo excels, it is that of showing wooded areas very clearly. Using recognized points on Rock Creek and State Highway No. 251 on the photo for control points, the artilleryman is able to determine the scale of the photo and its position on the map. As it is in an "odd" scale, he does not grid the photo, but prefers to transfer the outlines of the wood patches to the map, which he uses for his firing data.

3. Detect Enemy Camouflage. -- Air photos are invaluable in this work. Camouflage is often so effective that it is not detected by the eye of an observer at normal altitudes. A stereoscopic examination of a photo of a suspected point or area will often disclose the height dimension.

Photographs, while invaluable, are not infallible. This brings to mind the following use for air photos:

4. To Determine the Adequacy of Our Own Camouflage or Cover. -- When an establishment, certain materiel or body of troops are so well camouflaged that they cannot be detected in a photo of their area, their commander knows two things:

- a. Further expenditure of effort or material is hardly necessary, and
- b. It is quite probable that his troops, etc., will not be picked up by the enemy (unless, of course, motion invalidates the effect of the camouflage).

5. Substitute for Visual Reconnaissance

sance, due to:

A. Comparative Safety.- One of the faultiest bits of air observation technique in time of peace is that of hovering about the observed area, to enable the observer to make a thorough survey of the terrain; especially over a (simulated) enemy position. No account is taken of the probability that, in time of war, the enemy would be shooting real, and not simulated, bullets at the observation airplane.

Situation.- Very effective antiaircraft machine gun fire is being encountered from a ridge in enemy territory, making exceedingly costly in airplane and flying personnel, the aerial observation of that ridge. Enemy entrenchments are suspected along the ridge, and the observation teams have been given the mission of locating such entrenchments or confirming their absence. This calls for low-altitude missions on account of the wooded nature of the ridge. Low altitude flying results in the airplanes being easy targets for the enemy ground gunners.

Solution.- A low altitude photo mission, flown just once, at high speed along the ridge; a strip mosaic or a series of obliques at the suspected line.

The resultant photos can then be:

b. Studied by Experts at Leisure.-

There is no doubt but that the average Air Corps officer with any considerable observation experience would make a better-than-average observer such as was found in the various air services during the World War. Yet very few of them could pick up, from the air, the difference between a Type A or Type B troop train, or between a regiment of 155-mm. howitzers or 155-mm. guns on the road.

An aerial photo of such subjects, however, would allow a thorough study by presumably experienced intelligence personnel equipped with reference data, measuring instruments, reading glasses, etc. Where there was doubt as to interpretation, others could be called in for consultation.

c. Advantages During Ground Haze.- The infra-red filter, now in use, when placed over a camera's lens will penetrate a fog or haze which is absolutely impenetrable to the human eye. An aerial photo can easily be taken, using such a filter, through a light fog 500 feet thick.

Night photography is somewhat in this category. One sharp flash of the flare-bomb and a click of the camera's shutter might make possible a record of things on the ground which could not be collected by visual reconnaissance without the aid of more parachute flares than one plane could carry, provided the photo-plane crew had first located the objective and pointed the camera at it.

D. Aerial Photography may Save Time.- Air photos may be used to gather infor-

mation when time is a vital factor.

Against the time required for an observer to make a sketch, count the number of trucks on a road, gauge the road-length of a column, etc., must be balanced the time required to develop and print the photographic shots of these subjects, provided photographs are as acceptable to the commander as the observer's report and description. In this respect an observer's report will often accompany a photograph, thus orienting the photograph and further describing event thereon.

One often reads articles describing quick-process photographic printing and developing. It has been the experience of the military that time saved in turning out a print is often lost by its poor quality making interpretation of details difficult, or by the impossibility of rapidly reproducing extra copies. The commander should bear this in mind in ordering photographs "in a hurry," or a large number of copies. Wet prints have been turned out in 20 minutes or less. However, they are wet prints and not comparable in quality to prints turned out in 1½ hours or more. Much progress has been made in speeding up these processes, but there are many links (men and processes) in the chain of photo production from the time the airplane lands until the print is delivered to the commander concerned. One slow man, or a delay in a process slows up the time of delivery. "Minimum time", shown below, has been bettered many times, but we are considering here actual field service conditions with equipment now on hand.

The following table shows reasonable time requirements for photo missions from time of order to delivery of print:

	Minimum	Normal	Small Strip Mosaic
Transmittal of order, and preparation for mission.	:05	:20	:45
Flying time: (average)	:30	1:00	2:00
Delivery from landed plane to photo hut	:05	:10	:10
Develop, wash, print, assemble	:40	1:30	2:00 (Minimum)
Delivery to Division Commander	:10	:20	:20
Total	1:30	3:20	*5:15

*A strip mosaic - 6000 feet altitude. Scale - 1/6,000 Exposures - 200.

50% overlap in line gives covered area of 70 miles x .85 miles () or (30% overlap laterally - 3 strips) - 23 x 1¼ miles gives a good photo strip of Susquehanna River and its banks from Harrisburg Bridge to Marietta.

6. Photographs Present Accurate Record of Status.— Enemy operations are often estimated by the deviations of the enemy from the normal or routine. The same observer covering an area day after day can efficiently compare daily or other periodic activities of the enemy in a certain area or along a certain route. However, it is unwise to count on the continued availability of any one observer. A number of photographic records of activity along a route or in an area taken at regular intervals of time can be compared by intelligence personnel without recourse to lengthy observer's reports gathered by different observers with varying standards of proficiency and experience and through the dint of considerable flying time over enemy territory.

7. Photographs Allow Detailed Study of Possible Bombardment or Attack Aviation Objectives.— Objectives important enough to be attacked are often important enough to their possessors to be defended. One photographic airplane flying past with the observer taking photographs might not draw the fire of anti-aircraft artillery defenses, as the latter desire to maintain the secrecy of their emplacements; unless sure of bringing down their target. A lengthy surveillance or aerial inspection (hovering) would be more likely to draw fire, especially where the bombardment or attack commander or his S-2 or S-3 would come low enough to take in details visually, thereby presenting a most favorable target.

An aerial photograph, or series of photographs, of an objective could be examined by the commander and his staff in preparation for an attack against such objectives, with a minimum danger to the personnel concerned.

8. Confirm Efficacy of Bombardment of Artillery Operations.— Photographs of such operations, taken by accompanying airplanes, serve two purposes:

- a. Irrefutable evidence of claims made by the commander concerned, and
- b. Allow a study of projected operations against undamaged portions of the objective or target.

In other words, "one picture is often worth 10,000 words."

Being somewhat of a large squadron and sometimes assuming the appearance of a combination mobilization and recruiting depot, the 5th Air Base Squadron at Hamilton Field, Calif., under the command of Lieut. Colonel Calvin E. Giffin, Air Corps, and consisting of 312 men, is rapidly rounding into shape.

airplanes recently placed in service have shrunk the map of the United States, and now it is only 15 hours from coast to coast, and New York 8 hours from Miami.

ANOTHER ERRAND OF MERCY IN PANAMA

"Aerial ambulance work in this land of no highways and no railroads is not infrequent, says the Albrook Field Correspondent, and he then goes on to say that Colonel W. W. Campanole, Military Attaché to Central America, recently required an immediate operation. But - he was in San Jose, Costa Rica, and good hospital facilities were in Panama. Our Bellanca transport was the only answer, and on October 22nd Captain C. A. Ross flew it to Costa Rica, accompanied by Lieut. G. L. Mason in a P-12. Due to the great areas of uninhabited jungle in Central America, a ship never goes cross-country unaccompanied - just in case.

The flight up was uneventful, but on the return trip bad weather forced the two ships down at Puerto Armuelles, about 250 miles East of Panama City. The next day the trip was completed, and Colonel Campanole was taken to Gorgas Hospital, where he successfully underwent an operation.

Captain Ross did a fine job in taking the heavily loaded Bellanca out of the poor field at San Jose, and a poorer field at Puerto Armuelles - and therefore receives our nomination for Bellanca Pilot, First Class."

COAST ARTILLERY MEN STUDY AIR TACTICS

Five officers from the 63rd Coast Artillery at Fort MacArthur, Los Angeles Harbor, learned all about the Air Corps, recently at March Field. At any rate, they absorbed as much as they could during a two weeks' contact course. The quintet of anti-aircraftmen were Majors F. J. Lloyd, A. M. Laurence, D. M. Griggs, 1st Lieut. H. McFeeley and 2nd Lieut. Foster Murphy.

Flying in Bombardment and Attack planes in the afternoon and studying ground maintenance technique and tactics in the morning, the five Coast Artillerymen did not find time hanging too heavily on their hands. Their instructor-in-chief, Major Early E. W. Duncan, reports that they were so enthused with their course that they borrowed several texts on Attack and Bombardment tactics that they might become more thoroughly versed in the science of air fighting.

One of their most interesting mornings was spent in the 23rd Photographic Section under the guidance of the section commander, 1st Lieut. Kenneth B. Hobson. The study of the processes necessary to produce photographs and mosaics of "enemy" areas enabled the officers to visualize the amount of man hours necessary to produce air photographs for the ground arms. The training had a peculiar significance, placing these officers in the role of air attackers instead of ground opponents of Bombardment airplanes.

MANEUVERS OF 30TH BOMBARDMENT SQUADRON

Flushed with health and renewed enthusiasm, the officers and enlisted men of the 30th Bombardment Squadron returned to their home hangar at March Field, Calif., on October 13th, after what they termed an enjoyable ten days at the Long Beach Airport. They attributed their health and high spirits to the cool temperatures of the famous beach resort and the healthfulness of living under canvas.

Major Albert F. Hegenberger, Air Corps, well known pilot and navigator of the "Bird of Paradise" transport plane on the first successful flight to Honolulu in 1927, is the commanding officer of the 30th Squadron. At the conclusion of the maneuvers he stated:

"Our maneuvers and range practice in the Pacific Ocean off Long Beach have been attended with success. Two of our enlisted gunners, Staff Sergeant Morris D. Smith and Sergeant Charles L. Hunley, were given experts' ratings as a result of their good work at the bomb releases. A total of 207 bombs were fired."

Major Hegenberger and other members of his squadron commented with enthusiasm on the favorable reception given to the organization by the citizens of Long Beach and the lengthy publicity given it.

The First Wing Headquarters at March Field assumed that an enemy fleet was lying several miles off Long Beach. Brigadier General Delos C. Ermons, deciding to remove this menace, ordered that the Thirtieth move its eight Martin Bombers, 90 enlisted men, 4 flying cadets and 11 officers to the Long Beach Airport and bomb the enemy ships.

To simulate the fleet of the enemy and to provide a good target for the Coastal Cops, as they are colloquially known in Southern California, aluminum powder flasks were dropped on the Pacific Ocean, making spots the approximate size of the target to be bombed. These were dropped by airplanes of the Squadron immediately preparatory to the bombing.

One hundred-pound bombs, composed of water and sand without powder, were used. The splash was enough to tell the bombardiers whether or not they had scored a hit. Air machine gunnery on sleeve targets was another activity of the Squadron at which some measure of success was obtained.

Four planes each were assigned to Flight "A," commanded by 1st Lieutenant Herbert G. Montgomery, and to Flight "B," in charge of 2nd Lieutenant John P. Hills. Administration, supply and the mess were supervised by 2nd Lieut. Wilson H. Neal. The engineering and chemical-armorment officer was 2nd Lieut. William W. Gross, while operations and intelligence was under 2nd Lieut. Albert T. Wilson.

Other maneuvers which Lieut. Colonel Hubert R. Harmon, commander of the 19th

Bombardment Group, has announced for his unit include those of the 32nd Bombardment Squadron, October 19th to 24th, at Long Beach. The entire 19th Bombardment Group will encamp at the Bakersfield Airport from November 2nd until the 7th. The 19th consists of 15 planes and 250 enlisted men, with about 40 officers. The organizations composing it are the 19th Bombardment Group Headquarters Squadron, the 30th and 32nd Bombardment Squadrons and the 38th Reconnaissance Squadron.

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GHQ INSPECTORS VISIT HAMILTON FIELD

Inspecting officers of the GHQ Air Force arrived at the Hamilton Field Air Base on September 30th for their annual inspection, remaining for six days, during which time they inspected records and noted the efficiency of the personnel in the operation of this air base. The party was headed by Lieut. Colonel Robert Olds, Inspector, GHQ Air Force, Langley Field, Va. Upon the completion of the inspection, the party left for March Field, the next inspection point.

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SURPRISE VISIT BY GENERAL BRANT

Brigadier General Gerald C. Brant, Wing Commander, 3rd Wing, GHQ Air Force, Barksdale Field, La., paid a surprise visit to the Hamilton Field Air Base on the afternoon of October 5th when, after flying from Sand Point Field, Seattle, Washington, he set his Northrop Attack plane down on the field for an overnight stay. He was enroute to his command at Barksdale Field, having completed over half of his extended navigation training flight.

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MODEL AIRPLANE FLIGHTS AT MOFFETT FIELD

Large crowds from the San Francisco Bay area display considerable interest in the model airplane flights and contests which are held at Moffett Field, Calif., every week. In the contest held on Sunday, October 11th, one young fellow was flying a gas powered job which had been flown approximately 155 hours. Due to undetermined causes, the plane failed to gain sufficient altitude to clear the airship hangar, struck head on and crashed to the ground a complete wreck.

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Lieut. Colonel Richard H. Ballard, Air Corps, was recently appointed Commanding Officer of France Field, Panama Canal Zone, his previous duties as Post Operations Officer being taken over by Lieut. William H. Tunner. Major Willis R. Taylor was appointed C.O., 7th Observation Sqdn.

V-7135, A.C.

SEARCHLIGHT PRACTICE AT MARCH FIELD

RED hat corded soldiers from Fort MacArthur's anti-aircraft unit, the 63rd Coast Artillery, braved the late and somewhat unseasonal heat of March Field in September and the first half of October for their annual searchlight practice. It was expected that the summer heat would abate during the autumn, but the Fahrenheit reading at one time during the encampment crept up to 106 degrees, the hottest September day at March Field since 1932, when it was 108.

Officers of Battery "A," of the 63rd, the official designation of the searchlight unit, were pleased with the good showing made by the battery. They stated that the sky probing unit was hampered by two factors, the great number of recruits acquired during the calendar year and the over age status (ranging from 1925 to 1929) of the searchlights competing with 1936 airplanes.

In the course of the preliminary practice, only one Bomber, the command plane of the First Wing Headquarters Squadron, or one from the 19th Bombardment Group, was used in the nightly problem. Many persons from Riverside, Redlands and other surrounding communities were enthralled by the beauty of the huge pencils of lights piercing the darkness, finally fastening themselves on a Martin Bomber. These six lights used eight hundred million candle power each. So powerful were the lights that they were easily discernible from Riverside, ten miles away.

In the final or record problem, twelve planes were employed with the approximate hour of arrival unknown to the ground defenders of March Field. While six swift, low diving Attack planes endeavored to put the mechanical ears or sound locators out of business and blot out the searchlights, the six Bombers from the 19th Bombardment Group roared down on March Field intent on its "destruction."

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RETIREMENT OF SERGEANT WEBB.

First Sergeant Orvil E. Webb, of Headquarters and Headquarters Squadron, 8th Pursuit Group, GHQ Air Force, Langley Field, Va., was retired on September 30, 1936, following the completion of over 30 years of honest and faithful service in the United States Army.

Sergeant Webb first entered the service on the 10th day of August, 1907, and since that date has served in the Infantry and the Air Corps.

The best wishes of all the personnel of Headquarters and Headquarters Squadron, 8th Pursuit Group, go with Sergeant Webb on his well earned retirement.

MORE "DOPE" ON 30TH BOMB. SQD. MANEUVERS

The Scribe for the 479th Pursuit Squadron, Air Reserve, Army Air Base, Long Beach, Calif., writing under date of October 16th, says that "Last week the new runways on the east end of the airport were officially opened to traffic, and the Army end of the Municipal Airport took on the semblance of war as the 30th Bombardment Squadron from March Field arrived and took over that end of the field as a base for ten days of field exercises."

Major Albert F. Hegenberger, Commander of the 30th, brought over some thirteen officers and ninety enlisted men, not to mention the flock of Martin Bombers and field equipment. The primary purpose of the exercises was gunnery practice to fire for record, but upon arrival the Major found some one had sent him some 270 bombs, so he decided the best thing to do was to take them out and drop them on the ocean, and thereby gain some very desirable experience on "studied pattern bombing in formation." Four officers were fired for record, two making "Expert" and two "Marksmen." At luncheon on October 9th, the Major entertained officials of the Chamber of Commerce and the Aviation Commission. The latter assured their host that a bigger and better field is being planned and that when he comes over for future exercises there will be more room and more runways.

The 30th Squadron took off for their home station late Tuesday (October 13th), stating they were very well pleased with their operations, having flown 220 hours without an accident of any kind.

The News Letter Correspondent added that on October 19th the 32nd Bombardment Squadron from March Field will follow-up, staging their field exercises by the still glowing camp fires left by the 30th Squadron.

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NEW TRANSPORT FOR SAN ANTONIO AIR DEPOT

On October 9th, the San Antonio Air Depot, Duncan Field, Texas, received its anxiously-awaited new C-33 Transport, the first in that Supply Area, from the Douglas Aircraft Company, Santa Monica, Calif. It was ferried to the Depot by Captain D.J. Ellinger, Operations Officer of the Depot, pilot, with Master Sergeant C.P. Smith as co-pilot, and Staff Sergeant C.E. Bright and Corporal R.L. Cole, of the 3rd Transport Squadron, as mechanics. The Depot flyers are now familiarizing themselves with the operation of this commodious new job before putting it into regular service.

The News Letter Correspondent states that with the acquisition of this new airplane air transportation in that area will be greatly facilitated.

V-7135, A. C. AT

ACTIVITIES OF THE 33RD DIVISION AVIATION
By 1st Lieut. Monro MacCloskey, Adjutant,
33d Div. Aviation, Illinois National Guard



SEPTEMBER proved to be a poor month for the aviators of our Squadron. The weekend holiday over Labor Day was occasioned by good weather, and many of us took advantage of it by going on 500-mile navigation flights. The remaining weekends of the month, however, were accompanied by such bad weather that even the sparrows were walking down Cicero Avenue.

On the 25th and 26th of September we received a visit from the Air Corps Technical Supervisor, Fairfield Air Depot, Major Oakley G. Kelly and his assistant, Staff Sergeant Frank D. Blair. We had hoped to demonstrate to them our proficiency in the art of close order drill, but there was a driving rain on our drill night and the ships had to be kept in the hangar - so our doughboy drill was out.

Four of us had an opportunity to renew acquaintances at the National Guard convention at Providence, Rhode Island. Leaving here on the afternoon of October 7th, we spent the first night in Cleveland, the second night in Albany, and arrived in Providence early on Friday. We carried one mechanic and three ranking officers of the Division. So many of the same pilots from other squadrons attend year after year that it is always a gay reunion.

Our return trip was made most expeditiously. We cleared Providence at 9:05 a.m., Sunday morning, and landed at Buffalo at 1:15 p.m., where we serviced ourselves as well as the ships. We landed again at Detroit for service, and our third stop saw us in Chicago at 8:50 p.m., in spite of a 20-mile head wind most of the way. It was a pleasure to call up the homes of two of our passengers (who had trained out of Providence for fear they would be unable to keep appointments in Chicago on Monday) to leave word of our arrival.

We thought we had done a pretty good job of a cross-country that day in O-38's, but our skipper, Major C.A. McElvain, really showed us up. On that same Sunday, he left Dallas at 3:00 p.m. in an O-31. Three hours and 25 minutes later, he landed at Leavenworth for service. Taking off again at 7:30, he landed in Chicago at 9:50 p.m., having covered over 900 miles in a little less than seven hours, of which one hour was spent on the ground. All officers of the 33rd Division in Chicago and vicinity were recently ordered to attend a program of demonstrations at the 132nd Infantry armory. I am frank to write that most of us looked forward to a dull evening, but it turned out to be not only instructive, but enjoyable. Stands had been erected on the floor of the armory for the officers, while their

guests had balcony seats. An amplifier system was used, which functioned perfectly. The demonstrations were: Use of field glasses in designating targets; 75 mm gun squad drill; point in advance guard; functioning G-3 Section; 75 mm battery supporting Infantry battalion in attack; group instruction methods; troop leading exercise on murals; caliber .22 machine gun firing into sand box. The exhibitions were put on by various units of the Division, and when necessary two exceedingly large murals were referred to. Incidentally, the 8th Infantry (colored regiment) put on the demonstration of "Point in Advance Guard." When the "get-away" man told his duties, he proved he knew the meaning of "get away." Thus, all the officers had an opportunity to refresh their knowledge on points long since forgotten.

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COOPERATIVE MISSIONS WITH HAWAIIAN N. G.

A flight of three Keystone Bombers, under the command of Major Idwal H. Edwards, Air Corps, recently flew from Luke Field to Maui for a stay of two days, during which a series of cooperative missions were carried out in connection with the annual encampment of the 299th Regiment, Hawaii National Guard, at Wailuku. Missions included target towing for machine gun fire and simulated bombardment attacks.

While landing at Maalaea Airport, notorious for tricky wind conditions, Major Edwards was forced off the runway into soft ground, causing his plane to nose over. Sufficient damage was done to necessitate dismantling the plane and returning it to Oahu by means of the steamer "Royal T. Frank." The remainder of the flight returned upon completion of their mission on Maui on September 25th.

In addition to Major Edwards, the following officers participated: 1st Lieuts. Clinch, Egan, Gilger, Armstrong, Summerfelt, and 2nd Lieuts. Altman and Capp.

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The 35th Pursuit Squadron, Langley Field, Va., reports that all pilots qualified as EXPERT AERIAL GUNNERS at the end of the gunnery season, with the exception of one pilot, who has been on detached service for the past eight months.

Training of rear-seat gunners is now in progress, and from the scores made in practice runs it looks as though the "Rear-Seat Drivers" will do more than uphold the Squadron record.

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PERSEVERANCE BRINGS REWARD
By the Bolling Field Correspondent



SIXTEEN years ago, E. R. Janson, now a Sergeant in the Signal Corps and weather forecaster at Bolling Field, D. C., started the pastime of putting notes in bottles and tossing them into the ocean to be carried away by the tides and currents, hoping that some day he would get an answer and be able to learn something about the currents from his experiments. At that time he was enroute from Germany to the United States and sent out two bottles. Since then he has traveled about 19,000 miles over the water and continued his experiments, using bottles, cans, and even a few meteorological balloons, such as are used for obtaining speed and direction of winds aloft for aviators.

While in the vicinity of Newfoundland, Sergeant Janson and his companions sent out several notes. Later, when out on boat excursions from Atlantic City, N. J., he sent out notes at different times, and again while at Miami, Fla., he continued his experiments. While in the service at Panama, he sent out notes from both the Atlantic and the Pacific sides. From Panama he also sent out balloons with notes attached. In his belief these balloons should have drifted north after reaching the stratosphere, and he hoped to obtain some information on air currents from them.

Upon the completion of his tour of service at Panama, Sergeant Janson left for New York City aboard the CHATEAU THIERRY. About 400 miles from Panama, the transport passed Navasso Island, marked by a lighthouse, but uninhabited because of the lack of fresh water. While passing the island, he dropped three bottles containing the usual notes. Up to that time he had never heard from any of his notes, although in each one he wrote his name and address and guaranteed the return of postage used in writing to him.

After getting back to the United States, Sergeant Janson took up his duties as forecaster at Langley Field, Va., and from there transferred to Bolling Field, where, shortly after his arrival, he was rewarded for his years of effort. To his surprise, he received a letter from Lawrence Faust and Raymond Brown, living near Beaumont, Texas, and stating that they found a bottle on the shore of High Island, not far from Beaumont. According to their report, the bottle had not been there more than half a day and the note was dry and well preserved. The distance the note traveled was about 1500 miles by the northwest route - past Nicaragua and along the coast to Texas - in the elapsed time of 98 days from June 20, 1936, to September 27, 1936.

Sergeant Janson estimates that he has sent out thirty or forty notes, and though he has received only one answer at present, he plans to continue his experiments.

BUREAU OF AIR COMMERCE TESTS NEW PLANE

The Bolling Field Correspondent states that the Bureau of Air Commerce, Department of Commerce, is testing at Bolling Field a new light plane which, if successful, will revolutionize air travel. The plane is a small wingless cabin autogiro, manufactured by the Pitcairn Autogiro Company at Willow Grove, Pa. It has seating capacity for two, side by side, and is powered by a seven-cylinder 90 horsepower Pobjoy engine, located in the fuselage behind the pilot and passenger. The engine is geared to the tail wheel for travel on land, and drives the propeller by a long shaft going through the cabin. The front wheels are steered by an apparatus similar to that on an automobile. The autogiro can be flown to any suitable landing place and in a few minutes after landing is ready for travel on land, just as any automobile. The rotor blades fold back over the fuselage and the power is transmitted to the rear wheel instead of the propeller.

On land the speed of the plane is 25 miles per hour, and its flying speed is 90 miles per hour. On a recent test flight, the giro was landed in a small park area in front of the Department of Commerce building and driven through the streets of Washington to Bolling Field.

This plane is another one of the several small types being tested by the Bureau of Air Commerce in its effort to find one which can meet all requirements of safety, economy and ease of operation and still be sold at a very reasonable price for mass production.

AIR TRANSPORTATION POPULAR WITH THE
COMMANDER OF HAWAIIAN DEPARTMENT

Major General Hugh A. Drum, Commanding General of the Hawaiian Department, recently boarded an Amphibian airplane of the 5th Composite Group, piloted by his air aide, Major Phillips Melville, and was flown to Hilo, Hawaii. Although he had now flown to any extent since the World War, General Drum, during the year and a half he has commanded the Hawaiian Department, has made considerable use of an OA-4A for inter-island flights, and to inspect defensive positions of Oahu during Department Maneuvers and at other times. Major Melville's foreign service tour was extended in order that he might be added to General Drum's staff.

NEW ORGANIZATION IN 2D BOMBARDMENT GROUP

The Headquarters and Headquarters Squadron of the 2nd Bombardment Group, Langley Field, Va., was redesignated on September 1, 1936, with 14 officers and 78 enlisted men. Captain John H. McCormick assumed command of this organization on September 1st, assisted by 1st Lieut. Clifford H. Rees as Squadron Engineering, Operations and Transportation Officer and 2nd Lieut. Russell L. Waldron as Squadron Adjutant.

The organization was accomplished rapidly, and in a very short time this unit was functioning smoothly. The principal functions of the unit have been the clerical work in the 2nd Bombardment Group Headquarters, Transportation and Supply. The Headquarters and Headquarters Squadron has two B-10B airplanes at the present time and expects to receive more planes in the near future. The organization, while young, was fortunate in obtaining well trained personnel, and the results obtained from this unit have been more than satisfactory.

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THE 21ST RECONNAISSANCE SQUADRON

The 21st Reconnaissance Squadron, GHQ Air Force, was reconstituted at Langley Field, Va., on September 1, 1936, with two officers and 19 enlisted men. The organization was moved immediately to their new quarters in the lighter-than-air area.

The principal function of the organization at the present time is the maintenance and operation of the Navigation School of the 2nd Bombardment Group and the two amphibian airplanes assigned for the use of the School.

Although the Squadron, as reconstituted, is very young and in the act of getting started, its work is beginning to take form and is proving satisfactory in a great many respects.

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RADIO TELEPHONY ON THE ISTHMUS

A day or so ago, writes the Albrook Field Correspondent, Colonel Frederic H. Smith, General Staff Corps, was seated at his desk in Department Headquarters at Quarry Heights. The telephone rang. He answered it and held a conversation with General Brett. That all sounds normal enough - but General Brett was in a P-12 airplane, 6,000 feet above Colonel Smith!

Lieut. D.F. Henry, Wing Communications Officer, is responsible for this radio sleight-of-hand. Through a complex arrangement of practically everything under the sun - he calls it "Goldie," with apologies to Rube Goldberg - he has made it possible for any airplane to hold a two-way conversation with any telephone

on the Isthmus.

Take notice, married cross-country pilots - now you can 'phone the wife to come and get you instead of buzzing forty sets of quarters!

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ACTIVITIES AT LONG BEACH, CALIF.

Considering our limited equipment, says the scribe for the 479th Pursuit Squadron, Air Reserve, Army Air Base, Long Beach, Calif., the current training year has gotten off to a good start, averaging about 450 flying hours per month. Sundays are the big days, with about 20 officers on the flying line, keeping our seven old and very faithful PT's in the air from early morn until late afternoon. Operations consist principally of tactical problems applicable to the equipment and locale.

The Regular Army made a pretty big scoop in our Reserve ranks the first of October by handing out Regular commissions to four of our Reserve officers - Leslie Raybold, Don O. Darrow, Wm. M. Brown and Radcliffe C. Clausen - and calling Maurice E. Glaser to three years' active duty. Glaser is a double loss, as he was our one and only enlisted pilot, and the Post personnel waved him goodbye regretfully.

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ASCERTAINING PATTERNS MADE FROM BOMBS

The 9th Bombardment Squadron, Hamilton Field, San Rafael, Calif., has been engaged in an experiment, directed by the Commanding General, 1st Wing, GHQ Air Force, to ascertain the patterns resulting from bombs dropped from various types of formation. Additional airplanes and whole flights have been attached from the 11th and 31st Bombardment Squadrons when necessary to make up a 9-airplane formation. The outlines of a target were laid out on the southeastern section of Mather Field, Calif., the bombs were dropped without powder charges and the distances from the outlined target to the places where they fell were measured with a tape after each mission. The following factors were varied and used in various combinations and the resultant pattern checked:

1. Distance in formation.
2. Interval in formation.
3. Stepped-up and stepped-down formation with several differences in altitude.
4. Altitude.
5. Speed.
6. Wind direction.

An attempt was made to keep the releases in formation as nearly simultaneous as possible. Two lights were installed on the bomb bay doors of the leading airplane, one signaling time of sighting operation, and the other signaling the time of bomb release.

AIR TACTICS DEMONSTRATION TO KIWANIANS

A crowd of Kiwanians from the California-Nevada District, estimated at about two thousand, thronged the taxiing mat at March Field, Riverside, Calif., on October 8th as the guests of Colonel John H. Pirie, the base force commander.

The visiting business men were thrilled by the many demonstrations of national defense which their fellow Kiwanian, Colonel John H. Pirie, Air Corps, had arranged for them. Colonel Pirie is a charter member of the Arlington, Virginia, Kiwanis Club.

Particularly breath taking and a novelty to many of the base force members was the dropping of parachute bombs on a field two miles away. This was only a preparation for the raining of lighter parachute bombs on the landing mat only a few hundred feet from the spectators. The demonstration gave Southern Californians one of their first practical lessons in attack plane bombing or ground strafing.

Other air maneuvers, such as flying in various formations, greatly interested the spectators as the dust from the parachute bombs still hung over the ground.

A feature which greatly pleased officials of the Kiwanis organization was the ground salute given by the nine Attack planes. They reversed the medieval fashion by performing their air maneuvers first and then taxiing in front of the reviewing balcony in air base headquarters. In the manner of knights of old, they then taxied sharply to the left and returned to their hangars.

Among the distinguished visitors were Messrs. A. Copeland Callen, of Urbana, Ill., International President of Kiwanis; Charles R. Croke, Mountain View, Calif., the District Governor; and Ernest G. Button, President of the Riverside Chamber of Commerce.

Battery "A" of the 63rd Coast Artillery, together with detachments from other batteries, were present to give demonstrations of searchlights and artillery gun operation.

Talks were given on Coast Artillery work by Captain Arnold D. Amoroso and Harry A. Aldrich, of the 63rd Coast Artillery, the former touching on the searchlights and allied equipment and the latter covering other phases.

Shops and hangars were open during the day for Kiwanians and other civilians desiring to visit them. Demonstrations were given of parachute packing.

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During September, the Engineering Department of the San Antonio Air Depot, Duncan Field, Texas, overhauled a total of 85 engines and 20 airplanes, and repaired 17 airplanes and 27 engines.

"CHANGES FOR THE BETTER IN MISSOURI"

The 35th Division Aviation, Missouri National Guard, recently made several improvements in the recreational facilities for the enlisted personnel. The enlisted men's clubhouse has been moved to a location nearer to the hangar and several improvements have been made.

The large clubhouse has been painted, newly roofed, and papered. Adequate toilet facilities have been installed and improvements affected on the rathskellar. The floors have been refinished and all needed repairs have been made on the furniture in the club. Steam heat has been installed and the enlisted men are very enthusiastic in their anticipation of entertainments during the coming winter months.

The grounds about the clubhouse are now in the process of being landscaped. A project is in the making whereby the enlisted men will have a concrete tennis court, a volley ball court and a baseball diamond, in order to further the athletic activities of the enlisted personnel.

In the near future this organization hopes to be in a position whereby the enlisted personnel of other Air Corps organizations will be extended invitations to visit and participate in the recreational facilities now being completed.

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ACTIVITIES OF 77TH PURSUIT SQUADRON

With the exception of two night formation flights, the last days of September were devoted by the 77th Pursuit Squadron, Barksdale Field, La., to squadron gunnery missions at New Orleans, La.

Everyone was concerned with the bore-sighting of his ship, planning how to get by on the finances left at the end of the month, packing and performing his regular squadron duties.

While at the Shushan Airport at New Orleans, full time was devoted to the problem of working up a good squadron average score, everyone exchanging advice, profiting from the mistakes and working from 5:45 a.m. until about 4:00 p.m. This concentration of effort resulted in rewards in the form of good scores, and flying time. All the beginners learned how to handle the gun and airplane while trying to hit a moving target.

Says the News Letter Correspondent: "New Orleans greeted us with mosquitoes capable of drilling holes in the toughest hides and let us have thunder showers by the dozens. But we all enjoyed the work, the struggle to get meals, trips to town and famous spots, and the fellowship of the gang when finally off duty.

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V-7135, A.C.

In a statement he gave to the press, following his flight on September 28th, during the course of which he reached an unofficial altitude mark of 15,230 meters (49,967 feet), Squadron Leader F.R.D.

Swain, of the British Royal Air Force, stated that at first he climbed in wide circles until he reached 40,000 feet, when he turned South-East and continued to climb for another 5,000 feet. At low levels there was a cold and fairly strong north-westerly wind. This grew into hurricane force in the upper air. Into this he turned and made a straight climb into wind to avoid the danger of being blown out to sea.

At 45,000 feet, Squadron Leader Swain stated he found the light was almost dazzling. Warned of this through his experience on previous flights, he had had the upper surfaces of the wings and fuselage of his plane painted black to reduce the glare. The sky above him was a very deep blue, although not dark enough for the stars to be visible. The change in the color of the sky is due to the fact that there is no dust or moisture in the air to split the rays of light and no clouds above 35,000 feet.

The air was so clear that when ten miles north of Brighton he could see the English coast line from Margate to Land's End, and northwards to the Wash. London appeared like a tiny toy town, and the Thames and other rivers like narrow silver ribbons. The Channel Islands between England and the coast of France looked like stones in a river bed. He admitted that at that height he felt small and lonely. England seemed a very minute country, and he felt he could easily be blown beyond its borders.

It was necessary for him to concentrate on his instruments so as to get the correct speed for attaining the maximum height, as the controls at extreme heights were not sensitive, and height might be lost by neglect of the instruments. He kept constant watch on the air speed indicator, the oxygen pressure gauge, the suit pressure gauge, the compass, clock, altimeter and fuel gauge. At this time the pressure suit was causing him a little discomfort. Some difficulty was experienced in moving his limbs and he felt a slight cramp in his right arm, but he had no difficulty in breathing. He remarked that without the special suit worn on this flight he could not have remained conscious at above 40,000 feet or so.

Before starting he had been warned that his altimeter was over-registering to the extent of about 1,000 feet. Consequently, at 50,000 feet he was afraid he had not beaten the record, so he continued to climb until the altimeter showed 51,000 feet. Here he found he could climb no higher, so he decided to call it a day. With only enough fuel left for about 45 minutes of flying, he throttled back and began to glide. He was then almost over the Bristol Channel and could see the Welsh mountains. When he glided down about 5,000 feet, the celastoid window of his helmet hazed over, as did the windows of the cockpit. He could not see any of his instruments and admitted that this worried him

considerably. He could not read his compass, but he could just distinguish the glare of the sun to the east and so, knowing he was over the West of England, flew towards the light, constantly losing altitude. This he did in an erratic manner, for he was locked up in his diving suit, and to all intents and purposes blind.

Then he began to feel that he was being suffocated. Becoming gradually weaker, he came to the conclusion that he was running short of oxygen, and he tried to press the relief lever to open the cockpit cover but could not make it function. Actually, it was found afterwards that this lever was working quite properly, but at that time Squadron Leader Swain was so exhausted that he was unable to operate it.

Then he tried to get to the ripping panel on his suit so that he could get his head out, but encumbered as he was with the suit, his parachute harness, etc., he could not find the fastener. In desperation he grabbed the knife which had been hung within his reach in the cockpit specifically for such an emergency and hacked out the window of the helmet.

The fresh air blowing in through the gap in the window made him feel much better. He was now at 14,000 feet somewhere over Yeovil, so he steered east and continued to lose altitude until he reached Salisbury. When he landed at Netheravon he had only two gallons of fuel left.

The British aviation journal FLIGHT states that, although Swain had the impression that the oxygen supply was failing, it did not really do so. The feeling which he experienced was due to his exhaustion. To fly in his special suit at 50,000 feet was the equivalent of flying with an ordinary oxygen mask and electrically heated clothing at 35,000 feet. Any pilot who flew with the ordinary equipment at 35,000 feet for two hours would naturally be exhausted at the end of it. Swain had been up much longer than had been anticipated (his flight took altogether 3 hours and 20 minutes) and it had taken him an hour to climb the last thousand feet.

Swain explained the frosting of the windows by saying that as he came down from dry atmosphere above 35,000 feet into the area of moisture his engine was throttled down, and consequently he got less warmth in his cockpit from the arrangement by which hot air was introduced from the oil coolers.

He said that he was very disappointed with the flight, because he had hoped to get higher, but it should be remembered that this was the first attempt on this type of airplane.

The minimum atmospheric pressure measured during the flight was 92.0 millimetres of mercury, and the lowest temperature was -49.8 deg. centigrade. Both of these measurements were at the highest point attained.

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THE DIVING SUIT IN THE HIGH ALTITUDE FLIGHT

Touching on the diving suit worn by Squadron Leader Swain during his altitude flight, above

V-7135, A. C.

described, the British aeronautical publication The Aeroplane states that, because the pressure of the atmosphere at 50,000 feet is but one-ninth of what it is at sea-level, the pilot had to be put either into an air-tight cabin or an air-tight suit.

Group Captain G. Struan Marshall, of the Central Medical Establishment, Royal Air Force, who was in charge of the medical research in connection with the flight, has set out the reasons which make such enclosure necessary. He explains that human beings are physiologically adapted to breathe air, of which one-fifth is oxygen, at a pressure of 15 lbs. per sq. in., but they can continue to live, if they do no appreciable amount of physical work, should the atmospheric pressure fall to a little more than half of this, as it does at 18,000 feet.

Above this height, as there is not enough oxygen in the air, the deficiency can either be overcome by increasing the amount of oxygen in the air breathed by the pilot, or by increasing the pressure within his lungs - in fact, by supercharging them. The former method is the easier, and is in normal use, but even when carried to the limit, which would be to supply the pilot with absolutely pure oxygen, the method is theoretically inadequate for heights much above 43,000 feet, though previous records above this height have been achieved by making use of this method.

Above 43,000 feet, therefore, some means has to be found to increase the pressure in the lungs, either with or without extra oxygen. For physiological reasons this cannot be done to any useful extent without balancing the pressure within the lungs with that outside them, so that the immediate atmosphere around the pilot has to be kept at a pressure not less than that of the atmosphere at 43,000 feet, as was stated on the authority of Mr. Cyril Uwins after his height record in 1932.

This can be done by enclosing the pilot either in an air-tight cabin or in an air-tight suit. The former is rather better from the point of view of the physiologist, but the latter is preferred by the aircraft designer, - hence the diving suit of Squadron Leader Swain.

This was produced by Siebe, Gorman and Co., Ltd., as a result of the work that the late Professor G.S. Haldane, F.R.S., and Sir Robert Davis did in conjunction with the Air Ministry. The pressure inside this suit can be automatically maintained at a predetermined value.

As the onset of oxygen starvation is dangerously insidious and indeed is usually denied by the sufferer, the pressure inside the suit has to be as high as possible compatible with the pilot's adequate freedom of movement. Obviously if the pressure inside the suit is too great the pilot finds movement and control of his limbs unbearably difficult.

On the record attempt the pressure inside the suit was equivalent to that of the atmosphere somewhere between 32,000 feet and 35,000 feet. Protected by such a suit, Squadron Leader Swain had been taken in the low-pressure chamber at Farnborough to a 'height' of 80,000 feet without undue discomfort, and has been subjected to temperatures of -60° Centigrade.

The suit is made in two pieces of rubberized

fabric, of which the top part carries a helmet with a large curved window of celluloid-like material. The suit is made air-tight round the waist with a pipe-clip type of joint. The breathing circuit is of the closed type, and into it oxygen is fed. The oxygen jet is the driving element of a small injector which produces rapid circulation of gas around the system.

From the injector the gas passes through a flexible tube into the helmet on the right side of the face and circulates round the latter to an outlet on the left. The gas, which now contains the exhaled breath, passes down a flexible tube to a canister in which are chemicals to absorb the carbon dioxide and moisture from the exhaled breath. It is then recirculated.

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GRADUATION OF STUDENTS FROM RANDOLPH FIELD

When the March, 1936, class started training at the Air Corps Primary Flying School at Randolph Field, Texas, it was, in point of size, the smallest class entering this school for quite a number of years. The class consisted of 5 officers of the Regular Army, 7 Air Corps enlisted men, 3 enlisted men from other branches of the service, and 49 candidates from civil life, total 64. The civilian and enlisted students pursued the course under the status of Flying Cadet.

When graduation day rolled around, 35, or 55% of these flying students (3 officers and 32 Flying Cadets) were successful in completing the eight months' intensive course of primary and basic training at Randolph Field, and on October 9, 1936, were transferred to the Advanced Flying School, Kelly Field, Texas, for the last four months of the year's training. These graduates specialized in the various branches of combat aviation, as follows:

OBSERVATION

Capt. James R. Anderson, Ord. Dept.	Wis.
2d Lt. John K. Brown, Jr., F.A.	Minn.
2d Lt. Jack W. Hickman, C.E.	McCook, Neb.
Henley V. Bastin, Jr.	
Sterling G. Harvey	Bloomsburg, Pa.
Aaron R. Hoffeditz	Greencastle, Pa.

ATTACK

Clyde Box	Denton, Texas
James R. DuBose, Jr.	Aiken, S.C.
William E. Eubank, Jr.	Bluefield, W. Va.
Elbert Helton	Clifton, Texas
Wallace E. Nau	Pasadena, Calif.

PURSUIT

Jacob J. Brogger	Butterfield, Minn.
Walter H. Dillingham	Honolulu, Hawaii
Joseph F. Hunker	San Diego, Calif.
Steele R. Patterson	Seneca, S.C.
Henry G. Thorne	Fort McPherson, Ga.
Hubert Zemke	Missoula, Mont.

BOMBARDMENT

Julian M. Bleyer	Tulsa, Okla.
Philip G. Cochran	Erie, Pa.
Lloyd H. Dalton, Jr.	Ottawa, Kans.
Dwight E. Herrold	Long Beach, Calif.
Edward G. Hillery	Boonton, N.J.
Donald W. Macdonald	San Francisco, Calif.
Thomas E. Margrave	Gordon, Neb.

BOMBARDMENT (Continued)

William K. McNow	Lawrence, Kans.
Thornton K. Myers	Lafayette, Ind.
Norris Ferry	Sedro-Woolley, Wash.
James W. Phelps	Berwyn, Pa.
Jack L. Schoch	New Ulm, Minn.
Eugene H. Snavely	Harlingen, Texas
David A. Tate	Asheville, N.C.
Robert A. Theobald	Portland, Ore.
Sam P. Triffy	Detroit, Mich.
Harold E. Watson	West Hartford, Conn.
Earl B. Young	Sidney, Neb.

All of the three officers graduating from the Primary Flying School are West Pointers, Capt. Anderson being a member of the 1926 Class, and Lieuts. Brown and Hickman of the 1935 Class.

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TRAINING ACTIVITIES IN PANAMA

Action: Under the direction of Brigadier General George H. Brett, new 19th Wing Commander, the Air Force of the Panama Canal Department is now well started on its new program of training. Cooperating with the Coast Artillery, the Wing is now engaged in a problem which will extend over a period of a year and a half. This problem, of course, concerns the defense of the Canal, but the Air Corps is used alternately as attacking and defending force. One day a week, sometimes two, Bombardment, Observation and Pursuit take off with blood in their eyes and gas in the belly tanks, ready for practically anything.

Each week brings a different phase of the main problem. One week the Air Force may be Reds - the Attack (Pursuit doubling in Attack) theoretically neutralizing the fire of the various anti-aircraft installations, while the Bombers aim for their various objectives. Again, the Pursuit and Observation may be Blues trying to prevent Red Bombers, simulating carrier-based enemy, from reaching the Canal. The Bombers are forced to guess their release lines, which is highly unsatisfactory where split second timing is of such vital importance. Because of the fact that the Keystone Bombers are for the time being out of commission and that the B-10's are all assigned as long distance reconnaissance, there is some scurrying when a Bomber is wanted.

Influenced by the requirements of these Wing problems, squadron training recently has stressed the various types of Pursuit attack on Bombers.

Discussion of 'string' versus 'vee' has certainly raised the conversational noise level. But, no matter what the formation, a P-12, even an 'F,' just leers and says 'No!' when you urge it to catch a B-10. However, where there is a will, there's a way, and Major George H. Beverley, in charge of training, has a will. Recently, with two string formations of Pursuit vainly endeavoring to get excess speed over two B-10's acting as 'meat,' so that they could make an attack from above, they finally accomplished this seemingly impossible task. The approved solution consisted of Major Beverley flying along at 1700 RPM in a P-12, with a chastened Martin on each wing! After that the Pursuiters

forgot that they were flying antique chariots, and the attacks proceeded without difficulty.

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AIR CORPS MANEUVERS AT BAKERSFIELD, CALIF.

Bakersfield, Calif., is the scene this month and until November 18th of one of the greatest series of Army Air Corps maneuvers held in any West Coast municipality in recent years. The 19th Bombardment Group and the squadrons of the 17th Attack Group are holding field exercises at the Bakersfield airport.

A constant stream of olive drab-clad soldiers will filter into the airport at various times between October 19th and November 18th, it is stated. The latest types of Bombardment and Attack airplanes will be used in these problems, giving the citizens of Bakersfield a good opportunity to learn about the planes used by the Army's General Headquarters Air Force.

Brigadier General Delos C. Emmons, Commander of the First Wing of the GHQ Air Force, who made the announcement concerning the maneuvers, stated that the main object of camping at the airport would be to give the officers and enlisted men opportunities for training in the operation of a military airbase in the field.

Five hundred enlisted men and over 100 officers will pass through the airport at different periods. There will never be more than 350 enlisted men and 50 officers encamped at Bakersfield at one time, it was stated.

The 34th Attack Squadron, numbering 8 officers and 77 enlisted men, was the first unit to take the field, leaving March Field for Bakersfield by truck and airplane on the morning of October 21st, at 10:00 o'clock. It was commanded by 1st Lieut. Nathan Bedford Forrest, great grandson of the famous Confederate raider. The air caravan numbered 7 Northrop Attack planes and 2 old type Boeing P-12 Pursuit planes. This will probably be the last occasion the P-12's will be used in the San Joaquin valley. They were scheduled to remain in Bakersfield until October 28th.

Leaving Bakersfield on the morning of the 28th, they probably passed enroute the Golden Bears of the 73rd Attack Squadron, commanded by Major L.C. Mallory, and numbering approximately the same number of officers and enlisted men. The 73rd was the next organization scheduled to take over the Air Corps exercises at Bakersfield. Major Mallory led the recent non-stop flight to San Antonio with five Northrop Attack planes. The 73rd will remain at Bakersfield until November 4th.

The next unit of the 17th Attack Group to take over Army training at the Bakersfield airport will be the famous 95th Attack Squadron, known throughout the Army for its record in France, where it participated in 240 air combats. The 95th is commanded by 1st Lieut. Ernest H. Lawson. Its squadron exercises will continue until Armistice Day, November 11th, when the remainder of the 17th will arrive by plane and truck from the home air base at March Field. The three units to reinforce the 95th will be the 34th and 73rd Attack Squadrons and

the 17th Attack Group Headquarters Squadron. The 17th Attack Group, commanded by Lieut. Colonel Carlyle H. Wash, will consist of about 50 officers, over 200 enlisted men and 24 of the newest Northrop Attack planes. The work of the 17th at Bakersfield will consist mainly of dispatching Attack planes daily to the Muroc Bombing and Gunnery Range, Muroc, Calif., for bombing and gunnery.

As the 17th has only been equipped with the Northrop Attack planes since July, this range practice will be the first exercises with them. Glide bombing, which consists of coming down in a steep glide preparatory to attacking the target, will be one of the features of squadron and group training. Bombing will be restricted to an altitude of one thousand feet or more, it is stated.

All of the units will return to March Field on November 18th.

Captain Philip Schwartz, First Wing Ordnance Officer, states that six carloads of bombs, totalling 2500 of the 50-pounders, will be used in the exercises.

As previously announced at March Field, eight Bombers of the 32nd Bombardment Squadron, commanded by Major Walter R. Peck, A.C., held maneuvers at Long Beach from October 19th to 24th. Bombing of aluminum powder spots on the water was the principal activity and was participated in by enlisted men only, as commissioned bombardiers qualified at other times. Previous to the bombing, aluminum powder flasks are dropped on the Pacific Ocean just off Long Beach. Bombs loaded with water and sand are employed, as the splash tells whether a hit has been scored or not.

Group maneuvers of the 19th Bombardment Group will take place at Bakersfield between November 2nd and 7th, when 40 officers and 250 enlisted men will be encamped at the Municipal Airport. The camp will be in charge of the Group Commander, Lieut. Colonel Hubert R. Harmon. The organizations in the 19th Bombardment Group are the 30th and 32nd Bombardment Squadrons, the 19th Bombardment Group Headquarters Squadron, the 38th Reconnaissance Squadron and the 23rd Photographic Section.

---cOo---

RETIREMENT OF NONCOMMISSIONED OFFICERS

Effective October 31, 1936, Technical Sergeant Edward J. Hudson, Base Headquarters and 1st Air Base Squadron, Air Corps, Langley Field, Va., and First Sergeant Fred J. Shafer, 73rd Attack Squadron, March Field, Calif., were placed on the retired list. Technical Sergeant Hudson was advanced on the retired list to the rank of first lieutenant, under the provisions of the Act of Congress, approved May 7, 1932.

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Fourteen second lieutenants of the Air Corps Reserve were, in accordance with Special Orders of the War Department, recently issued, ordered to duty in the Hawaiian Department, viz: Martin Ansel Bateman and William Hogan Clark from Brooks Field, Texas; Earl Eugene Bates, Jr., Jack Wilson Berry, Jack S. Marks and Richard P. Schumacher from Selfridge Field, Mich.; Graeme

Stewart Bond, Howard Collins Denison and Benjamin Grey Holloway from Scott Field, Ill.; Emil Silvan Scott and Joseph Abbott Thomas from Langley Field, Va.; Abraham Donley Olson and Paul Waterman from Mitchel Field, N.Y., and Gilmore Vincent Minnis from Barksdale Field, La.

---cOo---

NINETEENTH ANNIVERSARY OF 19TH AIRSHIP SQUADRON

The 19th Airship Squadron, Moffett Field, Calif., celebrated its nineteenth anniversary on September 25th. On this occasion, the Squadron was host to the entire garrison at a picnic held at Searsville Lake, a distance of 18 miles from the field. Various forms of entertainment made the day pass quickly. The field events for children, varying in ages from 3 to 15, added much amusement for the elders. The site for the picnic was well selected, as it features the best boating and swimming in this region.

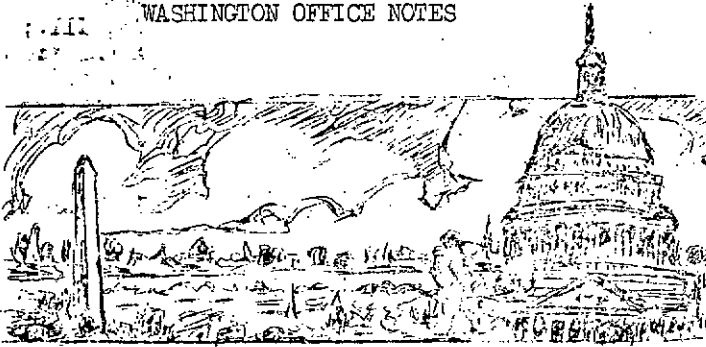
It seems appropriate to review a few highlights of the 19th Airship Squadron.

Originally organized as the 19th Balloon Company at Fort Omaha, Neb., the organization sailed for France on October 21, 1918. After a short assignment at the United States Balloon School at Souye, France, the Squadron returned after the Armistice to the United States, arriving on April 4, 1919. It was demobilized at Mitchel Field on the 29th of that month, and in July of that year reorganized at Langley Field, Va., as the 19th Airship Company. There the Squadron remained until November, 1935; when the War Department decided that sunny California afforded a better climate for the failing health of many of the old timers, and the Squadron was transferred to Moffett Field.

The 19th, being the oldest airship operating unit in the United States Army, has many noteworthy flights and records to its credit. These flights involved the first landing on the roof of a building in a large city for delivery of U.S. mail; the landing of an airship on a steamer at sea, namely, the "American Trader," in 1928; the landing on the plaza of our Capitol in Washington, D.C.; the continuous, non-stop flight of 1855 miles; several flights of long duration without refueling, the longest of which extended to 77 hours.

The Squadron has been instrumental in completing many engineering tests in cooperation with the Air Corps Materiel Division in the development of Lighter-than-Air craft and allied equipment. Although the Squadron has not been cited, the first two Cheney Awards went to members of the Squadron. Master Sergeant H.E. Chapman won the first award by his heroism in rescuing members of the KOMA crew when she was destroyed by fire at Norfolk, Va., in 1922. The next Award went to Lieut. Uzal G. Ent for heroism shown in the National Balloon Race in 1928, when he remained in his burning balloon in an attempt to save the life of his pilot, Lieut. Paul Evert, who, unknown to Lieut. Ent, had already been killed by a lightning bolt.

The entire Squadron looks back over its past with pride on its achievements and with the conviction that whenever called upon the organization will not be found wanting.



Major General O. Westover, Chief of the Air Corps, and Brigadier General A.W. Robins, Chief of the Materiel Division, flew to Scott Field, Ill., on October 23rd, for a conference. General Westover flew his A-17, while General Robins flew in an A-17 piloted by Lieut. Colonel Oliver P. Echols.

During his recent trip in the east, General Arnold visited the following aircraft factories: Wright Aeronautical Corporation, Paterson, N.J.; Seversky Aircraft Corporation, Farmingdale, L.I., N.Y.; Sikorsky Aircraft, Bridgeport, Conn.; Pratt & Whitney Aircraft, Hartford, Conn.; Bell Aircraft Corporation and Curtiss Aeroplane and Motor Co., Buffalo, New York, and the Fairchild Aircraft Corporation, Hagerstown, Md. General Arnold was also in attendance at the Mitchel Trophy Race at Selfridge Field, Mich.

On October 24th, Colonel Rush B. Lincoln and Lieut. Colonel Rosenham Beam returned from an inspection trip to Maxwell Field, Ala., and to the Valparaiso, Fla., Bombing Range. While on this trip they also inspected Reserve activities at Dallas, Texas, and in Oklahoma, and mobilization plans at Barksdale, Randolph, Brooks, Kelly and Chanute Fields.

Lieut. Colonel Ross G. Hoyt, accompanied by Captain D.F. Stace, departed October 24th to accomplish a ferrying trip from California to Mitchel Field, N.Y.

Major M.H. McKinnon returned October 24th from a ferrying trip to Farmingdale, N.Y.

Visitors to the Chief's Office during the course of navigation flights were: Colonel Frank M. Kennedy, Commanding Officer of Scott Field, Ill.; Lieut. Leon R. Brownfield from Scott Field, Ill.; Major Otto G. Trunk from Langley Field, Va.; Major Edward M. Morris from Barksdale Field, La.; and Major John V. Hart from Kelly Field, Texas.

Officers on duty at the Materiel Division, Wright Field, Ohio, who recently visited the Chief's Office for conference on various matters, were Colonel Frederick L. Martin and 1st Lieut. C.L. Munroe. Major Carl F. Greene and Captain R.H. Kemmer, of the Materiel Division, were in Washington on October 28th, for the purpose of conference with the National Advisory Committee for Aeronautics.

Majors Robert Kauch and Rowland C.W. Blessley left on ferrying missions, the former to Atlanta, Ga., and the latter to California.

Col. Herbert A. Dargue, of the Air Corps Tactical School, Maxwell Field, Ala., was recently on temporary duty in the Chief's Office.

Lieut. Colonel Robert L. Walsh returned October 17th to his duties in the Reserve Division, following an inspection trip.

Lieut. Colonel Gerald E. Brower and Major William B. Souza returned from temporary duty at Wright Field, Ohio, and Major Alfred W. Murriner from Langley Field, Va.

Major Charles Y. Banfill returned October 18th from a navigation flight to Selfridge Field. Incidentally, he was in attendance at the Mitchel Trophy Race.

First Lieut. Marvin L. Harding, of Hamilton Field, Calif., was a visitor while enroute to Langley Field.

First Lieut. Kenneth R. Crosher, of Barksdale Field, La., arrived October 23rd for a conference.

Major Edward V. Harbeck, Jr., of the Inspection Division, left October 27th on an inspection trip to Barksdale Field and the Air Corps Training Center.

Major Oakley G. Kelly, Technical Supervisor, Inspection Division, accompanied by his technical assistant, Staff Sergeant Frank D. Blair, will sail on November 11th for the Panama Canal Department to make an inspection of Air Corps activities.

Major Henry H. Reilly, Technical Supervisor, Inspection Division, accompanied by his technical assistant, left on an inspection trip to the Air Corps Tactical School, Maxwell Field.

Captain James W. Spry left by air on October 27th on an inspection trip connected with National Guard and Reserve matters.

Major Malcolm C. Grow, Medical Corps, Flight Surgeon, returned October 21st to his duties in the Chief's Office from a navigation flight to Wright Field.

Major Karl S. Axtater and Captain Evers Abbey, of the Buildings and Grounds Section, Supply Division, returned October 25th from a brief leave of absence.

Contributions of Material for the Air Corps News Letter are earnestly solicited from Randolph, Mitchel, Brooks, Maxwell and Chanute Fields.

B I O G R A P H I E S

LIEUT. COLONEL P. E. VAN NOSTRAND

Lieut. Colonel Percy E. Van Nostrand, Air Corps, now serving a tour of duty in Washington as a member of the War Department General Staff, was born on August 6, 1887, at Washington, Iowa. He graduated in 1912 from the State University of Iowa, receiving an A. B. degree.

After serving as a commissioned officer in the Iowa National Guard Infantry from August, 1909, to February, 1913, he accepted, on March 3, 1913, a commission as second lieutenant in the Infantry, Regular Army. He was promoted to 1st Lieutenant on July 1, 1916; to Captain, May 15, 1917, and to Major, Signal Corps, October 23, 1917.

During the World War, Col. Van Nostrand was one of the early settlers at Kelly Field, Texas, and he was Adjutant of that post until May 14, 1918, when he was transferred for duty as a student at the Army Balloon School at Fort Omaha, Neb. Upon the completion of the lighter-than-air course at that school he was, on August 15, 1918, rated as a Balloon Observer. He remained at Fort Omaha, serving as Executive Officer, until December 26, 1918, when he reported for duty as Executive Officer, Balloon and Airship Division, Office of the Director of Air Service, Washington, D. C. During his tour of duty in Washington, he served at various times as Acting Chief of the Balloon and Airship Division and was a member of several boards and committees, among them the Aeronautical Board and the Helium Board.

For several months during the latter part of 1921, Col. Van Nostrand was on temporary duty in England in connection with the inspection of the airship R-38. He was also on temporary duty in France and Germany in connection with airship activities. Shortly following his return to Washington, in October, 1921, he was temporarily assigned to duty at Langley Field, Va., as a student at the Airship School and, upon the completion of the course of instruction, he was, on January 21, 1922, assigned as Acting Assistant Chief of the Lighter-than-Air branch of the Training and War Plans Division and Chief of the Schools Section, Office of the Chief of Air Service.

In November, 1922, Col. Van Nostrand was assigned to duty as Army observer in connection with the airship ZR-1 at the Naval Aircraft Factory at Philadelphia, Pa. In March, 1923, he was assigned to duty at the Naval Aircraft Station at Lakehurst, N. J., to take a rigid airship training course.

From March to July, 1924, he was on temporary duty at Brooks Field, Texas, and he was then transferred to the Advanced Flying School at Kelly Field, Texas, where he completed the course in

advanced observation. During the two years following, he completed the course at the Air Corps Tactical School at Langley Field, Va., and the Command and General Staff School at Fort Leavenworth, Kansas.

He began his tour of foreign service in the Hawaiian Department in August, 1926, being on duty as Commanding Officer of Luke Field and the 5th Composite Group until August, 1929, when he returned to Langley Field for duty as Instructor at the Tactical School. In May, 1931, when the Tactical School was moved to Maxwell Field, Ala., he was in command of that post to August 11th of that year, and served temporarily as Acting Commandant of the Tactical School. Thereafter, until July, 1932, he was Executive Officer at Maxwell Field.

Upon his graduation from the Army War College in June, 1933, Col. Van Nostrand was on duty for a year as Assistant Commandant of the Air Corps Technical School at Chanute Field, Rantoul, Ill. He then returned to Washington to pursue the one-year course of instruction at the Army Industrial College and, following his graduation therefrom in June, 1935, he was detailed as a member of the War Department General Staff.

Col. Van Nostrand was commissioned in the Air Service as a Major, October 16, 1920, and was promoted to his present rank on August 1, 1935. He holds the aeronautical ratings of Balloon Observer, Airship Pilot and Airplane Observer.

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LIEUT. COLONEL ROBERT GOOLRICK

Lieut. Colonel Robert Goolrick, now on duty at Barksdale Field, Shreveport, La., was born in Virginia, June 9, 1886. He graduated from the Virginia Polytechnic Institute with the degree of B. S. in Electrical Engineering in 1907. Commissioned a second lieutenant in the Regular Army, October 5, 1908, he served in the Coast Artillery until July, 1920, when he transferred to the Air Service. He was promoted to 1st Lieutenant, December 2, 1910; to Captain, July 1, 1916; to Major (temporary) March 7, 1918; to Major, July 1, 1920, and to Lieut. Colonel, May 24, 1933.

During the World War, Col. Goolrick served in France from October, 1917, to January, 1919, commanding the 1st Anti-Aircraft Artillery. During this period, he was detailed with the British Army for five months near Ypres, and later with the French 7th Army in Alsace. He was in three major offensive battles with the American Army. He was awarded the Croix de Guerre by the French G.H.Q.

Upon his return to the United States, Col. Goolrick was assigned to duty at Fort Hunt, Va., in the coast defenses of

Washington.

Assigned, in July, 1920, to the Air Service Primary Flying School at Carlstrom Field, Arcadia, Fla.; for flying training, Col. Goolrick completed the course in March, 1921, and was then assigned as a student at the Air Service Observation School at Post Field, Fort Sill, Okla. Upon the completion of the advanced flying course, he was rated as "Airplane Pilot," effective October 14, 1921. In January, 1922, he assumed command of Air Service troops at Pope Field, Fort Bragg, N.C.

In August, 1923, Col. Goolrick reported for duty at Wheeler Field, Schofield Barracks, Hawaii, and was assigned to the command of the 17th Composite Group. On January 15, 1924, he assumed command of the 4th Observation Squadron. On October 25, 1924, he was detailed as Department Air Officer. Upon the completion of his tour of duty in Hawaii, he was transferred to Langley Field, Va., where, in October, 1925, he began the course of instruction at the Air Corps Tactical School. His graduation in June, 1927, was followed by another year of duty as a student at the Command and General Staff School at Fort Leavenworth, Kansas.

Assigned as Commanding Officer, 2nd Cavalry Division Aviation, Marshall Field, Fort Riley, Kansas, July 13, 1928, Col. Goolrick remained on this duty until July 5, 1931. In May, 1929, he was given the additional assignment of instructor at the Cavalry School at Fort Riley.

Transferred to Wright Field, Dayton, Ohio, he commanded that field and was Chief of the Administration Section, Materiel Division, until August 19, 1933, and Acting Executive and Executive until June 15, 1935, when he was transferred to duty at Barksdale Field, La.

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50TH SQDN. LEARNS ABOUT OPERATION OF B-12

The 50th Observation Squadron, which is now equipped with B-12A "Reconnaissance" airplanes, recently left Oahu for Morse Field, South Cape, Hawaii, to go into the field for two days for the purpose of determining problems involved in the maintenance and operation of their new planes on the outlying islands. A navigation problem was carried out on the flight to Hawaii, which was completed without incident. Upon arrival, a camp was established in the grounds of the lighthouse, South Cape, and arrangements completed for a stay of several days. It immediately developed, however, that the existing fuel storage could not be used satisfactorily, as it necessitated taxiing the airplanes for a considerable distance over soft and uneven ground, with a consequent danger of overheating the engines. Operations were accordingly

curtailed and, after spending the night in camp and collecting considerable data relative to the field and facilities, the flight took off and returned to Luke Field.

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NEW BASIC TRAINING PLANES FOR RANDOLPH

The Secretary of War, Hon. Harry H. Woodring, recently announced the award to the North American Aviation, Inc., of Inglewood, Calif., of an order for 117 Basic Training airplanes.

The total contract, which includes an adequate provision for supply of the necessary spare parts, amounts to \$1,432,600. These Training planes are being procured for use at the Air Corps Primary Flying School, Randolph Field, where future American military pilots are now being trained.

The Act of Congress increasing the complement of airplanes in the United States Army Air Corps to 2320 will involve a corresponding increase in the requirements for pilots. In order to meet this demand, the War Department is taking steps at the present time to provide the best possible training facilities in developing, at the Air Corps Training Center, the additional pilots required.

The basic training plane now being purchased is a great advance in design over the basic trainer which has been in use since 1930. The new basic trainer is a single-engine biplace low-wing monoplane, and is powered with the Wright R975-7, single row radial engine developing 400 horsepower. The high speed and landing speed of this plane is intermediate between that of the Primary Training planes and the modern fast combat planes in use in tactical units.

Advances in airplane design during recent years, with a corresponding increase in speed and complexity of equipment on modern aircraft, have made it more necessary than ever to provide an intermediate plane between the two.

Although somewhat slower, this plane is very similar in appearance and general handling characteristics to the modern Pursuit planes, and at the same time has the ease of maintenance, combined with sturdiness of construction which is required in a training plane.

The plane is the result of cooperation between the civilian designers, the Experimental Division of the Army Air Corps and instructors at the Air Corps Training Center, and is another proof of the effectiveness of modern American aviation.

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Albrook Field, Panama Canal Zone, needs help. The news Letter Correspondent says that anyone having a good idea for preventing Panamanian natives from tearing down the wind socks on outlying landing fields, please communicate with Lt. D.D. Graves. The natives use the socks for shirts, oddly enough.

Obituaries

CAPTAIN CHARLES H. HOWARD, AIR CORPS

An airplane accident on the night of October 25th, near Bryan's mill, Texas, cost the lives of Captain Charles H. Howard and Corporal Edward W. Gibson, Air Corps, both of whom were stationed at Langley Field, Va.

Captain Howard, who enlisted in the Aviation Section, Signal Corps, during the World War, was an efficient and capable officer, an expert pilot, and was particularly well versed in the field of radio communications.

Born at Ashland, Oregon, December 29, 1892, he attended grammar school in Oceanside, Calif.; high school in Prescott, Arizona, and was a student for two years at the University of Arizona.

During the World War he enlisted in the Signal Corps, and after serving for a brief period with Company C, 322nd Field Signal Battalion, Fort Lewis, Washington, he was transferred to Kelly Field, Texas, where he served with the 84th Aero Squadron until April, 1918, when he was assigned to take the ground school course at the School of Military Aeronautics, Texas State University, Austin, Texas. Transferred in July, 1918, to Souther Field, Americus, Ga., for his flying training, he qualified as a Reserve Military Aviator and, on November 7, 1918, he was commissioned a second lieutenant in the Aviation Section, Signal Corps, and placed on active duty with the flying department at Souther Field.

In January, 1919, Captain Howard was transferred to Love Field, Dallas, Texas, and assigned to the engineering department. He also served as Adjutant in addition to performing other duties. From September, 1921, to February, 1922, he was on duty in the aviation repair section at the San Antonio Air Depot.

During the next four years, Captain Howard's duties related mainly to radio communications. He pursued the course of instruction at the Air Service Communications School at Post Field, Fort Sill, Okla.; then the radio instruction course at the Signal School at Camp Vail, N.J., and on July 12, 1923, he was assigned to the Technical School at Chamute Field, Rantoul, Ill., for duty as Instructor in the Communications Department.

In January, 1926, Captain Howard was transferred to the Panama Canal Department, where he served for three years, being on duty with the 7th Observation Squadron at France Field for two years, and with the 25th Bombardment Squadron in the remaining year.

From Panama, Captain Howard was transferred to Rockwell Field, Calif., where he was assigned to the 11th Bombardment Squadron. He also served as Communications Officer of the 7th Bombardment Group. Later, when the Squadron was transferred to March Field, Calif., he was placed in command thereof. A noteworthy flight was performed by this organization when Captain Howard was placed in charge of the Navajo Indian Relief Expedition to Arizona in January, 1922. The Navajo Indian Reservation had been visited by a severe snow storm which isolated it from surrounding communities, and the Indians were facing starvation. The planes under Captain Howard's command carried food supplies, which were dropped at the various Indian villages. The activities of this Bombardment Squadron in transporting and dropping food supplies consumed the better part of a week, and no untoward incident occurred despite the hazardous nature of the flying, due to the extremely rugged terrain. This flight was considered the most meritorious one performed by Air Corps personnel for the year 1932, and Captain Howard, for his leadership thereof, was awarded the Mackay Trophy.

During the school year, 1933-34, Captain Howard was a student at the Air Corps Tactical School at Maxwell Field, Ala.

During the summer of 1934, Captain Howard piloted one of the B-10 Bombardment planes in the Army Alaskan Flight, from Washington, D.C., to Fairbanks, Alaska, and return. This aerial expedition of ten B-10 airplanes was commanded by Brigadier General Henry H. Arnold. The flight was completed according to a prearranged schedule in exactly one month. In addition to his duties as pilot, Captain Howard served as Assistant Communications Officer of the expedition.

Following his graduation from the Tactical School, Captain Howard was assigned to duty in the Training and Operations Division, Office of the Chief of the Air Corps. He was appointed a member of the Air Corps Radio Communications Board.

Following the establishment of the HQ GHQ Air Force, Captain Howard was transferred to Langley Field, Va., where he was placed on duty as Chief of the Communications Section with the temporary rank of Major.

Captain Howard had to his credit over 4,000 hours' flying time. He was the author of various articles dealing most interestingly and convincingly with subjects in which he particularly spe-

cialized - Bombardment Aviation and Radio Communications.

Corporal Gibson, with the exception of the year 1927, was in the military service continuously since October 3, 1923, the date he enlisted in the Air Corps. He was a native of West Virginia, and was born at Centralia on July 31, 1902. During his career as an Air Corps enlisted man, he served with the 2nd Observation Squadron in the Philippines; the 5th Observation Squadron, the 8th Airship Company, the 2nd Balloon Company and the 96th Bombardment Squadron.

The Air Corps extends its deep sympathy to the bereaved families of these men who died in the service of their country.

ALERTNESS AVERTS SERIOUS CATASTROPHE

But for the alertness of Sergeants Norris and Musser, of the 20th Bombardment Squadron, Langley Field, Va., the service test of a new type of bombing flare would have ended in tragedy.

A B-10B airplane had just been loaded with six of these flares and, during the final check of the flares on the bomb racks, Sergeant Norris detected the ticking of the timing mechanism of one of them. Quickly realizing the seriousness of the situation, and with a total disregard for their own personal safety, Sergeants Norris and Musser removed the flare and the latter started to dash away with it in his arms. Just as Sergeant Musser was about to emerge from underneath the left wing of the plane, the flare exploded, setting fire to the plane. The force of the explosion threw the Sergeant to the ground. Lieut. A.H. Rogers, the pilot scheduled for the test mission, was in the plane preparing for the take-off at the time of the explosion. In making his exit from the burning plane, he sprained an ankle.

Sergeant Musser sustained slight injuries from the force of the explosion. The fire was extinguished, but not before the left wing of the plane was destroyed.

The handling of this serious situation, says the News Letter Correspondent, was particularly noteworthy, since the plane in which the trouble developed was parked in the center of a group of six B-10B Bombardment planes and, had the fire reached a gas tank, it is very probable that all six of them would have been destroyed.

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REORGANIZATION OF THE 49TH BOMBARDMENT SQUADRON

Squadron reorganization was a matter of considerable interest in the 49th Bombardment Squadron, Langley Field, Va.,

for the past several weeks, and already the advantages accruing from the new set-up are apparent. The enlisted personnel was increased by 27 men, which greatly facilitates the maintenance of squadron ships.

Separate barracks have also been assigned, and the organization of a separate mess is being enjoyed by the men. The increase of squadron personnel was especially timely, as preparations were under way for the Fort Leavenworth maneuvers, in which the 49th was to be represented by nine B-10B's and full combat crews. The tentative take-off was planned for the morning of September 22nd.

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THE AIR DEMONSTRATION AT FORT LEAVENWORTH

The Correspondent of the Kansas City TIMES, describing the air demonstration given by the General Headquarters Air Force at Sherman Field, Fort Leavenworth, Kansas, on September 25th, states that the event was witnessed by approximately 10,000 spectators crowded on the bluff west of the Missouri River and overlooking the flats on which the field is located. The guests of Brigadier General Charles M. Bundel, Commandant at Fort Leavenworth, were seated on a natural rock ledge overlooking the entire performance.

The demonstration was under the direction of Brigadier General H.C. Pratt, Commander of the Second Wing, GHQ Air Force. All maneuvers were directed from the ground by Lieut. Colonel Carl Spatz, Executive Officer of the 2nd Wing, through the two-way radio system.

In the first event, a flight of six Attack planes attacked a marching column of troops, using a simulated mustard gas. The liquid used was lime water and spotted the blue denim clothing of the marching troops. The Attack planes were flying at a low altitude when the simulated gas was released.

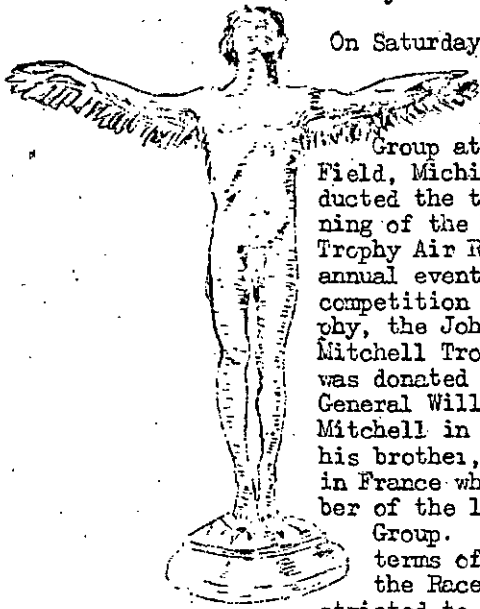
Following the gas raid, the flight of Attack planes was attacked by 18 Pursuit planes. This event gave an excellent conception of the protection which may be given a marching column of men by a squadron of Pursuit planes.

A group of targets representing an infantry battalion on the field was then bombed by nine Attack planes, each carrying twenty 30-pound bombs. The attack was made from approximately 500 feet altitude at a speed of 220 miles an hour.

Immediately after the bombing by the Attack planes, three Bombardment planes dropped nine 100-pound bombs on a circular target and then returned, dropping nine 300-pound bombs.

Organizations participating in the demonstration were the 49th Bombardment Squadron, Langley Field; 17th Pursuit Squadron, Selfridge Field, Mich.; and 90th Attack Squadron, Barksdale Field, La.

TWELFTH ANNUAL MITCHELL TROPHY AIR RACES
By the Selfridge Field Correspondent



On Saturday, October 17th, the First Pursuit Group at Selfridge Field, Michigan, conducted the twelfth running of the Mitchell Trophy Air Races. This annual event is the competition for a trophy, the John L. Mitchell Trophy, which was donated in 1922 by General William Mitchell in memory of his brother, who died in France while a member of the 1st Pursuit Group. By the terms of the gift, the Race is re-

stricted to pilots who are active members of the 1st Pursuit Group, for the purpose of fostering finer Pursuit aircraft for the pilots of our Army. The Race was formerly run in connection with the Pulitzer Trophy Races and later with the National Air Races, but since 1930 it has been held at Selfridge Field.

Numerous other events have been added to the Mitchell Trophy Race proper so that the entire afternoon designated for the Mitchell Trophy Race is filled with various events of a military nature calculated to interest and amuse both the civilian and military spectators in attendance. The Mitchell Trophy Air Race now serves a two-fold purpose:

(1) A small charge is made for admission and the money devoted to charitable purposes, being divided between the Army Relief Society and other appropriate charities, and

(2) The average citizen and taxpayer is given an opportunity to see the Army Air Corps in a few of its more interesting phases of work and thereby to become more familiar with and interested in the Army Air Corps.

The 1st Pursuit Group has been extremely lucky in the past in the matter of weather on days designated for the Race. Due to the fact that the Race involves a great deal of preparation by personnel of the Group, it has been impossible in late years to hold this Race during the summer months when good weather might reasonably be expected. The units participating are members of the HQ Air Force and have regular training to consider above and beyond the conduct of the Mitchell Trophy Races. Whoever controls the weather has been very kind on Mitchell Trophy Day in the past, but this year the Group ran out of good luck. The morning of the Race found a cold raw wind and a driving rain whipping across Selfridge Field.

The first event of the day was scheduled to start at 12:00 noon, and at that time a cold rain was still falling. However, the field already contained some fifteen or twenty thousand spectators, and it was decided to proceed with

the program rather than disappoint all these people by postponing the Race. People continued to pour into the field throughout the day in spite of the weather, testifying eloquently to the newly-awakened interest of the civil populace in the doings of the Army Air Corps.

Promptly on the dot of 12:00 o'clock, three United States Naval Reserve airplanes, Grumman F2-F1 fighters, roared out in the rain across the field, and the program was on. Extremely rough air, a high wind, and a ceiling of about 600 feet made the performance of these Naval Reserve pilots a source of great admiration and respect by all who saw their flying. This event was followed at 12:15 by the appearance of the 107th Observation Squadron, Michigan National Guard, who also performed extremely well under the same handicaps.

The next scheduled event, an acrobatic competition for Flying Cadets, was postponed until later in the day, due to the impossible weather conditions, and some of the other events were then moved up on the schedule. One event only was cancelled, namely, the Mass Parachute Jump by members of the Parachute Section at Selfridge Field. A 30-mile an hour wind made this event too dangerous for the men involved.

The acrobatic competition for the Mt. Clemens Trophy, a large bronze cup donated to the Group by the City of Mt. Clemens, Michigan, was won by Flying Cadet Paul F. Helmick, 27th Pursuit Squadron, who hails from Corvallis, Oregon. He piloted a P-26 Pursuit plane. Lieut. Colonel Ross G. Hoyt, Major Jimmy Doolittle and Major Eddie Aldrin, the latter two ex-Army pilots, who judged this event, were high in their praise of the technique displayed by young Helmick and by Cadet Jesse W. Haws, who ran him a close second.

Balloon bursting by two F-26 airplanes of the 94th Pursuit Squadron provided a good deal of amusement to the ground spectators and elicited a good deal of sympathy from the observing pilots who understood the difficulty of this maneuver in a P-26 airplane.

The 94th and 17th Pursuit Squadrons intrigued the spectators with, respectively, an exhibition of six Pursuit aircraft in open formation maneuvers and eighteen aircraft in close formation maneuvers.

Barksdale Field was kind enough to contribute to the show by sending six A-17 Attack airplanes of the 3rd Attack Group. Led by Lieut. H.M. Bailey, these Attack planes put on an excellent show, flying in close formation, simulating attacks on ground targets and dropping parachute bombs on the field. The spectators were extremely interested to notice the low altitudes and technique of these pilots. A special event was put on by Captain Harlan T. McCormick and 2nd Lieut. James O. Guthrie, of the 17th Pursuit Squadron, who staged a skit involving the efforts of a non-flyer to control the gyrations of a PT airplane as it galloped madly about the field.

Three P-26's, piloted by Lieuts. Warburton, Van Aiken and G.H. Anderson, thrilled the spectators by acrobatics and maneuvers done in

close formation, and Captain Lee Q. Wasser, Air Corps, of Headquarters Squadron, gave an exhibition of acrobatics in a P-26 which proved a source of wonderment to both pilots and laymen. Among other "stunts," Captain Wasser executed a series of maneuvers while flying with wings vertical. All "stunts" were this year performed above 1500 feet.

The speed events of the day consisted of three races, the Junior Birdmen Trophy Speed Dash, the Boeing Trophy Race and, of course, the John L. Mitchell Trophy Race. In the speed dash for the Junior Birdmen Trophy, Lieut. Joe S. Anderson, Air Reserve, flew a P-26B; 2nd Lieut. Elbert H. Schlanser, Air Reserve, a P-26A; 2nd Lieut. Elmer E. McKesson, Air Reserve, a PB-2A; and 2nd Lieut. Franklin M. Cochran, Air Reserve, a P-26C. This event was for a timed speed record, both ways over a one-mile course laid out on the flying field, and was won by Lieut. McKesson, of Richmond, Va., who attained an average speed of 251.74 m.p.h. The ship in which Lieut. McKesson won this event was a thing of beauty to behold, - every rivet, screw, and other protuberance had been taped over to improve streamlining, and McKesson and his crew chief had spent the previous several days waxing the entire airplane, with the result that the hangar floor was piled high with the bodies of flies which had alighted on the wings thereof, slipped and broke their necks. Lieut. Joe S. Anderson, of Honea Path, S.C., who won second place, attained a speed of 242.34 miles per hour.

The Boeing Trophy Race, consisting of ten laps around a ten-mile closed course in Boeing P-26A's, was won by 2nd Lieut. Eugene Brecht, Jr. of the 17th Pursuit Squadron, Brecht, who hails from San Diego, Calif., made the excellent time of 203.37 miles per hour, which was much higher than expected of these well-worn aircraft, the same planes having flown in two previous Mitchell Trophy Races and established the previous record of 216 miles per hour two years before. Second place in this event went to 2nd Lieut. Harold L. Kreider, Air Corps, of Seffner, Florida, a member of Headquarters Squadron, and third place to 2nd Lieut. Raymond P. Todd, Air Corps, of North Haven, Conn., a member of the 27th Pursuit Squadron.

When the time arrived for the Mitchell Trophy Race, the pièce de résistance of the day, the skies had cleared somewhat and, although it was rather chilly for the spectators, the weather was almost bearable. Some 40,000 people watched the running of this race, which consisted of five laps around a twenty-mile closed course in the latest type of Pursuit airplane, the Consolidated PB-2. This Race, the oldest established air race run in this country, is almost wholly a test of the pilot's skill in flying a closed course, inasmuch as each competing airplane has previously been set not to exceed a certain maximum RPM at ground altitudes. This, of course, is necessary because of the fact that these airplanes are designed to operate most efficiently at high altitude, and the constant danger of burning out the motors while racing at sea level. The Race was conducted by having each aircraft dive in turn out of a Luffery Circle across the starting line, at

which point the electric timers picked up the record of each airplane. Under these conditions it was extremely hard to tell during the conduct of the Race itself which aircraft was actually ahead during the Race. About the third lap, the time of each airplane was announced up to that point, and it became apparent that the Race was between Lieuts. Sterling, Neely and Bell. So close was the performance of the various ships that only once during the Race was any airplane passed by another. After the aircraft had landed and the times were announced, Mrs. William Mitchell, the widow of General "Billy" Mitchell, donor of the Trophy, presented it to 1st Lieut. John M. Sterling, Air Corps, of New York City, who had attained a speed of 217.546 miles an hour to break the existing record set by Major Fred C. Nelson, Air Corps, in 1934.

Second place went to Lieut. Harold L. Neely, of Huntington, Tenn., who also broke the previous record with a speed of 217.039. Third place went to Lieut. William J. Bell, of Buffalo, N.Y., whose average speed was 216.162 miles per hour.

Numerous distinguished guests braved the weather to watch the Races this year, among them being Brigadier Generals Henry H. Arnold and A.W. Robins; Group-Captain Howe, British Air Attaché; Squadron Leader Curtis of the Royal Canadian Air Force; Lieut. Colonel Ross G. Hoyt, of the Office of the Chief of the Air Corps; Major Reed Landis, war-time "Ace" with the 94th Pursuit Squadron; Mrs. William Mitchell, widow of the beloved General "Billy," who brought her small son, Billy Mitchell, Jr., to see the Races; Major "Jimmy" Doolittle, of the Shell Oil Company; Major "Eddie" Aldrin of the Standard Oil Company; Lee Gehlbach, former member of the First Pursuit Group, and a great many other distinguished guests, both from civilian and Army circles. Bad flying weather on the day of the Race kept a great many flying visitors on the ground, including the Langley Field, Mitchell Field and Washington contingents.

The Race was immeasurably helped by the cooperation and generosity of practically every newspaper, radio station and advertising bureau in the city of Detroit, also in nearby Mount Clemens. The entire program was broadcast by three different radio stations, one with a national hook-up, and was covered by such newspapers as the New York Times and the Chicago Tribune, in addition to all local news services. Short wave radio station W5XWJ, Detroit, broadcast for the benefit of foreign possessions, and the members of the Army Amateur Net. Considering the weather and the long drive to the field from Detroit, the officers of Selfridge Field feel that the crowd, which was estimated at 40,000 people, is highly indicative of the interest, not only local but national as well, which has grown up around the Mitchell Trophy Air Races. Every effort was made during the day to show, by means of displays and exhibits, not only the flying activities of the Army Air Corps, but the ground and other activities. Traffic, parking and other details of the handling of the crowds functioned perfectly.

The entire field was cleared of some 12,000 V-7135, A.C.

cars, numerous aircraft, and all pedestrians within forty minutes after the last ship had landed. In addition to making friends for the Air Corps, Selfridge Field feels that it has every right to boast of a record of twelve years of these Races in which not a single pilot or spectator has been as much as scratched, and only one aircraft has been slightly damaged. This record speaks a world of praise for the splendid work done by those officers who arrange and control the Races, but whose

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NEW RADIO EQUIPMENT FOR THE AIR CORPS.

In order to keep all concerned informed as to the progress of the purchase and installation of radio equipment for the new Air Alert Net and Radio Beacons, the following is published:

The first article, "Western Electric 14-C Transmitter," has been tested at Mitchel Field, and the contractor will now proceed with production models, which should be ready for installation about March, 1937.

There has been considerable delay in the preparation of specifications for the Radio Beacon equipment, but it is believed that all controversial points have now been cleared up, and it is expected that this equipment will be ready for installation late in the present Fiscal Year.

Several changes have been made in the plans for these installations. Since the Army's occupancy of Moffett Field is indefinite, it has been decided not to make any fixed installa-

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ENGINEERING - SUPPLY CONFERENCE

The Annual Engineering and Supply Conference was held at the Materiel Division, Wright Field, Dayton, Ohio, between October 5th and 9th, inclusive, the usual representative group of officers whose duties are in connection with engineering and supply for the Air Corps being in attendance.

The Conference was held in the Wright Field auditorium and opened on the morning of October 5th by Major General Oscar Westover, who outlined briefly the purpose of the Conference and the methods under which the present system of procurement and supply operates. Brigadier General A.W. Robins, Chief of the Materiel Division, followed General Westover's remarks with an address of welcome to visiting officers, briefly outlining the conditions under which meetings would be held.

The five days were filled to overflowing with round table discussions, lectures and visits to the engineering laboratories and supply and maintenance offices at Wright and Patterson Fields. Among the visiting officers in attendance were the following:

Major General Oscar Westover, Chief of the Air Corps.

Colonels Chalmers G. Hall, L.S. Churchill, Frank M. Kennedy and Jacob Wuest.

Lieut. Colonels J. H. Houghton and J. T. McNarney.

Majors H. G. Adams, Ames S. Albro, A. Foulk,

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names do not appear in the papers. Not once during the show did events lag. Visitors have been emphatic in their praise of this meet as the best-handled and most interesting in the country, particularly praising the zero interval of time between events.

Selfridge Field wishes to take this humble means of thanking all who helped them with the Twelfth Mitchell Trophy Air Races, and to say that they are looking forward to seeing you next year under sunny skies.

tions at that station at the present time.

The Department of Commerce plans a beacon installation near Love Field, at Dallas, Texas. Therefore, it has been decided to place a high frequency marker only at Hensley Field in lieu of a low powered beacon.

Midland, Texas, being on the present beacon routes, it is planned placing a high frequency marker at that point in lieu of a low powered beacon.

All other installations will be made as previously planned.

Funds for the procurement of low powered Airport Transmitters for various Air Corps stations have been included in the Signal Corps estimates for the Fiscal Year 1938. If these items are approved, it is hoped that the necessary equipment will be supplied early in the Fiscal Year 1938.

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C.R. Glenn, S.J. Idzorek, J.T. Morris, John P. Richter, H. Riley, A. E. Simonin, Lowell Smith, C.W. Steinmetz, Charles W. Sullivan, Ralph Walker, John Whitely.

Captains James C. Cluck, E.V. Elder, James T. Curry, E.V. Harbeck, Gilbert Hayden, Guy Hill, M.E. Tillery and J.A. Austin.

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STRATOSPHERE LECTURES POPULAR

Major Albert W. Stevens, Air Corps, of the Materiel Division, Wright Field, Ohio, has been much in demand for lectures on the now famous stratosphere flight.

On October 27th, he appeared before Augustana College, Rock Island, Illinois; on October 28th, before the Young Men's Bureau, Cedar Rapids, Iowa; on October 29th, Grinnell College, Grinnell, Iowa.

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NOTES FROM AIR CORPS FIELDS

LANGLEY FIELD, VA., October 17, 1936.

20th Bombardment Squadron: The members of this Squadron extend their welcome to 1st Lts. Thetus C. Odom and Torgils G. Wold, recently assigned to the organization for duty. Lieut. Odom has been placed in charge of Operations, while Lieut. Wold is Assistant Engineering Officer.

Flying was suspended September 1st and 2nd, in order to facilitate the reorganization of the Squadron to the self-sustaining combat unit. Several well qualified men have been added to the Squadron, and it is felt that much better work can be accomplished under this reorganization plan.

A number of service tests of bombing equipment have been carried on in the Squadron during the recent period. Very favorable results were obtained from the test of the T-2 type practice bomb, and it has been recommended for use in the service.

The 96th Bombardment Squadron has been engaged in service testing the type T-1 bombs for dispersion of bombs. Bombs have been dropped at various altitudes from 5,000 feet up, both in salvo and in train. The results as calculated to date have been quite satisfactory.

The 96th Bombardment Squadron welcomes 1st Lieut. W.A. Matheny, who was recently assigned to duty with this Squadron, having been transferred to this station from Bolling Field, D.C.

Major J.K. McDuffie, the commanding officer of the 96th, recently returned to duty after having been on extended leave of absence for several weeks.

35th Pursuit Squadron: This organization proudly announces the fact that two of our officers have received a commission in the Regular Army, namely, Lieuts. James C. Selser, Jr., and John H. Jeffus.

The back-seat drivers (gunners) are progressing rapidly in the art of peppering machine gun bullets into an aerial target. The practice runs are almost completed, and record firing will be begun soon. We hope, by the time for the next issue of the News Letter, to bring to the attention of everyone to lay off the 35th, as all rear seats will be equipped with "Experts."

36th Pursuit Squadron: As a result of the recent competitive examination held throughout the Air Corps, 2nd Lieuts. William H. Gist, Jr., and Douglas E. Williams, Air Reserve, of this organization, were fortunate in receiving two of the regular fifty commissions which were given. Congratulations, Billy and Doug, and may your work as a Regular be as excellent as that exhibited as a Reserve.

33rd Pursuit Squadron: Just when we were all elated over the appointments of 2nd Lieuts. Joseph D. Lee, Jr., and William R. Robertson, Jr., Air Reserve, and Flying Cadet Paul H. Dane, Air Corps, as 2nd Lieutenants in the Air Corps, Regular Army, and their assignment to this Squadron, and while we were happily smoking cigars that were passed out in wondrous profusion, who emerges from the smoke but 2nd Lieut. "Don" Ogden, Air Reserve, and states that from October 14th he won't be with us any more, as

he's got a job with the American Air Lines and is leaving for Fort Worth, Texas, pronto.

We're all going to miss "Don." He carries with him the best wishes for success in his new line of endeavor from all members of the Squadron.

France Field, Panama Canal Zone, Sept. 21st.

Since the arrival of Brigadier General George H. Brett, the 19th Composite Wing Commander, the Panama Air Depot has been separated from the jurisdiction of France Field and now operates as an independent unit, subject only to the Commanding General of the Panama Canal Department, through the supervision of the Wing Commander.

Lieut. Colonel V. L. Burge arrived recently to take over the Supply Department of the Panama Air Depot, vice Major F.F. Christine, who has returned to the United States. Col. Burge is temporarily in command of the Depot until the arrival of Lieut. Colonel Fred H. Coleman, who is to assume command.

Captain Theodore T. Teague, Signal Corps, arrived at France Field last month and will take charge of the installation of a radio overhaul department in the Panama Air Depot. Captain Teague recently returned from Alaska, where he has installed powerful radio stations at several points in the Alaska radio network. His experience will be a valuable and much needed asset to aerial radio communication in Panama.

Lieut. Richard J. O'Keefe, Depot Engineering Officer, left France Field last month for a course at the Air Corps Technical School at Chanute Field.

7th Observation Squadron: Four Martin B-10B's were transferred from this Squadron to the 44th Observation Squadron at Albrook Field by order of the Wing Commander for training and use of the latter squadron. The 7th Observation Squadron received four O-19C's in return. Airplanes are now evenly distributed between the two Observation Squadrons, both in type and number.

Ten officers from the 25th Bombardment Squadron are attached to this Squadron for training during the time that their B-6's are temporarily out of commission.

Personals: Captain S.V. Gusack, Medical Corps, arrived at France Field to relieve Captain Warren M. Scott, Flight Surgeon, who has left for Barksdale Field, La.

First Lieut. Elmer P. Rose left recently for his new station, Hamilton Field. Lieut. I.W. Ott is taking over his duties as 7th Observation Squadron Operations Officer.

First Lieut. James W. McCauley left recently for his new station, Barksdale Field, La. Lieut. William B. Keese is taking over his duties as Assistant Post Operations Officer.

Air Corps Detachment, Long Beach, Calif.

On October 5th, Captain Pardoe Martin, our Unit Instructor, accompanied by Major Lysle R. Baas, Air Reserve, rolled out our new BT-9, wiped off the factory dust, climbed in and took off for points south and east, their goal

being the conference of Regular Army unit instructors held in conjunction with the Air Reserve Association Conference at Oklahoma City from October 7th to 9th, arriving at Hensley Field, Texas, on October 6th, in the early afternoon, to find themselves ahead of schedule. Here was the opportunity Major Baas had been praying for all the way across the country to see "Casa Manana." The Major reports that anticipation was not greater than realization and now he has in mind the introduction of a particularly noteworthy feature when the next Club dance is held at the Base.

The bad weather at Oklahoma City stopped all of the flights from getting in on the 7th, but the soup lifted a little about noon on the 8th, and Captain Martin turned his BT-9 northward, arriving at Oklahoma City just before 3:00 o'clock. The reception committee of City Fathers informed Captain Martin and Major Baas they were the first conferees to arrive. However, the delay had not dampened the far-famed mid-western hospitality - refreshments and entertainment.

Captain Martin reports a most interesting meeting of the Unit Instructors, at which there were present Major General Oscar Westover, Lieut. Colonel Robert L. Walsh and Major Roland C.W. Blessley. It is believed that from this conference will evolve a more constructive program for the training of Reserves - a program which will recognize the vital importance of a well trained Reserve. Major Baas sums up the objective of the Air Reserve Association conference briefly in five points: first, a representative in the Chief's Office; second, new equipment; third, increase in flight radius; fourth, hospitalization; and fifth, increased hours of flying with pay for inactive duty flying.

With further reference to our BT-9; its arrival here at the Base has to a certain extent revived the dying interest of the Reserve officers and somewhat lifted their despair of ever getting some flyable equipment. (If by any chance someone should mention this to the "Chief," please say that we want about six of these BT-9A's t-e-r-r-i-f-i-c-a-l-l-y, here at the Army Air Base in Long Beach). The little ship has made a splendid record on its maiden voyage, averaging around 150 m.p.h. It is a very spirited "animule," and the pilots are stepping on each other's toes to get at it.

Moffett Field, Calif., October 15th.

Major Harold Beaton flew Moffett Field's sole airplane, a PT-3A, to the Rockwell Air Depot for overhaul, on October 8th. From Rockwell Field Major Beaton departed on leave before sailing for Honolulu.

Major Finley attended the Officers' School at March Field from October 1st to 15th.

Service on the Moffett Field-Mountain View Railway was inaugurated October 5th, with Master Sergeant Louis Bartelloni, QMC, Engineer; Tech. Sgt. Bernard Jeffreys, F.D., Conductor, and Tech. Sgt. Witsch, Air Corps, Brakeman, as the initial crew. The new locomotive, an 8-ton gas burner, is the property of the Quartermaster Corps.

In connection with the celebration of Reorganization Day by the 19th Airship Squadron on

September 25th, reference to which appears elsewhere in this issue, the history of this organization would not be complete without a few words concerning its athletic achievements. As a sound mind and body are the best foundation upon which to build a soldier and organization, the unit has long encouraged participation in athletics, in some form or another, of all members. While at Langley Field, the 19th won the baseball championship of the post for seven consecutive years, and always provided a large part of the post team. Last year, seven of the Squadron team were placed on the Langley Field post team, which finished in a tie for the 3rd Corps Area championship. Since moving to Moffett Field, however, the Squadron has no natural rivals to keep up its competitive spirit. The Club has succeeded in winning 29 games while dropping 15 with the strongest collegiate and semi-pro teams in California. Private Weiler achieved considerable fame when he pitched a no-hit game against the Emeryville Tire Team, rated one of the best in this section of the country.

The Squadron entered the Mountain View Night Ball League and, despite a shaky start, managed to win the League Championship and place in the semi-finals in the play-off series held at San Jose. Although the Squadron was without a basketball squad last season, due to the absence of a practice floor, the men have turned out this year to bolster the post squad for the coming season, although it is necessary to leave the post for practice. Tennis courts and volleyball courts have just been completed and made available for play.

Hawaiian Air Depot, Luke Field, T.H., Oct. 6th.

Considerable progress has been made toward the civilianization of the Hawaiian Air Depot since the beginning of the present fiscal year. The employment of approximately 20 additional civilian employees has made possible the relief from the Depot of about 30 enlisted men, with an additional ten scheduled to return to their organizations during the current month. The percentage of enlisted men relieved from the shops proper is even greater than indicated by the above figures. However, the assignment of two Douglas amphibians to the Depot necessitated the formation of the necessary crews therefor, and the procurement of additional motor transportation also necessitated the detail of additional men to the Transportation Unit. Actual figures indicate that 24 percent of all enlisted men assigned on July 1st have been relieved, and the decrease in the Engineering Section has been 35 percent.

Brigadier General Barton K. Yount, the newly arrived Wing Commander, recently made an inspection of the Depot. General Yount visited every Department and went over the entire plant thoroughly, expressing himself as being pleased with the general appearance of the Depot.

Mr. H.L. Cowan, Chief Clerk of the Engineering Section, has accepted a position with the Pioneer Sugar Company, Ltd., at Lahaina, Maui. He will enter on his new duties November 1st.

Mr. Bernard M. Johnson, Principal Property and Supply Clerk, long an employee of the Depot Supply Department, has been transferred to the Engineering Section to act as Chief Clerk, re-

placing Mr. Cowan.

Lieut. Franklin S. Henley, Assistant Depot Supply Officer, and his bride are enjoying a two-weeks' honeymoon at the Kilauea Military Camp on the Island of Hawaii.

Mr. Earl M. Baker, Warehouse Superintendent, is now on the mainland on a combined business and pleasure trip. While in California, Mr. Baker expects to take unto himself a bride, following which he will make an inspection tour of the mainland Air Corps Depots. During Mr. Baker's absence, Mr. Rodney M. Davis, Chief Inspector of this Depot, is acting as the Warehouse Superintendent.

Mr. Hugh C. Simpson, of the Engine Repair Branch, has obtained a position with the Inter-Island Airways, Ltd.

A.C. Detachment, Municipal Airport, Oakland, Cal.

The activities of the Air Corps Detachment at the Oakland Airport during the past several weeks included many hours of checking out of Reserve pilots in BT-9 airplane by Captain Henry, Unit Instructor.

On October 6th, Captain Henry departed for the Unit Instructors' Conference at Oklahoma City, via B-10, to March Field, and thence by P-12 the rest of the way, returning to Oakland on October 12th.

Major Frank A. Flynn, Air Reserve, Observer, and 1st Lieut. John F. Turner, Air Reserve, pilot, left this station October 6th in our new BT-9 for the Air Reserve Association Convention at Oklahoma City, returning October 12th. Outside of some gobs of Oklahoma mud, the BT-9 had a good clean record upon returning home.

Lieut. Colonel Livingston G. Irving, Air Reserve, was on 14 days' active duty status from October 5th to 18th, inclusive, and was the Commanding Officer during the absence of Capt. Henry. Colonel Irving is a well-known war-time pilot with a record of many engagements in France. The Colonel has steadily taken part in Reserve activities for over ten years and is ready to hop in any and all planes just to show that a decade or two of flying has not slowed him down.

This station received a new O-46A airplane from Fort Lewis for use of the Commanding General, 9th Corps Area. Great difficulty is being encountered in convincing some of our pilots that the O-46A was not intended to help out our fancy little BT-9.

Avid interest is shown by practically all Reserve pilots in future deliveries of the BT-9's thereby showing a marked lack of appreciation for the honest and faithful service of the tried and true PT-3A's.

Scott Field, Belleville, Ill., October 20th.

First Sergeant Ewald Davids, 9th Airship Squadron, and Mrs. Davids recently returned from a furlough, during which time he visited Germany, Switzerland and Austria.

Sailing from New York City aboard the "Deutschland," Sergeant and Mrs. Davids disembarked at Hamburg. From Hamburg they circled around through Germany, visiting old castles, museums and other interesting places at Hanover, Cologne, Coblenz, Bingen, Mainz, Frankfurt-on-the-Main, Stuttgart, Ulm, Friedrichshafen;

Luzerne and Zurich, Switzerland; Bregentz, Austria, Nuremberg, Leipzig, Berlin and back through Hanover to Hamburg.

From Hamburg, Sergeant Davids and his wife went to visit his birthplace on the island of Fehmarn, situated between Denmark and Germany, in the Baltic Sea.

As a German soldier, Sergeant Davids was once stationed at the now obsolete Ehrenbreitenstein fortification near Coblenz, and was once on special duty as a student at the Zeppelin manufacturing works at Friedrichshafen.

Sergeant Davids joined the Infantry branch of the United States Army in 1914 and served throughout the war in Panama and other southern stations. He transferred to the Air Corps branch in 1922 and has served in the following organizations: 8th Airship Company, Scott Field, Dec. 1922 to Dec. 1926; 66th Service Squadron, Nichols Field, P. I., Dec. 1926 to Oct. 1927; 96th Bombardment Squadron, Langley Field, Va., several months; 9th Airship Squadron, Scott Field, June, 1928, to the present time.

Major Oakley G. Kelly, Air Corps, of the Fairfield Air Depot, made a technical inspection at Scott Field October 19th through the 21st.

San Antonio Air Depot, Texas, October 20th.

Colonel J.W.S. Wuest, Commanding Officer of the Rockwell Air Depot, Calif., and Majors S.J. Idzorek and J.T. Morris of that Depot, were visitors at this Depot October 12th, passing through on their return by air from the Materiel Division Supply and Engineering Conference at Wright Field, Ohio.

Major J.G. Williams, piloting a C-33, and Tech. Sgt. D.M. Swisher and Pvt. J.M. Treweek and T.S. Davis, Jr., ferrying a PT-11D, an O-43A and a P-26A, respectively, to this Depot for overhaul, were visitors from the Fairfield Air Depot, Ohio, October 11-12, all returning to their home station in the C-33.

Lieut. Colonel Morris Berman, Depot Executive Officer, and Major J.P. Richter, Chief Depot Engineering Officer, returned October 12th from the annual Materiel Division Supply and Engineering Conference at Wright Field. Major J.M. Clark, Depot Supply Officer, returned from this Conference October 14th, by way of the Middletown Air Depot, and Langley, Maxwell and Barksdale Fields, where he conferred on Air Corps supply and equipment matters. Major A.S. Albro, Technical Supervisor of the San Antonio Air Depot Control Area, who also attended the Materiel Division Conference, was unfortunately taken severely ill while there and has been a patient in the Walter Reed General Hospital, Washington, since that time.

Lieut. M.H. Warren, Assistant Depot Supply Officer and Supply Officer of the 3rd Transport Squadron, took off from the Depot October 9th in a Transport, with Private, 1st Class, C.B. Hetherington as mechanic, transporting certain medical equipment from the School of Aviation Medicine, Randolph Field, to St. Paul, Minn., for use at an exhibit at the Interstate Medical Association Meeting at St. Paul, and returned October 12th.

Captain A.T. Economy, Air Reserve, reported on V-7135, A.C.

October 19th for a two-weeks' active duty training tour at the Depot. In civil life, Captain Economy is Foreman of the Electrical Unit in the Engineering Department of this Depot.

Colonel J.H. Howard, the Depot Commander, flew down to Corpus Christi, Texas, on October 16th to witness the recent field exercises there of the 12th Observation Group of Brooks Field, and to confer with the Group Commander on problems of Air Corps supply and maintenance in that connection. While there, he enjoyed luncheon at the Officers' Mess as the guest of the Group Commander.

Privates John Gebelin, Jr., and L.P. Kleineder, pilots of the 3rd Transport Squadron, were among the Air Corps Reserve officers recently selected for active duty as Second Lieutenants, and were transferred, the former to Selfridge Field, Mich., on October 9th, and the latter to Brooks Field, Texas, on October 14th. They were discharged at those stations and placed on active duty under their Reserve commissions. The 3rd Transport Squadron has also lost Sgt. J.I. Hilelson, who was transferred to the 2nd Transport Squadron, Middletown Air Depot, October 6th, and Private L.E. Miller, transferred October 12th to the 2nd Battalion, 77th Field Artillery, Fort D.A. Russell, Texas.

Hamilton Field, San Rafael, Calif., Oct. 15.

Captain Raymond Morrison has been advanced to the rank of Major.

Two Reserve officers, Louis W. Proper and George E. Pierce, together with Flying Cadet John M. Reynolds, were appointed 2nd Lieutenants in the Regular Army Air Corps.

31st Bombardment Squadron.— Activities have centered around the Navigation School now being conducted in the Squadron. The students have advanced beyond the text book stage and are now flying problems with fair success.

11th Bombardment Squadron: During the visit of the GHQ Inspector, this Squadron participated as part of the Group in a line inspection and demonstration in bombing and machine gunnery. It was first planned to bomb and machine gun a target of aluminum slick placed on the water about ten miles off Point Reyes, but owing to foggy conditions this plan was abandoned, the Group using the secondary target in San Pablo Bay instead.

The personnel of this Squadron, both officers and enlisted men, are quite interested in sports, devoting any available spare time to excellent use on the badminton courts and playing the increasingly popular game of soft-ball.

Headquarters and Headquarters Squadron: Since the reorganization of the GHQ Air Force on September 1st, the personnel of Headquarters Squadron have been well occupied adjusting themselves to the new set-up. The strangeness of new locations and the variance from the former familiar systems having worn off, the Squadron is now functioning smoothly.

This Headquarters is in receipt of a letter from Brigadier General Delos C. Emmons, Wing Commander, 1st Wing, GHQ Air Force, March Field, Calif., commending 1st Lieut. Charles G. Williamson on his article 'Bombardment Technique'. A bit of the letter is quoted, as follows:

'This article indicates a high degree of profes-

sional interest and a large amount of study and investigation by you. Work of this nature by individuals and organizations is of great value in the development of proper technique and tactics for the Air Corps, and will be encouraged, and those responsible given full credit in all cases.'

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TECHNICAL INFORMATION AND ENGINEERING NEWS Air Corps Materiel Division

Fuse Requirements:

Recommendations have been submitted for revision of fuse requirements for all types of airplanes, to eliminate the use of large and heavy fuses.

Life-Preserver Cushions:

An Engineering Section Memorandum Report furnishes information for service test of Type A-5 life preservers. This life preserver is designed in the form of a circular ring constructed with a 12-ounce cotton duck fabric casing and filled with 2 pounds of kapok, providing 17 pounds' Buoyancy. A 75-ft. 3/16-inch Manila rope lanyard is attached to this life preserver. A 1 1/4-inch linen webbing strap is provided for attaching the life preserver to the airplane.

Mechanics' Caps:

An Engineering Section Memorandum Report furnishes information for service test of the Type A-2 mechanics' caps. This cap is fabricated with a single thickness of mercerized cotton fabric. The design of this type cap is similar to the conventional type dress cap, except that it contains an adjusting strap on the front and a removable stiffener in the visor.

Night Lighting Installations:

Two representatives from the Materiel Division departed on October 5th, 1936, for Lawson, Pope, Langley, Phillips and Mitchel Fields, and Washington, D.C., for the purpose of conference regarding night lighting installations at the various fields, and to confer with representatives of the Office, Chief of the Air Corps, Washington, D.C., regarding the night lighting program for the Fiscal Year 1937.

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BIDS OPENED AT THE MATERIEL DIVISION

The Lockheed Company was the only bidder in answer to Circular Proposals issued by the Materiel Division for the procurement of Transport passenger bi-motored airplanes. Bids were opened on October 26th. Quantities upon which bids were based were from one to five airplanes. The Lockheed Company's prices covered four modifications in the model offered. The low bid for one airplane without engine was \$43,286.00. The low bid for five airplanes of the same model, without engine, was \$35,298, each.

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OFFICERS' MESS - MARCH FIELD, CALIF.

▷ air corps ▷

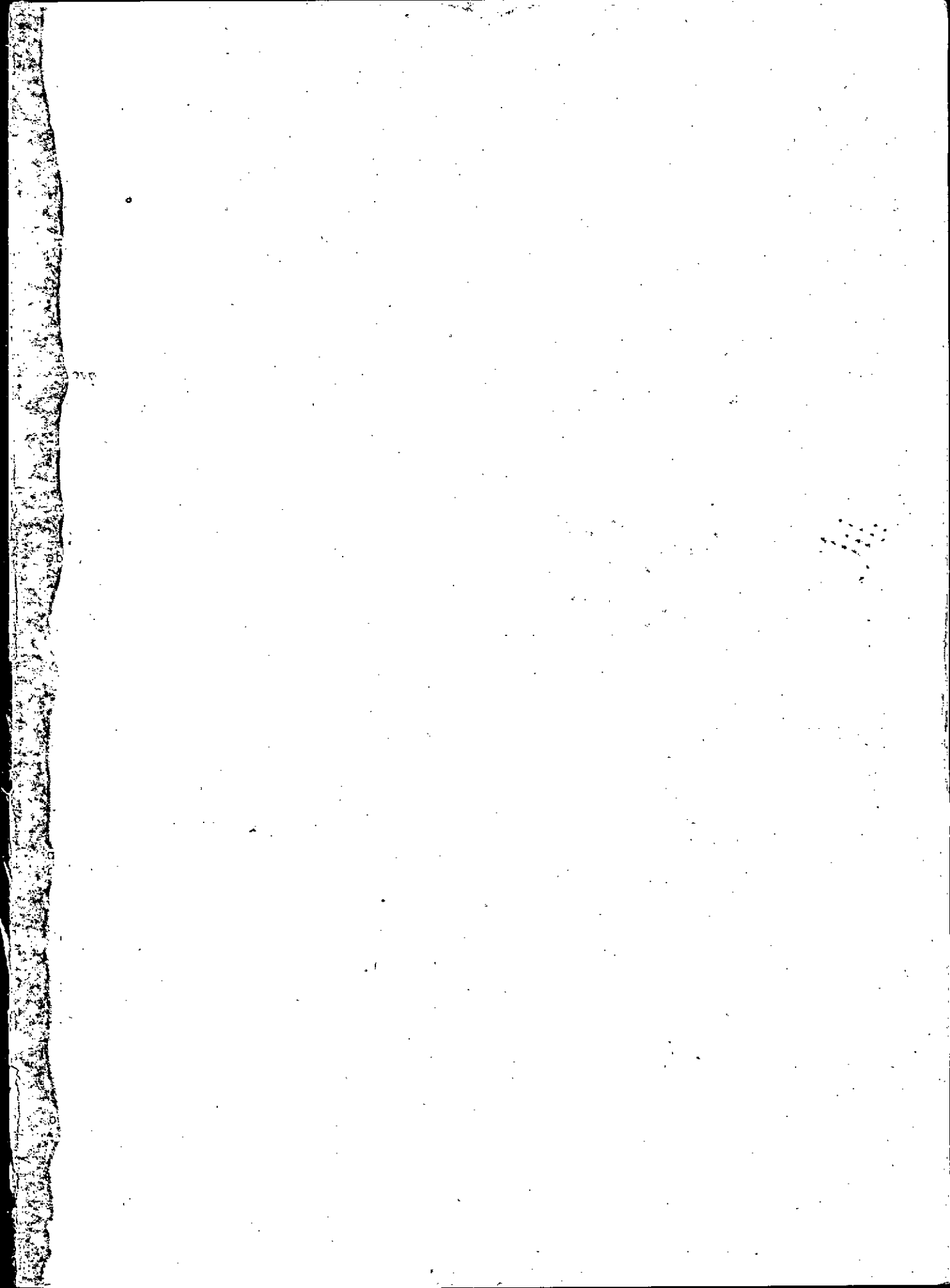
NEWS LETTER

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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COUNTING SHEEP FROM THE AIR

By the Luke Field Correspondent

The Army Air Corps in Hawaii has from time to time attracted attention by co-operation with civil authorities in such activities as sowing seed from the air in connection with reforestation and soil conservation; the bombing of dangerous lava flows, as in December, 1935; searches for persons lost in the mountains of Oahu; or for missing airplanes, as, for example, the search for the Australian aviator, Ulm, etc.

The latest project of this nature has been the counting of sheep on the slopes of Mauna Kea, on the Island of Hawaii, for the local forestry service.

Domestic sheep, escaping from lowland corrals, find their way to the upper levels, between seven and eight thousand feet altitude, and cause great destruction to the young struggling timber growth, resulting in increasing erosion. Periodic round-ups are organized to drive these sheep to the lower levels where they are slaughtered but, owing to the distances involved and the rugged nature of the terrain, this work is very laborious, due in particular to the altitude. For lack of information as to the location of the largest herds,

the drives are often ineffective.

In order to overcome the latter difficulty, the Chief Territorial Forester, Mr. C. S. Judd, recently requested that the Army Air Corps make a reconnaissance of the slopes of Mauna Kea with a view to determining the localities in which the majority of the wild sheep are collected and to estimate their number. In response to this request, three B-12A airplanes of the 4th Observation Squadron flew to Hawaii on the morning of October 6th. Dividing the area into zones, the planes flew around the mountain, each at a different elevation, and then returned to Luke Field.

The flight leader, 1st Lieut. Fay R. Upthegrove, Air Corps, reported it was very difficult to estimate the number of sheep with any degree of accuracy, due to the rough terrain and the undergrowth. They were able to determine, however, that the largest flocks were located on the southwestern side of the mountain, and plans which are being laid for a forthcoming drive will be directed to that locality. It is estimated there are at present in the neighborhood of 40,000 so-called wild sheep on the mountain slopes.

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CAPTAIN ARMSTRONG WINS HENRY S. WELLCOME MEDAL AND PRIZE

Captain Harry G. Armstrong, Medical Officer in charge of the Physiological Research Laboratory at Wright Field, Dayton, Ohio, has been announced the winner of the Henry S. Wellcome gold medal and a cash prize of \$500, as the author of the best paper submitted in a contest, the subject being "The Importance of Coordinating the Military and Naval Medical Services with the Civilian Medical Profession."

This competition was open to all Medical Department officers, Acting Assistant and Contract Surgeons of the Army, Navy, Public Health Service, Organized Militia, U. S. Veterans' Administration, U. S. Volunteers, and the Reserves of the United States, commissioned medical officers of foreign military services, and all members of the Association of Military

Surgeons of the United States. The length of the essay was fixed at between 3,000 and 10,000 words.

Captain Armstrong's essay will be published in the "Military Surgeon," which is the organ of the Association of Military Surgeons. The award will be presented at the Convention of the Association of Military Surgeons in Detroit.

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Much attention and comment has been occasioned by the installation of a new "Wind Indicator" at the Advanced Flying School, Kelly Field, Texas. The Indicator is equipped with electric lighting and is a standard piece of equipment, having been designed by the Air Corps Materiel Division. Everyone views it with much favor.

V-7150, A.C.

CODE INSTRUCTION FACILITIES AT AIR CORPS TECHNICAL SCHOOL
By 1st Lieut. F.A. Allen, Air Corps

The Department of Communications of the Air Corps Technical School, Chamute Field, Rantoul, Ill., is highly pleased with the modern equipment it is using in connection with Code instruction. The entire system is so simple, yet so flexible, that it is possible for two instructors to handle up to three hundred students a day without confusion or loss of efficiency.

Five letter Code groups and press transmissions, all at various speeds, are furnished by five automatic, tape controlled transmitters. A key board type tape perforator is employed for "cutting" all tapes for use with the automatic transmitters. Direct current power for the operation of the automatic transmitters and alternating current tone are supplied by two specially designed motor generator sets, one of which is constantly in use while the other is retained as a spare. Long and short wave receivers are employed to intercept actual radio traffic which is distributed to the advanced student positions. The "Ink Recorder," a special visual recording machine, enables the instructor to make a graphic record of any student's sending; individual sending ability may also be checked by wax cylinder recordings on an Ediphone. By means of the ink recorder and the Ediphone, it is possible to show the student his transmitting mistakes both visually and aurally.

Present facilities provide for the simultaneous training of 104 students; 84 of these can be accommodated in the main Code room, while the remaining 20 are handled in the Code room annex. The 104 student positions are organized into smaller groups of 20 or less positions, and the various headphones and keys in each group are connected to standard BD-57 switchboards furnished by the Signal Corps. These switchboards are used exactly as supplied with the exception that the tone alternators built into each switchboard are not employed. In the front of the room, near the Code machines, is installed a locally fabricated master distribution panel on which is mounted essentially nothing but telephone jacks. Installed adjacent to each of the BD-57 switchboards is a small panel on which is mounted either three or four jacks which are connected by twisted pair "program channels" with the master distribution panel. The only connection between the Code machines at the front of the room and the seven BD-57 switchboards is through the medium of nineteen twisted pairs. "Patch cords" are employed at the main distribution panel to connect any Code machine to any one or more of the nineteen program channels terminating at the seven local BD-57 switchboards. Patch cords are again used be-

tween the program jacks located adjacent to each BD-57 and its corresponding switchboard.

With the above described installation, the following is possible:

- (1) Send simultaneously any five different Code speeds to any selected groups of students provided not more than three different speeds are dispatched to any one of the seven local BD-57 switchboards.
- (2) Intercept actual long, medium, or short wave transmissions by means of radio receivers and dispatch the receiver output to any student position or group of positions.
- (3) Actual static can be tuned in on a receiver and superimposed on the output of any automatic transmitter to give students practice in reception through interference.
- (4) The sending practice of any selected student can be amplified and reproduced by loud speaker so that all students in the Code room can hear it.
- (5) The sending practice of any selected student can be recorded on the ink recorder, thus providing a permanent visual record, on paper tape, of that student's sending ability.

The system is so simple and flexible that, as Senior Code Instructor, Tech. Sergeant Claude G. Waters, puts it - "Every day I discover it will do something else." Although the new system has been in use for over a year, during which time almost two hundred students have been handled, no major improvements have been conceived which would materially change the existing system.

When a new student is assigned to the Department of Communications, he is administered a Code Aptitude Test, developed by the Signal Corps. This test is designed to measure the ability of an individual to learn the Code; in general, a high score on the Code Aptitude Test is an indication of a student's ability to learn the Code rapidly. In its present form the test consists of seventy-eight pairs of Code groups whose similarity or dissimilarity the student indicates by underlining a "Yes" or "No" on the test sheet. The test is contained on phonograph records and it may be given in about 20 minutes; no previous knowledge of the Code is necessary.

All beginning students are also tested to determine their initial Code speed and Typing speed; students whose knowledge of the Code is sufficiently advanced do not take the primary phases of Code instruction, while students who can type by touch at the rate of 20 words per minute or better are excused from all typing in-

struction. When any student attains a Code speed of 12 words per minute, copying by pencil, he is required to copy Code reception by typewriter. From this time on he practices copying by pencil and typewriter, spending alternately a week on each method until he is able to copy 16 words per minute by either method. He is then transferred to a 20 word per minute table, where he uses only the typewriter for copying. When students become proficient in the use of the hand telegraph key for transmitting, they are taught how to use the "bug," a semi-automatic, manually operated key enabling them to transmit at speeds greater than 20 words per minute.

During school year 1935-36, the average entering speed of 180 students was 6 words per minute, the average Code aptitude was 56, and the average student attained a speed of 21 words per minute in 165 hours of instruction.

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NAVIGATION INSTRUCTION IN 88TH SQUADRON

Four student navigators completed the ground school course in Celestial Navigation in the 88th Reconnaissance Squadron, Hamilton Field, Calif., on October 9th. Flying training in both dead reckoning and celestial navigation is progressing as rapidly as limited equipment will permit. Those who have completed the ground school course are Second Lieuts. G.E. Pierce, Air Corps; W.W. Pannis and L.A. Walker, Air Reserve, and Flying Cadet H.F. Bronson.

Records of accuracy in E.T.A. (estimated time of arrival) and course errors are being kept, and the instructor, 1st Lieut. Richard C. Lindsay, Air Corps, states that very satisfactory progress in arriving at the requirements of the GHQ Training Directive is being shown.

Major Newton Longfellow assumed command of the 88th, on October 8th, relieving Major Clarence P. Talbott, who took up the duties of S-3, Hamilton Field Air Base Headquarters.

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BOMBING UNDER NEW TRAINING REGULATIONS

The 9th Bombardment Squadron, Hamilton Field, Calif., has completed its bombing to determine bombardment patterns, and for the past two weeks has been bombing under the new TR 440-40 (tentative).

Lieut. Dale O. Smith holds low score for practice with a mean radial error of 8.4 mils at 7,000 feet, at a cruising speed of 167 miles per hour.

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Lieut. Colonel Calvin E. Giffin relinquished command of the 5th Air Base Squadron, Hamilton Field, Calif., on October 26th to take the position of Base Inspector. He was succeeded by Maj. Edward C. Black, recently of Langley Field.

FIELD MANEUVERS FOR RADIO STUDENTS

Students of the 18th Composite Wing Communications School, Luke Field, T.H., were recently engaged in "field maneuvers" for four days. The class was divided into six teams, each team operating a field radio set. The instructors, Corporal Dickson and Private Pound, were kept quite busy the first two days but had little to do afterwards as the students finally got the hang of it. After spending the first day in the hot sun, station operators soon learned that the shady side of a tree was a much cooler place to set up a station. The school is under the direction of 1st Lieut. Daniel A. Cooper, Air Corps, who feels that the class will turn out some A-1 operators and mechanics on graduation in November.

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BOARD MEETINGS AT MATERIEL DIVISION

The month of October at the Materiel Division of the Air Corps, Wright Field, Dayton, Ohio, was particularly marked by a multiplicity of Aircraft Board meetings. Three convened on October 12th.

A Board to evaluate the Corps and Army Observation airplanes as to utility, type and performance characteristics consisted of the following named officers:

Major F.H. Pritchard, Scott Field.

Major W.B. Souza, office of the Chief of the Air Corps, Washington, D.C.

Major T.W. Blackburn, National Guard Bureau, Washington, D.C.

Major George C. McDonald, Mitchel Field.

Lieut. J.O. O'Hara, Brooks Field.

Captain Stanley M. Umstead, Wright Field.

Douglas and North American were the two Observation airplanes under consideration.

The second Board convened to draw up recommendations for the consideration of the Chief of the Air Corps regarding the practicability of adopting an all-purpose airplane for student training at the Primary Flying School. This Board was composed of Majors L.R. Hewitt, R.D. Knapp, Captains O.P. Weyland and W.G. Bryte.

All the officers, except Major Hewitt, were from Kelly Field, Major Hewitt being stationed at Randolph Field, Texas.

The third Board convened for the purpose of passing upon and testing instrument landing equipment. The officers serving were Lieut. Colonel A.H. Gilkeson, Langley Field; Lieut. M.L. Harding, Hamilton Field; Major C.M. Cummings, Captains J.S. Griffith and G.V. Holloman, Wright Field.

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Captain Clarence C. Wilson, Air Corps, was appointed to the temporary rank of Major on November 9, 1936.

V-7150, A.C.

War

Announcement was recently made by the War Department of the awards of the Distinguished Flying Cross to Captains Frank G. Irvin and John S. Griffith, Air Corps, U. S. Army, with the following citation:

"Frank G. Irvin, Captain, Air Corps, United States Army, and John S. Griffith, Captain, Air Corps, U. S. Army. For heroism while participating in an aerial flight from Wright Field, Ohio, to Indianapolis, Indiana, July 22, 1936. While making a carbon monoxide test flight of a new Army airplane at an altitude of 2,000 feet, the engine burst into flames and smoke. Captain Irvin, the pilot, and Captain Griffith, co-pilot, without thought of themselves directed the crew of observers to jump and then by switching gas valves and using fire extinguishers succeeded in extinguishing the fire, thereby preventing not only possible loss of life but destruction to valuable government property."

The War Department recently announced also the award of the Soldier's medal to Staff Sergeant Willie D. Norris and Sergeant Wayne M. Musser, Air Corps.

The citation in the case of Sergeant Norris, chief armorer, 20th Bombardment Squadron, General Headquarters Air Force, United States Army, is as follows:

"For heroism displayed at Langley Field, Va., August 31, 1936. Staff Sergeant Norris and Sergeant Wayne M. Musser set and installed the time fuses on six large experimental flares; hung them from the bomb bay racks of an airplane and withdrew the safety pins from the flares. Hearing a noise diagnosed as the time fuse functioning, Staff Sergeant Norris directed that they (Sergeant Musser and Staff Sergeant Norris) unlatch the ticking flare and carry it to a place of safety. Staff Sergeant Norris held the flashlight while Sergeant Musser unlatched the ticking flare and ran with it in his arms towards the flying field. He reached a point about twenty feet from the bomb bay when the flare exploded, shooting the burning flare back toward the airplane under the left wing near the fuselage where the intense heat ignited the wing. The heroic and timely action of Staff Sergeant Norris prevented the possible loss of human life and undoubtedly great destruction to valuable government property."

In the case of Sergeant Musser, Armament Section, 20th Bombardment Squadron, General Headquarters Air Force, United States Army, the citation is as follows:

"For heroism displayed at Langley Field, Virginia, August 31, 1936. Sergeant Musser and Staff Sergeant Willie D. Norris, Chief Armorer, set and installed the time fuses on six large experimental flares; hung them from the bomb bay racks of an airplane and withdrew the safety pins from the flares. Hearing a noise diagnosed as the time fuse functioning, Sergeant Musser unlatched the ticking flare and ran with it in his arms towards the flying field. He reached a point about twenty feet from the bomb bay when the flare exploded, shooting the burning flare back toward the airplane under the left wing near the fuselage where the intense heat ignited the wing. The pilot having sprained his ankle in his attempt to escape from the burning plane, lay dangerously near the flames. Sergeant Musser, seeing his plight, assisted in carrying him to safety. The heroic and timely action of Sergeant Musser prevented the possible loss of human life and undoubtedly great destruction to valuable government property."

So far as jumping with a parachute is concerned, Captain Irvin knows what it is all about, for he is a member of the mythical Caterpillar Club, into which he was initiated on July 13, 1934. At that time, while on duty in his present position as test pilot at Wright Field, Dayton, Ohio, he was flight testing a Pursuit airplane equipped with skis to ascertain the effect of this type of landing gear on the plane's maneuvering ability and stability in flight. During the course of a dive, the ski mechanism went awry and, despite all efforts of the pilot, he was unable to bring the plane into a level flying position. The plane continued in the dive at a speed of between 280 and 300 miles per hour, and, after losing about 1500 feet altitude, Captain Irvin "bailed out."

Captain Irvin was born at Greencastle, Indiana, June 21, 1902. He graduated from DePauw University in 1924 with the degree of A.B. Appointed from civil life a second lieutenant in the Regular Army, June 30, 1925, he served with the Infantry until September, 1926, when he was detailed to the Air Corps for flying training. Graduating from the Primary Flying School, Brooks Field, Texas, February 26, 1927, and from the Advanced Flying School, Kelly Field, Texas, where he specialized in Pursuit Aviation, on August 1, 1927, he was rated "Airplane Pilot" and assigned to duty with the 1st Pursuit Group at Selfridge Field, Mt. Clemens, Mich.

Captain Irvin was stationed at Selfridge Field until June 24, 1929, serving with the 27th Pursuit Squadron. He was then transferred to Kelly Field, Texas, where he served with the 43rd School Squadron for one year and then until May 11, 1934, as flying instructor at the Advanced Flying School. From Kelly Field, Captain Irvin was transferred to Wright Field for duty as test pilot.

Captain John Sharpe Griffith, Air Corps, is a veteran of the World War, serving with considerable distinction during that great conflict, as evidenced by the fact that he bears the unofficial title of "Ace," and was the recipient of the Distinguished Flying Cross and bar (British); Order of Grand Duke Vladimir, Order of St. Anne (Russia).

Born in Milford, Delaware, November 26, 1898, Captain Griffith graduated from the University of Washington in 1917. Immediately following his graduation, he joined the British Army, serving during and after the war with the British Royal Flying Corps and the Royal Air Force from July, 1917, to January, 1921, as a 2nd Lieutenant, then as 1st Lieutenant and Captain. Prior to going overseas he attended ground school in Canada, and he received his flying and gunnery training in English schools. He was on flying duty in England, France, Russia and Egypt. During the period of hostilities he was a member of the 60th Squadron, Royal Flying Corps, for nine months in France, 1917-1918; and of the Royal Air Force for nine months in Russia in 1919. During his war flying he was officially credited with the destruction of nine enemy aircraft (7 airplanes and 2 balloons). He accumulated over 800 hours' flying time during his service with the British air arm.

Captain Griffith applied for transfer to the American Air Service, but before the necessary formalities could be completed the Armistice was signed. Resigning from the British Royal Air Force in 1921, he returned to the United States, and in November, 1921, passed the examination for a commission as 2nd Lieutenant in the U.S. Army. For a short time he was assigned to the Infantry. His application for detail to the Air Service being approved, he was assigned as student at the Primary Flying School at Brooks Field, Texas, to take a refresher course in flying, November 23, 1922. Graduating in May of the following year, he was transferred to the Advanced Flying School, Kelly Field, Texas, where he completed the advanced course (specializing in Pursuit) and graduated January 31, 1924. He was rated "Airplane Pilot," effective February 16, 1924.

Retained at Kelly Field for duty as flying instructor until October, 1925, Captain Griffith was then transferred to the Hawaiian Department, where he served

with the 19th Pursuit Squadron at Luke Field as Engineering Officer for 13 months; as Assistant Armament Officer and Adjutant for 5 months and as Operations Officer for 3 months. Towards the end of his tour of duty in Hawaii he was on duty for 4 months at Wheeler Field as Assistant Operations Officer of the 18th Pursuit Group.

Returning to Kelly Field on October 19, 1928, Captain Griffith was on duty as Flying Instructor at the Advanced Flying School for 16 months; Assistant Post Operations Officer for 3 months, and Instructor at the School for Flying Instructors at Duncan Field, San Antonio, for two months. At his next station, Selfridge Field, Mich., where he reported on August 1, 1930, and was assigned to the 17th Pursuit Squadron, he served as Operations Officer for 5 months; Ordnance Officer, 2 months; and with the 1st Pursuit Group as Information Officer for 17 months; Adjutant, 3 months; and Operations Officer for one year.

On June 29, 1932, Captain Griffith again returned to his old stamping ground, Kelly Field, where he served as Flying Instructor at the Advanced Flying School and Commander of Flight "A" of the 43rd School Squadron. While assigned to Kelly Field, he was on detached service at various periods, being one of the pilots in the Air Corps expedition of 10 B-10 Bombardment planes which were flown from Washington, D.C., to Fairbanks, Alaska, and return, in the summer of 1934. He was also on temporary duty at the Materiel Division for two months and at the Advanced Aerial Navigation School at Rockwell Field, Calif., for 1½ months.

Transferred to duty in the Office of the Chief of the Air Corps, Washington, D.C., Captain Griffith served in the Training and Operations Division from March 22, 1935, to January 22, 1936, and then, after about two months' service at Bolling Field, D.C., with the GHQ Air Force he was, in March, 1936, assigned to duty at Wright Field, Dayton, Ohio.

In 1929, while stationed at Kelly Field, Captain Griffith made a flight in a P-1B Pursuit airplane to Seattle, Wash., via El Paso, Texas; Tucson, Arizona; March and Crissy Fields, Calif., and Medford, Oregon, and covered the total distance of 2,185 miles in an elapsed time of 18 hours and 50 minutes. In 1931 he was the leader of the "Three Turtles," famous Air Corps acrobatic team at the Cleveland Air Races.

Captain Griffith is the leading World War "Ace" now in service with the Army Air Corps, although he is not listed among the American "Aces" because his entire service was with the British Army.

He is probably the only officer in the Army Air Corps having the distinction of possessing the "Distinguished Flying Cross" decoration from both the American and British Governments.

NEW CONTROL TOWER FOR BOLLING FIELD

The steady increase in air traffic at Bolling Field and the new aerial traffic control regulations of the Bureau of Air Commerce, Department of Commerce, along the airways are daily becoming a greater problem for both pilots and operations personnel. The necessity for aerial traffic control by radio and electric lights is becoming more and more evident, due to the great number of commercial and Army and Navy planes in the vicinity. In bad weather and night flying, air traffic control is also essential.

To solve this problem, plans are under way to construct a traffic control tower on the west end of the Engineering Hangar roof. This location will afford a clear view of the field and immediate vicinity and will facilitate the control of planes from all directions. In the tower will be installed sufficient radio receivers to guard all required frequencies, remote controls for alert radio nets for field traffic and station to station communication, electric lights for traffic control and field lighting controls. The tower will be connected by interphone to the Operations Office and to the Department of Commerce Airways Traffic Control Station at Washington-Hoover Airport. The control tower and Operations will operate on a system similar to that used by Department of Commerce towers at Cleveland, Ohio, and Newark, New Jersey,

which will require a twenty-four hour schedule and close cooperation with Department of Commerce stations in the eastern portion of the United States. The operation of the tower will require additional personnel in both Operations and the Communications Department and added training for the enlisted men.

The Chief of the Airways Traffic Control Division of the Bureau of Air Commerce, Department of Commerce, has offered to cooperate in the training of six men for these duties, and they will report to the manager of the Newark Airport at Newark, New Jersey, for four days' training under ideal conditions.

The successful operation of the control tower will require all military and naval planes, with Bolling Field as their destination, to submit flight plans prior to their departure from their last stop. These flight plans will be transmitted to Bolling Field by Department of Commerce teletype or by station to station radio. If the planes are equipped with radio, they will be required to contact the control tower five minutes before arriving over the field. All planes departing from Bolling Field will submit flight plans to the Operations Office and then check with the control tower for last minute instructions before take-off.

BOLLING FIELD HAS AMATEUR RADIO STATION

An amateur radio station belonging to the Bolling Field command has recently been installed in a small room in the attic of the new barracks. The equipment is available to all members of the post who have an amateur license, and will be a means of training in radio operation, both phone and C.W. Personal messages will also be transmitted to friends at other Army posts.

The equipment was installed by members

of the Post Communications Department in their spare time, and consists of one 75 watt radio-phone transmitter and one 100 watt C.W. transmitter. On recent tests, operators have made contacts as far as the West Coast. The call letters of this station are W3FLM, registered under the name of the Post Communications Officer, Lieut. S. K. Robinson. Any station wishing to send messages to Bolling Field may arrange a schedule by letter.

CHEMICAL WARFARE DRILLS AT HAMILTON FIELD

No part of combat training is neglected in the training program at Hamilton Field, San Rafael, Calif. In addition to bombing practice, flight training, the solving of tactical problems and the innumerable events and drills that constitute the life of an Air Corps soldier, preparation for their own protection is not disregarded.

As a consequence, regularly scheduled chemical warfare drills are held monthly. Each officer and enlisted man is required to spend a minimum of one hour per month performing his normal duty while wearing the gas mask. No work is disregarded during this training period. All

have now become familiar enough in wearing the mask so that there has been attained the ability to perform all duties with the minimum loss of efficiency. Shops continue to function, mechanics do their routine duties, and the administrative offices operate unimpeded. Even the Civil Service employees participate in the regular gas mask drills. The greatest difficulty encountered is the inability to understand and impart information over the telephone, due to the muffling of the voice when mask is worn.

Everyone has become interested in this training and, while a good many jokes,

(Continued on page 18)

FIELD EXERCISES FOR GRADUATED ARMORERS

By Captain R. D. Reeve, Air Corps

With the advent of the GHQ Air Force, and with the realization that the fighting squadrons must have thoroughly trained armament personnel, recognition has been given to the fact that a graduate armorer of the Air Corps Technical School must have had actual field experience prior to qualification for duty as an experienced armorer in a tactical squadron. Heretofore it has been impossible to give that training at the Air Corps Technical School, handicapped as we are by lack of range facilities in this area.

A study of available gunnery sites was made, and it was decided that the Maxwell Field Gunnery Camp at Valparaiso, Florida, was best suited to our needs. Accordingly, a request was made to the Chief of the Air Corps for permission to conduct field exercises for an additional period of two weeks, upon termination of each armorers class at the Technical School at Chanute Field, Rantoul, Ill. Approval, also authority to use the range at Valparaiso, followed.

The period, October 19-31, inclusive, was set for the first exercise. On October 18th, all personnel departed for the sunny south. The writer, flying as passenger with Colonel Junius W. Jones, Commandant of the School, in an A-17 plane, landed at Valparaiso after a most enjoyable four-hour flight.

Upon alighting, Master Sergeant Lunday, non-commissioned officer in charge, in the absence of Captain Rich, greeted us, escorted us to our tents, and informed us that everything was in readiness for our two weeks' stay. By evening, the entire personnel of the Department of Armament had arrived. They were:

Captain H. W. Anderson, Air Corps, Commanding and Operations Officer.

Captain R. D. Reeve, Air Corps, Armament and Range Officer.

1st Lieut. W. H. Ives, Air Corps, Engineering Officer.

1st Lieut. I. L. Farman, Air Corps, Communications Officer.

1st Lieut. F. G. Allen, Air Corps, Recreation Officer.

Technical Sergeant A. G. Junkert, Air Corps, Noncommissioned Officer in Charge of Field Exercises and First Sergeant.

Technical Sergeant C. E. Sudduth, Planning Assistant.

Sergeant A. L. Baize, Instructor.

Private L. S. Ringo, Instructor.

Four Crew Chiefs.

Six Armament students.

Captain G. K. Heiss, Ordnance Department, Technical Advisor to the Director, arrived two days later, having been delayed at Chanute Field.

Firing commenced Monday morning, October 19th, using the following airplanes: A-17, PB-2 and P-12. Guns had been installed and sights aligned prior to departure, and everything was in readiness. For the first time in the history of the Department of Armament, armorers were receiving actual instruction in installation and maintenance of armament equipment in modern aircraft. The pilots accompanying the flight were

receiving gunnery practice using the latest equipment. Many had not had practice for a number of years.

Effort was made to give the students every type of malfunctioning and trouble which they would encounter while servicing aircraft in the fighting squadrons. Some minor troubles were experienced with equipment, but it was welcomed, the primary purpose of the expedition being to give the armorers as much practical training as possible.

No. A-8 or P-26 airplanes being available at Chanute Field, Colonel Jones made trips to Barksdale and Maxwell Fields, where he borrowed one of each type. In consequence, the students received instruction on every service type of aircraft.

On Thursday, a contingent from the Tactical School arrived for gunnery, and the students were turned over to Lieut. Myers, Armament Officer, Air Corps Tactical School, who used them in servicing his aircraft, thereby giving them opportunity to operate with an actual squadron armament section. This experience was invaluable, and it is hoped that on future trips we will have further opportunity to do the same thing.

During the second week, periods were utilized to give the students instruction in loading and fuzing of demolition, practice, and fragmentation bombs under actual service conditions.

A practical course in malfunctions was given, and it is felt that each individual was well qualified to serve in a Bombardment squadron at the completion of bombing exercises. The instruction was given on both the B-4 and B-10 airplanes.

Later in the week all students fired the turret gun in the B-10 and were given further practical experience in malfunctions of flexible guns.

Fine weather was experienced during our entire stay, and opportunity was given everyone to engage in swimming, fishing and golf. The quarters and mess were very satisfactory, and Captain Rich is to be complimented on his fine camp.

The return to Chanute Field was made on October 31st.

The results obtained surpassed all expectations, and it is felt that the class of armorers who were graduated the day of our return can justly step into any squadron armament unit with the feeling that they are as well, or even better, qualified to carry out their duties than the average squadron armorer with far more experience.

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Air freight service utilizing special planes equipped as "flying box cars" was inaugurated during October by Transcontinental & Western on its line. Multi-motored all-metal airplanes with a payload capacity of 3,500 pounds, are being used to start this innovation in transportation. First operations are being conducted on the TWA line between New York and Chicago, with intermediate stops at Philadelphia and Pittsburgh, Pa.

The CATERPILLAR CLUB

Since the compilation of the mythical Caterpillar Club as of June 30, 1936, when 803 names were entered on the Register and a total of 841 emergency jumps, of which 38 were repeaters, 24 new candidates presented themselves for initiation into this make-believe select fraternity, thereby increasing the number of lives saved in

this country through the medium of the parachute, 827, and the total number of forced parachute jumps, as of October 27, 1936, to 865, repeater jumps included.

Those who have become affiliated with the Mystic Order of Caterpillars since June 30, 1936, are listed below, as follows:

No.	Date	Name	Rank	Place of Jump
	1936			
804	June	19 Edward N. Backus	2nd Lieut. Air Reserve	Near Banksdale Field, La.
805	June	30 John W. Kondat	Private, Air Corps	Bocas del Toro, Panama
806	June	30 Isaac W. Ott	1st Lieut., Air Corps	Bocas del Toro, Panama
807	July	22 C. O. Hobson	Civilian, Air Corps	Dunreith, Indiana
808	July	22 John Cutting	Civilian, Air Corps	Dunreith, Indiana
809	July	22 William Cummings	Civilian, Air Corps	Dunreith, Indiana
810	July	22 John Wetherford	Civilian, Air Corps	Dunreith, Indiana
811	July	22 H. D. McDaniels	Civilian, Air Corps	Dunreith, Indiana
812	July	25 Mervin S. Cranfill	Private, Air Corps	Denbigh, Va.
813	July	25 Lloyd Eyre	Flying Cadet, Air Corps	Denbigh, Va.
814	July	28 Robert C. Wood	Flying Cadet, Air Corps	Kirby, Texas
815	July	29 Howard H. Pavlat	A.C.M.M., N.A.P., U.S. Navy	San Diego Bay, Calif.
816	August	6 Herbert B. Thatcher	1st Lieut., Air Corps	Near Kelly Field, Texas
817	August	6 Joseph F. Majewski	Sergeant, Air Corps	Near Yoakum, Texas
818	August	6 Walter Miller	Major, Air Corps	Luling, Texas
819	August	13 Norbert D. Flinn	Private, Air Corps	New Kent, Va.
820	August	20 Edward F. Kayser	Private, Air Corps	Mitchel Field, N.Y.
821	August	20 Michael F. Cycon	Private, Air Corps	Mitchel Field, N.Y.
822	August	25 Troy Keith	Flying Cadet, Air Corps	Near Kelly Field, Texas
823	September	4 Joe Jacobson	Civilian	Stafford, Kansas
824	October	5 Loren L. Straw	Private, Air Corps	Kopowsin, Wash.
825	October	6 Robert H. Proctor	Aviation Cadet, U.S. Navy	Pensacola, Fla.
826	October	23 F. W. Evans	A.M.M., 2d Class, U.S.N.R.	Philadelphia, Pa.
827	October	27 Charles W. O'Connor	Captain, Air Corps	West Alexandria, Ohio

In going through his initiation, Lieut. Backus stood up in the cockpit and put his left leg over the left side of the airplane. Then lowering his head and facing the stabilizer, he pulled his right leg over the side as he rolled to the left, so that when he cleared the airplane he was lying horizontally with his face down and to the rear. His right hand was on the ripcord handle and his left hand extended toward the stabilizer. He did not touch the stabilizer with any part of his body, but rolled under it with ample clearance.

"It was my first jump, but I had the utmost confidence in the parachute," Lieut. Backus stated, "and when I had made up my mind to jump I did not hesitate a moment. The outstanding thought I had in mind when I was leaving the airplane was to be sure and miss the stabilizer. As quick as the stabilizer disappeared from sight, I pulled the ripcord. I had expected to experience a definite interval between

the time the cord was pulled and the time the chute opened, but instead the chute seemed to open almost immediately. As soon as it opened I looked to see where I was going, and found I was about to hit a tall Cypress tree. I gave one short pull so as to slip the chute and clear the tall tree, as well as a clump of smaller ones. By the time the parachute had filled up again, I was on the ground. I landed at the edge of the small clump of trees.

Lieut. Isaac W. Ott was piloting a bombing plane in Panama when he discovered that the left motor and trailing edge of the flaps of the left wing were on fire around the gas tanks. His passenger, Private John W. Kondat, 7th Observation Squadron, sitting in the rear cockpit, left the plane by stepping out, facing the plane. During the jump before the parachute opened, Private Kondat stated he felt as though the chute wasn't going to open, but after it opened he felt rather safe and was

not frightened.

Lieut. Ott left the plane by climbing out on the wing, holding to handle and railing alongside fuselage back to trailing edge of wing. He then held on railing with left hand until he could get right hand on ripcord. When he let go he went off backwards.

"I was afraid at first parachute would not open," Lieut. Ott stated, "but after it opened I felt fine until I saw plane make complete 360 degree turn coming towards me and I was afraid it was going to straighten out and run into me, but it continued in a gliding turn and passed about 150 yards in front of me, and went into the water, exploding immediately."

Mr. C. O. Hobson, Instructor in Airplane Mechanics at the Air Corps Technical School at Chamute Field, Rantoul, Ill., was one of five civilians in the employ of the Air Corps who were passengers in an Army Transport plane which took off from Wright Field, Dayton, Ohio, for the purpose of a flight test. When about one mile west of Dunreith, Indiana, the right engine caught fire, apparently from a fuel leak in the vicinity of the carburetor. The cabin of the Transport filled with smoke, and the intensity of the fire increased.

"After approximately six minutes from the time the fire was first noticed," Mr. Hobson stated, "the pilot ordered the five observers, myself included, to jump.

"I was slightly nervous when I realized that a jump was necessary, but hesitated only long enough to locate the 'D' ring of the ripcord, and immediately followed Mr. Cutting, who left first. The chute opened almost instantly after I pulled the ripcord and all that I felt was a slight jerk. The chute oscillated badly on the way down and I was unable to stop it by pulling down on the shroud lines. I hit the ground with my feet up at the extreme end of one of these oscillations on my left side and hip. The chute dragged me approximately 10 feet before I got it under control. After landing I felt a pain in the lower part of my back and right knee. I felt a little dazed and had a shortness of breath."

The pilots of the Transport, Captain J. S. Griffith and Frank Irvin, remained with the plane after the observers had "bailed out", extinguished the blaze with the aid of a hand extinguisher and then flew back to Wright Field. The ship was not damaged. Messrs. Cutting, McDaniels and Cummings were from Wright Field, and Mr. Weatherford from the Middletown Air Depot, Pa.

The exciting experience of Flying Cadet Lloyd Eyre during his initiation into the Caterpillar Club was published in the News Letter of October 5, 1918.

Flying Cadet Robert C. Wood was proceeding from Kelly Field to Randolph Field, where he was to join a flight in a night training mission to Barksdale Field. When in the vicinity of Kirby, Texas, a parachute flare ignited while still attached to the bomb rack on the airplane. Cadet Wood loosened his safety belt, ran fletner (stabilizing device) to the full tail heavy position; cut the switches; stepped out of the cockpit backwards, placing his right foot on the wing and, holding the ship level as

well as possible with his right hand and holding on to the landing wires on the left side of the fuselage with his left hand, he placed his left foot in the door of the cockpit and pushed away from the airplane, turning at the same time so that he would be facing the tail of the ship.

Cadet Wood stated he had no idea as to what could have caused the flare to ignite. His only reaction while going through his initiation into the Caterpillar Club was chagrin over the loss of a good airplane.

During a test flight of a Battle Fleet plane, pilot Howard H. Pavlat found things a little too hot when a fire broke out. He jumped and landed in San Diego Bay. He received second degree burns as a result of his initiation.

Lieut. Herbert B. Thatcher, a student at the Advanced Flying School, Kelly Field, Texas, flying in a formation of Observation planes, found his controls jammed while in a steep dive, and he was unable to move either the stick or right rudder in any direction. He had some slight control with the left rudder. Cutting the throttle and winding the stabilizer back, he came out of the dive in about a twenty degree left bank. From that time on he controlled the airplane by adjusting the throttle and stabilizer. The left bank was constant. All his efforts to free the controls were in vain, but he managed to maintain his altitude of 5,000 feet for about an hour and fifteen minutes. Believing that the airplane could be landed if it could hold a power glide, he experimented with this idea. The airplane assumed many awkward positions and finally got into a climbing turn to the left from which he was unable to assume level flight. The airspeed indicator dropped off to 50 miles per hour and, fearing a spin which he could not control, he jumped.

"Immediately upon leaving the airplane, I experienced a sensation of falling rapidly," Lieut. Thatcher stated. After unbuckling his safety belt, he grasped the left side of the cockpit and jumped head first over the side. "The parachute opened immediately upon pulling the ripcord," he continued, "and left me swinging violently face downward. The risers were twisted around my arms, and until I twisted my arms free I was in extreme pain. During the remainder of the descent I swung from side to side and was unable to judge my rate of descent. I tried to face into the direction I was drifting but I sailed through a tree and landed very hard on my back."

Private Norbert D. Flinn, 96th Bombardment Squadron, was a passenger in a Bombardment plane during a night flight. The airplane was flying at about 5,000 feet over New Kent, Va., when both motors cut out. After losing about 1,000 feet altitude, the pilot ordered all the passengers to "bail out." Private Flinn picked up his report book which had the data of the flight and went back to the trap door. He pulled the emergency door release, but was forced to kick the trap door from its fastenings. "I dove through," he stated, "but my parachute lodged in the door. After some time, I managed to kick loose by pushing against the bottom of the fuselage. Knowing I was too near to the ground to allow time to clear the airplane, I pulled the rip cord and saw my parachute unfurl. I was

jerked around as the parachute opened and hit the tree tops almost immediately, which broke the fall. I released my harness and ran to the crash of the airplane, but it was burning and the fire was so hot I couldn't get to any of the others. I then walked about two miles or more to a farm house and was taken to Providence Forge, Va., where I reported the accident to Langley Field, Va."

The pilot of the bombing plane, Lieut. Willis S. Marvin, Air Reserve, and the other two passengers, Privates John J. Mather and James E. Crittenden, Air Corps, apparently made no effort to jump.

Edward F. Kayser and Michael F. Cycon, Privates, Air Corps, were passengers in a Bombardment plane during a night flight from Mitchel Field, N.Y. Cycon was in the rear cockpit working the ground radio station at Mitchel Field. "Apparently the pilot was maneuvering for a landing," he stated. "We were at 1500 feet. The airplane entered a dense fog area or a cloud. I felt the airplane nose up into a steep climb and the engines popped and the airplane vibrated. I tried to contact the pilot on the interphone, but was unable to do so. We began to lose altitude. I motioned for Private Kayser to jump. He was already poised and went over head first. I waited until we reached 900 feet altitude, and as we were still in the fog cloud with no visibility, I jumped.

"Immediately after I left the airplane I lost all sense of direction. There was no visibility. I remained in the feet first position until the chute opened. I pulled the ripcord immediately after I cleared the airplane because of the low altitude. All movements seemed to be automatic. I had no nervous reactions after the jump."

Private Kayser stated that after the radio operator, Private Cycon, motioned him to jump, he climbed up on the edge of the rear cockpit and dove off the side head first. "I waited about eight seconds before I pulled the ripcord," he said. "All my reactions and movements seemed to be automatic. I remained in the head first position until the parachute opened. The chute opened at about an interval of three seconds from the time I pulled the ripcord. I could distinguish lights on the ground at about 300 feet altitude. I maneuvered the chute into an open field. I had no nervous reactions during or after the jump."

The pilot subsequently landed the airplane at Mitchel Field without mishap.

Flying Cadet Troy Keith, student at the Advanced Flying School, Kelly Field, Texas, was practicing acrobatics in a Pursuit plane at an altitude of about 6,500 feet. Placing the plane into a left spin to do a couple of turns, he reversed the controls to recover, but nothing happened. His efforts time after time to right the aircraft proved in vain and he finally decided to "bail out." After he released his safety belt, he had extreme difficulty in moving his body to get over the side of the ship. Finally, he managed to get one foot over the side of the ship and threw himself on the inside of the spin. He made a happy landing and suffered no ill effects or injury.

Hurled unconscious into space when his plane exploded in mid-air, Joe Jacobson, veteran speed flier competing in the Bendix transcontinental race, was snatched from death when he instinctively yanked the ripcord of his parachute. Jacobson took off before dawn from New York with the six other Bendix Race contestants. He refueled his Northrop Gamma low-wing monoplane at Kansas City shortly after 7:00 a.m., and took off immediately for his goal - Los Angeles.

His unexpected initiation into the Caterpillar Club occurred when he was in the vicinity of Stafford, Kansas. "I was traveling along at 5,000 feet and everything seemed okay," he said. "Suddenly there was a roar. The next thing I knew I was falling through the air. Instinctively I reached for the ripcord of my parachute and pulled it. It opened and I drifted down to the ground.

"I looked around and found the parts of the ship. The largest was a piece about one foot long from one of the wing tips. I had a few bad moments right after I pulled the cord, as I was in such a position that the chute opened around me. As I fell, however, it straightened out. I felt as if somebody had given me a crack on the head - some part of the plane either hit me or I struck my head on the cockpit as I was blown clear. The plane fell in flames. I felt pretty well shaken up when I hit the ground. The wreck of my ship was scattered over an area of half a mile. The foot-long piece of wing tip I found more than a quarter of a mile from the rest of the pieces. Then I made my way to a farmhouse."

Private, 1st Class, Loren L. Straw, Air Corps, 91st Observation Squadron, was literally "up a tree" for three hours following his initiation into the Order of the Mystic Knights of the Silken Canopy. He was a passenger in an Observation plane, piloted by Lieut. Boushey. While diving, both the ailerons left for parts unknown, and the pilot ordered his mechanic to jump.

Private Straw first pulled the rear cockpit sliding cover forward and then started to climb out of the seat. The ring around the seat at the top hampered him in getting out, as his parachute hung up on it. "Being a small person," he said, I finally succeeded in getting out. The wind blew off my helmet and goggles. I sat on the edge of the cockpit, threw my gloves away and grasped the ripcord in my right hand. I then rolled over the side of the airplane. The pilot informed me later that it took me 15 seconds to get out of the plane.

"After I cleared the plane, I tried to pull the ripcord up instead of out, but I couldn't, so I used both hands and it came out. Then I either hit my forehead with the ripcord or I was in the wrong position and the parachute went by my forehead when it was opening. I felt no sensation of falling and when the parachute opened there was only a slight jerk.

"I managed to turn around and see the plane headed north in level flight and I decided that the pilot, Lieut. Boushey, was going to try and land the airplane. The chute began to oscillate, swinging me from side to side. I tried to

stop the oscillations by pulling on the shroud lines, but to no avail. The wind was blowing me along at a good speed. At about 2,000 feet I went through a cloud which had a peculiar odor, something like hydrogen peroxide. After I passed through the cloud the chute stopped oscillating, but as I came closer to the ground the oscillations started again, although not as great as before. I pulled on the shroud lines to see if I couldn't land in a clearing. This maneuver turned me a quarter of the way around and I decided not to try it again for fear that all the air would spill out of the chute. I noticed that there were two farmhouses near where I would land, so I felt much better. I soon landed in a tall fir tree. The landing did not give me any jolt. I surveyed the situation and found that I was about 100 feet from the ground and about 20 feet from the trunk of the tree. My chute was caught on the branches high above me and the shroud lines were again caught about ten feet above my head. This prevented me from swinging around and getting close to the tree trunk or to a branch that would support me. There was one branch directly below me which looked large enough to support my weight, but when I stepped on it it creaked, and then by bouncing up and down it broke off close to the trunk. I was then bothered by my heavy one-piece winter flying suit, as I was very warm. About this time two turkey buzzards appeared and started circling the tree I was in, and I wondered whether they would eventually get me.

"I then decided that I would need help to get down, so I hollered as loudly as I could and I heard the dogs barking over at the farmhouse, which was a very comforting sound. Then someone began to holler and I kept on hollering so they could locate me. While they were coming I decided to try and ease myself by getting out of the parachute, as the leg straps were cutting me, especially the one on the right leg. The shroud lines on my left side were rather loose. This shifted all the strain on the right ones which tightened up the leg strap because most of my weight was on that side. I finally succeeded in unhooking the left leg strap, but there was too much weight on my right. I then leaned back until I was upside down, and after three tries I hooked my left leg in the left riser and pulled myself up. By this maneuver I was able to get the strain off the right leg strap and unhooked it. I then swung my right leg into a swing made of the left riser. The parachute pack was then on my right side about level with my head. The men were at the foot of the tree by this time, and one of them stayed with me while the other went for help. He said it would take quite a while because they would have to get a high climber from Rainier or Yelm in order to get me down, as the lowest limb on the tree was 50 or 60 feet from the ground. While they were gone I had to keep moving in the seat because the strap cut my legs and made my right leg cramp. I kept up a conversation with the man on the ground, who was partially deaf. I had to shout as loudly as I could in order for him to hear. I had already asked the man who went for help to phone Fort Lewis and notify them that I was safe. He soon

came back and said Fort Lewis wanted to know what had happened to the plane and where the Lieutenant was. I told him and he left to make another phone call. He had to drive four miles in order to reach a phone. Soon the high climber came and he started up the tree, cutting off the limbs until he got to where I was. He brought up a rope and looped it over a limb on the opposite side of the tree, made a bowline loop in it and threw it over to me. I slipped it over my legs, using it as a seat. The men on the ground pulled me up out of the parachute and I went over against the trunk of the tree. The men on the ground then let me down as far as the rope held out, then I helped the high climber let me down until I ran out of rope. The high climber let me down the rest of the way by taking an extra loop around the limb and snubbing me down. I touched ground just about three hours after I jumped from the plane.

"My legs were shaky and sore from sitting in such a cramped position. During the time I was being lowered from the tree the man came back from telephoning and said that the Lieutenant had landed safely at Fort Lewis. I was greatly relieved on hearing that. The high climber then went up the tree, cutting off about a dozen more limbs before the parachute would come down. We bundled the parachute up and started our trek for the farmhouse."

Aviation Cadet Robert H. Proctor, U.S. Navy, "bailed out" of a Navy F4B-2 plane at Pensacola, Fla., when it went into an outside spin. The parachute eased him down safely to mother earth.

Aviation Machinist Mate F.W. Evans, U.S. Naval Reserve, was a passenger in an FF-2 airplane of the U.S. Naval Reserve Air Base at Philadelphia, Pa. The pilot was executing various maneuvers, including a spin, when Evans' safety belt clasp became unlatched. In checking a spin abruptly, Evans was thrown clear of the plane from the rear seat. He came down safely with no injuries being sustained.

Captain Charles W. O'Connor rapped at the portals of the Caterpillar Club at a rather early hour on October 27th - 5:13 a.m., to be more specific. The Captain was making the daily early morning weather flight at Wright Field. He had climbed his BT-2B airplane to 12,000 feet and was flying at that altitude when his motor suddenly quit. Unable to start it up again, he reached 5,500 feet before he jumped. He landed at West Alexandria, a small town not far from Dayton, his airplane crashing about seven miles away. Thus another aviator has had occasion to greet the Air Corps parachute as man's best friend in time of trouble.

Just as this was being written, advice was received from the Navy Department that on the night of November 2nd, Aviation Cadet G.L. Pentz, U.S. Naval Reserve, had gone through the formality of being initiated into the Caterpillar Club, the Mystic Knights of the Silken Canopy, the Silk Sailors Fraternity, or what have you. Cadet Pentz, while engaging in night flying training, was confronted with the unhappy realization that his motor had quit functioning. He jumped when about 3 miles NE of Loxley, Ala., and escaped injury.

THE FIRST ARMY OFFICER TO FLY SOLO.



VER so often when the topic of discussion turns to the early days of Army aviation, there appears to be at least one question about which there is a disagreement, namely - "Who was the first officer of the Army to fly heavier-than-air craft?"

Not long ago, this question became the subject of correspondence, and the Chief of the Materiel Division, Wright Field, Brigadier General A.W. Robins, was requested to use his good offices in an endeavor to settle this point once and for all, in view of the fact that, being stationed at Dayton, the General was in easy touch with Mr. Orville Wright.

An appointment with Mr. Wright followed. The latter looked up all of his old records and finally extracted for General Robins several items from the publication "Aeronautics" for the month of December, 1909. These items are quoted hereinafter and show the record of flights made by Mr. Wilbur Wright when he was required under his contract with the United States Government to instruct two officers in the operation of the first airplane purchased from the Wright Brothers by the Government.

Mr. Wright stated that Lieutenant F.E. Humphreys, of the Engineers, and Lieutenant Frank Lahm of the Cavalry were the two officers turned over to his brother for instruction. He further stated that Lieutenant Foulois reported later on and received some instruction but did not complete his flying training during this time. It will be noted from the record quoted hereinafter that on October 26, 1909, Lieut. Humphreys first soloed for a period of three minutes and apparently immediately thereafter Lieut. Lahm soloed for a period of thirteen minutes.

Mr. Wright informed General Robins that this is a correct record. It was therefore interesting to note that the first solo flight made by any Army officer was credited to Lieutenant Humphreys, Corps of Engineers.

The items from the publication "Aeronautics" for December, 1909, are quoted, as follows:

"Seventy-one flights have been made to November 9 in the Government aeroplane at College Park, Md., during the course of the instruction of Lieut. F.P. Lahm, Capt. Chas DeF. Chandler, Lieut. F.E. Humphreys, Lieut. B.D. Foulois and Lieut. Sweet, beginning October 8 and ending November 5, when, in making a sudden landing due to engine misfiring, the skid and right wing of the aeroplane were damaged. Repairs are now being made.

"HUMPHREYS MAKES 61 MIN. ON FOURTH FLIGHT.

"Lieut. Humphreys' flights might be taken to show the progress of an aviator. Beginning with one of 3 min. alone, he made one of 8½ min., 24 min., and then he took up Lieut. Foulois for 61 min. and 18 min. respectively. Lieut. Lahm comes next in point of length, making one alone of 58½ min. These two long flights were the longest made during the above period.

- Following is a complete list of the flights: "NAME FIRST GIVEN IS THAT OF THE PILOT.
- "Oct. 8.-- Wright alone, 3 min.; Wright alone, 4 min. 51 sec.; Wright alone, 3 min.; Wright and Lahm, 5 min. 8 sec.; Wright and Humphreys, 4 min. 15 sec.
 - "Oct. 9.-- Wright alone, 6 min. 33 sec.; Wright alone, 3 min. 23 sec.; Wright alone, 1 min. 6 sec.
 - "Oct. 11.-- Wright alone, 3 min. 50 sec.
 - "Oct. 12.-- Wright and Humphreys, 7 min. 20 sec.
 - "Oct. 15.-- Wright and Lahm, 4 min. 48 sec.; Wright and Humphreys, 1 min. 32 sec.; Wright alone, 9 min.; Wright and Lahm, 14½ min.; Wright and Humphreys, 3½ min.
 - "Oct. 16.-- Wright and Humphreys, 13 min. 18 sec.; Wright and Lahm, 13 min. 44-1/5 sec.; Wright alone, 3 min. 34-4/5 sec.
 - "Oct. 18.-- Wright and Humphreys, 11 min. 47-2/5 sec.; Wright and Lahm, 18 min. 37-2/5 sec.; Wright and Humphreys, 10 min. 13-3/5 sec.; Wright and Lahm, 11 min. 34-2/5 sec.; Wright and Humphreys, 9 min. 37-1/5 sec.; Wright and Lahm, 9 min. 19-4/5 sec.
 - "Oct. 19.-- Wright and Humphreys, 11 min. 17 sec.; Wright and Lahm, 4 min. 10-2/5 sec.; Wright alone, 3 min. 15 sec.; Wright and Humphreys, 18 min. 40 sec.; Wright and Lahm, 19 min. 6 sec.
 - "Oct. 20.-- Wright and Humphreys, 3 min. 25 sec.; Wright and Lahm, 6 min. 28 sec.; Wright alone, 2 min. 31 sec.; Wright and Humphreys, 27 min.
 - "Oct. 21.-- Wright and Lahm, 33 min.; Wright and Humphreys, 1 min.; Wright alone, 2 min.
 - "Oct. 22.-- Wright alone, 3 min.; Wright and Humphreys, 42 min.
 - "Oct. 23.-- Wright and Lahm, 18 min.; Wright and Humphreys, 8 min.; Wright and Foulois, 13 min.; Wright and Lahm, 11 min.
 - "Oct. 25.-- Wright and Foulois, 13 min.; Wright and Humphreys, 11 min.; Wright and Lahm, 18 min.; Wright alone, 1½ min.
 - "Oct. 26.-- Humphreys alone, 3 min.; Lahm alone, 13 min.; Humphreys alone, 8½ min.; Wright alone, 2 min. 15 sec.; Lahm alone, 5 min.; Humphreys alone 24 min.; Lahm alone, 40 min.
 - "Oct. 27.-- Wright alone, 4 min.; Wright alone, 2 min.; Wright and Foulois, 28 min.; Wright and Chandler, passenger, 6½ min.; Lahm and Humphreys, 36 min.
 - "Oct. 29.-- Lahm and Humphreys, 1 min.
 - "Oct. 30.-- Foulois and Humphreys, 10 min.; Lahm and Humphreys, 14 min.; Foulois and Humphreys, 39 min.
 - "Nov. 1.-- Lahm alone, 16 min.; Lahm alone, 58½ min.; Wright alone, 2 min.
 - "Nov. 2.-- Wright alone, 2 min.; Wright and Lahm, 2 min.
 - "Nov. 3.-- Humphreys and Foulois, 61 min.; Lahm and Sweet, passenger, 9 min.; Humphreys and Foulois, 18 min.
 - "Nov. 5.-- Lahm and Humphreys, 9 min."

Lieut. Humphreys, now holding the rank of Colonel in the New York National Guard and commanding the 102nd Engineers, with station in

New York City, was born at Summit, N.J., September 16, 1883. He attended the Pennsylvania Military Academy from 1898 to 1902 and in that year received an appointment to the United States Military Academy, from which he graduated in 1906, and was commissioned second lieutenant, Corps of Engineers. From September 14, 1906, to November 27, 1906, he was with Company K, Engineers, at Camp of Instruction, Fort Riley, Kansas; from December 7, 1906, to February 2, 1907, at Fort Leavenworth, Kansas; en route to Cuba with Company I, Engineers, to February 10, 1907; at Camp Columbia, Cuba to (transferred to Company G, May 23, 1907; Battalion Adjutant, September 22, 1907, to January, 1908; with 2nd Battalion to September 22, 1908) September 22, 1908; Student, Engineer School, Washington, D.C., September 28, 1908, to June 11, 1909. He was on detached service on duty pertaining to aeronautical work under the Chief Signal Officer from June 12 to October 31, 1909. After serving from November 1, 1909, to May 30, 1910, with the 1st Battalion of Engineers, he resigned from the Army, because of business reasons, effective August 1, 1910.

Colonel Humphreys was in the Federal Service for duty on the Mexican Border from July 7, 1916, to January 4, 1917, being mustered in as Captain, 22nd Engineers, New York National Guard. He was promoted to the rank of Major on September 30, 1916.

Called into the Federal Service July 15, 1917, as Major, 22nd Engineers, New York National Guard, which became the 102nd Engineers, he served with that organization at New York City to August, 1917, and at Camp Wadsworth, S.C., from September 2, 1917, to March, 1918.

On March 5, 1918, Colonel Humphreys reported for duty at the Aviation School at Rockwell Field, Coronado, Calif. He was announced as on duty requiring him to participate regularly and frequently in aerial flights from March 7, 1918.

Relieved from duty at the Aviation School on May 23, 1918, he proceeded to Cambridge, Mass., where he attended the School of Military Aeronautics until January 22, 1919, when he was assigned to duty with the Technical Section, Engineering Division, McCook Field, Dayton, Ohio. He served at that station until February 20, 1919, when he was honorably discharged from the Army.

He received an appointment as Colonel, Engineer Reserve, to rank from December 18, 1923.

On April 13, 1920, Colonel Humphreys received an appointment as Lieut. Colonel, 22nd New York Engineers, and on October 28th of that year he was advanced to the rank of Colonel.

In civil life Colonel Humphreys has been connected with the Humphreys Homeo Medicine Company, in which organization he has held the post of Treasurer and Assistant Secretary.

During the World War, Colonel Humphreys received the rating of Junior Military Aviator, to date from May 25, 1918.

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EARLY DAYS OF MILITARY AVIATION

Among the records of College Park, Md., for the year 1912, were found reports on flights made by the former Chief of the Air Corps,

Major General Benjamin D. Foulois, then 1st Lieutenant, 7th Infantry.

On April 20, 1912, General Foulois made two flights in a Burgess-Wright airplane, the first for a duration of 16 minutes and the second, 18 minutes.

On June 5th, taking the air on a pilot's license test, he made three flights in a Wright airplane, the first for three minutes and the second and third for ten minutes each.

On June 8th, flying a Burgess-Wright, he was up for nine minutes, and on June 11th, he flew a Wright plane for 47 minutes.

On July 11th, he made a 7-minute flight in a Wright plane, and on July 13th, one flight for 8 minutes and one for 18 minutes, being accompanied on the second flight by Lieut. Rockwell.

Making cross-country wireless tests, and piloting a Wright plane, he flew for 17 minutes on July 27th and 16 minutes on July 29th.

On August 1st, flying a Wright plane, he was up for 8 minutes, and on the following day, flying a Burgess-Wright plane, and accompanied by Lieut. Harry Graham, he made a 32-minute flight for the purpose of taking photographs.

Making wireless tests on August 3rd, and flying a Wright plane, he made three flights, the first one for 4 minutes, when he was accompanied by Mr. Cram, of the Signal Corps; and the second and third for 10 and 26 minutes, respectively.

Engaged in cross-country wireless tests on August 5th, 6th and 7th, and piloting a Wright airplane, he flew for 12 minutes the first day; for 50 minutes to Laurel, Md., the second day, and for 7 minutes the third day.

The Signal Corps established the first Army Aviation School at College Park, Md., in June, 1911. The field was rented by the Quartermaster Corps, and temporary buildings were constructed for housing the airplanes. During the fiscal year ending June 30, 1912, 1500 flights were made by officer aviators. This number does not include the hops across the field by beginners. During the winter of 1911-1912, the personnel and airplanes were moved from College Park to Augusta, Ga., in order to have a milder climate for instructing students.

From June, 1912, until November of that year, the Signal Corps continued its practice and experimental work at College Park, Md. There were concentrated at College Park all the airplanes and aviation materiel in the possession of the Army, with the exception of two hangars and one airplane at San Antonio, Texas, and one hangar at Fort Leavenworth, Kansas. On November 1, 1912, there were 8 hangars at College Park, 12 airplanes, a detachment of 12 officers on aviation duty and 39 enlisted men. The machines included the Curtiss and Wright types. The instruction given on these types included both the preliminary work necessary for beginners to obtain the F.A.I. preliminary license, also the necessary training of the higher order to obtain the rating of "Military Aviator." During the period July 1 to October 1, the main work done was that of instruction. In addition to this, time was found to experiment with an automatic gun, photography and radio, and to take part in the maneuvers near Bridgeport, Conn.

V-7150, A.C.

Biographies

COLONEL JACOB W. S. WUEST, AIR CORPS

Colonel Jacob W. S. Wuest, Air Corps, now commanding the Rockwell Air Depot at Coronado, Calif., was born in Cincinnati, Ohio, January 24, 1880. He attended the public schools in that city and the U. S. Military Academy, West Point, N. Y. Following his graduation from the Military Academy, June 11, 1903, he was commissioned a second lieutenant of Infantry. Hewas promoted to 1st Lieutenant, August 7, 1909; to Captain, July 1, 1916; to Major, July 1, 1920; to Lieutenant Colonel, May 8, 1927, and to Colonel, October 1, 1934.

Colonel Wuest served with the 30th Infantry from October 29, 1903, to January 10, 1910, being at various times stationed in the Philippines, at Fort Crook, Neb.; and Fort Riley, Kansas. During part of the time he was stationed at Fort Crook he was on detached service in connection with a progressive military map in Nebraska, and likewise, while stationed in the Philippines, he was on detached service for over a year in connection with a topographical survey of these islands.

With the 25th Infantry, Colonel Wuest served at Fort George Wright, Wash., as battalion adjutant to April 28, 1910, when he was again assigned to the 30th Infantry, with which organization he served as Assistant Adjutant and Acting Adjutant, Presidio of San Francisco, Calif., to February 15, 1912; (on border duty in Southern California, April to July, 1911). He was Professor of Military Science and Tactics, Kentucky Military Institute, February 15 to December 15, 1912. On the following day he was assigned to the 28th Infantry, and he joined this regiment at Fort Snelling, Minn., February 15, 1913. From February 23, 1913, to April, 1914, he was on border duty at Galveston, Texas; with the American Expeditionary Forces at Vera Cruz, Mexico, April 23 to November 26, 1914. Returning August 15, 1915, to his former duty as Professor of military Science and Tactics at the Kentucky Military Institute, he remained on this duty until May 30, 1917, when he was assigned as instructor at the Plattsburg Training Camp. From June 1, 1917, to December 5, 1917, he was Instructor at the Officers' Training Camp at Fort Sheridan, Ill., and, following his detail to the Aviation Section, Signal Corps, he was on duty at Kelly Field, Texas, and in the Office of the Chief Signal Officer, Washington, December 15 to 29, 1917. From the latter date to May 1, 1918, he commanded the 4th Provisional Regiment, Aviation Section, Signal Corps, at Waco, Texas.

Following duty as student at the Army Balloon School at Fort Omaha, Nebraska,

May 20 to August 9, 1918, and at the School for Aerial Observers, Fort Sill, Okla., to September 21, 1918, he returned to Fort Omaha and commanded the post and the Balloon School to August 28, 1920. He was a participant in the Army and Navy Balloon Race at St. Louis, Mo., September 25-27, 1919.

Following his graduation from the Army School of the Line, Fort Leavenworth, Kansas, in 1921; from the General Service Schools, Fort Leavenworth, Kansas, in 1922, and from the Army War College, Washington, D. C., in 1923, Colonel Wuest was detailed as a member of the General Staff, and assigned to duty in Panama as Assistant Chief of Staff, G-2 and G-3, Panama Canal Division. He served in Panama from January, 1924, to June, 1927, when he was transferred to Scott Field, Belleville, Ill., where for one year he pursued the course of instruction at the Balloon and Airship School. His graduation on June 29, 1928, was followed by his assignment to Langley Field, Va.

During the course of his two years' service at Langley Field, Colonel Wuest was for the greater part of this time Commanding Officer of Langley Field and the 2nd Wing, and Acting Commandant of the Air Corps Tactical School. From July 2, 1930, to May 18, 1931, he was in command of Chamute Field, Rantoul, Ill., and the Air Corps Technical School at that station. He was then assigned to duty as Assistant Military Attache for Air to Germany, Switzerland, Czechoslovakia, Austria, The Netherlands, Denmark and Sweden.

Colonel Wuest assumed his present duty as Commanding Officer of the Rockwell Air Depot on September 7, 1935.

He holds the two lighter-than-air ratings of "Airship Pilot" and "Balloon Observer".

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COLONEL LAWRENCE S. CHURCHILL, AIR CORPS

Colonel Lawrence S. Churchill, Air Corps, at present commanding the Middletown Air Depot, Middletown, Pa., was born at Ogdensburg, New York, June 10, 1890. For three years he attended Union College at Schenectady, N. Y., where he took a course in electrical engineering.

On June 3, 1912, he accepted a commission as 2nd Lieutenant of Infantry, and he served with the 7th Infantry until August, 1916, when he was detailed to the Aviation Section, Signal Corps, for flying training. He attended the Signal Corps Aviation School at San Diego, Calif., September 1, 1916, to May 16, 1917, and received the rating of Junior Military Aviator from May 3, 1917. Between May 13 and June 15, 1917, Col. Churchill was on duty for 8 days with the 1st Aero Squadron at Columbus, New Mexico,

and then at Kelly Field, Texas. Placed in command of the 29th Provisional Aero Squadron, he sailed with this organization for overseas duty, and was stationed at Issoudun, France, until October 29, 1917. While at this station he also commanded the 3rd Aviation Instruction Detachment, A.E.F. From November 6, 1917, to January 6, 1918, he was on duty with the Materiel Department, Air Service, Zone of Advance; and from January 7 to March 13, 1918, he was stationed in Paris and on duty at several French airplane and motor factories.

Following duty at Headquarters, Advance Section, Zone of Advance, A.E.F., March 14 to June 14, 1918, he attended the General Staff College, A.E.F., for two and one-half months and then joined, on September 1st, the 1st Observation Group, Air Service, 1st Army. From September 19 to October 24, 1918, he was on duty in the office of the Assistant Chief of Air Service, Colombey-les-Belles, in charge of organization and training, following which he served with the Night Bombardment Section, Air Service, A.E.F., to November 26, 1918.

From November 27, 1918, to May 6, 1919, Colonel Churchill was Corps Air Service Commander, 8th Army Corps, A.E.F., and he then returned to the United States, where his first duty assignment was as Supply and Disbursing Officer at the Aviation Repair Depot, Love Field, Dallas, Texas, to November 1, 1919. Thereafter and until May 8, 1923, he was stationed at Americus, Ga., being for the greatest part of this time in command of the Aviation General Supply Depot and Souther Field.

For over two years (May 16, 1923 to August 17, 1925), Colonel Churchill was Air Officer of the 7th Corps Area at Omaha, Nebraska, and was then transferred to Langley Field, Va., where he was stationed until August 19, 1932. Among the duties he performed at Langley Field were those of Executive Officer, Assistant to the Commanding Officer, Post Adjutant and Planning Officer, Commanding Officer of the post and 2nd Wing, and commanding officer of the 2nd Bombardment Group.

From August 20, 1932, to June 26, 1933, Colonel Churchill attended the Army Industrial College, Washington, D.C., and, following his graduation, he was assigned to his present duty as Commanding Officer of the Middletown, Pa., Air Depot.

While stationed at Langley Field, he was on detached service for several months in the early part of 1930 at Edgewood Arsenal, Md., where he completed the course at the Chemical Warfare School. In that year, also in 1927, he was Executive Officer of the Machine Gun and Bombing Matches which were held at Langley Field, Va.

KELLY FIELD "MERCY" PLANE TRANSFERRED

The ambulance airplane (a C-24) which has been assigned to Kelly Field, Texas, since 1932, has been transferred to Brooks Field, Texas. This is the first time since the year 1924 that Kelly Field has not been responsible for the "Mercy" trips within the Corps Area. Kelly Field was the first Air Corps station to which an airplane ambulance was assigned. This first aerial ambulance was a Cox-Klein make, and considerable nation-wide publicity was drawn to its many "Mercy" flights, the most notable of which were those made to Rock Springs in 1928 in order to bring many of the storm victims to San Antonio.

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HEAVY STORM CAUSES MANY FORCED LANDINGS

Major Robert D. Knapp, Director of Flying Training at the Air Corps Advanced Flying School, Kelly Field, Texas, was forced to use flares to effect a landing at Barksdale Field, La., recently while on a navigation flight from Maxwell Field. Flare dropping was necessitated when the lighting system at Barksdale Field was disrupted by the heavy storm which raged throughout the south on that night.

According to newspaper accounts, there were numerous forced landings on the same day and night all throughout the South.

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AERIAL PHOTOGRAPHS OF CONCHOS DAM

First Lieut. Charles F. Densford, Air Corps, Commanding Officer of the First Photo Section, Kelly Field, Texas, accompanied by Staff Sergeant Herman L. Chestnut as photographer, proceeded in an O-25 Observation plane, under orders from the War Department, to northern New Mexico, where they were to report to the District Engineer in charge of the construction of the Conchos Dam on the North Canadian River, for the purpose of making aerial photographs of the progress of the Dam, also of the terrain in that vicinity.

Approximately eight square miles were covered by 43 vertical photographs, using the K-3B type camera. These were laid in 5-strips and 1-mosaic scale of 1:3000. Sixty-two oblique photographs also were taken.

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NAVY AERONAUTICS CHIEF VISITS KELLY FIELD

Admiral Arthur B. Cook, Chief of the Bureau of Aeronautics, Navy Department, Washington, D.C., was a recent visitor at Kelly Field, Texas, after first paying Randolph Field a visit. He was accompanied by three Naval officers. The visitors were flying in a Lockheed Electra.

Retirements

Major James A. Healy, Air Corps, one of the few remaining World War "Aces" actively connected with the Army Air Corps, was retired at the Station Hospital at Fort Sam Houston, Texas, on October 31, 1936. He has been under treatment at the hospital since June 20, 1936.

Major Healy was born March 26, 1893, at Fort Leavenworth, Kansas. He graduated from St. Peters College, Jersey City, N.J., and took a one-year course in law at Fordham University. He began his aviation career during the World War, enlisting August 23, 1917, at Essington, Pa., in the Aviation Section, Signal Reserve Corps. He received his ground school training at the University of Toronto, graduating November 7, 1917, and his flying training at Taliaferro Field, Fort Worth, Texas. Qualifying as a Reserve Military Aviator, he was commissioned a second lieutenant, Aviation Section, Signal Corps, January 15, 1918, and assigned to active duty with the 147th Aero Squadron at Taliaferro Field, where he served in the capacity of flying instructor. A month later he was sent to duty overseas, and completed an advanced course of flying training at the Third Aviation Instruction Center at Issoudun, France.

On April 5, 1918, Major Healy rejoined the 147th Aero Squadron and departed for the Toul front. He operated on the Toul sector until June 20, 1918, his work consisting of offensive and defensive patrols, shooting down enemy balloons, "straffing" troops and truck trains on the roads and "shooting up" trenches. The next scene of his operations was Touquin on the Marne, and he patrolled the Chateau Thierry sector, at which place he had as opponents Baron Von Richtofen's "Circus", the best of the German airmen, many of whom were "Aces." He engaged in many combats and, although outnumbered on most occasions, he destroyed approximately 12 enemy aircraft, five of which were officially confirmed, thus entitling him to the unofficial designation of "Ace."

Awarded the Distinguished Service Cross for extraordinary heroism in action near Grandpre, France, October 30, 1918, the act which merited this award to Major Healy was described by the late Major James A. Weissner, commanding the 147th Aero Squadron, as follows:

"Fearless persistency is Lieut. Healy's most prominent characteristic. He demonstrated this conclusively on October 30th, when he continued to patrol the Brioules-Grandpre Sector alone after he had become separated from his comrades. While flying at 600 meters about four kilometers north of Grandpre, Lieut. Healy discovered an enemy plane, type Halberstadt, 200 meters above him, hiding in the sun. The Spad maneuvered for position as it climbed to attack and soon outgeneraled the German. He reached a point above and behind the Halberstadt, a most dangerous position, but one that offers the best shot to the pilot bold enough to approach from that angle. He dove at the observer, firing one burst into his cockpit that sent the Halberstadt to the ground in a steep dive. As he finished this engagement, Lieut. Healy lock-

ed up just in time to see two enemy planes, type Fokker, peaking on him. He quickly pulled his machine into a steep bank, dodged and maneuvered with great agility and dexterity. The Fokkers had tried to bag him between them, using the Halberstadt as a decoy, but Lieut. Healy proved more than a match for all three of the enemy and, although his gasoline was getting low, he stuck to the fight until he picked a vulnerable angle on one Fokker and fired several bursts into the machine that sent it crashing to the ground at Grandpre. Having completely defeated the trio, Lieut. Healy returned to our side of the lines without a drop of gasoline in his tank. Both planes are officially confirmed."

In addition to the above mentioned decoration, Major Healy received the Croix de Guerre from the French Government for extraordinary heroism in action on July 2, 1918, and one palm leaf for another feat of heroism on the same day. He was cited by the French for the Ordre de L'Armee when, on July 24, 1918, with four airplanes, he attacked eight enemy planes, and after a hard fight brought down one of his adversaries. Another French decoration he holds is Knight of the Legion of Honor.

Returning to the United States in February, 1919, Major Healy was on duty for a brief period at the Air Service Depot at Garden City, Long Island, N.Y. Transferred to the Office of the Director of Air Service, Washington, D.C., he was on duty in the Personnel Section March to July, 1919, and in the Information Division to April 21, 1921. Becoming interested in lighter-than-air work, his application to undergo training in this branch of aviation was approved, and he was sent to the Balloon School at Ross Field, Arcadia, Calif. He was rated a Balloon Observer on November 22, 1921. He then pursued the course of instruction at the Balloon and Airship School at Scott Field, Belleville, Ill., graduating in February, 1924, and receiving the rating of Airship Pilot. He continued on duty at Scott Field as Flying Instructor, in addition to several other assignments, until February 7, 1927. During the summer of 1924, he was on temporary duty at Fort Bragg, N.C., commanding a detachment of the 19th Airship Company engaged in regulating artillery fire during the period of a training camp. He commanded the 8th Airship Company during September, 1924, and served as Engineering Officer of this organization until September, 1925, when he was assigned as Assistant to the Officer in Charge of the Air Intermediate Depot, Scott Field. He also served as Inspector of the Depot.

During the National Balloon Race at Little Rock, Ark., in April, 1926, Major Healy performed very creditable work as Operations Officer for the Army Air Corps teams participating in this competition. Shortly thereafter he served as Operations Officer for the Army team sent to Belgium to participate in the Gordon-Bennett International Balloon Race.

Reporting for duty at Kelly Field, Texas, in February, 1927, Major Healy was assigned to the

42nd School Squadron. In April and May, 1927, he was Assistant Engineering Officer. In June and July he commanded the 99th Observation Squadron; in August, the 39th School Squadron, and from September, 1927, to March, 1930, the 42nd School Squadron, in addition to various other duties, among them that of defense counsel on general and special courts martial.

Transferred to France Field, Panama Canal Zone, in March, 1930, Major Healy was assigned to the 7th Observation Squadron and performed various duties therewith until November, 1930, when he was assigned to the 25th Bombardment Squadron, which he commanded to April 10, 1931. On duty at Brooks Field as Inspector of airplanes to October 20, 1931, he returned to Kelly Field and resumed his former duty of commanding officer of the 42nd School Squadron.

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AIR CORPS LOSES VETERAN NONCOMMISSIONED OFFICERS

The recent death of Master Sergeants Harry E. Turner (Kelly Field) and Carl W. Bradbury (Barksdale Field); the retirement of Master Sergeants Oscar Young (Chanute Field) and Technical Sergeant Edward Hudson, (Langley Field), and the discharge for disability of Master Sergeant Hans E. Busch, of March Field, resulted in a number of changes in the noncommissioned ranks of the Air Corps.

Promotions to the grade of Master Sergeant were given to Technical Sergeants Gust A. Tayloe, Mitchel Field; Lidias H. Albee, Langley Field; William H. Udell, March Field; Joseph L. Myers and 1st Sergeant Lee R. Weber, Panama Canal Department.

Staff Sergeants promoted to Technical Sergeant were Horace R. Ackerly, Panama Canal Department; William R. Taylor, Barksdale Field; Fred A. Roberts, Bolling Field; Peyton E. Hutchens, Langley Field; Arvel McFadden, Fort Sam Houston, Texas; Victor Berend and John L. Davis, Randolph Field.

Master Sergeant Christopher Murphy, of Mitchel Field, is slated to retire on November 30th, next.

Master Sergeant Turner was born August 22, 1897, at Lyon Mountain, New York. He originally enlisted in the Field Artillery on February 8, 1904, and served with this branch of the service until June 16, 1914. The remaining years of his enlisted servicewere with the Air Corps. During the World War, when he was appointed Master Electrician, he served overseas with the 161st and 1101st Aero Squadrons and the 2nd and 8th Balloon Companies. He was promoted to Master Sergeant in 1920, and he served at Brooks Field, in Hawaii and the Philippines, at Fort Bliss, Texas, and at Kelly Field, Texas. His last assignment was as line chief, 42nd School Squadron, Kelly Field.

Master Sergeant Bradbury was born at Watkinsville, Ga., August 26, 1892. His first enlistment, January 15, 1912 to January 14, 1915, was with the Infantry, and thereafter he served continuously with the Air Corps. He was with the 30th Balloon Company for one year as a Staff Sergeant; with the 43rd School Squadron

as Master Sergeant for 4½ years; in the Hawaiian Department; at Bolling Field, D.C.; and with the 3rd Attack Group at Fort Crockett, Galveston, Texas, and later at Barksdale Field to which the Group subsequently moved. He completed the aerial photographic course at the Air Corps Technical School, Chanute Field, Ill., in 1931. Sergeant Bradbury was a member of the 1st Aero Squadron during the World War, and he served with this organization overseas.

Master Sergeant Young entered the military service in the 88th Coast Artillery, July 8, 1905, and since that time has served six years in the Coast Artillery and three years in the Infantry. The remainder of his service has been in the Air Service, Signal Corps and the Air Corps.

From June, 1917, to March, 1921, Sergeant Young, better known as "Cy," served as a pilot and instructor in flying when the airplane was yet a crude vehicle of the skies. In 1917, while at Mitchel Field, he built his own ship from salvaged parts of other planes. In a test "hop" made in November of that year, everything went off in clock-like precision. Control was easy and not strained, and maneuverability favorable. Later, in 1919 and again in 1925, plans, photographs and data were forwarded to the Engineering and Test Divisions for consideration, but due to the photographic evidence seeming to show a marked similarity to the Jenny used at the time, it was deemed to be of little or no improvement over the type already in use. Sergeant Young was, however, highly commended for his interest and craftsmanship. During that same period he was recommended for appointment as a commissioned officer.

In approximately seven years at the Air Corps Technical School at Chanute Field, Ill., he has acted in the capacity of instructor. Now, in his late forties and yet a comparatively young man, "Cy" retires to a quiet life to pursue his hobbies of hunting and fishing in Indiana.

Technical Sergeant Hudson, a native of New York City, was born August 10, 1883. He enlisted in the Infantry July 17, 1905, and served three enlistments in that branch of the service. Curiously enough, he served first with the 9th Infantry, then with the 22nd Infantry and 6th Infantry, and each time with Company C of these respective regiments.

During the World War he served as a 1st Lieutenant and, following his honorable discharge, he enlisted in Company E, 9th Infantry, and served therewith from March 6, 1920 to December 28, 1920, when he was discharged to accept an appointment as Warrant Officer. Discharged as a Warrant Officer, at his own request, June 3, 1922, he enlisted in the Air Service February 10, 1923, and served continuously with this branch of the service until his retirement. He was with the 42nd School Squadron for nine years, and from July 6, 1932, he served with the 40th Attack Squadron until May 1, 1936; with the 58th Service Squadron, the 1st Transport Squadron and with Base Headquarters and 1st Air Base Squadron until October 31, 1936, the date of his retirement.

While with the Air Corps, Sergeant Hudson was stationed at various times at Kelly Field, V-7150, A.C.

Texas; Fort Crockett, Texas; and Langley Field, Va.

Master Sergeant Busch, a native of Copenhagen, Denmark, was born February 19, 1879. After serving for three months with Company K, 3rd Infantry, Oregon National Guard, in the Federal service, he enlisted in the Signal Corps on February 1, 1917, and was discharged as a Master Sergeant, January 31, 1920. He reenlisted the following day in the same grade with the 90th Attack Squadron, and served over 10 years with this organization. He graduated from the Parachute Riggers' course at the Air Corps Technical School, Chanute Field, Ill.; served for approximately 9 months in Hawaii, in 1917; for two years in the Philippines (1932-1934) with the 66th Service Squadron at Nichols Field and later with the 3rd Pursuit Squadron at Clark Field; at Scott Field, Ill., for a month, and at March Field, Calif., for approximately 2 1/2 years.

Master Sergeant Murphy, a native of Castlebar, Ireland, was born May 31, 1886. Enlisting in the Army, January 8, 1908, he served six years with Company C, 19th Infantry, and then affiliated himself with the aviation branch of the service. During the course of his duty with the Air Corps, he served at Kelly Field, Chanute Field, Panama Canal Department, Langley Field, Bolling Field, Hawaiian Department and Mitchel Field, N.Y. His appointment as Master Sergeant dates from July 1, 1920.

Staff Sergeant Delbert S. Lee, of the 61st School Squadron, Kelly Field, Texas, was retired from the Army on October 31, 1936, after completing 30 years of service with the Infantry and the Air Corps.

Sergeant Lee served with the Infantry until 1927, and since that time was stationed at Kelly Field. A dinner in his honor was served at the 61st Squadron mess, during the course of which he was presented a gold watch and chain.

Sergeant Lee participated in three major battles during the World War, and saw many minor engagements. He will remain in San Antonio until the Spring of 1937 and then return to Bowling Green, Ky., his home.

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GENERAL KILBOURNE INSPECTS SCOTT FIELD

Major General Charles E. Kilbourne, Commanding General of the 6th Corps Area, made a tactical inspection of Scott Field, Belleville, Ill., on the morning of November 5th. Flying aboard the TC-14 airship, piloted by Captain James C. Shively, Air Corps, General Kilbourne conducted tactical exercises which required the cooperation of the 15th Observation Squadron and troops from the garrison at Jefferson Barracks, Missouri.

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Captain Charles A. Horn, Air Corps, was appointed to the temporary rank of Major to rank from November 4, 1936.

WAR DEPT. ORDERS AFFECTING AIR CORPS OFFICERS

Changes of Station: To Office Chief of the Air Corps, Washington, D.C.: Major Norman D. Brophy, from duty as Instructor, Colorado National Guard, Denver, Colo.

To Chanute Field, Ill.: Captain Robert W.C. Wimsatt, from Middletown Air Depot, Pa.

To March Field, Calif.: Major Samuel G. Frierson and 1st Lieut. Jack W. Wood, from the Hawaiian Department; Captain John S. Griffith, from Wright Field, Ohio.

To Pittsburgh, Pa., for duty with Organized Reserves, 3rd Corps Area: Major Harold D. Smith, from Hamilton Field, Calif.

To Air Corps Training Center, Randolph Field, Texas: 1st Lieuts. Daniel S. Campbell and Benjamin J. Webster, from Hawaiian Department; Frank P. Hunter, Jr., from Panama Canal Dept.

To Barksdale Field, La.: Major George H. Beverley, from Panama Canal Department; 1st Lieut. Waldire W. Messmore, from Hawaiian Department.

To Langley Field, Va.: 1st Lieuts. George E. Price, from Hawaiian Department; and Neil B. Harding from Panama Canal Department.

To Mitchel Field, N.Y.: 1st Lieut. Emery S. Wetzel, from Hawaiian Department.

To Panama Canal Department: 1st Lieuts. Kenneth B. Hobson, from March Field; Wm. M. Garland, from Hamilton Field; Truman H. Landon, Randolph Field; Elvin E. Maughan, Fort Lewis, Wash.; Captain Thurston E. Baxter, 1st Lieuts. Robert O. Cork and Kenneth R. Crosher, from Barksdale Field; 1st Lieuts. Trenholm J. Meyer, Randolph Field; James P. Newberry, Brooks Field; Kenneth A. Rogers, Kelly Field; Edgar A. Sirmyer, Langley Field.

To the Philippine Department: 1st Lieut. Leon R. Brownfield, from Scott Field, Ill.; Joseph A. Miller, Langley Field.

To the Hawaiian Department: Major Newman R. Laughinghouse, from Fort Riley, Kansas; 1st Lieuts. Merlin I. Carter, from Barksdale Field; Lawrence H. Douthitt and Theodore B. Anderson, March Field; Donald R. Lyon, Wilbur Erickson and Richard C. Lindsay, from Hamilton Field; Leland S. Stranathan, George F. Kehoe and Archibald M. Kelley, Randolph Field; Donald W. Titus, from Fort Lewis, Wash.

To Randolph Field, Texas: 1st Lieut. Lawrence B. Kelley, from Panama Canal Department.

Private, 1st Class, S.L. Fahey, pilot with the 3rd Transport Squadron, San Antonio Air Depot, Duncan Field, Texas, since September 1, 1936, and formerly of Brooks Field, Texas, was transferred as a Private to Scott Field, Ill., and reported there for discharge and to be placed on extended active duty as 2nd Lieutenant, Air Reserve, at that station.

Chemical Warfare Drills at Hamilton Field (Continued from Page 6).

and humorous remarks are heard, all realize its importance and take an active part in these drills.

WASHINGTON OFFICE NOTES

"BOMBARDMENT" OF
GREAT SALT LAKE

Colonel Lawrence S. Churchill, commanding officer of the Middletown Air Depot, was in the Chief's Office for a conference on October 29th.

Visitors to the Chief's Office during the course of the past two weeks were Lieut.

Colonels William O. Butler from Kelly Field, Texas, and William B. Wright, Jr., Air Officer, 5th Corps Area, Columbus, O., while on extended navigation flights; 1st Lieut. Leon R. Brownfield, from Scott Field, during extended navigation flight; Major Arthur W. Brock, Jr., and Captain Thomas H. Chapman, from the Materiel Division, Wright Field, Ohio, for conference; and 2nd Lieut. James W. Totten, from Kelly Field, enroute to his new station, Langley Field, Va.

Lieut. Colonel Harvey S. Burwell and Lieut. Colonel Michael F. Davis departed on November 6th and 7th, respectively, on leave of absence.

Captain Haynie McCormick, of Scott Field, after several days on temporary duty in the Chief's Office, departed on leave of absence.

Officers returning to their desks after completing missions of ferrying planes eastward from the West Coast were Lieut. Colonel Ross G. Hoyt, Information Division; Major Rowland C.W. Blessley, Reserve Division, and Captain D.F. Stace, Supply Division.

Major Malcolm C. Grow, Chief Flight Surgeon, returned from leave of absence.

Major Morton H. McKinnon, Personnel Division, departed November 10th on a navigation flight to Fort Leavenworth, Kansas.

Major Lowell H. Smith, Chief of the Inspection Division, left November 10th for Wright Field, for conference.

Captain James W. Spry returned November 7th from an inspection trip.

Major William B. Souza ferried an O-46A plane to Mitchell Field.

Pan American Airways is reported to have secured permission to open an air transport service in the Panama Canal Zone between France Field on the Atlantic side and Albrook Field on the Pacific side. There has been no announcement regarding schedule or rates. It is expected that the service will be daily and that operations will start about December 15th.

quarters of the First Wing, GHQ Air Force, March Field, Calif., nine of the latest type Martin Bombers will swoop over a pyramidal target in the Great Salt Lake on November 14th in one of the most spectacular demonstrations of modern Army bombing technique ever seen in the far West.

Brigadier General Delos C. Emmons, wing commander, will assume that the Great Salt Lake is a great body of water, comparable to the Atlantic or Pacific, in which an enemy ship is headed toward the United States shore. He will order Lieut. Colonel Hubert R. Harmon, commander of the 19th Bombardment Group, to attack the ship and destroy it before it reaches the American coast. The general problem will be to conduct a long range bombing mission and to advance the operating base 125 miles to Bakersfield during the course of the flight. As the planes will fly the 600 miles to Salt Lake at a high altitude, oxygen equipment will be used.

The Great Salt Lake was chosen for this experiment in bombing practice for several reasons. Permission was obtained recently from Governor Henry H. Blood, of Utah, to use the Lake for this purpose. The distance, roughly 600 miles, is the approximate one at which Army airplanes would contact the fleet of an enemy air power, in either the Atlantic or Pacific, according to tactical experts. They base their opinions on the types of airplanes now used by the Army Air Corps.

As the flight to Salt Lake is all over land, little risk is involved, compared to that which would be encountered in a practice mission to sea for an equal distance. Possibly the most important reason is to familiarize combat crews with operating conditions in the eleven Western States covered by the Wing.

As one of the objects of the field exercise is to discover the effects of extreme cold and fatigue on bombing accuracy, the time involved, between three and four hours, is ideal for making this test.

While the nine speedy Martins are whirling through the skies with their crews of four men, including one pilot, one bomber, a radio operator and a gunner each, the ground forces of the 19th Bombardment Group, consisting of 40 officers and over 300 enlisted men, will entruck for Bakersfield. Their object will be to establish a bombardment operating base at the Municipal Airport while the mission is in progress.

When the nine bombers arrive at the tent like target, about thirty feet square and fifteen feet high, they will each drop one of the two 300-pound high explosive demolition bombs they will carry for the mission. As these bombs each make a crater over six feet deep and nearly twice as wide in the hard packed sand of Muroc Dry Lake, it is easy to imagine what terrific splashes these missiles will create in the briny depths of the Great Salt Lake.

Wheeling away from the hapless target, the nine destroyers from the air will get comfortably out of range of the imaginary antiaircraft

Obituaries

guns the equally pseudo enemy airship is carrying. Approaching the target again, they will repeat their salvo of nine 300-pounders. The combined load of the nine machines for the 600-mile non-stop mission will be 5400 pounds.

Construction of the target is under the supervision of Captain David Goodrich, the commanding officer of the Air Corps Detachment of the Municipal Airport, Salt Lake City. He has lent his assistance at every opportunity to the 19th Bombardment Group in its efforts to stage this field exercise.

The 36 flyers will land at the Municipal Airport, Salt Lake City, at the completion of the exercise, and will remain at the Utah city until Monday, November 16th, when they will return to the bombardment base prepared for them at the Bakersfield airport. The 19th Bombardment Group will leave the Kern County city on November 21st, for its home air base, March Field, at the completion of its annual field exercise.

Originally, the 19th had intended to occupy the Municipal Airport at Bakersfield from November 2nd until the 7th, but the present training program for First Wing units made that impossible. Therefore, the Bakersfield dates were advanced November 14th-21st.

Other bombing that will take place during the maneuver week will occur over the floor of Muroc Dry Lake.

Names of the individual organizations participating in the Bakersfield field exercises are the 19th Bombardment Group Headquarters Squadron, the 30th and 32nd Bombardment Squadrons, the 38th Reconnaissance Squadron and the 23rd Photographic Section. The total number of enlisted men will be over 300, while 60 officers will fly in the maneuvers. Only 18 officers and 18 enlisted men will fly to the Salt Lake bombing.

Group staff officers at Bakersfield will be Lieut. Colonel Harmon, commander; Major James L. Grisham, executive; Lieut. Wentworth Goss, operations and public relations officer; Lieut. Dolf Muhleisen, adjutant, and Lieut. Roger V. Williams, communications officer.

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There is a well known fleet air arm story of a young flying officer, R.A.F., who was pilot of an aircraft in which the observer was a Lieut. Commander, R.N. After carrying out a long distance reconnaissance over dreary wastes of water many miles from their base, the flying officer decided that it was time to go home, as petrol was running short. He intimated this to the observer, who disagreed. It appears that some argument developed over the matter, in which it is conceivable that personal abuse featured. The observer eventually threw his gold lace into the balance.

"I am the captain of this aircraft," he said (somewhat injudiciously). "I shall carry on for another half hour.

"Yes?" replied the pilot. "Well, you can do what you like with your half. I'm taking my half home. Which he did.

- The Fighting Forces.

The death on November 11th of 1st Lieutenant Walter A. Fenander, as the result of an airplane accident in the vicinity of Wheeler Field, Hawaii, removed from the ranks of the Air Corps a most promising young officer.

Lieut. Fenander, a native of San Francisco, Calif., was born February 3, 1907. After 8 years of grammar school and four years of high school, he attended the University of Nevada for one year and the University of Southern California for two years, specializing in Electrical Engineering.

Appointed a Flying Cadet in the Air Corps, he graduated from the Primary Flying School, March Field, Calif., June 28, 1928, and from the Advanced Flying School, Kelly Field, Texas, October 20, 1928. He was commissioned a 2nd Lieutenant in the Air Reserve and rated an "Airplane Pilot," effective October 30, 1928.

Successful in his examination for appointment in the Air Corps, Regular Army, he accepted a commission as 2nd Lieutenant, June 15, 1929, and was assigned to station at Crissy Field, Presidio of San Francisco, Calif., where he performed miscellaneous duties with the 91st Observation Squadron.

Lieut. Fenander completed the course in Aerial Photography at the Air Corps Technical School, Chanute Field, Rantoul, Ill., in July, 1931, following which he was assigned to duty at Scott Field, Belleville, Ill., as commanding officer of the 1st Photo Section.

During the operation of the air mail by the Army Air Corps in the winter of 1934, Lieut. Fenander flew the mail on the Washington - Greensboro - Atlanta route.

In March, 1935, Lieut. Fenander sailed for duty in the Hawaiian Department. Assigned as Supply Officer of the 75th Service Squadron, he held the temporary rank of Captain for about a year.

The sincere sympathy of the Air Corps is extended to the deceased officer's bereaved family.

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NEW CLASS STARTS TRAINING AT ADV. FLYING SCHOOL

Class No. 27-B started flying training at Kelly Field, Texas, October 19th. The students were transferred from the Primary Flying School on October 10th, and the following week was devoted to the many details necessary for the orientation of the newcomers.

The ground school program for the school has been reduced to 136 hours, the previous class having 150 hours. A change was also made in the flying training program. The present class will receive but 12 hours transition, whereas the last class was given 15 hours. Three hours, however, have been added to Instrument Flying, making a total of 21 hours. The previous class was given 18 hours.

Four instructors, 1st Lts. John H. Bundy, John H. Ives, Troup Miller and 2nd Lieut. Clarence M. Sartain, have been on temporary duty at the Air Corps Primary Flying School since October 21, 1936.



Kelly Field, San Antonio, Texas, November 6th.

Members of the Photo Section, of which Lieut. Charles F. Densford is the commanding officer, are very proud of their chief as he continues to accumulate trophies, etc., as rewards for his prowess in pistol shooting. Recently, Lieut. Densford returned from the Oklahoma State Rifle Association's Matches with the following records to his credit; Entering 13 matches, he won first place in 11 of them and second place in one. He won the Oklahoma State Pistol Championship, using a .38 caliber revolver, with a score of 1418 out of a possible 1500 and having a margin of 26 points over the next highest competitor. He also shot three perfect scores.

Captain Walter G. Bryte transported Captain C.E. Crumrine to Rockwell Field in a BT, in order to enable the latter to comply with orders directing him to proceed from Rockwell Field in an O-1A to Wright Field and there to obtain an O-25A which had been assigned to Kelly Field.

Captain John C. Crosthwaite recently reported for duty and was detailed as Assistant Adjutant, also Acting Secretary of the Advanced Flying School during the absence of 1st Lieut. Kenneth A. Rogers, who is on leave and participating in the Mexico National Championship Matches now being held.

Report reaches Kelly Field that their nationally known golf expert, 1st Lieut. Kenneth A. Rogers, is opening the eyes of many aspirants to the honor of being the champion of the Mexico National Golf Tournament which is now taking place. In a workout, Lieut. Rogers scored a sub-par 71 over the country club course at Mexico City. The Mexico National Title will be defended by Ed White, of Bonham, Texas. Lieut. Rogers is expected to eliminate Johnny Goodman, of Omaha.

Hawaiian Air Depot, Luke Field, T.H.

Fire Prevention Week was extensively observed at the Hawaiian Air Depot. A special board was convened to study matters pertaining to fire prevention. This board made a very thorough inspection of all activities within the Depot and made several recommendations which, it is believed, will further serve to eliminate the possibility of fire. A fire drill was also held in order to test the functioning of the apparatus and the general efficiency of the crews manning such equipment. Generally satisfactory results followed the observance of Fire Preven-

tion Week.

The Hawaiian Air Depot continues to grow, although one who has been here before may wonder at such a statement in view of the limited space available within the Depot area. Increased activity, however, has made it mandatory for the extension and development of certain departments, as a result of which additions, new buildings, stockades and other extensions continue to "sprout" up on unoccupied ground.

The Machine Shop has recently completed an extensive addition, greatly enlarging the facilities of this unit by adding several thousand square feet of floor space.

The Engineering Section, on October 15th, bade aloha to Miss Harriett E. Guenther, cost accounting employee, who transferred to the office of the Department Signal Officer at Fort Shafter.

Mr. Wilbur T. Crane also left the Engineering Section to accept a position as an instructor with the Department of Vocational Education, Territory of Hawaii.

Scott Field, Belleville, Ill., November 9th.

Colonel Frank M. Kennedy, Commanding Officer, flew to Bolling Field on October 20th in an C-46A plane piloted by 1st Lieut. Leon R. Brownfield, returning on October 24th. Colonel Kennedy left October 29th on seven days' leave to attend the home-coming celebration at the University of Wisconsin, of which he is an alumnus.

The Hon. Harry H. Woodring, Secretary of War, visited Scott Field November 4th, enroute to Washington from Topeka, Kansas.

Captain William L. Ritchie, a member of the staff of the Secretary of War, visited Scott Field, where he was formerly stationed, on October 28th and November 4th, remaining overnight on each stop.

Dr. Clifford W. Seibel, Superintendent of the Bureau of Mines Helium Extraction Plant at Amarillo, Texas, stopped at Scott Field on November 2nd while enroute to Washington, D.C.

San Antonio Air Depot, Duncan Field, Texas.

Major E.V. Harbeck, Jr., of the Inspection Division, Office of the Chief of the Air Corps, arrived at the Depot on October 31st to begin an air tour of technical inspections of this Depot and Barksdale, Randolph, Brooks and Kelly Fields. He was accompanied by Technical Sgt. Elliott Scott, assistant to the Technical Supervisor of the San Antonio Air Depot Control Area.

Among recent visitors at the Depot on cross-country flights were the following: Lieut.-Col. J.H. Houghton, ferrying a new C-33 Transport from the Douglas Aircraft Company, Santa Monica, Calif., to Barksdale Field, La., with Lieut. Colonel J.G. Colgan, of March Field, Calif., as passenger; Lieut. F.J. Coleman, of the Fairfield Air Depot, as co-pilot, and Staff Sergeant Freeman; Privates Carnahan, Rumrey and Wood as passengers, October 25-29.

Captain R.W.C. Wimsatt, also ferrying a new C-33 Transport from the Douglas Factory to the Middletown Air Depot, Pa., with Private H.

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McLelland as co-pilot, and Lieut. Wehle, Sgt. Brinkman and Pvt. Gemberling as passengers, Oct. 25-26. - Lieut. (J.G.) R.R. Wolfe, U.S.N., of the Naval Air Station, Pensacola, Fla., piloting a Naval scout land plane by way of Randolph Field, Oct. 26-27. - Lieut. L.H. Tull, Aberdeen Proving Ground, Md., ferrying an A-12 from Edgewood Arsenal, Md., to the Depot for overhaul Oct. 29, and leaving the 30th with a BT-7A for Bolling Field, D.C. - Lieut. M.W. Kaye of Bolling Field, ferrying in an C-43 from Mitchell Field, N.Y., for overhaul, Oct. 30, and ferrying a BT-7 back to Bolling Field, Nov. 2nd.

Mr. E.M. Baker, Principal Storekeeper with the Hawaiian Air Depot, Luke Field, T.H., on a tour of temporary duty in the States studying and conferring on Depot storage and other supply matters, arrived at this Depot October 26th from the Rockwell Air Depot, Calif., for a 3-day stay before departing for the Materiel Division, Wright Field, Ohio.

3rd Transport Squadron: Major E.D. Ferrin, Squadron Commander, as pilot, with Staff Sgt. T.K. Dorsett, co-pilot and Sgt. H.R. Riley and Pvt. 1st Cl. J.M. Price as mechanics, left by rail October 24th for the Douglas Aircraft Co. factory at Santa Monica, Calif., where they obtained and ferried to the Depot, via March Field, Calif., the second new C-33 Transport assigned to this Depot, returning November 3rd.

Recent additions to the Squadron are Sgt. L.S. Whitley, who arrived October 26th, having been transferred from the 2nd Transport Squadron at the Middletown Air Depot, Pa.; and Private R.C. Gray, who was transferred October 24th from the 12th Air Base Squadron, Kelly Field.

Hamilton Field, Calif., November 6th.

88th Reconnaissance Squadron: The organization welcomes with pleasure the two newly commissioned officers, 2nd Lieuts. G.E. Pierce and Jack L. Randolph. Lieut. Pierce has been with the organization since graduation from flying school as a Flying Cadet, as a 2nd Lieutenant. Air Reserve, and now as a regular officer. Lt. Randolph has seen service since his graduation from flying school in the Hawaiian Islands and at March Field. Again, welcome!

9th Bombardment Squadron: The organization bids farewell to its Squadron Commander, Major John M. Davies, who has been in command for the past twenty months, and who during this time has won the admiration and friendship of all officers and enlisted men. Major Davies departs on two months' leave, and upon his return he will be assigned to Group Headquarters. Captain Kenneth Walker, Major Davies' successor as C.O., is a graduate of the Tactical School and the Command and General Staff School. He has been Group S-2-3 for the past year.

31st Bombardment Squadron: The Fort Lewis maneuvers occupied the Squadron's attention for the past two weeks. Intensive preparations preceded the departure of the ground echelon October 24th, the air echelon leaving this base on October 27th.

Flying Cadet Reid was appointed 2nd Lieutenant, Air Reserve, and he and 2nd Lieutenant Lawrence C. Coddington, Air Corps, form the new commissioned members of this Squadron.

Chanute Field, Ill.:

It is a little early yet to gain an accurate view of Chanute Field sports, but the various squadrons and attached troops are girding for seasonal sports battles, among which are basketball and fencing. The attached troops (QM, OD, FD, SC) comprise the "Spareparts" and have put forth some excellent bowlers and softball players.

Last year, the ACTS basketball team made a name for themselves throughout the community, playing all comers, civilian and military, defeating the Ill. Nat. Guard crack HQ Det., which had been undefeated for some time. This year the Chanute team will be made up of the best players of each squadron team, and will undoubtedly place Chanute again among the better teams in the surrounding communities.

Last year's fencing team, under the competent direction of Sgt. Guy M. Shockley, met some of the strongest sword teams in the middle west, and the fact that they were losers by only a few points is considered exceptional, since most members of the team were rank amateurs who had never held a sword before. This year's team has had some experience, a number of the swordsmen, recruited from the Technical School students, having had experience in civilian life, either in National Guard sword and saber competition, or in ROTC units. Chanute in the past placed some excellent men in the field and continues to retain some, among whom is Earl J. Woodruff who, while a member of the 33rd U.S. Infantry in Panama, managed to place his team in fourth place in the divisional meets by scoring eight of the ten points made.

Luke Field, T.H.:

Inter-Squadron athletics are at the height of their activity. Results to date are as follows: The 4th Observation Squadron won the Post Volley ball championship without losing a game. After tying with the 23rd Bomb. Squadron in the handball tournament, the 4th won the play-off. To date, the 23rd Squadron basketball team stands undefeated. For the past three years, the Luke basketball team led in the Honolulu Sector League and twice competed for the Department Championship. While it is too early to foresee where Luke will stand in the forthcoming basketball season, prospects are good for a strong team. Some of the opposing teams, such as Fort Kamehameha and the 3rd Engineers, Schofield Barracks and Department Champions in 1934 and 1935, have lost some of their leading players.

Scott Field, Ill.:

The Scott Field gridders, although regretting to lose 2nd Lieut. Benjamin H. Holloway, Air Reserve, as their coach, he having been ordered to Hawaii, were happy to learn that their new mentor was to be 2nd Lieut. Noble O. Sprunger, former backfield star of the Indiana University Big Ten team for three years.

In Scott Field's first game, with the Ranken School of Mechanical Trades team of St. Louis, the score was 38 to 0. Scott Field, however, lost to the 1st Mechanized Cavalry, at Fort Knox, Ky., 13 to 6, the Cavalrymen pushing over their winning touchdown in the last few minutes of play.

MR. FALK HARMEL

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Information Division
Air Corps

December 1, 1936

Armaments Building
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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THE UNITED STATES ARMY, A PIONEER OF PIONEERS
By 2nd Lieut. Ray W. Clifton, Air Corps



The average layman thinks of the Army in the terms of being an organized body of men armed only for the purpose of war. The present day United States Army is a small, efficient, and effective mobile force which is available for emergencies within the continental limits of the United States, Alaska, Hawaii, the Philippines, Panama, Porto Rico and China. Although the primary purpose of all of the work of the Army is to provide for national defense, it has and does play a large part in the development of the nation. Due to its size and efficiency, it has been able to accomplish tasks which have been too large for private enterprise.

When the Louisiana Purchase was made, very little was known of the land. Captain Meriwether Lewis and Lieutenant William Clark were sent with 4 sergeants, 23 privates, and some Indian guides on the "Lewis and Clark Expedition" to explore this new territory and to bring back the knowledge of its resources. The information obtained was of such great value to the pioneers that Congress rewarded all the men with grants of land and double pay.

Soldiers of the Army went along with the pioneers into this new territory, surveyed the land, blazed trails, built roads, and protected the settlers from the Indians.

Practically every boundary of the United States and most of the State boundaries were surveyed and marked by the Army engineers. They helped construct the Chesapeake and Ohio and the Erie Canals. Many of our lakes have been surveyed by them. Lighthouses were built by the engineers to aid navigation. They have always been active in flood prevention, in the improvement of rivers and harbors, and in the protection and preservation of navigable waters for which are spent a certain portion of the funds which are appropriated by Congress for the War Department.

The Army engineers have built many public buildings in Washington, D.C., such as the Washington Monument, the Library of Congress, the old Post Office Building, the Government Printing Office,

the new Municipal Building, the War College, the wings and dome of the United States Capitol, and the old Agricultural Building. They supervised the construction of the Lincoln Memorial, and most of the park system of the District of Columbia.

Many of the early railroads, such as the Boston & Albany; New York, New Haven & Hartford; the northern Central; the Baltimore and Ohio, and others were located, constructed and managed for a time by the Army engineers. Later, they assisted in building the transcontinental railroads. At the request of the Czar of Russia, an Army officer was sent to build a railroad from Petrograd to Moscow.

The Army stimulated the beginnings of the standardization of the manufacture of machinery and the use of interchangeable parts. The results are that nowadays one can get a new part for most any piece of machinery, of which the car is an example.

The tractor industry was greatly augmented by military experimentation in tanks and artillery tractors. So successful were they that tractors have been adopted by agriculture and other occupations.

The Weather Bureau was organized and operated for a time by the Army. The Bureau has recently developed a new method of forecasting weather. In order to accomplish this, airplanes are flown up to 17,000 feet every morning at designated stations throughout the United States for the purpose of carrying the weather instruments. The Air Corps is cooperating with the Weather Bureau by furnishing airplanes and personnel used at many of these stations.

The Lighthouse Service, which is an important aid to ocean traffic, was built up and operated by the Army before civil agencies took it over.

A very rapid expansion in the telegraph system of the nation occurred just after the Civil War, due largely to the work which was done by the Signal Corps during the war. Three thousand miles of telegraph lines were operated in the South by the Corps as late as 1877, which provided the framework for the systems

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now used in that section.

The Army has given aid in many disasters. It rendered aid in the Mississippi flood of 1912, and during the crisis of the flood of 1927 the Air Corps personnel carried, by air, food and medicine day and night. The chaotic conditions which occurred after the San Francisco earthquake of 1906 were brought to order. Then there were the Galveston flood of 1915 and other disasters in which the Army received gratitude and appreciation from the survivors.

The great forests in our national parks have received fire protection from the Army fliers who patrolled, by air, over 100,000 square miles of forest land in 1922.

The Chemical Warfare Service has solved the problem of effective and safe fumigation. The tear gas which is very useful in capturing barricaded criminals and in suppressing riots is another product of this service. It has produced a gas mask that is helpful in protecting miners against the noxious carbon-monoxide gas. The Service aided in the experiments which led to the dusting of crops by airplanes to exterminate the boll weevil and other insect pests. The department is searching continually for methods which will destroy various insects.

Steel products were first demanded and purchased by the Army. The Ordnance Department prescribed the use of nickel steel for army equipment, causing it to be recognized to such an extent that it is now in common use commercially.

Soldiers accompanied the gold seekers to the Alaskan Klondike. The peaceful atmosphere in this territory was due to the regulations which required all newcomers to deposit their firearms with the Army for safe-keeping. The soldiers not only policed but penetrated the wilderness, surveyed the land, projected railroads, and built roads. The Signal Corps established radio stations, built 600 miles of telegraph lines, and connected Alaska with the United States by laying an ocean cable.

The Army has given momentum to the forces of civilization in the Philippines, Hawaii, Cuba, Porto Rico and Panama by building public utilities, stamping out disease, educating the people, promoting the spiritual welfare and protecting them from aggression.

Through the efforts of the Medical Department, much constructive and life-saving work has been done. The hookworm has been about eliminated. The number of deaths in Porto Rico has been decreased to such an extent that the efficiency of the workers has increased 60%. Much relief has been brought to our southern States also.

The discovery by the Medical Department that yellow fever is transmitted from man to man by the *Stegomyia* mosquito

has resulted in the disease being practically eradicated from the Western Hemisphere. Beriberi, one of the most dreaded diseases in the Philippines, has been eliminated. Malaria has been brought under control.

Eliminating yellow fever and controlling malaria made possible the ultimate completion of the Panama Canal without a heavy death toll and under conditions of health similar to those in the United States.

The medical officers have battled other diseases with creditable results. Smallpox took over 7,000 lives during the Civil War, while it took only 14 during the World War. Malaria took 15,000 during the Civil War, while we lost only 25 during the World War from this cause. A research in the United States Army beginning right after the Spanish-American War in connection with vaccination against typhoid fever was successfully completed by medical officers. The results were that one-twentieth of one percent of the total suffered during the World War, as compared with 12% during the Spanish-American War, from this sickness.

At the beginning of the World War, there was no information available as to where materials could be found, who could manufacture them, and how much they would cost. Much confusion and waste followed in mobilizing the industries. Nowadays, Army officers and civilian experts are determining the location of industrial plants, their size, the kind of work they can do, and the price of their products. This mobilization of the industrial resources of the country during peace time is a great service to the nation and to the manufacturers and will result in the elimination of confusion and waste in the event of another war.

Pioneer work has been done by the Army in the educational field by making surveys of the physical, technical, and educational conditions of young men. During the World War it was found that 50% of those examined were physically subnormal; only one-third of the men who thought they possessed technical skill could be rated as journeymen, and nearly 25% were unable to read or write the English language.

The Army has been one of the early pioneers in the development of aviation. Army fliers made the first flight around the world, the first flight from the mainland to Hawaii, were first to fly across the continent in one day, and made the first non-stop flight from coast to coast. The outside loop was successfully accomplished for the first time by an Army officer.

"Blind Flying," which is so vital in the present day air transportation, was developed by the Air Corps. The first blind landing by instruments and without a safety pilot was successfully completed by an Army flier.

Sending messages from airplane to ground by radio originated in the Army. The birth of aerial photography occurred here also.

At the end of the World War, the Army had on hand an excess of "Jennies" and DH airplanes. A number of the military pilots who were discharged purchased the "Jennies" and took them on "barnstorming" tours throughout the nation. This created an interest in aviation, especially among the younger generation. Many DH airplanes were turned over to the Post Office Department to be used on the transcontinental air mail runs. Later, as air mail became more popular, it was deemed necessary to make mail runs at night. This required lighted air routes. The Army fliers helped blaze these routes.

Because it was necessary to carry out military missions at night during the World War, the aeronautical engineers of our Army developed airdrome and airplane lights.

The Air Corps experimental station at Wright Field, Dayton, Ohio, is continually creating new developments in aviation which tends to arouse interest in the profession to the highest degree and stimulate endeavors along similar lines. From these timely events it can be seen that the United States Army is a pioneer of pioneers and one of the Nation's greatest assets. It takes this intimate part in the development of the nation not to gain admiration and profit for itself but for the common defense and welfare of the people which it serves.

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PURCHASE OF NEW OBSERVATION PLANES

The Secretary of War, Hon. Harry H. Woodring, recently announced the award of a contract to North American Aviation, Inc., Inglewood, Calif., amounting to \$3,429,600 for the delivery of a large number of the new North American O-47 Corps and Army Observation airplanes to the Air Corps.

This is a three-place, mid-wing, single engine monoplane with retractable landing gear and tail wheel, and is powered with a Wright "Cyclo" engine developing approximately 850 horsepower. It is equipped with flaps to permit take-off and landing from small emergency airdromes, thereby enabling fast and modern combat airplanes to utilize the types of airdromes which are available to Observation type aircraft serving Corps and Army units.

The O-47 is designed and constructed to perform detailed reconnaissance of the area immediately behind the enemy's front lines and to maintain liaison between higher headquarters and our front line troops. Especial care has been taken to facilitate the work of the ob-

server in securing information of ground activities and promptly transmitting it to the proper headquarters where, due to the promptness by which it has been secured and transmitted, full utilization of the information is possible.

The highly effective streamlining and the efficient utilization of space which characterizes this airplane, together constitute another example of the rapid advance in aeronautical design now being made by American aviation industry.

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SAVING TIME IN AIRPLANE OVERHAUL

In a recent press bulletin issued by the Bureau of Aeronautics, Navy Department, there appears an item relating to a new method employed in overhauling airplanes at the Naval Air Station at Pensacola, Fla., which is quoted below under the belief that it will be of interest to Air Corps personnel, viz:

"For some time in the past it has been the policy at this Station to give top minor overhauls to the fighting planes of Squadron Five. This reconditioning often calls for a coat of dope on wings and fuselage which makes necessary the removal of the wings from the fuselage and their subsequent replacement and realignment. In order to obviate the necessity for removing the wings, a cradle or 'rocking horse' was built out of a few odd pieces of pipe at very little expense. This cradle is somewhat similar to the chassis of a sled in which the runners are bent through 90 degrees at the forward end and then continued straight for a few feet. The plane is fastened securely to the cradle at the plane's gear fitting while it is in a horizontal position. The cradle is then rocked forward; the plane does the first quarter part of an outside loop and rests in a vertical dive position, the weight being borne on bolts which bear on the forward end of the longerons. It is then possible to dope the bottom side of the wings without removing them from the fuselage and, incidentally, it is very handy to work on the bottom side of the fuselage with the plane in a vertical position. The time saved on the first top minor overhaul using the new cradle more than paid for the cost of the material.

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"BAILING OUT"

Aviation slang is often confusing to the layman, as may be noted from the following item in the Navy Press Bulletin:

"One of the Navy Day visitors inquired about a cadet who had jumped in a parachute several days previously and wanted to know if he had been rescued from the water safely. On being told that the cadet had landed safely on dry land, the visitor observed (Continued on page 5).

PHOTOGRAPHY AND HUNTING IN THE PHILIPPINE ISLANDS
By Capt. J. F. Phillips and Lieut. A. R. Maxwell



While on a recent photographic and inspection trip in the Southern Islands, Captain J. F. Phillips, Lieut. Alfred R. Maxwell, Master Sergeant V. A. Merson and Staff Sergeant G. H. Goodrich, of Nichols Field, enjoyed, or rather survived, an interesting crocodile hunt. The hunt was arranged by Lieut. Santiago Novarro, Philippine Constabulary, stationed at Buluan, Cotabata Province, in the heart of Southern Mindanao. Lieut. Novarro has built a very good landing field and always extends an enthusiastic welcome to pilots flying through. Practically surrounded by a lake, a river, and the extensive Liguasan marches, this is a crocodile country. Although several hundred thousand skins were shipped from Cotabato in the early thirties, there are many left.

For some weeks the two officers had been boning up on croc hunting and fixing up their rifles. They learned that crocs are caught in many ways - by spearing, harpooning, lassoing, or fishing with live monkeys or dogs as bait. Maxwell was converted to the spearing idea, but Phillips allowed as how he'd stick to his trusty Blar gun. As it turned out, rifles were useless for hunting them in the water, and spearing them required an expertness in handling one's self in a narrow banca (dugout canoe).

The party started out after dark in three bancas, crewed by two Moros each. The idea was to wedge one's self in the bottom of the banca and hope it didn't capsize. The bow-paddler wore a battery or carbide flashlight on his head, miner fashion, and was equipped with a long bamboo spear with a detachable head secured to the handle with a length of rope. The hunt was conducted mostly among the lotus pads and grasses which line the shores of Lake Buluan for a depth of several hundred yards. The crocs were located only by their eyes, which were above the water and glowed redly in the ray of the flashlight. When an eye was sighted, the stern-paddler paddled quietly up to the croc while the spearman stood poised for action. The croc was supposed to be speared in the neck, dragged to the banca, and killed with an axe-blow on the head.

Unfortunately, although the hunt lasted until near dawn, all the big crocs were elsewhere; and with one exception, all of the catches were made by hand. The Moro would drop his spear and neatly snatch the reptile out of the water by its neck. It looked simple. The Moro then lashed the dangerous mouth closed and tied the head to the tail. Alto-

gether, about twenty crocs, ranging in length from one to three feet, were caught. Most of them were sent to Nichols Field alive and distributed. Several remarks were heard about "frog hunting."

The mosquitoes were another story. They appeared to be even larger than the crocs and certainly more numerous and dangerous. The hunters passed through many swarms as thick as rain, which hummed as loud as a frog-chorus. The hunt was a great experience but, remembering the mosquitoes and the cramped bancas, it is doubtful if any of the four will ever return for the "big ones that got away."

Photographic accomplishments on this flight consisted of exposing over 200 oblique negatives. Landing fields, towns and characteristically Philippine subjects in the order named were sought.

Aerial photography in the Philippines is very much a matter of opportunity, due to the habitual cloudiness and the fact that safety precautions require more than one plane to be in every flight over the jungles and water hops. This decreases the mobility which normally characterizes a photo mission. Very early morning is the time of least cloudiness in the interior of the Islands, while along the coast line on-shore winds are the prayer of the photographer, as they usually prevent clouds from forming for at least a short distance inland.

Among the shots were some of the Moro fishing village at Jolo. This is a jungle of shacks built over the water originally by the immigrating Chinese pirates who did not get along amicably with the Moro Datus. That early animosity has disappeared, but the shacks remain - a jumble of bamboo poles and thatch, reached by rickety catwalks of rotting poles laid two or three side by side. Here life is extremely simple, unashamed and olfactory. The three-in-one plan is followed - bathing, garbage and sewage disposal, and fishing being done in the same water under each house. It is regrettable that aerial photographs lack the ability to capture some of the rank smells that pervade the village. Shots were also made of a village of Sea Gypsies built over a large reef off the east coast of Jolo. These villages are semi-permanent and are made by raising their sailing vintas above the sea on bamboo stilts. An entire family lives in one vinta under a nepa roof. There are no rents, but the style can hardly be imagined.

The Floating Islands of Liguasan Marsh in Mindanao were photographed, possibly for the first time. Here decaying lily pads and swamp grass form a fertile soil insecurely based on the matted roots un-

(Continued on page 8).

GRADUATION OF FLIGHT SURGEONS



FIVE medical officers of the Regular Army and one from the Navy graduated on Saturday, November 14, 1936, following the completion of the four months' basic course of instruction at the School of Aviation Medicine, Randolph Field, Texas. These graduates were assigned to stations, as follows:

- Captain Stuart A. Cameron, Chanute Field, Rantoul, Ill.
- Captain Jasper N. Knox, Rockwell Field, Calif.
- Captain Cyril E. McEnany, Kelly Field, Texas.
- Captain Carl R. Darnall, Selfridge Field, Mich.
- Captain F. Whitney Hall, Fort Leavenworth, Kansas.

Lieut. Thenton D. Boaz, M.C., U.S. Navy, Naval Air Station, Pensacola, Fla.

At the graduating exercises held in the School Building, the class was addressed and presented with diplomas by Colonel Haywood S. Hansell, Medical Corps, the Surgeon of the 8th Corps Area, Fort Sam Houston, Texas. Major G.J. McMurray, the Chaplain at Randolph Field, delivered the invocation and benediction. Colonel A.D. Tuttle, Medical Corps, the Commandant of the School of Aviation Medicine, presided.

Among those present were Brigadier General James E. Chaney, Air Corps, Commanding General of the Air Corps Training Center, Randolph Field; Colonel Arnold M. Krogstad, Air Corps, Commandant of the Air Corps Advanced Flying School, Kelly Field; Colonel Henry W. Earns, Air Corps, Commandant of the Air Corps Primary Flying School, Randolph Field, and Colonel A.P. Clark, Medical Corps, Assistant to the Surgeon, 8th Corps Area, and formerly Commandant of the School of Aviation Medicine.

The course at the School of Aviation Medicine includes instruction in Ophthalmology and Otolaryngology, Aviation Medicine, (including Physical Diagnosis and Cardiology, Physiology and Administration), Psychology and Neuropsychiatry. It is of four months' duration and is conducted twice annually, starting July and December of each calendar year. In addition, as a year-round activity, the School conducts an extension (correspondence) course in Aviation Medicine, in which there are now 416 enrollees from all parts of the country. About two years are required to complete this correspondence course, and before a diploma as a Flight Surgeon can be awarded, it must be supplemented by a six weeks' practical course at the School of Aviation Medicine or at its branches at Langley Field, Va., or March Field, Calif. Calif.

The present force on duty at the School now comprises the following officers, also nine enlisted men and seven civilian employees:

- Colonel Arnold D. Tuttle, M.C., Commandant.
- Major Frank R. Borden, M.C., Assistant Commandant and Director of Extension Courses.
- Major Neely C. Mashburn, M.C., Director, Department of Psychology.
- Major Charles F. Snell, M.C., Director, Department of Aviation Medicine.
- Captain John M. Hargreaves, M.C., Director, Department of Ophthalmology and Otolaryngology.
- Captain Walter S. Jensen, M.C., Director, Department of Neuropsychiatry.
- Captain Charles L. Leedham, M.C., Assistant Director, Department of Aviation Medicine.
- Captain Benj. R. Luscomb, M.A.C., Executive Officer and Secretary.

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AID BY AIR TO STRANDED ARTILLERYMEN

During the last typhoon in the Philippines, a motorized battery of Field Artillery from Fort Stotsenburg, returning home from a field trip, was marooned on a sand bar in the middle of the Bamban River when half way across. A sudden rise of water and a new channel cut behind them prevented their continuing across the ford or retracing their path to higher ground. During the two days of their isolation, Lieuts. Paul B. Wurtsmith and William M. Morgan, Air Corps, of the 3rd Pursuit Squadron, Clark Field, P.I., made several flights to the sand bar and dropped food and medical supplies to the Artillerymen.

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ACTIVITIES AT THE FAIRFIELD AIR DEPOT

The month of October saw considerable activity at the Fairfield Air Depot. The production figures at the end of the month showed ten airplanes and sixty six motors had received major overhaul. Nineteen PB-2A airplanes from Selfridge Field are being equipped with the new oil dilution system preparatory to taking part in this winter's maneuvers. The first of these has already been completed.

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"BAILING OUT"

(Continued from Page 3)

that she was sure that he had landed in the bay for the reason that she had read in the paper that the cadet had 'bailed out.'"

17TH ATTACK GROUP IN FIELD MANEUVERS

For the second consecutive year, March Field dispatched its 17th Attack Group to Bakersfield, Calif., for its annual fall maneuvers. Under the direction of the Seventeenth's new commander, Lieut. Colonel Carlyle H. Wash, individual squadrons of the Group have occupied the Bakersfield camp site, located at the Kern County Airport, since the middle of October.

Preceding the Group maneuvers, held during the week November 4 to 10, the field was occupied for successive weeks by the 34th and 73rd Attack Squadrons, respectively, 1st Lieut. Nathan Bedford Forrest commanding the 34th, and Major L. C. Mallory, the 73rd. Upon completion of the Group maneuvers, the 95th Attack Squadron, commanded by 1st Lieut. Ernest H. Lawson, remained for a week's operations to complete the field requirements for the entire Group.

For the first time since the arrival of the new A-17 Attack planes, the entire Group cooperated in the tactical machine gun and bombing missions directed against the Lake Muroc target areas, particular attention being focussed on light bombing.

The News Letter Correspondent states that "the conspicuous efforts on the part of the good citizens of Bakersfield to make our 'war' a pleasant one obviously stirred a profound satisfaction in the hearts of our seasoned campaigners as they viewed the newly installed and permanent conveniences on every hand. Hot and cold showers, convenient and modern toilet facilities, tent sites wired for electricity and supplied with gas were among the numerous novelties designed to take the sting from our annual brush with the elements. Life in the open, however, is never without its share of hardships and privations.

In this instance, the Group's collective ear was constantly subjected to a clamor and din that simulated perfectly the harrying pandemonium characteristic of World War hostilities - the disturbance arising from a hundred conflicting radio programs that poured from a hundred loud speakers to engulf the camp in a veritable inundation of discord. Still, a soldier is a soldier and one must expect such things when 'roughing' it."

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To date, Randolph Field has received a total of 69 new Training planes since delivery began last April. Of this number, 19 are BT-8 (Seversky); 28 BT-9 (North American) and 22 PT-13 (Stearman). All of these new types of planes are now being used in connection with student training. So far, no difficulty has been encountered in connection with their use as a training plane.

2ND BOMBARDMENT GROUP IN JOINT MANEUVERS

The recent joint maneuvers utilizing the fighting forces of both Army and Navy, held off the Virginia-Carolina coast, which precipitated national interest, was actively participated in by the 2nd Bombardment Group, GHQ Air Force. The use of the Air Corps Reconnaissance and Bombardment organizations in coast defense tactics was a unique and highly enlightening experience for all officers and enlisted personnel concerned. Daily missions were flown out over the ocean for distances varying from 50 to 125 miles, which flights culminated with the bombing of targets towed on the surface by naval vessels. Valuable lessons in reconnaissance, communications, bombing and formation over water operations and navigation were chief among the advantages accruing from the maneuvers. The services of every member of the Group were utilized during the cooperative exercises, and it was generally agreed that these particular maneuvers were the most interesting and informative that the Group has ever participated in.

During the course of the exercises, the 2nd Bombardment Group (less 20th Bombardment Squadron, with 99th Bombardment Squadron attached) dropped a total of 108 type MK-1 and 135 type T-1 bombs, 100-pound weight; also, 410 type MK-1, 300-pound bombs. The maneuvers, especially the bombing of moving surface targets, and the degree of accuracy maintained throughout the exercises is still a source of pride to all concerned.

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THE A-17 VERSUS THE A-8 ATTACK PLANE

The Correspondent of the 37th Attack Squadron, Langley Field, Va., states that not long ago a file of Unsatisfactory performance Reports on the A-17 airplanes came to that organization for its information. After a perusal of the file, it was practically unanimously decided that the reporting officers should have been assigned a flock of A-8's previous to the A-17's, when most of the minor deficiencies would have seemed like luxuries.

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FAST GOING FOR NEW TRANSPORT PLANE

The new Douglas C-33 Transport plane assigned to the Fairfield, Ohio, Air Depot, established on November 14th what is believed to be a record run for transport planes between Patterson Field and Bolling Field, D.C.

Aided by a strong tail wind, and piloted by Privates Treweek and Davis, with Lieut. Colonel John G. Colgan and Private Wood as passengers, the trip was made in one hour and forty minutes, an average of nearly 240 miles per hour.

LONGER TRAINING IN BT-2'S

According to the publication THE TEE, published by the Flying Cadet Battalion at the Air Corps Primary Flying School, Randolph Field, Texas, Primary Stage students will probably be given a longer period of transition time in the BT-2B planes than that received by the July class, before passing on to the Basic Stage and the faster and more powerful "8's" and "9's". The above is contingent upon weather conditions.

The item in THE TEE is to the effect that "the report is that this time may be extended to include two or three weeks, and it is expected that the increase of experience in the larger ships will have a very definite value when work on the Basic Stage has begun. Should prevailing bad weather delay flying operations during the more elementary phases, however, this amount of transition time will necessarily be shortened due to the necessity of accomplishing the prescribed training in the stipulated time.

The program of instruction for the class of October on A Stage is expected to be on much the same order as that given the preceding classes, and will occupy approximately the same periods of time.

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SELFRIDGE FIELD PILOTS JOIN P.A.A.

Lieut. D.S. Dunlap, Air Reserve, and Flying Cadet B.E. Michael, Air Corps, will leave Selfridge Field to accept positions with the Pan American Airways. Lieut. Dunlap will report for duty at Brownsville, Texas. Cadet Michael is to be stationed at Miami. For a period of three years, these men will be rated "Apprentice Pilots." During this time they will be students in the Pan American schools. Only after qualifying as Radio Operators, Airplane Mechanics and studying varied subjects will they be allowed to take the examination for the "Junior Pilot" rating.

According to the bi-monthly publication of the Pan American Airways, there are now based at Miami a total of 27 young pilots-in-training, known as apprentice pilots. These men, all college graduates, have also finished in Navy and Army flying schools. They came from home towns scattered throughout the country.

Ten of the 27 students, above mentioned, are graduates of the Air Corps Training Center and Air Corps Reserve officers, viz: J.C. Britton, E.H. Hale, C.V. George, Horace Brock, C.A. Goyette, F.P. Glen, J.E. Anderson, D.C. Pearsen, W.J. Garrison and J.M. McLeod.

INSTRUCTORS AT ADVANCED FLYING SCHOOL

The following-named Air Corps officers have been designated as instructors at the Advanced Flying School, Kelly Field, Texas, for Class No. 27-B, October 15, 1936, to March 1, 1937:

FLYING TRAINING

Director

Major Robert D. Knapp

Attack Section

Captain Glen C. Jamison (Chief)

Captain Clifford P. Bradley

1st Lieut. John H. Ives*

2nd Lieut. Clarence M. Sartain*

Bombardment Section

Major Robert T. Cronau (Chief)

Captain James M. Fitzmaurice

Captain Walter G. Bryte

1st Lieut. Troup Miller, Jr.*

1st Lieut. Edward J. Timberlake, Jr.

1st Lieut. Edgar R. Todd

Observation Section

Captain Otto P. Weyland (Chief)

Captain Russell E. Randall

1st Lieut. Samuel E. Anderson

1st Lieut. August W. Kissner

Pursuit Section

Captain Clyde K. Rich (Chief)

1st Lieut. Jerald W. McCoy

1st Lieut. John H. Bundy*

2nd Lieut. Marvin F. Stalder

*Temporary duty ACPFS, Randolph Field.

GROUND SCHOOL

Director

Captain Clarence E. Crumrine.

Subjects

Aerial Photography - Captain James M. Fitzmaurice.

Attack Aviation - Captain Glen C. Jamison.

Bombardment Aviation - Major Robert T. Cronau.

Bomb Racks, Bombs and Explosives, Bomb Sights, Trap Shooting - 1st Lieut. William L. Kennedy.

Code Practice - Captain Ralph E. Holmes.

Combat Orders, Squadron Duties of Junior Officers, War Planning Principles - Captain Clarence E. Crumrine.

Cooperation with Artillery - Captain Russell E. Randall.

Infantry Missions - 1st Lieut. Samuel E. Anderson.

Military Organization - 1st Lieut. Roy D. Butler.

Observation Aviation - Captain Otto P. Weyland.

Pursuit Aviation - Captain Clyde K. Rich.

Reconnaissance - 1st Lieut. August W. Kissner.

Signal Communications - Captain Hobart R. Yeager.

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During the month of October the Engineering Department of the San Antonio Air Depot overhauled 20 airplanes and 91 engines and repaired 11 planes, 23 engines.

V-7162, A.C.

ILLINOIS NATIONAL GUARD AVIATION ACTIVITIES

By 1st Lieut. Monro MacCloskey, Adjutant
33rd Division Aviation, Ill. N.G.



One of our junior officers, Lieut. J.P. Dunne, returned early this month after completing a nine weeks' course at the Motor Transport School given at Fort Holabird, Maryland. Lieut. Dunne is the Transportation Officer of

our organization, and we are now expecting great things of him as a result of his recent learning.

We lost Staff Sergeant George Miller for the next several months to the Aircraft Armament Course at the Air Corps Technical School. Sergeant Miller has been on the permanent detail at Chicago for several years. Approximately 50% of this permanent detail will be graduates of the Air Corps Technical School when Sergeant Miller has completed his course. It is planned that before long all the men of this detail will have completed the various courses at the Air Corps Technical School.

At our last weekly drill we had as one of our guests Colonel Phil Love, the Division Air Officer of the Missouri National Guard. Colonel Love pointed out that his unit was planning the same schedule as we have - namely, that of the officers gathering for dinner and having their officers' meetings prior to the actual Drill. These meetings have proved of great benefit. During the past month, our Engineering Officer, Captain Newhall, has given us some skull practice, and most of us found ourselves lacking in some important phases in the handling of the airplane motor. We have been holding these weekly meetings for the past couple of years, and they are a source of entertainment as well as instruction to all of us.

Lieut. Casey who, when not flying airplanes, is the Superintendent of the Municipal Airport, gives us some interesting statistics with reference to the completion of his so-called "rock garden":

"W.F.A. PROJECT 1097 CHICAGO MUNICIPAL AIRPORT

Early in 1935 work was started on laying out the plans for the improvements at the airport by the airport personnel with the assistance of City engineers and plans completed in September. The plans were submitted and approved, and work started on November 12, 1935.

The plans called for a new sewerage system, widening and extending the present concrete ramp, straightening out, widening to uniform width of 175' and paving of all runways with macadam asphalt, with a concrete curbing.

The total amount of the improvements as set up in the project amounted to approximately \$2,134,000.00.

All sewerage work is now completed.

Paving of runways is now about 80% com-

pleted.

The concrete ramp has been widened along the East and South edges of the field, and work is now in progress in extending the ramp along the South and West edges of the field.

A complete new runway lighting system has been installed and is now in operation."

Incidentally, the sewerage work calls for about 10 miles of pipe. The concrete work consists of 29,982 square yards, or 4,497,300 pounds, and the asphalt used consisted of 90,276,000 pounds of stone and 4,728,252 pounds of asphalt. Needless to say, the condition of the "rock garden" has been a mental hazard, especially at night, for all visiting pilots, and we will soon cheer when the work is completed.

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IMPROVEMENTS AT FAIRFIELD AIR DEPOT

Under the direction of Major Ralph B. Walker, Chief Engineering Officer at Patterson Field, the Engineering Shops have undergone modification that has greatly increased production along the motor assembly line, and increased facilities for final assembly of airplanes and engines. The motor test stand is to be removed to a building at the far end of the post, thereby eliminating considerable noise which has heretofore been a great inconvenience to the Engineering Shops.

The insulated ceiling and the steam heating plant in the new steel hangar have already proven to be an improvement over the old wooden hangar during the cold weather. It is large enough to accommodate all the airplanes for final inspection and test flight plus the final paint shop, and the work can be carried on under ideal conditions in this new building.

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Photography and Hunting in Philippines (Continued from Page 4)

derneath. The whole mass moves here and there propelled by the wind. This may be as much as 2 to 3 miles per day, according to authentic reports. Some of the larger islands are several acres in extent, and solitude loving Moros build shacks and grow their crops thereon. Interesting problems of crop ownership arise from the roving nature of these floating islands, settled by a sharp-edged kriss or the Philippine Constabulary.

Weeks could be spent among the Southern Islands of the Philippines doing interesting oblique aerial photography, not to mention the verticals needed for map making in the regions still marked "Unexplored" on the best maps yet made.

FLYING IN PANAMA

By 1st Lieut. Dwight Divine, Air Corps



PANAMA is not precisely a flyer's paradise. As a matter of fact, worse conditions for cross-country flying are hard to find. At first thought, this would seem to imply that the weather is the worst in the world, but the reverse is more nearly correct. The terrain of the country, the dense vegetation and the scarcity of population are primarily responsible for the hazards that do exist.

The Isthmus of Panama, lying nearly east and west, is split by a range of mountains running from one end of the Isthmus to the other. While not of extreme height, the highest peak reaching only 11,000 feet, they are still a source of annoyance because of the frequent low ceilings. Naturally, such a condition necessitates low flying, with the resulting impossibility of using a parachute in case of trouble.

However, the majority of cross-country flying in Panama is along the coasts. There are few level areas which might be called coastal plains, except far to the west along the southern coast. Here are large, level fields, with fine turf; fields capable of being made into first class airdromes. But this small stretch has apparently preempted all the flat country in Panama. Elsewhere the coasts present either a palisade of rocky cliffs, or narrow beaches with dense tropical vegetation to the very edge of the water. The area between mountains and coasts is for the most part cut up by rocky gullies and ravines, the whole well dotted with scrub growth.

The weather conditions are peculiar. During the dry season, which is officially four months, from about December 15 to April 15, flying conditions are very good. During this time there is little, if any, rain, either by day or by night. The rainy, or "moldy" season, however, is very much different. The rainfall is heavy - about an average of 100 inches per year. This rain is usually in the form of showers which, although scattered, are very severe. Occasionally, a more or less general storm will occur which is impossible to go around. In the States, of course, the answer would be instrument flying, but in Panama there are numerous reasons why this is not practicable. First, there are almost no weather stations, and that makes it impossible to obtain wind aloft reports; second, there is but one radio beacon - at France Field; third, rain storms appear with great rapidity, apparently from nowhere, and when starting for a given point it is highly probable that a big black storm will get there before you do. Since, however, these storms are usually of short duration, it

is eventually possible to land at the objective.

As for fog, snow, hail and ice, they do not deserve a second thought. True fog of any intensity is extremely rare. There is no record of either snow or ice, and hail has been observed only two or three times in the past twenty years. Severe storms do not occur, that is, a high wind never accompanies a rain, and it is extremely seldom that any high winds appear.

Cross-country equipment carried in all planes consists of everything but the kitchen stove, as the old saying goes. Due to the great stretches of uninhabited jungle, a pilot forced down is faced with the prospect of quite an extended camping trip. If he is so fortunate as to find his plane, after bailing out, he will have water, a gun, ammunition, emergency rations, a compass, a head net, quinine, iodine, a bolo, a map, and a beautiful prospect.

A later development, which has been in use at Albrook and France Fields for about a year, is the parachute jungle emergency kit. This consists of a container for all of the articles mentioned in the preceding paragraph, and it is designed as part of the parachute seat. Thus, the pilot is assured of something to start with even though the ship cannot be found. Unfortunately, this kit, while very compact, is bulky enough in the case of a tall P-12 pilot to cause his head to project considerably above the windshield into the slipstream, even with the seat all the way down.

Real practice in navigation is rather scarce. The Isthmus is comparatively small, and after a pilot has flown over it for a few months, he becomes familiar with the whole terrain. It is then easy to fly to almost any point without map or compass, especially since most of the flying is done along the coasts. If any real navigation is to be used, it is necessary to fly a course over some of the worst country imaginable. An old Air Corps proverb down here says that there isn't any place to go in Panama, and when you get there you might as well have stayed home. That isn't so far from the truth. Outside of Panama, Colon and David, there are almost no towns of any size. There are a few which have frame and concrete buildings, but the majority consist of native grass and 'dobe houses, with perhaps a stone or concrete church.

One little town on the southern coast is a good example of the isolation of some of these people. Jaque (pronounced hah-kay) is about 175 miles from Panama City by air. Although on the coast, their sole contact with the rest of the world is a small Panamanian trading vessel that docks there once every three months! Of

course, this does not take into account the periodic visits of Army aircraft. A rather amusing incident occurred when the last flight landed at Jaque. The Mayor's right hand man brought out the town's official (and only) alarm clock and requested the correct time. It turned out that the whole town had been 30 minutes slow for some time. They also requested news of the presidential inauguration in Panama, wanting to know if there had been a revolution this time. There hadn't.

It seems strange to reflect that probably eighty percent of these people in this little town have never seen an automobile or a trolley car, and yet an airplane to them is almost commonplace.

Brigadier General George H. Brett, Air Corps, Commander of the 19th Wing, is of the opinion that every pilot should have training on modern types of aircraft. But down here that affords something of a problem, since many of the airplanes on the Isthmus are not of the latest types. The modern planes are the Martin B-10's, and since they are assigned to the Observation squadrons the Pursuiters and Bombers do not ordinarily fly them. Under a schedule now partially completed, however, each pilot will fly five hours and make at least fifteen landings in a B-10. Thus, when he returns to the States, he will not be completely lost. Of course, this flying keeps the B-10's pretty busy, since they are used for this special training in addition to regular tactical use.

It would seem that a few modern training ships, such as the new Seversky Trainers, could be used to great advantage in the Panama Canal Department, since what modern tactical ships we have would then be released for tactical flying only - of which there is plenty to be done.

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AERIAL FREIGHT HANDLING AT FAIRFIELD

The Transport Squadron at the Fairfield Air Depot, Patterson Field, Ohio, commanded by Captain Russell E. Cooper, has received both of their C-33 airplanes, thus giving them a complement of four Transport planes. Due to this increase in the number of airplanes and the increasing amount of freight, the Squadron has found itself confronted with the problem of properly handling shipments. A new system of shipping tickets and way bills is being devised, and it is hoped that a satisfactory method of handling freight shipments will be worked out with the Supply Depot in the near future.

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Lieut. Alva Marsh, Air Reserve, who was on active duty for a brief period with the 37th Attack Squadron, Langley

Field, Va., left this organization recently to accept employment with a commercial air line.

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ACTIVITIES OF THE 77TH PURSUIT SQUADRON

The opening days of November found the 77th Pursuit Squadron, Barksdale Field, La., in the field at New Orleans, La., with the Third Wing, working interception problems with the Third Attack Group.

The News Letter Correspondent states that this maneuver will long be remembered as the sandiest in history. "Other reminders that we were in the field," he says, "included mosquitoes, high winds sagging the tents, and cold damp temperatures to keep us sleeping in our flying equipment. Lieut. C.W. Piper, lately from Selfridge Field, suffered from the cold more than any other pilot. He thought it couldn't get cold down south, so didn't take cover.

The rest of the period was devoted to preparation for the Charity Demonstration given at Barksdale Field, November 15th. Lieuts. Piper, Cy Wilson and Dave Desmond made up an acrobatic team that would be hard to beat. They certainly held the attention of the huge crowd as they performed their acrobatic maneuvers while in close formation. The 77th Squadron also furnished six planes and pilots to fly with the composite squadron that flew for the purpose of demonstrating Pursuit maneuvers. The audience especially enjoyed the firing of the Squadron and went away with stiff necks from watching the precision flying of the squadron."

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55TH PURSUIT SQUADRON AT SHUSHAN AIRPORT

November 1st found the 55th Pursuit Squadron, stationed at Barksdale Field, La., in the final stages of annual Fall Maneuvers, encamped with other squadrons of the Third Wing at Shushan Airport, New Orleans, La.

The maneuvers consisted largely of patrol and radio net problems to intercept Attack airplanes simulating enemy forces. The 55th Squadron was most consistently instrumental in apprehending and subduing the opposing forces. Featured on the final day of the encampment was a Wing Review over the city of New Orleans.

Various so called hardships were endured by the squadron personnel in camp because of unusual weather conditions: Rain, high winds and biting cold contributed to discomforts of out of door living and made breaking camp appear as one of the most pleasant tasks of the maneuvers.

Following the return of the 55th to Barksdale Field, its personnel were busily

(Continued on Page 16).

THE 79TH PURSUIT SQUADRON AT NEW ORLEANS
By the News Letter Correspondent

The 79th Pursuit Squadron of Barksdale Field, Shreveport, La., left their home station on the afternoon of October 26th, and as the support echelon of the 20th Pursuit Group we proceeded to New Orleans, via Baton Rouge, landing at Shushan Airport, our base during the maneuvers, at 3:30 p.m.

Shushan Airport, on the southern edge of Lake Ponchartrain, is one of the finest airports in the country. It is built out into the lake, affording perfect approaches to all runways.

The camp site for the officers and men of the Third Wing was on the west end of the field, normally a parking area. This was a fine location until the weather "cooked up" a thirty-mile-an-hour gale from the north, bringing half the lake into the officers' tents. Tent pegs pulled up - tents fell down - clothes got wet so badly some of the pilots of the Attack Group had to move.

Our daily missions took us to several cities in the south, among them Pensacola, Florida; Montgomery, Ala., and Mobile, Ala. For the most part, the Third Attack Group simulated the enemy forces for the 20th Pursuit Group. To show the maneuverability of a group of airplanes on a field such as Shushan, the 34 planes of the 20th Pursuit Group from alert took off individually and cleared the field in four minutes.

The Pursuit Group successfully intercepted and attacked on all patrol missions, but radio failure prevented success on two radio controlled interception missions.

The administration building turned out to be a fine place for a game of bridge or a "bull session" during the evenings. The climax of the evening's activities out at the field was to see that the 9:15 transport got off O.K. Of course, all went to town sooner or later. What with Galatoite's "Trout Marguery," Arnaud's "Shrimp Arnaud" and Kolb's "Weiner Schnitzel," who could blame us?

One of the high lights of the maneuvers was the Hallowe'en party given the officers of the Third Wing by the New Orleans Chamber of Commerce, held in the beautiful administration building at the Shushan Airport, where music, horn-blowing, and dancing held sway until the wee hours of the morning.

Having completed the series of problems required, the Third Wing broke camp on the afternoon of November 5th and returned to our home station, Barksdale Field.

Three bombers in the 96th Bombardment Squadron, Langley Field, Va., recently qualified as "Expert Aerial Bombers" under the provisions of the new tentative Training Regulations 440-40.

CHANGES AT LONG BEACH MUNICIPAL AIRPORT

The long Beach, Calif., Municipal Airport is undergoing a complete reworking, the only section not being picked up and turned around being the Army Base in the southeast corner. The Navy's Aviation Reserve is moving in alongside the Army on the West, then the Airport Superintendent and, lastly, the civilian operators - all operations being lined up from East to West along the south side of the field. The new runways have been completed and will be officially opened to traffic about December 1st.

The 479th Reserve Squadron is very proud of its home and extends to all its fellow organizations an invitation to drop in and see a set-up that is practically perfect.

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AS OTHERS SEE US.

In a recent issue of that excellent British aeronautical publication, THE AEROPLANE, London, Eng., there appeared the following item:

"WAR MACHINES FROM THE STATES

Last week a story was splashed all over the Press to the effect that the Air Ministry was going to buy fighting machines from America. Few things seem less likely. None denies that the Americans have some very good fighting machines, but they seem to have nothing which compares with the Supermarine Spitfire or the Hawker Hurricane as single-seaters, or the Westland or the Battle as two-seaters.

Apparently the story arose originally because a newspaper man at an aerodrome heard a youthful member of an aircraft family remark casually that when the Air Ministry had asked his elder relative what it could do to get fighting machines quickly, he had retorted humorously, - "Why don't you buy them from America?"

Elsewhere in this same issue of THE AEROPLANE, in an article touching on the visit to London of a prominent figure in American aviation - one who some years ago published an aeronautical weekly - the Editor of THE AEROPLANE wrote this paragraph. We quote:

Two years before, in 1922, Curtiss sea-planes had come over here and had carried off the Schneider Trophy. Mr. C.R. Fairey was so much impressed by their performance that he went to the States in 1923 and had bought the British rights in the Curtiss aeroplane designs and in the Curtiss D.12 motor, and in 1924 produced the first of the Fairey Foxes, which set a completely new fashion in European aviation; - a fashion which with variations still carries on to-day. Unquote.

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The News Letter would appreciate contribution of material "regularly and frequently" from Mitchel, March and Moffett Fields, and the Middletown Air Depot.

Biographies

COLONEL FRANK D. LACKLAND

Colonel Frank D. Lackland, Air Corps, now on duty as Chief of the Field Service Section, Wright Field, Dayton, Ohio, became affiliated with the Air Corps during the World War when, in November, 1917, holding the rank of Captain of Infantry, he was promoted to the rank of Major (temporary) Aviation Section, Signal Corps, and assigned to duty at Kelly Field, Texas.

Born in Farquier County, Va., September 13, 1884, Colonel Lackland attended the public schools of Virginia and Washington, D.C., following which he studied law. For eight years he was a member of the National Guard of the District of Columbia, serving from 1903 to 1911 through various grades from Private to Captain.

Passing the examination for appointment in the Regular Army, he was commissioned a second lieutenant of Infantry on February 11, 1911, and during the succeeding six years served with the 11th, 15th, 31st and 22nd Infantry regiments.

He served a tour of duty in the Philippines at Camp McGrath, performing at various times duty as Post Engineering Officer, Signal Officer, Intelligence Officer and Battalion Quartermaster, and for 2½ years, April, 1915, to November, 1917, he was with an Infantry machine company.

At Kelly Field, Colonel Lackland was Executive Officer and Commanding Officer, Recruiting Regiment and Trades Division, from November, 1917, to April, 1918. Thereafter, until January, 1919, he was Executive Officer, School Director and Commanding Officer of the School of Aerial Gunnery at Selfridge Field, Mich. He commanded Selfridge Field from August, 1918, until January 23, 1919, when he was transferred to Langley Field, Va., where he was Post Commander to May 19, 1919, and Officer in Charge of Recruiting to July, 1919. From July to September, 1919, he performed the duties of Executive Officer and Acting Supply Officer.

Transferred to Ellington Field, Houston, Texas, he commanded the 166th Aero Squadron from September 10th to the 26th, when an injury in an airplane accident confined him to the Walter Reed General Hospital for several months.

On December 18, 1919, Colonel Lackland assumed command of the Aviation Repair Depot at Montgomery, Ala., and he continued on this assignment until October, 1920, when he was detailed as student at the Air Service Engineering School at McCook Field, Dayton, Ohio. Graduating from the Engineering School in September,

1921, he assumed the duty of Air Officer of the 8th Corps Area on November 18, 1921. On September 1, 1922, he assumed command of the San Antonio Air Depot, and he remained on this duty until June 25, 1926, when he assumed command of the 3rd Attack Group at Fort Crockett, Galveston, Texas. Two years later, he was assigned as student at the Air Corps Tactical School at Langley Field, Va., and, following his graduation in June, 1929, he was a student at the Command and General Staff School, Fort Leavenworth, Kansas, for the next two years, following which he assumed command of the 12th Observation Group at Fort Sam Houston, Texas, which organization was subsequently moved to Brooks Field, Texas.

Colonel Lackland commanded the 12th Observation Group and the post of Brooks Field until June, 1934, when he was assigned to duty in the Plans Division, Office of the Chief of the Air Corps, Washington, D.C.

In March, 1935, he was assigned to his present duty as Chief of the Field Service Section, Wright Field.

Colonel Lackland was promoted to 1st Lieutenant, July 1, 1916; to Captain, May 15, 1917; to Major, July 1, 1920; to Lieutenant Colonel, August 1, 1935, and to Colonel (temporary) August 26, 1936. He took flying training both at Kelly Field and at Langley Field, and received the rating of Junior Military Aviator, effective June 24, 1919.

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COLONEL JOHN N. REYNOLDS

Colonel John N. Reynolds, Air Corps, now on duty as Air Officer of the 1st Corps Area, Boston, Mass., was born in Washington, D.C., December 26, 1885, and was educated in the schools of that city.

Appointed a second lieutenant, Coast Artillery Corps, U.S. Army, September 25, 1908, he served for a brief period at Fort DuPont, Del.; at Fort Schuyler, N.Y., from November 8, 1908, to August 30, 1910; at Fort Mills, P.I., October 4, 1910, to April 15, 1912; at the Presidio of San Francisco, Calif., May 15 to December 1, 1912; at Fort Monroe, Va., December 31, 1912, to December 1, 1913; at Fort DuPont, Del., January 1, 1914, to January 1, 1915, and at Fort Screven, Ga., February 1, 1915, to October 20, 1916.

Detailed to the Aviation Section, Signal Corps, Colonel Reynolds was a student at the Signal Corps Aviation School at San Diego, Calif., from October 25, 1916, until May 20, 1917. He received the rating of Junior Military Aviator, effective June 15, 1917. After brief periods of duty with the 1st Aero Squadron at

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Columbus, New Mexico, and following his relief from that organization, at Kelly Field, Texas, he departed for duty overseas and arrived in France February 3, 1918. His first assignment overseas was with the 1st Observation Group in command of the 91st Aero Squadron. In August, 1918, he was appointed Commander of the Observation Group, 1st Army, which organization rendered excellent service at St. Mihiel and west of the Meuse. On numerous occasions, Colonel Reynolds took part in visual and photographic reconnaissance missions with his squadron and performed excellent and arduous individual service over the front lines in addition to his work as an efficient executive.

Colonel Reynolds was the recipient of the Distinguished Service Cross and a Bronze Oak Leaf, the respective citations accompanying same being as follows:

"For extraordinary heroism in action in the region of Verdun, France, 10th October 1918.

Major Reynolds proceeded over the enemy lines without benefit of protection planes on a mission of great urgency. He flew about twelve kilometers over the lines when he was suddenly set upon by fourteen hostile planes. He fought them off and succeeded in downing one of the enemy. He continued his flight with his badly damaged plane and concluded his mission."

"For extraordinary heroism in action in the region of Grand Pre, France, 29th October 1918.

While on a mission, Major Reynolds was suddenly set upon by six enemy aircraft. Although in the German territory, without protection and in danger of being cut off in the rear, he entered into combat with the hostile aircraft. He succeeded in shooting down two of the enemy and dispersing the rest of the formation. With his machine severely damaged, he continued until he had completed his mission."

Commending him for his distinguished service, the late General William Mitchell stated:

"Lieutenant Colonel John W. Reynolds, Commanding Officer, Army Observation Group, an officer of the highest type; a man who would never ask a member of his command to execute a mission which he would not perform himself. Admired, respected and beloved by every officer and man serving with his units, he built up an organization of splendid morale and remarkable efficiency. His intense energy, organizing ability, devotion to duty and high ideals, combined with a thorough knowledge of every detail connected with the functions of Army observation squadrons bore splendid fruit throughout the summer operations of the Eighth French Army, and during each offensive of the

First American Army from the date of its formation to the cessation of hostilities."

Upon his return to the United States, Colonel Reynolds reported, on January 12, 1919, for duty in the Office of the Director of Military Aeronautics, Washington, D.C. On March 5, 1919, he assumed command of Godman Field, Camp Knox, Ky., and in the following month, on April 23rd, he returned to Washington for duty in the Training and Operations Group, Office of the Director of Military Aeronautics. On August 28, 1919, he reported for duty at Langley Field, Va. From October 4 to October 28, 1919, he participated in the Transcontinental Reliability Test Flight.

Relieved from duty at Langley Field July 9, 1920, where he served in the capacities of Commanding Officer of the post, commander of the 2nd Observation Wing and Post Air Service Officer, Col. Reynolds assumed command of Chanute Field, Rantoul, Ill., on July 23, 1920.

In January and February, 1921, he was on duty as Air Officer of the 8th Corps Area at Fort Sam Houston, Texas, and on February 18th he assumed command of Kelly Field, Texas. On February 3, 1922, he was assigned as Wing Operations Officer at Kelly Field, and on June 21, 1922, he assumed command of the 10th School Group at that station.

Transferred to Langley Field, Va., Colonel Reynolds commanded this post February 15 to March 7, 1923, and was commanding officer of the 2nd Bombardment Group from February 15, 1923, to October 15, 1923, when he was assigned to duty as student at the Air Service Tactical School, Langley Field. His graduation from this school in June, 1924, was followed by another year of duty as a student at the Command and General Staff School, Fort Leavenworth, Kansas, from which he graduated in June, 1925. He was then assigned as Commanding Officer of the 12th Observation Squadron and Second Division, Air Service, at Biggs Field, Fort Bliss, Texas, the station of which was changed to Fort Sam Houston, Texas, in June, 1926.

In January, 1928, Colonel Reynolds was transferred to Mitchel Field, N.Y., and he commanded this post and the 9th Observation Group from January 12th to June 5, 1928, and Post Operations Officer to October 25, 1928. For several months thereafter he was Acting Air Officer of the 5th Corps Area at Columbus, Ohio. Following the completion of a special course of instruction for field officers at the Chemical Warfare School at Edgewood, Md., July-August, 1929, Colonel Reynolds was transferred to Langley Field, where he was Operations Officer, Executive Officer, Acting Commandant of the Tactical School and Commander of the post and of the 2nd Bombardment Group during various periods until July 5, 1930, when

he was assigned to duty at Aberdeen Proving Ground, Md., in command of the Air Corps Detachment. In the fall of 1931, he reported at the Field Artillery School at Fort Sill, Oklahoma, for duty as Instructor. In October, 1935, when he was assigned to foreign service, Col. Reynolds assumed command of the 19th Composite Wing in the Panama Canal Department. His service in the Canal Zone was of brief duration, however, due to his physical condition, and after he was relieved from treatment at the Walter Reed General Hospital he was, on March 15, 1936, assigned to his present duty at Boston.

Colonel Reynolds was promoted to 1st Lieut., April 22, 1910; to Captain, July 1, 1916; to Major, Signal Corps (temporary) March 5, 1918; to Lieut. Colonel, Air Service, November 9, 1918 to April 13, 1920; to Major, Air Service, July 1, 1920; to Lieut. Colonel, Air Corps, January 1, 1933, and to Colonel, June 16, 1936. While a Coast Artillery officer, he graduated from the Coast Artillery School in 1913. He was given the rating of Military Aviator, April 3, 1918, for distinguished service in action.

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AIR CORPS OFFICERS OBSERVE NAVY MANEUVERS

When the aircraft of the Fleet Air Base, Luke Field, took off on November 2nd for their annual ten-day advance base exercises in waters to the northwest of the Hawaiian Islands, Air Corps officers accompanying the flight in the capacity of observers were Major Idwal H. Edwards and Lieuts. Chester P. Gilger and John G. Fowler. Major Edwards was to note naval methods of operation, supply and tactics, while Lieuts. Gilger and Fowler were to report respectively on communications and navigational methods employed.

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MILITARY COMPETITIONS IN HAWAII

All organizations of the 5th Composite Group, Luke Field, T.H., were busily engaged in preparation for the Department Military Competitions, scheduled to commence on Monday, November 9th. The Group was to be represented in the following events: Pistol Firing; Recruit Drill; Personal Appearance and Equipment (two events); Tire Changing; Trouble Shooting and Appearance events for Group Transportation; Tent Pitching Competition; and three Air Corps events, consisting of High Altitude Bombing, Accuracy Landing Event and Reconnaissance Patrol Mission.

The 5th Composite Group was slated to compete specifically with the 18th Pursuit Group at Wheeler Field, however, in most of the events other than Air events. The representatives were to be judged in

company with the entrants from all regiments located in the Hawaiian Department and there was a feeling of confidence in the Group that it would make a good showing.

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20TH PURSUIT GROUP MANEUVERS IN TEXAS By the News Letter Correspondent

The 79th Pursuit Squadron, Barksdale Field, La., left their home station for Houston, Texas, on the morning of October 13th, to participate in maneuvers for the 20th Pursuit Group. En route to our Houston base, we joined the other two squadrons of the Group for rendezvous over Liberty, Texas, and a few minutes formation to protect the landing of the 77th Pursuit Squadron at Beaumont, Texas. Arriving at Houston, we found our mess sergeant and his crew very busy preparing a most welcome dinner. In spite of the thin layer of sand that found its way into all our eating utensils, the food served during our encampment was very good.

The city of Houston was our rendezvous nearly every evening. This busy city has many of the characteristics of a northern metropolis. It seems to lack that lazy atmosphere that so many of the southern towns are noted for. One restaurant in particular seemed to hold the interest of our lovers of fine foods. The oysters a la Rockefeller and the visible coffee maker were the main attractions.

The two other squadrons of the Group were stationed at Fort Crockett and Beaumont, Texas. After one of the daily Group problems, the 79th Squadron landed for fuel at Fort Crockett. The pilots took advantage of the situation and headed for a famous sea food cafe on the water front in Galveston. The oysters a la Rockefeller were not quite up to par according to the southern connoisseurs of fine fish foods.

Our problems, as a rule, were patrol missions. Several planes from this Group were detached to act as hostile aircraft. With one or two exceptions, the "enemy" was intercepted and attacked every time.

Our final problem was an attack on the 77th Squadron base at Beaumont, Texas, with the 55th Squadron acting as the support. After the attack, we landed and went into town as guests of a local flying club. The local flyers sponsored a dance to which all pilots of the Group were invited. From all reports, the dance was a huge success. The following day, Sunday, the Group passed in review for the townspeople of Beaumont and then returned to Barksdale Field.

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Plans have been completed for a new Instrument Repair building at the Hawaiian Air Depot, Luke Field, and it is expected construction will start in a short time.

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TRANSPORTING WIRE FENCING BY AIR

Continuing its cooperation with local government authorities in such activities as sowing seed, etc., the 5th Composite Group, Luke Field, T.H., assisted the local forestry service in an experiment to determine the practicability of transporting and dropping a quantity of 100-pound rolls of wire at designated spots on the slopes of Mauna Loa, Hawaii.

It was the desire of the Forestry Department to build a long fence high on the southeast side of Mauna Loa to prevent encroachment of wild sheep and goats into the ranch lands below. Due to the dense undergrowth and rugged terrain, the problem of transporting the large quantity of wire and fence posts involved considerable difficulties. It was thought that a great saving of time and labor could be effected if the materials could be dropped from the air.

Accordingly, on October 19th, Lieut. D.N. Crickette, accompanied by 1st Sergeant L.W. Johnson, Sergeant James Asher and Private Albion Howe, flying in a Keystone Bomber and escorted by Lieut. R.W. Warren, who was accompanied by Mr. Tillett, of the Forestry Department, Corporal C.W. Cunningham and Private R.H. Platt, flying in an OA-3 Amphibian, proceeded to Hilo, Hawaii. Here the Keystone was loaded with six 100-pound coils of wire. Taking off early the following morning, in order to take advantage of good flying conditions, the Bomber dropped the wire on points marked by crosses of cheese cloth laid on the ground. The mission was completed in two hours, whereas, had it been done with trucks and pack mules, the only other practical method, it would have required at least two days. Prior to the return to Luke Field, the personnel of the flight were taken by the local foresters on a sheep hunting expedition on the slopes of Mauna Loa, and a total of 49 sheep and two pigs was killed.

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RESERVE OFFICERS HONOR GENERAL SIMONDS

On November 18th, the Los Angeles Chapter of the Reserve Officers' Association held a banquet in honor of the Commanding General of the 9th Corps Area, Major General George S. Simonds. The 479th Squadron (Reserve) was well represented at the banquet, Captain Pardoe Martin, Air Corps, Unit Instructor, heading the list.

"It was our first opportunity to meet the General, as he only recently took over command of the Corps Area," says the scribe for the 479th Pursuit Squadron, and he adds, - "First impression would indicate 'We'd like to see more of the General.'"

REPRESENTATIVE HILL VISITS KELLY FIELD

Representative Lister Hill, of Alabama, who is Chairman of the House Military Affairs Committee, conducted a tour of inspection of the Air Corps Advanced Flying School, Kelly Field, Texas, on November 15th.

With Mr. Hill were the following members of the party who are accompanying him on his extensive inspection of Army posts, viz: Colonel Adna R. Chaffee, General Staff; Colonel Snepler W. Fitz Gerald, General Staff; Major W.D. Persons, Office of Assistant Secretary of War; Lieut. Colonel W. O. Ryan, Air Corps, pilot, and Captain John W. Persons, copilot of the C-34 airplane the party is utilizing as the vehicle of transportation.

Brigadier General James E. Chaney, Commanding General of the Air Corps Training Center, accompanied the party from Randolph Field, where they had arrived on November 14th. They were met at Randolph Field by Major General Breese and Congressman Maury Maverick, in addition to a number of officers of the post. Colonel Arnold W. Krogstad joined the party when they arrived at Kelly Field.

Representative Hill was most interested in the housing needs of the local army posts, and during his stay in San Antonio he also inspected Fort Sam Houston and the San Antonio Air Depot, Duncan Field, in addition to Kelly and Randolph Fields.

The party departed from Randolph Field on November 16th for El Paso, Texas, the fifth stop on Mr. Hill's itinerary, given below:

Nov. 12 - Leave Washington for Maxwell Field, Montgomery, Ala.

Nov. 13 - Inspection of Field 8-9 a.m. Leave Maxwell Field 9:30 for Barksdale; lunch and inspection of field. Leave 2:30 p.m. for Fort Sill. Overnight.

Nov. 14 - Inspection of Fort Sill and Post Field, lunch. Leave 2:00 p.m. for Randolph Field, San Antonio. Overnight.

Nov. 15 - To Corps Area Headquarters by 9:00 a.m. Inspection of Fort Sam Houston; lunch, then to Kelly Field, Duncan Field, and back to Randolph Field. Overnight.

Nov. 16 - To Fort Bliss; lunch and inspection of Fort Bliss and Beaumont General Hospital. Overnight.

Nov. 17 - To March Field; inspection of March Field and Muroc Lake area by air and into Clover Field.

Nov. 18 - Los Angeles area (Fort MacArthur).

Nov. 19 - To San Francisco (Hamilton Field and Sacramento).

Nov. 20 - Corps Area (Presidio).

Nov. 21 - To Salt Lake (Fort Douglas) overnight.

Nov. 22 - To Denver (Fitzsimons General

Hospital and new Air Corps site). Overnight.

Nov. 24 - To Scott Field - inspection; to Chamute Field, lunch and inspection; and to Chicago, overnight.

Nov. 25 - Inspection of Fort Sheridan and after lunch to Fort Knox, overnight.

Nov. 26 - Inspection and to Wright Field - lunch Patterson Field, Overnight.

Nov. 27 - Fort Bragg and Maxwell, overnight.

Nov. 28 - Washington.

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The monthly Control Area supply and engineering conference and luncheon at the San Antonio Air Depot, Duncan Field, Texas, held on November 10th, was attended by seven officers of various Air Corps stations in the area and the officers of the Air Depot. Stormy weather at the time prevented a larger number of officers from flying in to attend.

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SOME FAST TRANSPORT PLANE

Colonel H.B. Claggett, Commanding Officer, Selfridge Field, Mich., and Captain Harlan T. McCormick, of that station, left recently for March Field, Calif., to accept one of the new Douglas C-33 airplanes.

"Selfridge Field has been in need of a faster transport plane for some time," says the News Letter Correspondent, and he then adds: "If the reports on the new Douglas are correct, it will be possible for the maintenance crews to service the planes before departure, board the transport, and arrive in time to take care of the combat planes as they arrive.

Sergeants Brock and Schaeffer, who will be assigned to the ship, are on their way to Santa Monica to receive instructions as to the upkeep and repair of the new ship."

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55th Pursuit at Shushan Airport

(Continued from Page 10)

engaged in ground gunnery training, with early morning and late afternoon firing featuring the program. Six pilots to date have completed record firing with the gratifying result of a temporary squadron average of over 800.

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Recent visitors from Langley Field to Selfridge Field were Colonels Follett Bradley, Carl Spatz and Captain R.P. Williams. The last-named officer, who is the Meteorological Officer of the 2nd Wing, made a preliminary inspection of the Selfridge Field meteorological station. This station is to be expanded and, as soon as the enlisted personnel are fully trained, 24-hour service will be available.

WASHINGTON OFFICE NOTES

Brigadier General James E. Chaney, Commanding the Air Corps Training Center, Randolph Field, Texas, was a visitor in the Chief's Office during the course of a leave of absence.

Officers who departed on leaves of absence were Lieut. Colonel H.C. Davidson, Executive, and Major Lester T. Miller.

Recent visitors to the Chief's Office were Lieut. Colonel W.B. Wright, Air Officer, 5th Corps Area, Columbus, Ohio; Captain O.P. Weyland from the Advanced Flying School, Kelly Field, Texas; Captain Randolph Williams from Langley Field; Captain Robert W. Douglass, Jr., student at the Command and General Staff School, Fort Leavenworth, Kansas; Captain Claire Stroh, Instructor National Guard, Little Rock, Ark.; and 1st Lieut. Frederick R. Dent from Wright Field.

Officers returning recently from navigation flights were Major Alfred W. Marriner from Mitchel Field; Major James A. Mellison from Newark, N.J.

Major Lowell H. Smith, Chief of the Inspection Division, returned November 16th from leave of absence.

Lieut. Colonel William E. Lynd, Captains A.H. Foster and Donald F. Stace recently returned from temporary duty at Wright Field, Ohio.

Captain Robert V. Laughlin returned from temporary duty in New York.

Major William B. Souza returned from Mitchel Field, N.Y., following a ferrying mission. He ferried a new O-46 airplane from the Douglas factory at Santa Monica, Calif.

Major Malcolm C. Grow, Chief Flight Surgeon, returned November 17th from West Point, N.Y.

Captain Mervin E. Gross departed on November 23rd for Wright Field.

Lieut. Colonel Robert L. Walsh, Chief of the Reserve Division, returned November 15th from leave of absence.

Eleven Air Reserve second lieutenants, now stationed at Hamilton Field, are under orders to sail about December 19th for duty with an Air Corps tactical unit in the Panama Canal Department.

FOREIGN OPINIONS ON PRESENT DAY AVIATION

In the first international issue of "ALA D'ITALIA" published in October, 1936, there are given the opinions of eminent men whose labor and genius contribute daily to the progress of aviation. Some of these opinions are quoted below, as follows:

ROUMANIAN UNDER SECRETARY, MR. CARANFIL

Would you like to know my opinion on some outstanding problems of today? Fighters must be single-engined and single-seater or twin-engined and multi-seaters? Which is best, heavy or light bomber? I consider that as regards war material the problems are many and complex and can be solved only through experience and by taking into account special conditions peculiar to each country and each military force.

The flying equipment of an Air Force depends on the strategical problems springing from the performance of the aircraft of the probable enemy; from the nature of the country that shall have to be crossed, from the ground organization that one can dispose of, from the possibilities afforded by the national industries and by its potentiality in war time. In recent years, thanks to research on applied aerodynamics, the rosiest previsions have been surpassed. It is not to be forgotten that in aviation, as in every other field of technics, the last word must be said by practical experience.

Let us then follow with interest the peculiarities and improvements of prototypes but let us also bear in mind that the best aircraft shall always be that which has been thoroughly tested in flight and is in the hand of crews that know to make the best use of it.

CHIEF ENGINEER G. GALASSO,

"Industrie Aeronautiche Romeo," Naples.

A definite statement as far as air and liquid-cooled engines are concerned is not possible. Either type had its periods of supremacy in the past. Actually the use of one or the other is still a question of which particular problems the plane has to solve. Anyhow it appears to me that owing to the heavy demand for higher speed, the liquid-cooled engine is going to come into its own again.

Wooden and mixed constructions have obviously to leave the aeronautical field too in favor of all-metal constructions. In those countries where metal's raw materials are largely available and powerful industries are more advanced this is already a well accomplished fact. Other countries will follow gradually as soon as the metal's industry and the aeronautical constructors get fully equipped. Aluminum and its alloys appears to have the best chances of success. Stainless steel is too heavy and expensive, magnesium has worse mechanical characteristics and does not stand corrosion as well. I think therefore their use will be limited to special component parts.

With regards to the monoplane-biplane controversy, it appears now to be certain that biplanes are going to disappear. Low wing monoplanes will hold a strong supremacy.

COMMODORE MANUEL A. FRANKE M.,

Chief, General Staff, Chilean Flying Corps.

What more characteristic developments can be expected for the Military Corps? The military aviation with all the characteristics reached up to date, namely, load capacity, firing and falling armament, speed, material used in constructions, regularity and power of the engines, instruments of navigation, etc., and with the inevitable future developments bound to the interest of technical men, will become the most important arm of the military forces of a nation. According to my opinion the most important improvements will come to us in the field of load capacity and flying range.

In regard to the problem of fighters whose tendencies now seem to be summed up in the three following solutions:

1. Single-engined, single-seater very fast and light with racing engine and light armament;
2. High speed twin-engined craft, with two three-seaters with average armament;
3. Heavy twin-engined craft with heavy and plentiful armament.

I must vote for the second solution with full confidence. Why? Because today as it is, the difference of speed between the most modern craft of that type and the fighters is very little, and if the chief characteristic of mobility remains for the latter, on the other hand and in regard to the power of fire, the scale turns markedly to the part of the twin-engined. It is true that fighters are now being armed with small 20 millimeter guns and no longer with machine-guns alone, to make their attacks more efficient in this way. But also the twin-engined craft can carry small guns, and if on one hand they have an aim of lesser importance (the fighter), on the other hand they have a distinct advantage of greater fire power. The question deserves the greatest theoretical and practical discussion. Personally and on the basis of facts, I am sure that the double engines are the best solution, however.

It is difficult to judge if the war efficiency of the large twin or three engined big bombers large formations is better than that of the light single-engined craft separately at the aim. That requires a discussion either too ample or too limited. For the time being I will be satisfied with the latter to say what is most essential. A modern light bomber can carry 500 kg. of shells at a speed varying from 380 to 420 km. p.h.; a modern heavy airplane from 1500 to 2000 kg. at a speed of 280 or 300 at the most. It will be seen that there is a considerable difference in weight and speed. Now the war efficiency of these two types of craft, besides what they have given, depends on many other elements, some of which are difficult to estimate, such as weather, the vastity of the aims, the geographical configuration of the zones, the state of the operations, the situation of the material in general, etc., etc. Probably a clear distinction

does not exist, and both types can have their highest efficiency for different kinds of use.

PROSPERO GIANFERRARI

Chairman, Assn. of Italian Aircraft Constructors

Shall I express my opinion upon the developments of the struggle between the two types of engines which are contending each other the aeronautical supremacy? The task is a difficult and ungrateful one, but today more than ever these subjects must be clearly considered and backed by experience. Air cooled engines and liquid cooled engines will continue in contending the preference of high military chiefs, of aircraft designers and airlines' operators. But it appears certain that the watercooled engine is actually enjoying a period of particularly good achievements and whilst 1936, a very interesting year for aviation, is nearing the end, we have to agree that it is also going to suppress and perhaps to reverse the numerical supremacy of its opponents, at least as far as great powers' units are concerned.

What are the reasons? There are many. Above all the high altitude flying problems which are getting day after day more impelling and which Italy is actually largely experimenting. For high altitude exigencies the water cooled engine is better suited and gives better guarantees of good running. The lowering of temperature does not compensate to the cooling effects the diminution of density and consequently the diminution in weight of the air which gets in contact with the surfaces to be cooled. To stand this drawback, water cooled engines can be fitted with wider variable surface radiator. Whilst nothing of that kind has yet been developed for air cooled engines. Moreover, with engines of the latter type it is not possible to place the carburetors after the supercharger and so avoid the increase of admission temperature which means a diminution in weight of the air-gas mixture getting inside the cylinders. It is also very clear that water cooled engines can more easily support the overload imposed by heavy take off, by take off from torrid zones, and when multi-engined machines are concerned, by flying with one or more engines dead.

A complete examination of these problems would be too long, but in my opinion the above mentioned remarks when added to the important factor of the ever increasing speed exigencies, explain well enough the reasons of the particular preference which, during 1936, high performance prototypes have proved in behalf of liquid cooled engines. There is also to be considered that the Americans, who were highly responsible for the last ten years' predomination of radial engines, have just this year started a careful study of the best European water-cooled engines in order to rebuild their experience on the subject. It will be wise to pay the best attention on every further development.

F. S. SIGRIST, Director Manager of the
Hawker Aircraft, Ltd., Kingston-on-Thames, Eng.

I think for the great majority of aircraft construction will be all-metal or metal with fabric covering. There will be a scope, for a few years at least, for the light type of pri-

vate owner machine in a combination of wood metallic construction. Undoubtedly there will be big development in the increasing use of stainless steel and light alloys, particularly the magnesium light alloy. Each has advantages and each has its adherents in the constructional field.

The future development will really, I think, depend upon the national point of view and the designing firms concerned. In some countries where the national production of light alloys is predominant that type of material will be used. In other countries where the basic industry is steel the stainless material will naturally receive first consideration. All circumstances being equal, there is no objection to a mixed construction, providing the necessary precautions against corrosion by electrolytic action are taken.

I believe that with the increase in engine power and the consequent increase in aircraft performance that the monoplane will be the prevailing type of machine of the future and that the production of the biplane, except perhaps for special purposes, will rapidly decrease.

REGINALD J. MITCHELL, Director and Chief
Designer at The Supermarine Aviation Works

It is always very difficult to prophesy what developments will take place in the future, particularly in connection with aviation. Greater development depend on so many items other than the purely technical aspect. If designers could be given a free hand to carry out their own ideas, and were not handicapped by national and commercial considerations I feel sure that progress would be very much more rapid.

As the speed ratio of the most efficient airplane of today is about 6-1, there is a great deal of progress to be made before this is increased to 10-1. In fact, I can not foresee at present how this is to be done, as it will mean putting up the speed of the airplanes to at least 700-800 miles per hour. This may be practicable in several years' time as a purely stunt performance, but I think it will be very many years before it will be attained on an airplane which can be used for practical purposes.

Reaching a 1:3 ratio between empty and full load weights is to my mind a much simpler proposition. The use of heavier wing loadings with landing flaps and catapulting devices together with more efficient methods of construction and improvement in material will soon bring this ratio well within reach.

I am a very firm believer in composite methods of construction and I think composite construction will come into its own again very rapidly in place of the all-metal construction which is at present very popular. A composite construction of wood and metal enables a design to be got out much quicker and will provide a very much cheaper and quicker production. I am of the opinion that in the case of national emergency, when it is essential to turn out aircraft with great speed and as cheaply as possible that composite construction will be universally employed. Finally I am of the opinion that the liquid-cooled engine will always give a little better speed in very fast aircraft.

NOTES FROM AIR CORPS FIELDS

Langley Field, Va., November 18th.

20th Bombardment Squadron: Three bombers in this organization have qualified as "Expert Aerial Bomber" to date under the new tentative Training Regulations No. 440-40, and intensive training has started to qualify as many more as possible in the next few months.

21st Reconnaissance Squadron: Preparations are being made for an extended celestial navigation flight to Panama, to take place early in November, using the OA-5 Amphibian.

37th Attack Squadron: After numerous editions with no comments from the fighting 37th Attack Squadron, due to sundry reasons, it is believed we should break into print once more. Among the many reasons for silence is included two weeks of maneuvers at Edgewood Arsenal during September, when the roster of the organization included officers and men attached from 14 different organizations, including the U.S. Marine Corps. Even though Marines are trained to take any kind of service that comes along, it is believed they received a taste of field service which will be remembered for some time. You may be assured that the 37th and attached men will not forget it soon.

Talking about A-8's, I do not believe one accident was ever told to the News Letter, and it bears telling. The A-8 in question was in the hands of a cadet who had just come up from Kelly. He had flown it a few times and this time I guess he thought he was back in a BT. Anyway, eye-witnesses disagreed how far it dropped on the landing, but the only thing that gave way were the two upper longerons right at the back of the pilot's cockpit. When it finally came to rest, the hub of the prop was on the ground and the pilot was sitting up there with nothing in front of him. It looked like one of the early airplanes where the pilot sort of sat in space.

The following changes have taken place in the organization: Lieut. C.G. Goodrich sailed for Panama; Lieut. J.A. Thomas sailed for Hawaii; Cadet Eakin was transferred to the 35th Pursuit Squadron; Lieut. W.F. Day, Jr., was assigned to from Hq. and Hq. Sqd. 8th Pursuit Group; Lieut. K.P. Berquist was assigned from Kelly Field; Sergeant Albee was promoted from Technical to Master Sergeant and assigned to Bolling Field, but is still attached for duty.

Lieut. Joseph A. Thomas, a member of the organization for over a year, was transferred to Hawaii. We all regret his departure and wish him the best of success at his new station.

Since returning from Edgewood Arsenal recently, the Squadron has been working to catch up with our Annual Training Program.

36th Pursuit Squadron: Second Lieut. Joseph H. Wilson, Air Reserve, a member of this organization since August 1, 1936, was relieved from assignment to this organization and assigned to Headquarters and Headquarters Squadron, 8th Pursuit Group, CHQ Air Force. His departure from this organization is regretted very much by both the officers and enlisted men.

Clark Field, P.I., October 22, 1936.

With much anxiety, the 3rd Pursuit Squadron

awaited the arrival last month of the U.S. Army Transport MEIGS, and finally she steamed into Manila Bay, bringing us some new P-12's of the C and D vintage. All of the pilots here are becoming very air-minded again, after months of awaiting their turn on the few ZP-12B's, venerable grand-daddies of our present modern type. We are very much in keeping with the present modernistic trend of kaleidoscopic color schemes. The airplanes received from March Field came over painted blue, and with only one gallon of new blue enamel available at Clark Field each new replacement part and bolt is of olive drab, but then they do match our older P-12's. To allay any international fears that this new color scheme might be a camouflage to a revolutionary type of war-craft, the Squadron is seriously thinking of heavily underlining the "Z" in front of the P-12 symbol. In spite of this seeming levity, the pilots here are agreed that few present Pursuit types could have withstood the carabao wallows and rice paddies of the Philippines as well as our old P-12's.

Due to frequent personnel changes at Clark Field, we include the present roster of officers stationed here as of November 1st: Major C.W. Ford, Captain S.W. Van Meter, Major C.L. Maxwell, Flight Surgeon, 1st Lieuts. P.B. Wurtsmith, W.M. Morgan, S.W. Cheyney, H.W. Bowman, W.C. Morse, 2nd Lieuts. W.M. Canterbury, R.J. Reeves and R.A. Legg.

Major Ford, the Commanding Officer, returned to duty after a brief illness at Sternberg General Hospital. He is slated to return to the States on the March, 1937, transport. Recent information indicates that the following officers will return to the States on the dates indicated: Lieut. Morse on the November, 1936, transport; Lieuts. Morgan and Bowman on the March, 1937, boat and Lieut. Wurtsmith on the May sailing.

San Antonio Air Depot, Duncan Field, Texas.

Among recent cross-country visitors at the Depot were Lieuts. J.S. Chennault, T.E. Moore and J.C. Ziler, Air Reserve, from Selfridge Field, Mich., November 7-9, ferrying three P-26A's from the Depot back to that field; and Major N.D. Brophy, Air Corps Instructor with the Colorado National Guard, Denver, November 13th, bringing in an O-19 for overhaul.

Technical Sergeant Paul B. Jackson, airplane pilot, has been transferred to this Depot and assigned to the 3rd Transport Squadron from the Panama Air Depot, France Field, sailing on the transport from the Panama Canal Department November 7th for San Francisco, with a delay of 20 days authorized while enroute.

Hawaiian Air Depot, Luke Field, T.H.

With an especially large shipment of Air Corps supplies scheduled to arrive in the Hawaiian Department during the latter part of November and the first part of December, when four Army transports will dock at the port of Honolulu, the total Air Corps stocks on hand will be raised to a greater figure than ever before.

The U.S. Army Freight Transport SCOTTSBURG is alone bringing approximately 700 packages weighing over 300,000 pounds, probably the largest shipment of Air Corps freight ever to reach these shores on a single vessel. The other transports are also carrying large consignments. These supplies include considerable new equipment for the various activities in this Department, including the Hawaiian Air Depot, and large quantities of replacement parts. When these supplies have all been uncrated and placed on our shelves, the Hawaiian Air Depot will be in a better position than ever before promptly to meet the requirements of the various stations which it serves.

The Hawaiian Air Depot is organizing a Credit Union under the provisions of the Farm Credit Act. A preliminary survey indicates that the venture will be very successful.

Mr. H.L. Cowan, former Chief Clerk of the Engineering Department, has bid Aloha to the Depot to accept a new position on one of the sugar plantations on the Island of Maui.

Air Corps Detachment, Municipal Airport, Long Beach, Calif., November 23rd.

The Unit Instructor, Captain Pardoe Martin, is back on the job after a two weeks' period of "Sick in Quarters." The Captain took his tennis too seriously and developed a case of "House-maid's knee." When he has been in Southern California a little longer he will learn to take life more leisurely and keep in mind that there is always "manana."

Captain Clyde L. Hussey, Air Reserve, reported at the Air Base for two weeks' active duty on October 11th and found himself presented with a staggering schedule of paper work and being on the flying line while Captain Martin caught up with a lot of official errands. Captain Hussey stood up under his arduous tasks like a veteran, but on the last day he had some altercation with an ancient PT-3, and the PT won. The Captain is nursing a crippled back, while the PT still has its place on the flying line.

For the past several days our Reserve officers have been standing in line to get in their transition flying on a borrowed BT-2, in order to fly the new BT-9. After said BT-2 has served its purpose at Long Beach and Salt Lake City, it is slated for a permanent assignment at the Oakland Base. If and when it does reach Oakland - 'twill be only a shadow of its former pristine glory - in memory of our C-19 that went north and never returned.

On October 25th, the pilots from the local Air Base were hosts to the San Diego group. Since our delegates have returned from the Air Reserve Conference at Oklahoma City there has been a get-to-gether movement with a working motto of "In Union there is strength." At the joint meeting, chapters of the Air Reserve Association were organized. Lieut. Colonel Jos. S. Marriott, Air Reserve, was elected president of the Long Beach Chapter. We are going to do something about that five-point program drawn up at the Conference.

Tuesday of this week was actually a very sad day. We acted as honorary pall-bearers to

three tried and trusted friends. Major Sullivan, the Technical Supervisor, read the obituaries over three of our PT-3's which were grounded for survey. Our formation practice is shot. Wonder if it was only a rumor about those BT-9's?

On November 8th, 1st Lieut. Francis M. Durfee, Air Reserve, reported for a tour of 14 days' active duty. Lieut. Durfee has been an active member of the 479th Pursuit Squadron (Reserve) for a long time and feels very much at home on the flying line. He numbers within his immediate family a Brigadier General, a Major and a Lieutenant in the Regular Army. However, he is of the firm opinion that commercial aviation tops any other profession in life.

On November 14th, the 479th held its annual Armistice Celebration in the Officers' Club here at the Base. 'Twas a gala occasion, something like 150 couples being present, among whom were many old-timers, who remember the first Armistice celebration.

March Field, Calif., November, 1936.

Two occasions of a semi-official nature marked the arrival of the 73rd Attack Squadron at Bakersfield on the occasion of the Fall Maneuvers, one the retirement of First Sergeant Fred Shafer and the induction of Master Sergeant D.W. Whiteside into the Exalted Order of Fire Chiefs.

Sergeant Shafer, retiring after thirty years as a cook, was presented with a gold watch by the men of the 73rd, a customary gesture of esteem and best wishes to a departing member of the 73rd whose long record of service reflects the high credit upon the individual and the service as in the case of Sergeant Shafer. Major L.C. Mallory, officiating at the presentation, paid tribute to the service of Sergeant Shafer. In his chosen branch, as in the estimation of his fellow soldiers, Sergeant Shafer went to the top, and it is with regret and best wishes that we see him go to another walk of life.

Numbered among the members of the 73rd is one D.W. Whiteside, gentlemanly old Master Sergeant, veteran of four campaigns, and patron saint of the 73rd's enlisted personnel. The Sergeant, it appears, aside from being the No. 1 man in Hangar six, has been exposed too long to the contagion of speed, and aspires to emulate the exploits of Barney Oldfield and other heroes of the roar and skid school. After a record-breaking dash to Bakersfield in the van of the 73rd's motor convoy, "Speed" Whiteside, with the eager aid of two front seat passengers, managed to get his heel off the accelerator of his careening steed long enough to effect a rough mooring and deposit four casualties at the threshold of the medic's tent. "Temporary derangement, due to violent strain and protracted excitement" pronounced Captain Porter, M.C., and four of our best sergeants were placed under strict surveillance.

Sergeant Whiteside shuttled his upper plate and looked innocently perplexed. "Probably shell shock," he mused.

The following day, a grim faced delegation arose from the noon mess and ordered Sergeant

Whiteside, to appear before the assembled Squadron. Then with the dignity and ceremony befitting such an occasion, two titles of doubtful origin, but of obvious significance were conferred upon our Master Sergeant.

"From this day and henceforth you shall be known as 'Big Chief of Hangar Six' and Public Automotive Enemy Number One. As a badge of authority he was presented with a red fire chief's helmet that would have done credit to Ed Wynn.

Randolph Field, Texas, November 19th.

The "Gods of Sports" are smiling on Eighth Corps Area athletics these days, and the reason for the "blessings" are centered around the present football season. Brooks Field and Randolph Field are both in a favorable position to win the San Antonio Army Championship even with such notable army units as the 9th and 23rd Infantry, the 15th and 12th Field Artillery and Kelly Field in the league.

Brooks Field, along with Randolph Field, rated as potential "dark horses," have upset all expectations by defeating all comers to take possession of the top rung. Sunday, November 22nd, these two crack teams were scheduled to clash at Randolph Field.

Randolph Field, with a brand new squad, has boasted and made good, while Brooks Field's Gray Geese have said nothing and came through with an equally surprising amount of victory punch. The outcome of this classical gridiron struggle was awaited with interest.

Brooks Field with four victories against Randolph's three, holds the edge in the statistical attack column.

Should the Brooks Field team win this particular game, they will very nearly have clinched the championship. Should Randolph win, then the league continues at an exciting clip for another three weeks, when the 9th Infantry has its say.

All told, it has been a great year for football in and around San Antonio and, regardless of the outcome, the Air Corps will undoubtedly reign supreme.

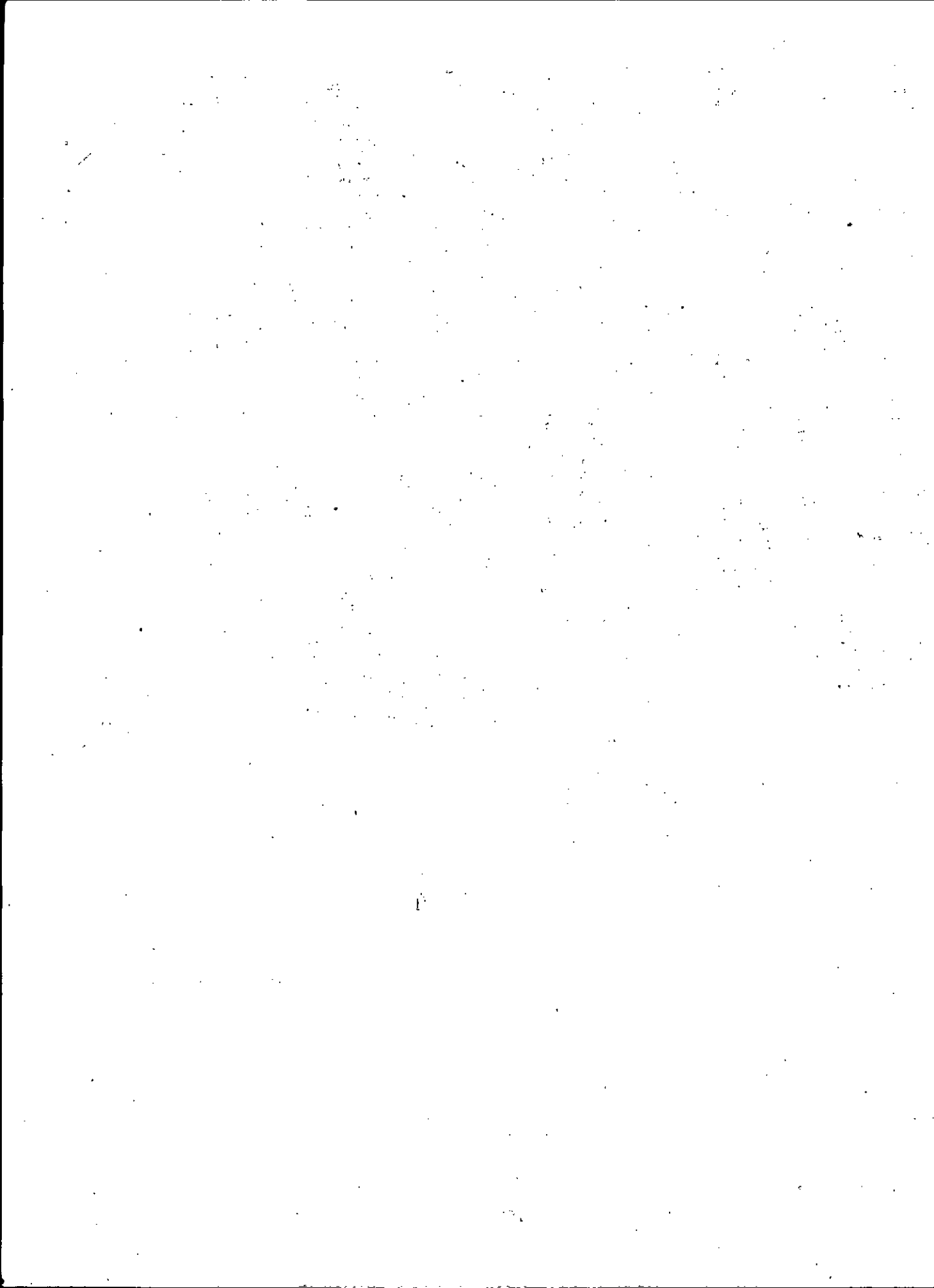
TECHNICAL INFORMATION AND ENGINEERING NEWS
Air Corps Materiel Division

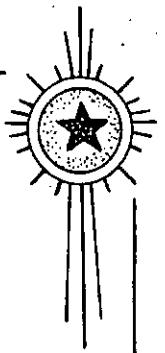
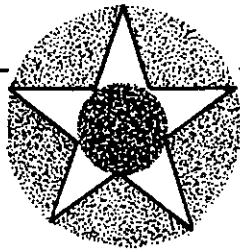
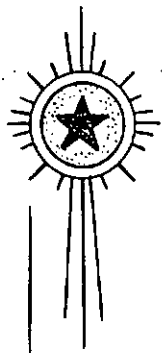
Energizer Using Self-Adjusting Clutch.

An Engineering Section Memorandum Report reports satisfactory results of tests of an experimental energizer procured from the Eclipse Aviation Corporation, East Orange, New Jersey. An automatic clutch adjusting unit, which controls the initial torque applied to the starter shaft, is incorporated in this energizer. The initial torque applied can be adjusted. The torque is set for 25 ft.-lb. and builds up to 90 ft.-lb. This increase in torque applied will not occur until the starter shaft has turned one-half of a revolution. With this type of energizer the shock load, as applied when using the standard Type A-2 energizer, is eliminated; in other respects, this energizer is similar to the Standard Type A-2. Action has been initiated to procure a quantity for service test.

Safety Belts, Type B-11

An Engineering Section Memorandum Report furnishes information relative to standardizing the Type B-11 pilot's safety belt. This belt is composed of a quick-releasable latch attached to two webbing side straps which are adjustable by means of friction locking loops. The release latch is held against premature release when worn loose by two spring loaded ball checks. The latch permits release regardless of the load applied to the belt. Adjustment for tight position of the belt is accomplished by drawing up the free end of the side straps; adjustment for loose position is accomplished by depressing the friction latch on the side straps and then applying forward pressure with the body.





air corps

News Letter



Christmas Greetings

ISSUED BY
THE OFFICE OF THE CHIEF OF THE AIR CORPS
WAR DEPARTMENT WASHINGTON, D.C.
DECEMBER 15, 1936.

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Information Division
Air Corps

December 15, 1936

Munitions Building
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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GREETINGS FROM THE CHIEF OF THE AIR CORPS

It affords me extreme pleasure to extend, through the columns of the Air Corps News Letter, my sincere wishes to all Air Corps personnel for a very merry Christmas and a Happy and Prosperous New Year.

This coming Christmas marks the first anniversary of my tenure of office as Chief of the Air Corps, and I am glad of this opportunity to express my warmest appreciation for the loyalty and wholehearted support and cooperation which have been extended to me.

This past year, it seems to me, has been one of the most interesting in the history of the youngest combat branch of the Army. Extraordinary developments in aircraft performance have forced us to change the heretofore existing organization, both from administrative and tactical standpoints, and to create new organizations with new functions to perform.

The rapid changes in aircraft develop-

ment and all the other changes incident thereto make us all realize that we belong to a branch of the Army of the United States in which our energies can never be relaxed, and in which we continually face new problems - problems for which we must promptly find a solution in order to be ready for any emergency which may confront us.

In the past the Air Corps has been a small but highly efficient arm. The high degree of efficiency attained by our personnel - officers, enlisted and civilian - is particularly gratifying to me and to all connected with American aviation. Recently, some personnel increases have been made and a large increase in the airplane strength has been authorized. These make this Christmas particularly happy for the Army Air Corps, and bright prospects for a larger and better equipped Army aviation foreshadow a Happy New Year for all.

O. WESTOVER,
Major General, Chief of the Air Corps

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GREETINGS FROM THE CHIEF OF THE G.H.Q. AIR FORCE

The approaching holiday season, with its attendant reduction of training activities, affords an excellent opportunity to reflect on past accomplishments and to plan for the future.

The past year and a half has been a period of high pressure thought and work on the part of the entire Air Corps. Many of the problems of training, equipment and organization, created by the formation of the GHQ Air Force on March 1, 1935, have been solved. For others, a solution is still being sought.

I wish to express to all personnel of

the GHQ Air Force my sincere appreciation of the splendid manner in which they have met and solved the problems with which they have been confronted. I thank the Materiel Division, the Tactical and Technical Schools, the Training Center and all other agencies of the Chief of the Air Corps for their fine spirit of helpful cooperation.

To members of the GHQ Air Force, past, present and future, in other words to the entire Air Corps, best personal wishes for a Merry Christmas and Successful New Year.

F. L. ANDREWS,
Major General, Air Corps, U. S. A.,
Commanding.

ROUND TRIP FLIGHT TO PANAMA
By the Langley Field Correspondent

The 21st Reconnaissance Squadron Aviation Section, on November 15th, completed one of the most interesting and instructive flights that has been made by an aviation unit. With a Douglas OA-5 as the vehicle of transportation, the flight was made from Langley Field, Va., to France Field, Canal Zone, via Miami, Florida, and return over the same route. Miami was the only intermediate stop on the outward and return journeys.

The following personnel participated in the flight, and were assigned to duties as follows:

Major V. J. Meloy, Flight Commander and Navigator.

Captain H. C. Downey, Navigation and Engineering Officer.

Captain A. Y. Smith, Instructor.

1st Lieut. D. R. Gibbs, Navigator.

1st Lieut. E. L. Tucker, Navigator and Communications Officer.

1st Lieut. J. A. Miller, Instructor.

Staff Sergeant W. B. Buff, Crew Chief.

Private, 1st Class, K. E. Trout, Radio Operator.

Major Meloy, Captain Downey and 1st Lieuts. Gibbs and Tucker are completing the present Navigation Class at Langley Field.

Excerpts from the log of the flight are as follows:

Take-off from Langley Field, Va., at 0912 November 9th.

Landed at Coast Guard Station Miami at 1530, where the flight remained over night. The distance from Langley Field to Miami was 820 Statute miles, and was made direct.

Tuesday, November 10th, with 1200 gallons of gasoline aboard, the ship got into the air at C749 and headed south on the 1125-mile stretch to the Canal Zone. Point Colorados, Cuba, was passed at 0958, and the long trek across the Caribbean began. As this is the rainy season in Panama, it was expected that tropical showers would be encountered, but the sun and Dame Fortune smiled, and the Canal Zone was reached at 1645 without encountering anything but an unlimited ceiling. Due to a cross wind at France Field, the ship was landed in the water and taxied up the ramp at the adjoining Naval Air Station.

Maintenance was begun on the ship the following morning, and on Thursday afternoon the ship was flown to Albrook Field, so that the Army officers stationed on the Pacific side might inspect the airplane. On Friday, 13th, the ship returned to France Field and was fully serviced for the take-off the following day.

November 14th, the take-off was made at 0824 from Limon Bay. Some difficulty

was experienced in getting off due to the heavy load and glassy water with no wind. A few showers were flown through on the return trip, but otherwise the trip was uneventful. Landing was made at the Coast Guard Station at Miami, Fla. at 1732. The following morning, the ship took off for Langley Field, Virginia, at 1007 and landed at 1645.

On the flight, the four students alternated as Dead Reckoning and Celestial Navigators, and everyone took his turn as pilot. The navigation was successful, as each objective was reached with an average error of less than one degree.

The reception accorded the personnel of the flight in Panama proved the intense interest in modern aircraft in the Canal Zone. Not only the Air Corps, but all branches of the service were greatly interested in the airplane and in the success of the flight. Everyone in the Canal Zone seemed to be "Air Minded".

During the flight from Langley to Miami, radio contact was maintained constantly with either Langley Field or the Coast Guard until Quarry Heights was picked up. It was interesting to note that contact was made by voice with Albrook Field on the return trip when only 150 miles from Cuba, or a distance of 720 miles. Contact was maintained with Quarry Heights until landing at Miami.

The personnel of the flight are greatly indebted to the personnel in the Canal Zone who worked unsparingly to make the flight a success. Particularly are they indebted to Major General W. B. Butner, Brig. Gen. George H. Brett and Lt. Col. Richard Ballard.

In Miami, the assistance rendered by Commander Von Paulson, in command of the Coast Guard Station was invaluable. Pan-American Airways cooperated to the fullest extent by giving accurate and timely weather reports to the Coast Guard and Army stations in contact with the plane, so they could be relayed to the ship in flight.

This flight was particularly instructive to the navigation students, as it gave them ample opportunity to navigate on long stretches with no check points. Only 456 miles of the total distance flown of 3890 miles were over land. The ship functioned perfectly at all times, and everything in connection with the flight worked with precision, thus insuring success all the way around.

The most amusing incident of the flight was the sudden realization that there were four persons in the front-gunnery compartment as the ship neared Panama. Eight pairs of eyes are still recovering from the strain of searching for land when it was known land was near.

MILITARY COMPETITIONS IN HAWAIIAN DEPARTMENT

In the week of November 9th, all units of the Hawaiian Department were engaged in the Hawaiian Department Military Competitions, an annual event inaugurated this year by Major General Hugh A. Drum. The 18th Composite Wing, represented by its components, the 5th Composite Group, Luke Field, and the 18th Pursuit Group, Wheeler Field, participated in military events in competition with other organizations in such activities as recruit drill, tent pitching, personal appearance and equipment events, and events for motor transportation. In addition, there were a number of Air Corps flying events. As a result of these competitions, the Air Corps in Hawaii enjoys the satisfaction of having beaten many of the other outfits at their own game.

When the final percentages were published, it was found that the 5th Composite Group had to defer to the 18th Pursuit Group with their splendid score of 98.8%. However, the 5th Composite Group, with a score of 91.1%, forced the "Pursuiters" to extend themselves to the utmost.

Although the Group from Wheeler Field excelled in the parade ground events, the 5th Composite Group distinguished itself by beating the entire Hawaiian Department in the pistol firing competition. The Luke Field team, headed by 1st Lieut. Carlyle W. Phillips, included Sergeants S. D. Peters and T. F. Taylor, Privates J. H. Purnell and Paul H. Loudon. It defeated seventeen other competitors to take the match. Private Loudon, who is serving in his first enlistment, turned in the second highest individual score in the competition with a score of 187 out of a possible 200.

Turning to the Air Corps Events, Luke Field's interest was centered in Event 46 - "High Altitude Bombing" and Event 52 - "Reconnaissance for Observation Squadrons." The former was conducted at Waimanalo, where a target, base line with end observation stations, and an operations tent housing long and short wave radio sets and field telephones had been set up. The competition was run according to the rules of T. R. 440-40 (tentative) and served as a service test of the latter. The winning team proved to be 2nd Lieut. Cady R. Bullock, Air Reserve, pilot, and 2nd Lieut. Fred C. Johnson, Air Reserve, bomber, both of the 72nd Bombardment Squadron, with a score of 13.8 mils. The bombing altitude was 10,000 feet.

The 23rd and 72nd Bombardment Squadrons were each represented by three teams. Of the six teams, the 72nd Squadron took first, second and fourth places. The result might have been different had not 2nd Lieuts. William C. Capp and

Norman L. Callish, Air Reserve, been forced to withdraw due to a defective bomb sight after dropping only three bombs. Due to the late hour, it was not practicable to allow them to repeat.

The Reconnaissance event was hotly contested and afforded elements of suspense and excitement. On the morning of the contest, the Pursuit Group, by arrangement, distributed a number of Pursuit and Attack planes on certain of the outlying fields on Oahu. A number of these airplanes were elaborately camouflaged. Others were left "in the clear." The mission was to reconnoitre these fields and on return submit a written report of the number and type of airplanes observed. One hour was allowed to complete the mission. For each minute over the hour, a penalty was assessed. Radio was injected with the problem by requiring each team to report their position at a certain time in accordance with the latest prescribed radio procedure. The event was won by the team consisting of 1st Lieut. Carlyle W. Phillips, pilot, and 1st Lieut. Cordes F. Tieman, observer, both of the 50th Squadron, who missed a perfect score only by failing to report two of the thirty airplanes involved. First Lieut. Charles F. Born, Commanding Officer, 50th Observation Squadron, takes great satisfaction in the fact that his Squadron took first, second and third places in this event.

The only air event in which Luke Field came into direct conflict with Wheeler Field was Event 49 - "Accuracy Landings." In this event, each Pursuit, Attack and Bombardment Squadron (Observation omitted) were allowed to enter three teams. The object was to stop with the tail wheel on the center of a circle after a glide from 1,000 feet with power off. First Lieut. H. L. Sanders, 6th Pursuit Squadron, was the winner, missing the center by a scant one inch with his "pea shooter." However, Luke Field is proud of the performance of 1st Lieut. William L. Travis, who stopped his five-ton Keystone B-4 within $5\frac{1}{2}$ inches of the pin. It is rumored that the Wheeler Field "Pursuiters" greatly simplified the problem by adjusting the idling speed of their motors so that the P-12E's rolled indefinitely, it remaining for the pilot only to judge the correct moment for "standing on the brakes."

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Three Air Reserve officers were assigned to active duty extending into the year 1939; 2nd Lieuts. John Cushman Doherty, Fort Lewis, Wash., to December 6th of that year; John Harold Turner, March Field, Calif., to June 15th, and Richard Charles Kugel, Hamilton Field, Calif., to June 16th.

THE CONTROL TOWER AT MITCHEL FIELD

The News Letter Correspondent from Mitchel Field, L. I., New York, has submitted several photographs showing the location and construction of the Air-drome Control Tower now in operation at the 2nd Air Base, at that field. It is regretted that the press of other work now being performed by photographic personnel in the Chief's Office will not permit reproductions of these photographs to be made in time for inclusion in this issue of the News Letter.

The necessity for an adequate control tower, capable of regulating air traffic arriving at or departing from this Base was early recognized. Accordingly, the dispatching of local air traffic was undertaken in a modest manner through the medium of a radio installation in the office of the Base Operations Officer. While this arrangement proved its worth, it was at once apparent that a more efficient set-up was quite necessary effectively to carry on this extremely important activity. Thus, from a humble beginning, a control tower worthy of the name now graces the roof of Base Headquarters Building.

The Tower was placed in operation November 10, 1936, with operating personnel maintaining continuous 24-hour watch with radio receivers tuned to the following frequencies - 3105 kc's, 6500 kc's, 6625 kc's (day) - 3295 kc's (night) and transmitters operated by remote control on 278 kc's for airdrome control and 396 kc's for the dissemination of weather data.

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AERIAL GUNNERY PRACTICE AT CAMP SKEEL

The 27th Pursuit Squadron, stationed at Selfridge Field, Mt. Clemens, Mich., recently spent three weeks at Camp Skeel, Oscoda, Mich., where it indulged in gunnery practice. This practice consisted in firing on ground targets and on aerial tow targets above 10,000 feet.

This was the first opportunity the 1st Pursuit Group has had to observe the firing qualities of the new FB-2A airplanes, and from a mechanical standpoint they performed excellently. The high altitude gunnery was very successful. No flexible guns were available on the planes for practice by the gunners, but they were trained on the ground by firing several thousand rounds. The personnel found ample recreation in athletics and fishing, and all personnel of the Squadron agree that the work at Camp Skeel had been both interesting and instructive.

The 94th Pursuit Squadron, during the month of October, also spent three weeks at Camp Skeel participating in gunnery practice.

THE PHILIPPINE ARMY AIR CORPS

About 33-1/3 percent of the Philippine Army Air Corps was recently rendered inactive when a student pilot cracked up one of their three planes, a Stearman Trainer. The pilot, however, was only slightly injured, and the plane was not damaged beyond repair.

The task of organizing and training the Philippine Army Air Corps is in the hands of 1st Lieuts. William L. Lee and Hugh A. Parker, U. S. Army Air Corps, who are, in addition to their other duties, assigned to duty in the office of General Douglas MacArthur, military Advisor to the Commonwealth of the Philippines. Lieut. Lee is Acting Chief of the Philippine Army Air Corps, with Lieut. Parker his assistant. They have about 85 student pilots.

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PURCHASE OF ADDITIONAL TRAINING PLANES

The Secretary of War, Hon. Harry H. Woodring, recently announced the award to the Stearman Aircraft Company, Wichita, Kansas, of a contract for 28 Primary Training airplanes and a reasonable amount of spare parts. This purchase is to be made by an increase in a contract already let to this company at a total additional cost of \$146,720.25. This additional procurement of training airplanes is made to fill an urgent requirement for this type of airplane at the Air Corps Training Center, and purchase at this time by exercise of option permits of a saving of approximately \$620 per airplane on total contract.

The desired performance characteristics of a primary training airplane for the Army Air Corps are: comparatively low landing speed, high speed of 125 miles per hour, operating speed of 105 miles per hour, with an endurance of 4 hours at such operating speed, and climb to 18,000 feet in 18 minutes with full load.

The type purchased is the PT-13A, which is a two-place (tandem arrangement) bi-plane, powered with a 7-cylinder air-cooled Lycoming engine of 125 horsepower. This airplane has been judged by Air Corps personnel as exceptionally well suited to the fundamental training in flying given at the Air Corps Training Center.

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NEW TRANSPORT PLANE FOR SELFRIDGE FIELD

Selfridge Field received a new C-33 Transport on November 23rd. It was flown to that field from the Douglas Plant by the Post Commander, Colonel H. B. Clagett, and Captain Harlan T. McCormick.

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Major General Frank M. Andrews, Chief of the GHQ Air Force, visited Selfridge Field November 23rd, leaving on the 25th.

V-7168, A. C.

LONG-DISTANCE FLIGHTS TO MANILA
By the News Letter Correspondent



Manila was the terminal of several flights of interest during September and October, a brief account of each of them is submitted.

A "SHORT-Singapore" flying boat of Squadron 305, British Royal Air Force, Singapore, Malay Peninsula, powered by four Rolls-Royce engines mounted in tandem pairs, landed on Manila Bay at 1:40 p.m., September 25th, after a flight from Singapore via Hongkong. The flight from Hongkong to Manila was made that day, the start being made at 6:00 a.m.

The boat carried a crew of three officers and six enlisted men. The following officers were aboard: Air Commodore Sidney W. Smith (in command), Group Captain A.H. Peck and Squadron Leader G.S. Riccard. The return flight was made via Kudat, Borneo, over the Southern Philippine Islands and British North Borneo, taking off from Manila Bay on the morning of September 29th. During their stay in Manila, the officers were quartered at the Army and Navy Club, and were entertained at several functions by the British Consul, officials of the City of Manila, the Commonwealth of the Philippines and the officers of the Air Corps. The enlisted men were quartered at the Army and Navy Y.M.C.A. On the evening of September 28th, they were entertained by the Air Corps noncommissioned officers at a dinner at the Great Eastern Hotel.

A Douglas DC-2 airplane of the Royal Netherland Indies Airways (KNILM) landed at Nichols Field on the afternoon of October 10th, after a flight from Batavia, Java, via Balikpapan, Borneo and Zamboanga, P.I., carrying Mr. H.R. Ekins of the Associated Press as passenger. Mr. Ekins was at the time participating in a race around the world via commercial airlines with two rival newspaper representatives - Miss Dorothy Kilgallen and Mr. Leo Kiernan. Mr. Ekins, after several days' delay at Manila, was able to make connections with the Hawaiian Clipper, thereby completing his around-the-world flight far in advance of his competitors. In addition to Mr. Ekins, the members of the crew and other passengers were Mr. Van Bremen in command; Mr. Waltman, 2nd Pilot; Mr. Proost, Mechanic; Mr. Souman, Assistant Mechanic; Mr. Van Ende, Radio Operator, and Mr. N. Nieuwenhuis, General Manager of the line, and Mr. De Bree, Assistant Manager.

The flight was in the nature of a survey preliminary to the establishment of a line between Manila and the Netherland East Indies. During their stay in Manila, several flights were made over that city and vicinity, carrying Philip-

pine Government officials and others. The return flight was made via the same route, carrying several local citizens as passengers from Manila to Zamboanga, P.I.

The Pan American Airways during the month of October made several preview flights, carrying newspaper representatives, Pan American Airways officials and representatives of American business and society. Three Clippers were in the air on October 18th, two headed toward Manila and the other returning to Alameda, all of them carrying passengers on preliminary flights preparatory to the establishment of regular commercial passenger service, October 21st.

The China Clipper, with eight newspaper men aboard, was enroute from Guam to Manila. The Hawaiian Clipper, carrying Mr. H.R. Ekins, was enroute from Midway to Honolulu, and the Philippine Clipper was enroute from Honolulu to Midway. The Philippine Clipper on the last of P.A.A.'s preview flights arrived at Manila on October 20th, with a distinguished group of 15 passengers, including Mr. and Mrs. Juan Trippe, Mr. and Mrs. Cornelius Vanderbilt Whitney, C.G. Grosvenor, E.O. McDonnell, Robert Lord, Senator and Mrs. McAdoo, Amos G. Carter, Roy W. Howard, Paul Patterson, E.R. Swasey, Thomas Backe and James G. Stahlman, and took off again at 6:00 a.m., October 23rd, with J.H. Tilton in command on the first flight to Macao, China, the far east terminus of the P.A.A., carrying the same passengers who were aboard on its arrival in Manila and, in addition, the following P.A.A. officials: H.M. Bixby, John Morris, Karl F. Lueder, Brooks Tatum and O.R. Butler, and a crew of seven, or a total of 27 passengers.

The Clipper was scheduled to return to Manila, via Hongkong, on October 24th. Captain John P. Van Zandt, Air Reserve, and formerly a 1st Lieutenant in the Air Corps, Regular Army, is at present acting as local manager of the Pan American Airways in Manila, and is attached to the 4th Composite Group at Nichols Field for inactive duty flying. Captain Van Zandt resigned from the Air Corps in January, 1926.

Colonel Adna R. Chaffee, General Staff Corps; Lieut. Colonel Shepler W. Fitz Gerald, Air Corps (General Staff); Lieut. Colonel William O. Ryan, Air Corps, and Major Wilton B. Persons, Office of the Assistant Secretary of War, accompanied the Sub-Committee of the House Military Affairs Committee on its inspection of Scott Field, Ill., on November 25th. On Nov. 27th, 1st Lieut. Filberto Mendivil Gomez, of the 1st Aero Regiment, Mexican Army, visited Scott Field by plane.

AND WAS THE MAJOR GLAD TO GET HOME!

The Correspondent of the 37th Attack Squadron, Langley Field, Va., spins this yarn, characterizing it as a very amusing incident and one that should be told.

He goes on to say that several months ago, during the Second Army Maneuvers, the 37th had four planes participating therein to lay a smoke screen at Fort Knox. Among the planes not taken on maneuvers was number 84, an A-8A, the only one of its kind in existence. The difference between the A-8A and the regular A-8 was a geared Conqueror motor that sounded like a coffee grinder and the plane consequently took about twice as much field on take-offs. The 37th had just received a new Cadet from Kelly Field and, being ordered on his orientation flights during this time, of course drew the old coffee grinder for his flights. To qualify for further cross-country trips, the new pilot must include in the orientation flights Fort Bragg, Richmond, Bolling Field, Middletown, Edgewood Arsenal and Mitchel Field.

The day this young man was sent to Mitchel Field, someone from GHQ called the 8th Pursuit Group and asked if they had a plane available to go to Ithaca, N. Y., to ferry back a certain Major from GHQ. Noticing that the 37th Squadron had a plane enroute to Mitchel Field with an empty rear seat, the Pursuit Group Operations called the 37th and asked if there were any objections to sending the plane to Ithaca to pick up a passenger and, of course, there were no objections.

The officer waiting at Ithaca is a very close friend of the C.O. of the 37th Squadron, and when the A-8 loomed in sight he felt very pleased inwardly that his good friend was coming to pick him up, not realizing that the Second Army Maneuvers had taken him away. Imagine his surprise after the plane landed to see a big red-headed youngster crawl out. This is the point where the Major made his mistake, because he should have crawled in the rear seat and said "Let's go!" Instead, he asked where the C.O. of the 37th was and why he didn't come after him.

Without stopping for a breath between words, this is the answer he received:

"The C.O. of the 37th is on maneuvers with all the good airplanes in the organization; they gave me this old coffee grinder to make my familiarization flights in because it was not good enough to go on maneuvers and I just graduated from Kelly Field."

The young man then got out the tools, tightened up the Prestone pump which was leaking quite badly, and was ready to start. The return to Langley was made without difficulty and, even though the young man made a successful landing down wind at Langley, the Major was so glad to be down that I do not believe he noticed it.

BOLLING FIELD HAS EDUCATIONAL FACILITIES

Despite occasional complaint to the contrary, an enlisted man in the Army finds leisure time on his hands, to dispose of as he may see fit. Enlisted men in the Air Corps make good use of their own time in various ways, according to their particular fancy, - in athletic sports, in music, in traveling, in extensive reading and in studying for some scholastic achievement. A like variety can be found at nearly any place where a group of men are quartered.

At Bolling Field there is a particular tendency of the men to achieve a higher educational standing. The educational facilities in the City of Washington offer opportunities that are hard to turn away, and any spare time can be put to good use by those who have a desire to better themselves. Washington schools offer classes both day and evening, primarily for the benefit of government workers, and they cover practically every field of knowledge and are of high standing. Every year an average of about fifty men from Bolling Field enroll at various schools in the city, some in day classes, but the majority in evening classes, according to their hours off duty. Of that number, a large percentage take up the study of law. Next in line come stenographic or business courses, a few in music, others in commercial art, in commercial radio, or in accounting. Some pursue a regular college course toward a degree at George Washington University or at Georgetown University, and others continue high school courses where they left off before joining the service, or review before going to a higher education.

Through these advantages, the enlisted men at Bolling Field are daily raising their educational standard, and thereby their social standard, and are better prepared to keep up with the technicalities of their work and the opportunities of modern times.

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RESERVE OFFICERS ENTER CIVIL AVIATION

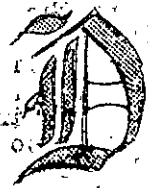
Recently, Lieuts. G.C. Nye and J.F. Lumsden, Air Reserve, were relieved from active duty with the 96th Bombardment Squadron to accept positions with the American Airlines. Lieut. B.J. Pearson was also relieved from active duty to go with the Boeing Aircraft Corporation, Seattle, Washington. Although sorry to see them leave the service, the Squadron extends to these Reserve officers wishes for the greatest success in their new positions.

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Second Lieut. Claire Barton Collier, Air Reserve, of San Antonio, Texas, was ordered to active duty for a period of three years, effective December 7th, and for station at Brooks Field, Texas.

V-7178, A.C.

GOOD OLD ARMY CHOW
By the Langley Field Correspondent



DESPITE intensive recruiting by the Recruiting Officer at Langley Field, Va., in conjunction with recruiting stations throughout the 3rd Corps Area, thus leading to the enlistment of a number of suitably qualified men for the GHQ Air Force, Langley Field is still under-strength, due to the heavy concentration of discharges during the past three months. Those who may be due for discharge in the various other arms of services, and who may have been refused admission in the Air Corps because of lack of vacancies at the time of their enlistment, should apply now while recruiting is still open.

At no time has the GHQ Air Force offered such highly technical and specialized training in the various trades as at present. There are ten different and interesting trades being taught at Chamute Field, Illinois, and Fort Monmouth, New Jersey, these in addition to the courses offered at Fort Monroe, Va., and Fort Meade, Md. The courses at Chamute Field are all complete and are equivalent to the same courses offered in civilian life which extend over a period of two years.

All these schools are available to the young man in the Air Corps at Langley Field. An Air Base School will be instituted at Langley Field on January 4, 1937. Despite the fact that possibly 50 or 60 men leave the Langley Field Air Base every year to attend a service school, the Commanding Officer desires to turn out three or four times that amount of trained men every year, in keeping with the GHQ Air Force policy of having every man a trained specialist. The courses to be instituted at Langley Field are to be of six months' duration, and consist of the following:

1. Meteorology Course.
2. Woodworking Course.
3. Armorers' Course.
4. Airplane Mechanic's Course.
5. Radio Mechanic's Course.
6. Welders-Sheetmetal Workers Course.
7. Ignition and Battery Course.

And now we come to the subject heading this article.

Several weeks ago, a young man applied for enlistment at Langley Field and, upon examination, he was informed that he was 13 pounds underweight for enlistment.

The boy's apparent willingness and determination convinced the Personnel Officer that here was a case that needed his personal supervision. Contacting the "Top Kick," of the 1st Air Base Squadron, he requested that this boy be allowed to quarter in his organization for a week or two, and that he be given special attention in the mess hall.

Evidently the plan worked, for it was

but a fortnight later that, upon a re-examination, it was disclosed that the applicant had gained the required weight, 13 pounds, and his enlistment was accomplished.

The moral to this story is:
Eat Army chow - you can't get anything better.

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THIRD ATTACK GROUP WINS COLOMBIAN TROPHY

The Third Attack Group, commanded by Colonel Earl L. Naiden, Air Corps, stationed at Barksdale Field, Shreveport, La., won the Colombian Trophy for greater safety in flying than any other similar organization in the Army Air Corps.

This Trophy was presented with appropriate ceremony to the Group December 9th, General Andrews, Commanding General of the GHQ Air Force, flying to Barksdale Field especially for that purpose.

This Trophy was presented to the Air Corps by the Republic of Colombia, and is awarded annually to that Air Corps Group which during the preceding year has had the smallest number of accidents per flying hour.

The Colombian Trophy was presented to the United States Army Air Corps by the Republic of Colombia in order to cement more thoroughly the spirit of friendship between the two American Republics and to express the feeling of comradeship which always exists between fliers of all nations.

The Trophy was brought to this country last year at the time of the Miami Air Races by a delegation of Colombian Army pilots, headed by Major Benjamin Mendez, Colombian Air Force, who is a graduate of the United States Air Corps Training Center at San Antonio, Texas, and who has also attended various Army schools in the United States.

The rapid advances in the speed and the greater complexity of modern military aircraft require unusual care by all those connected with aviation to prevent accidents, and it is most fitting that the organization which has achieved the greatest safety should be publicly honored by the presentation of such a Trophy.

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A new Reserve unit, the 328th Observation Squadron, composed of San Antonio Air Corps Reserve officers, was recently organized, with Lieut. Colonel Jack H. Lapham in command. Major Winfield S. Hamlin, Air Corps, has been appointed as instructor of the new unit. Three new type basic training planes and three primary training planes will be assigned to the unit for the training of the Reservists at Brooks Field, Texas, once or twice a month.

THE 18TH RECONNAISSANCE SQUADRON, HQ AIR FORCE
By the Mitchel Field Correspondent



EXPEDITED by the War Department order for reorganization of Air Force Units on September 1, 1936, the 18th Reconnaissance Squadron pushed aside the last retaining threads of its cocoon and spread its wings towards Mitchel Field's horizon. True, there had been other "18th Squadrons," none, however, with the Raison d'Être of this healthy, fast developing infant predestined to be the long range magic eye for its powerful and prolific brothers, the bombers.

Turning back the pages of history, we find the first "18th" was organized at Rockwell Field in 1917. It was designated the 18th Land Training Squadron and was charged with developing into war birds those adventuresome lads who were bound and determined to fight the war with the whole sky as a battlefield. In 1919, with the war ended, the "18th" which had, meanwhile, been rechristened Squadron "B," folded its wings and was demobilized. During the unsettled period following the War, the 18th Observation Squadron was reorganized at Rockwell Field, and carried on the young but enthusiastic spirit of the Air Corps from 1921 to 1925, when it was demobilized.

Not long afterwards, the 18th Observation Squadron took root on the Atlantic side of the continent; not, however, as the 18th Observation, but as the 18th Headquarters Squadron at Bolling Field. The last vestige of these old "18th's" disappeared on March 31, 1928, when the 18th Squadron was rendered inactive and attached to the 8th Corps Area. And so, after eight years of slumber, we find the numerals "18" once more taking wing, this time with broader and rosier horizons than ever before.

Of the illustrious officers and men of these earlier "18th's," chief, perhaps, is Major General Mason M. Patrick, whose own coat of arms was used as the foundation of the insignia of these earlier organizations; a winged foot of Hermes on a shield of azure, representing speed and service.

Although backed by years of tradition, the 18th Reconnaissance Squadron, organized at Mitchel Field on September 1, 1936, has had, to all intents and purposes, a scratch start; that is to say, it has plenty of tradition behind it, yet it is unhampered by tradition. With the increase in range and effectiveness of modern Bombardment, a new and yet untried reconnaissance unit was made a practical necessity. Chief among its accomplishments must be the ability accurately to locate and report on suitable targets at great distances over land and sea. That is to say, it is the guiding hand for the Bombers which, being

ill-equipped for conducting lengthy search because bomb load must have priority over gas-carrying capacity, and rely on long range reconnaissance units to provide the vital information.

Under the leadership of Captain J.P. (Trooper) Doyle, the 18th Reconnaissance Squadron has tackled with determination the work cut out for it. Provided with five B-10B airplanes in addition to the two OA-4's which have heretofore been associated with long range reconnaissance, the first obstacle, that of seeing that every airplane was equipped with instruments essential for precise navigation, was overcome within the limits imposed by present day restrictions on availability and procurement of equipment.

Realizing the importance of having proficient Dead Reckoning and Celestial Navigators as officer personnel in this Squadron, every effort has been bent in that direction. Four of the originally assigned officers to the 18th are graduate navigators and have provided the nucleus about which it is hoped to develop a squadron thoroughly capable of doing its job. Other assigned officers are being developed into practical navigators as expeditiously as possible.

Not the least of the 18th Squadron's responsibilities is the conduct of the 9th Group Navigation School, also under the leadership of Captain Doyle. The present class of eight members will graduate before the New Year and, although none of the students of the school are members of the 18th, due to the fact that the class was started before the 18th was organized on September 1, 1936, it is our goal to have every Squadron officer an accomplished navigator.

About a month after reorganization, the 18th was selected to participate in the Joint Army-Navy Exercises at Langley Field, October 3rd to 17th, 1936. Due to the shortage of trained navigators, the students of the Group School were drafted into service. The success of the 18th's part in those exercises is a matter of record and need not be discussed further here.

Equally successful was the Squadron's participation in similar maneuvers at Maxwell Field early in November. Notable among its accomplishments during this exercise was the night flight from Maxwell Field to Mitchel Field, sans stop; notable not so much because it was accomplished but because it was accomplished when and in the manner in which it was planned.

Unhindered by its comparative youth, the 18th was a harbinger, during these two exercises, of the greater and nobler
(Continued on Page 11).

THE 21ST RECONNAISSANCE SQUADRON, GHQ AIR FORCE.
By the Langley Field Correspondent

It is understood that the reconnaissance Squadron will be called upon for the following types of missions:

- (a) Long Range day and night reconnaissance;
- (b) General Intelligence for GHQ Air Force;
- (c) Location of Targets for Bombardment Aviation;
- (d) Aerial Photography.

To carry out the above missions, it is necessary to have a plane of considerably more range than the Bombardment served in order to permit the patrol search and surveillance at the extreme radius of action of the Bombers; it should be large enough to permit relief for various members of the combat crew; it should be comfortable to prevent excess fatigue on extended missions.

Due to the close association between Bombardment and Reconnaissance Aviation, the 21st Reconnaissance Squadron is an integral part of the 2nd Bombardment Group.

The 21st Reconnaissance Squadron, GHQ Air Force, was organized at Langley Field, Va., on Sept. 1, 1936, per letter of the War Department, dated August 12, 1936.

On the date of organization, the Squadron consisted of two officers and

19 enlisted men, with Major H.H. Holland, Air Corps, in command. One additional officer was attached as Assistant Instructor at the Avigation School and four officers were attached as students for the avigation course. Since the organization, the Squadron has been assigned three additional officers and has received twelve enlisted men. Two enlisted men were lost by discharge, due to expiration of term of service. The initial increment of men was assigned from the 59th Service Squadron, which was disbanded. The increases have resulted from transfers and the enlistment of three men. The Second Photo Section is attached to this organization.

Due to a shortage of personnel and equipment, the chief functions to date have been the Avigation School and Aerial Photographic missions.

Three B-10's were attached for photographic missions during the recent Army-Navy Joint Exercises. Two B-10's have been assigned the Squadron and one more is expected within a short time. The Squadron is scheduled to receive five Douglas B-10's next summer.

A Squadron Insignia, which embodies the characteristics of Reconnaissance Aviation, has been submitted for approval.

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BOLLING FIELD COMMUNICATIONS

Although radio communication between airplanes and ground is becoming more and more commonplace, there is always room for improvement in the construction and installation of sets, both in airplanes and in ground control stations. At Bolling Field the maintenance crew of the Communications Department is daily striving to improve the ground control station, and their success can be seen in the increasing efficiency of their department and in the compact arrangement of their equipment. The remote control and operating room is located in the same building as the operations office, and the transmitters are in another building about a half a mile away. Through the ingenuity of the maintenance crew, the transmitters, the operations office, and the control room are all connected by a master control board in the remote control room. The four transmitters, types 14-A, 132, 187 and 136, in the transmitter building are started or stopped by push buttons on the control board, and the set or sets operating are shown by red indicator lights on

the panel. The desired frequency is dialed by a device similar to that on a dial telephone. Should the indicator light fail to signal within ten seconds after the starting button is pushed, all the power can be shut off by a main switch to prevent fire starting in the transmitter building, until the trouble is located. The board also has plugs and connections similar to a switchboard, by which the sets can be operated from the control tower outside, or by the operations officer himself through the switch box at his desk. The panel has a volume control device by which the output to the transmitters can be increased or decreased. The board is built into the wall, with only the indicators, switches and plugs showing on a black bakelite panel. Two auxiliary boards on other walls are connected to the master board and facilitate the working of three or more operators. The control room has seven receiving sets, a station altimeter, a telephone, a direct call system between operations and the transmitter building, and a large clock whose

(Continued on Page 12)

Biographies

COLONEL FRED H. COLEMAN, AIR CORPS

Colonel Fred H. Coleman, Air Corps, now on duty as Commanding Officer of the Panama Air Depot, Canal Zone, was born in Arkansas December 23, 1881. He attended Ouachita College, Arcadelphia, Ark., for two years. During the Spanish-American War, he served as a Private in Company M, 1st Regiment, Arkansas Volunteer Infantry, from May 20, 1898, to October 25, 1898. Receiving appointment as Cadet at the United States Military Academy in June, 1903, he graduated therefrom four years later, and was commissioned a 2nd Lieutenant of Cavalry, June 14, 1907. He was detailed in the Ordnance Department July 1, 1909, for a period of four years, during which time he held the rank of 1st Lieutenant. He was promoted to 1st Lieutenant, October 28, 1913, was again detailed in the Ordnance Department, June 20, 1915, and resigned from the military service on August 30, 1915.

In civil life, Colonel Coleman was connected with industrial concerns until February 20, 1920, when he was appointed Factory Superintendent at the Air Service Engineering Division, McCook Field, Dayton, Ohio, where he had 172 employees under his supervision and was in direct charge of all experimental manufacture of airplanes, engines, aircraft equipment and accessories built at that station. He resigned from this Civil Service position December 21, 1920, to accept appointment as Major, Air Service, U.S. Army.

Ordered to the Primary Flying School, Carlstrom Field, Arcadia, Fla., for flying training, he reported at that station March 31, 1921, and, upon completing the course of instruction, reported at Ellington Field, Houston, Texas, for advanced flying training in August, 1921. While at Ellington Field, Colonel Coleman was in charge of a unit school for officers and instructor in military law. Upon the completion of his advanced training, he was rated an Airplane Pilot (Pursuit) December 7, 1921, and assigned to duty with the 1st Pursuit Group.

Transferred to McCook Field, Dayton, Ohio, January 19, 1922, he was on duty as Assistant to the Commanding Officer at that field and Secretary of the Equipment Board until February, 1923, when he was transferred to Langley Field, Va., for duty as Air Service Supply Officer.

In September, 1924, Colonel Coleman was transferred to Scott Field, Belleville, Ill., for duty as student at the Balloon and Airship School, and upon completion of the course of instruction was rated Airship Pilot and Balloon Observer.

Returning to Langley Field in September,

1925, for duty as student at the Air Service Tactical School, he graduated therefrom in June, 1926; continued for another year of duty as a student at the Command and General Staff, Fort Leavenworth, Kansas, and in June, 1927, upon his graduation, was assigned to duty at Aberdeen Proving Ground, Md., where he commanded the 49th Bombardment Squadron to January 17, 1928, and was Air Officer at that station until July 10, 1930.

While assigned to duty at Aberdeen, Colonel Coleman was on detached service at Edgewood Arsenal, Md., February 10 to April 20, 1929, pursuing a course of instruction at the Chemical Warfare School. From March 24 to May 4, 1930, he was on temporary duty at Mather Field, Calif., as Commanding Officer of the Provisional Air Corps Transport Squadron during the course of the Air Force Command and Staff Exercises.

Colonel Coleman once more returned to Dayton, Ohio, in July, 1930. Assigned to duty as Chief of the Field Service Section, Wright Field, in addition thereto he served temporarily as commanding officer of the field and as acting chief of the Administration Section. From July 21, 1932, to March 13, 1933, he was Chief of the Equipment Branch of the Materiel Division. He was then transferred to Patterson Field, Ohio, and assumed command of the Fairfield Air Depot. He remained on this duty until his recent assignment to duty in the Panama Canal Department.

One of a small number of Air Corps officers holding four flying ratings, Colonel Coleman has passed the 3,000-hour mark in total flying time.

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LIEUT. COLONEL EUGENE A. LOHMAN, A.C.

Lieut. Colonel Lohman dates his active association with aviation as a flyer from August 24, 1920, when he reported for duty as a student at the Air Service Pilot School at March Field, Riverside, Calif. At that time he was on duty as Professor of Military Science and Tactics at the New Mexico Military Institute, Roswell, New Mexico, from which school he had graduated in 1905. From March 28, 1906, to December 11, 1911, he was connected with the New Mexico National Guard, serving as a second lieutenant of Infantry to June 13, 1910, and as Captain and Adjutant to December 11, 1911.

Col. Lohman accepted appointment as a second lieutenant of Cavalry, December 30, 1911. He was promoted to 1st Lieutenant, July 1, 1916; to Captain, May 15, 1917; to Major, July 1, 1920, and to Lieutenant-Colonel, August 1, 1935.

Reporting at March Field, October 30, 1920, Colonel Lohman completed his training in April of the following year, and he was then ordered to Post Field, Fort Sill, Okla., for advanced flying training at the Air Service Observation School. Following the completion of his advanced training in December, 1921, he remained at Post Field until June 30, 1922, as Officer in Charge of Training at the Air Service Observation School. He performed the additional function of Assistant Commandant of this School from April 4, 1922.

With the transfer of the Observation School to Kelly Field, Col. Lohman changed his station to that field, and he was Director of Training of the Advanced Flying School, in addition to performing various other duties, until October 11, 1923, when he was transferred to Phillips Field, Aberdeen Proving Ground, Md., where he served as commanding officer of Air Service activities until June 18, 1926. He was then assigned to the command of the 49th Bombardment Squadron which at that time was transferred from Phillips Field to Langley Field, Va. In September, 1926, he was detailed as a student at the Air Corps Tactical School at Langley Field and, following his graduation from this school in June, 1927, and from the Command and General Staff School, Fort Leavenworth, Kansas, in June of the following year, he was assigned to the command of the 12th Observation Squadron and the Second Division Aviation at Dodd Field, Fort Sam Houston, Texas.

In July, 1931, Col. Lohman was transferred to the Panama Canal Zone, and he served at France Field as Post Operations Officer and Information Officer, and later as Executive Officer at this field until April 25, 1932, assuming command of the 44th Observation Squadron and Albrook Field, Canal Zone, until December, 1932, and of the 16th Pursuit Group at that station until May, 1933, when he was transferred to March Field, Riverside, Calif. For the next three years, Col. Lohman was stationed at March Field and served in the capacity of Post Executive Officer and later as Station Complement Commander. In October, 1936, he was transferred to Kelly Field for duty as Assistant Commandant of the Advanced Flying School.

Col. Lohman is a native of New Mexico, and was born at Las Cruces on March 26, 1886.

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THEY LOVE THE NEW AIRPLANES

The Scribe for the 37th Attack Squadron, Langley Field, Va., states that Lieuts. Day, Eubanks and Pender left recently in the "Big Duck" for March Field to bring back some A-17's and that the entire organization is holding their breath and everything else, hoping that they will be assigned to the 37th.

BLUE AND GOLD CLUB AT SCOTT FIELD

The enlisted men of Scott Field, Belleville, Ill., have organized a chapter of the Blue and Gold Club, patterning it after the principles of the Luke Field Club, the first of its kind. First Lieut. James C. Bean (Chaplain) is the Advisory Officer. It was through his efforts that the Club was conceived and organized at this post.

At present, the membership is 45, and meetings are held every Monday evening. Special group meetings are held during the week. The organization's special hobby groups are Rifle and Pistol Club, Radio Club, Photo Club, Music Club, and Chanute Exam Prep Group. The latter group is studying the mathematics and mechanical principles necessary to the prospective students. Other groups will spring up when a sufficient number of the members become interested in special subjects.

Members of the Club are from the Base Headquarters and 7th Air Base Squadron, 9th Airship Squadron, 15th Observation Squadron, 21st Photo Section, and the various detachments. A special meeting room was obtained and then painted and decorated. Furniture, a ping-pong table and lamps were moved in, and a dozen popular magazines were subscribed in order to complete the setting. This room is open nightly as a recreation, reading and meeting room.

Colonel Frank M. Kennedy, Commanding Officer of Scott Field, has given the Mechanical Club permission to draw available tools and equipment.

Although the membership of the Club continues to grow slowly, the Club has been well supported by the post personnel at two dances given recently. Considering the fact that the Club was organized in October, only two months ago, it may be said that it is growing by leaps and bounds.

The huge success of this group should be taken as a hopeful sign for the popularity of similar clubs at other fields. The Scott Field secretary will be happy to correspond with any interested parties.

"It is hoped," says the Scott Field Correspondent, "to make the Blue and Gold Club a service-wide organization."

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The 18th Reconnaissance Squadron

(Continued from Page 8.)

things to be expected of long range reconnaissance units. Only downright neglect of equipment and personnel development of this most important adjunct of the General Headquarters Air Force can stem the surge of this fast growing, up-and-at-'em outfit, reorganized, yes; redesignated, yes; but, most important of all, living, breathing and chafing at the bit, ready to "go."

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Welcoming this contribution from Mitchell Field, we hope for more of the same kind.

V-7178, A.C.

THE 97TH OBSERVATION SQUADRON (C & A)

The News Letter Correspondent from Mitchel Field, N.Y., states that the insignia of the 97th Observation Squadron, a very beautiful and intricate piece of work, designed by Lieut. Waterman, has been adopted officially. The insignia at a distance gives the impression of a "Death's Head," but a closer inspection reveals a camera, binoculars and ear-phones. The design symbolizes the basic purpose of Observation Aviation, which is to observe, record and report, with deadly effect.

During the month of November, the 97th participated in many aerial navigation flights and tactical missions, stressing front and rear gunnery and instrument flying. Nine new arrivals brought the enlisted strength to 71. One new officer, Lieut. Ellsworth, reported from the Advanced Flying School.

There was another 97th Aero Squadron (Service) which served in the World War. Organized at Kelly Field, Texas, on August 20, 1917, in accordance with the provisions of Special Orders No. 88, Headquarters, Kelly Field, Texas, this Squadron sailed for France on the S.S. ADRIATIC, October 20, 1917. It had no combat service while abroad, returning to the United States on the S.S. MANCHURIA on January 22, 1919. Upon return to the United States, the unit was demobilized at Garden City, Long Island, New York, on February 3, 1919. For its service in France from November 12, 1917, to November 11, 1918, the 97th Aero Squadron earned a silver band for its guidon, engraved "World War."

In order to perpetuate the history and traditions of the 97th Observation Squadron, which served as a unit of the American Expeditionary Forces in the World War, it was reconstituted and consolidated with the 97th Observation Squadron which was constituted March 1, 1935, with headquarters at Mitchel Field, Long Island, New York.

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Bolling Field Communications (Continued from Page 9)

face is ingeniously marked to indicate commercial airline schedules. With the equipment conveniently and efficiently arranged; and operating on a 24-hour schedule, the Communications Department is keeping abreast of the times.

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War Department orders announce the temporary promotion of Captain Byron E. Gates, Air Corps, to the rank of Major, effective November 29, 1936.

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JUST ANOTHER CATERPILLAR

Flying over North Carolina in a B-10B Bombardment plane on November 17th, Major Samuel M. Connell, commanding officer of the 99th Bombardment Squadron, Mitchel Field, New York, perceiving that the right engine was afire, directed his mechanic, Private Arthur Zenke, to "bail out."

The News Letter Correspondent states that Major Connell landed shortly thereafter in a blaze of glory at Warrenton, N.C., and that, fortunately, no damage resulted.

Private Zenke, in his official report covering his parachute jump, states that he was in the rear cockpit and that he placed his right foot on the seat and left foot on left cockpit rim, jumping headfirst.

"I remained in headfirst position for about five seconds, eyes closed," he said. "I exerted a strong pull on the ripcord, and the parachute opened immediately and I was snapped into normal position. Immediately after the chute opened, I seemed to be standing still in mid-air. After about one minute I could notice my descent and I began to sway. I was apprehensive of the parachute buckling. When I approached the ground, I appeared to be headed toward a large barn, but when within about 200 feet from this barn a gust of wind blew me into a field. I landed feet first and rolled over backward four or five times. I was nervous for some time after I landed."

Frequent calls are made upon the Information Division, Office of the Chief of the Air Corps, for an up-to-date roster of the Caterpillar Club.

It is not practicable continually to publish revisions of the membership list of this mythical organization, but it is proposed to publish this roster in the News Letter in installments, so that those interested in this subject may be enabled to keep this roster in loose leaf form. Accordingly, the first two pages of this roster are published elsewhere in this issue of the News Letter, and this practice will be continued in succeeding issues until the roster is up-to-date.

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The following noncommissioned officers were recently appointed Master and Technical Sergeants, Air Corps:

To Master Sergeant: Technical Sergeant Ernest W. King, Bolling Field; First Sergeant Roy C. Dunlap, Chanute Field.

To Technical Sergeant: Staff Sergeant Besola Cobb, Langley Field, Va.

Master Sergeant Andrew May, March Field, Calif., retired November 30, 1936.

GOLD SEEKERS AT FRANCE FIELD

The following, much abbreviated diary, kept by Corporal W.T. Bennett of the 25th Bombardment Squadron at France Field, is an account of a journey performed by himself and Tech. Sgt. Paul B. Jackson of the Panama Air Depot into the land which has meant gold ever since the time of Christopher Columbus.

It is evidence of the difficulties of travel in the tropical jungles even with the assistance of the natives who may well be descendants of the same brown men who guided Balboa across the same hazards. It points plainly to the difficulty of spotting any movement from the air, and although good evidence that life is supportable, and that gold is available, does not minimize the fact that "Alaska must have been easier".

Monday, Aug. 17, 1936. After a night spent in final preparations we left Colonel at 4:30 in the morning on the "Elena Maria". We were delayed by motor trouble which made our trip of about 12 hours duration, when it should have been 3 or 4.

At the village we had chosen as a starting place for our adventure we unloaded our equipment and found our guide, one Julio Ortiz, with whom previous arrangements had been made. We proceeded to his home, a native house of bamboo poles and thatched roof, about the size of a large single garage, although it contained three rooms.

Leaving our luggage at the home of Julio we made an inspection tour of the ancient site of the village, unearthing bits of old Spanish or Indian pottery. We have contracted for privileges on the whole site and if we have time we intend to go back for further exploration. From the owner of the finca there, we bought a small amount of a kind of slag that seemed to have a bit of gold in it. This purchase was made more for the purpose of obtaining good will than for anything else.

About six o'clock we returned to Julio's and enjoyed a delicious supper of rice cooked with coconut oil. After supper we took two Atabrine tablets and went to bed in an adjacent empty house.

Tuesday, Aug. 18. We rose early and went to Julio's house for breakfast. A heavy rain set in and as it kept up all day none of our native porters appeared to carry our luggage. Took 15 grains of quinine and retired early.

Wednesday, Aug. 19. An American breakfast this morning. Redistributed our luggage so the natives would be slowed down enough for us to keep up and started about 7:30 A.M. We were carrying a load of about 50 pounds each in special-

ly constructed packs with wide padded straps, and the five natives carried the rest.

After the first hour I threw my leggings away. After the second hour of climbing river banks and wading streams, we peeled off our shirts. We followed the river, sweating, slipping, sliding, swearing and all the time wondering if we could last.

When we finally stopped for a 30 minute rest the seven of us ate a two-pound can of raisins and a few pieces of bread.

After this lunch we had to travel entirely in the stream, going against the current in water sometimes hip deep. When we reached the headwaters about sundown the hellish contraptions on our backs seemed to weigh nearer 300 lbs. than the 50 they had been. Although stiff and sore we had to establish a camp. We set up the tents while the natives gathered wood, built a fire and cooked some green bananas and rice. We made about 12½ miles today of very hard traveling. Took two Atabrine tablets immediately.

Thursday, August 20. Broke camp before 8:00 AM and began the climb that took us across the Continental Divide. This too was constant spilling and sliding. We found remnants of the old Spanish Trail two or three times.

We started down into the valley of the Boqueron at about 11:00 AM. We had heard a plane earlier evidently trying to contact us, but since leaving camp we had seen only a few glimpses of even the sun. Even the rivers were so overgrown that the sky was obscured. The jungle was thick and steaming, with great vines and enormous trees of all kinds. The trees met overhead along the rivers.

River travel was the easiest even though the water was sometimes over waist deep. There was a small fish, probably related to the Pirana that kept nibbling at any exposed skin. My feet began to trouble me greatly because of so much wading over stones.

When we stopped for the day, we fished, first attracting the attention of the blood-thirsty nibblers by throwing a few stones into the muddy water, and caught a sizeable mess, the largest being about 3½ lbs. With the fish and rice we had a good supper, and we made camp on a sand bar. The rain continued and the river rose but not enough to force us to the mountain.

Friday, August 21. Broke camp about 8:00 AM and went down stream. All the time the river became deeper and the

the boulders larger. Finally we were forced to leave the Roqueron for a smaller stream. About a mile up stream we found much black sand and plenty traces of gold in rocks.

Stiff and sore as we were, we climbed the divide between this and the headwaters of another stream and started down its course. About 2:30 PM we heard a plane, and hurrying down stream to a small clearing we fired a smoke bomb. The smoke did not penetrate the jungle however, just hung in the trees. Further downstream we found some old gold workings, probably Colombian. There was a tree house built in the top of the trees about 25 feet from the ground.

We attempted a camp site further down in a clearing which we hoped would be large enough for aerial deliveries. It was the only clearing we had found. Too tired to prepare beds we slept on the ground again, after taking our fever medicine.

Saturday, Aug. 22. Went early this A.M. to arrange the agreed signal to aircraft in some visible spot. Found a large boulder strewn bar and placed as large a circle as I could. When the plane located this signal the arrow I had placed indicating the direction of camp was mistaken for a figure one, which was to have been the "chow" signal. A message was dropped but air currents landed it away from the bar and it could not be located.

About 1:30 P.M. the plane came back, located our camp site after considerable circling and after a few passes, released a package of food via chute. Although it landed in a tree, we soon had it and everything was intact. The natives went wild with excitement.

During the morning we had found considerable gold and believe hydraulic operations here would net a small fortune.

After a meal of pancakes, fish and quinine, we went to bed.

Sunday, Aug. 23. Fixed bunks today so that we wouldn't have to sleep on the ground. A good thing too, as about midnight we had a hard rain and our tent leaked badly. The river rose about one foot, but it is hard to maintain such a head of water in the mountains, and it soon went down.

Sent three natives back home today and rearranged camp. Shot a Nikki and two turkeys. Julio cooked the young turkey with a pound of rice and it was delicious. These natives can do a lot with any kind of game, rice, oil and an onion. The old man took the Nikki and the other turkey, quartered them and cooked, dried and smoked them all at once over the fire.

Monday, Aug. 24. Today we found a large gravel bed with lots of gold in it. A P-12 flew over and must have seen our "rice" sign. We need rice. Had supper of dried Nikki and pancakes.

Tuesday, Aug. 25. Broke camp today and moved on. It was hard going and we went over nine mountains (hills). Sgt. Jackson is having tooth trouble and is going to arrange to go down to Pequini tomorrow and go back to France Field.

Wednesday, Aug. 26. After Sgt. Jackson got under way we started for another river we wanted to explore. A deer trail helped us some, but this gave out soon. A little climbing over and around some steep cliffs and we had to take to hip deep water. The rapids we encountered were very bad. Found a little creek that is rotten with gold. If we can work this with hydraulic methods we can do well.

Thursday, Aug. 27. Going on today into unexplored country. Found a small park that will bear a lot of exploring. Two small deer stood watching in wonder at about 20 feet. The vegetation is different here too.

Julio has a toothache too. Has had it for about a day without complaining. A weak iodine solution and four aspirins seemed to do his gums and rotten tooth some good. He says he is O.K. now. He is learning a little English and is quite proud.

Friday, Aug. 28. Went panning today. Good results, found nine colors in one pan. The old man got another Nikki and we went to camp for dinner. A hard rain kept us in camp all afternoon. Lightning struck somewhere near us.

Saturday, Aug. 29. After breakfast there was little chow left and no sugar. If we don't get some sugar by plane today, am afraid some of the natives will leave. Panning today resulted in many colors and one small nugget.

The plane arrived about 1:00 P.M. and tried to drop to us. Saw a message to leave the plane which Julio retrieved. The supplies must be hanging somewhere in a tree. If they are not found we will have to leave.

No trace of the food. For supper we had cornmeal cakes and one-half of a small Nikki. If the B-10 is the only plane available for these deliveries we'll have to move, as they cannot get down close enough to us.

Sunday, Aug. 30. Julio and the old man looked for the chow again in a pouring rain, but couldn't find it. We ate a little dried Nikki.

We packed and went on to where we hoped to get a boat and get out the same way Sgt. Jackson went. Sgt. Jackson was back at France Field, and about noon to-

day he found us and after several passes in the B-10, dropped a bundle of chow, and some money to be used in hiring a boat. The rice, flour, beans and cigarettes were all in a mess in the bottom of the bundle, but we sieved out the flour and picked out the beans. Can't get a boat for a few days so the chow was mighty welcome. Had the first good meal in days.

Monday, Aug. 31. While waiting for the boat we did some more panning, getting many colors and small nuggets. As far as I followed this stream there was gold, and I didn't reach anywhere near the head of the stream. More Atabrine and again early to bed.

Tuesday, Sept. 1. Contracted for a boat after much persuasion and promised to pay \$4.00 for passage down to Madden Dam. Panned 15 pans today and got gold. The prize pan had 19 colors.

More quinine and to bed.

Wednesday, Sept. 2. Today we started down the river, leaving these streams that can yield so much gold, headed for Madden Dam and civilization.

There were rapids but we didn't have to get out as the water is much deeper now than in the dry season. It was a beautiful trip but there was so much rain that all I could do was look out from under my hat and occasionally shoot at something.

We made the dam at 2:45 P.M. and caught a bus to Panama, then the train to Colon. I seemed to be the subject of a lot of whispering because of my jungle clothes, growth of whiskers and my pack, and I suppose being nearly barefooted, had something to do with it, but it was the end of the adventure and I was happy.

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AWARD OF THE DISTINGUISHED FLYING CROSS

Announcement was recently made by the War Department of the award of the Distinguished Flying Cross to three Air Corps officers and two Air Corps enlisted men.

First on the list is Brigadier General Henry H. Arnold, Assistant Chief of the Air Corps, to whom the D.F.C. was awarded in recognition of his participation in the Alaskan Flight of 1934. The citation accompanying this award reads as follows:

"Henry H. Arnold, brigadier general, then lieutenant colonel, Air Corps, United States Army. For extraordinary achievement while participating in an aerial flight as pilot and commanding officer of a Bombardment Squadron of ten airplanes, from Washington, D.C., to Fairbanks, Alaska, and return, from July 19, 1934, to August 20, 1934. By his untiring energy, fearless leadership and extraordinary professional skill, Lieutenant Colonel Arnold organized, directed and completed over 18000 miles of exceptionally dangerous flying, including a non-stop flight from Juneau, Alaska, to Seattle, Washington, a distance of 950 miles over water, under extremely adverse weather conditions, without the loss of personnel and equipment, to successfully demonstrate the mobility of the Air Force and to establish new records for the Army Air Corps in aerial photography and long distance mass formation flying."

The four other recipients of the D.F.C. are Major (Captain) Barney M. Giles, 20th Bombardment Squadron, Air Corps, U. S. Army; Second Lieutenant James H. Patrick, Jr., Air Corps Reserve, U. S. Army, and Staff Sergeant Donald E. Hamilton and Corporal Frank B. Connor, both of the 96th Bombardment Squadron,

General Headquarters Air Force, U. S. Army.

These four members of the Air Corps participated in a mission of mercy which was instrumental in saving the lives of seven men.

The citation accompanying the award of the D.F.C. in this instance is as follows:

"For extraordinary achievement while participating in an aerial flight from Concord, New Hampshire, to East Brewster, Massachusetts, and return, on the night of February 9, 1936. Having been notified that seven Civilian Conservation Corps enrollees were stranded on an ice flow in Cape Cod Bay, Major Giles, accompanied by Lieutenant Patrick, Staff Sergeant Hamilton and Corporal Connor, took off in an airplane during the hours of darkness, under dangerous flying conditions due to weather, and successfully located the men, dropped a message to them and reported their location; thereby being chiefly responsible for saving their lives."

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WARRANT OFFICER KNIGHT GOES TO WRIGHT

Warrant Officer Herbert G. Knight, who recently planned to retire after 30 years of service, has decided to remain in the service and has been assigned to Wright Field, Dayton, Ohio, to take the place of Warrant Officer Michael J. Hurley, who has served so effectively for many years in an administrative capacity with the Materiel Division, and is retiring, effective December 31st.

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Second Lieut. Clyde Charles Harris, Air Reserve, now at Barksdale Field, La., was placed on active duty for a period of three years, effective January 2, 1937.

V-7178, A. C.

FOREIGN OPINIONS ON AVIATION, PRESENT AND FUTURE
From the Italian aeronautical journal "ALA D'ITALIA"
A continuation from the previous issue.

GIANNI CAPRONI

There can be no doubt that metallic constructions would be more spread for some time if in examination of the much discussed wood-metal problem and in the consequent discussion for all-metal, wood and mixed constructions it had been possible to reason as pure designers and with the only worry of flying performance. But when the defense of the country is being dealt with, no designer can have first place, but the industrial man and with him the problem of series production in conditions of emergency like those imposed on a nation in war.

If we were all supporters of metal constructions * * * our potential production in cases of emergency would be reduced by half. * * * A mixed construction is quicker, more ductile and costs less. It does not last so long, but this cannot be considered as an inconvenience seeing that the average life of the prototype is shorter than the average life of a series machine. When flying will be more grown up and progress not so quick, we will have the inevitable inversion. Then the all-metal advent can only take place by taking advantage of the most progressed industrialization. * * *

A distinction must be made between civil and military aviation when examining the problem of the 500 Km. p.h. (311 m.p.h.) for standard airplanes. This speed can be reached in civil aviation without economical damages in the field of intercontinental links for non-stop flights of at least 2000-3000 kilometers. These flights can take place at a high altitude and they will be possible as soon as we will have been able to put into practice what the experimental flights have taught us. * * * In this field and for from 1000 to 2000 h.p., the liquid cooled engine will find its dominion. On the other hand from 500 h.p. downwards, the monopoly of the air cooled engines will become continually more marked, and it will be an open question between 500 and 1000 h.p.

All the conditions change for military aviation. The problem is no longer of material, but of men. The pilots in permanent service will certainly know how to train themselves for the requirements of the 500 Km. p.h. planes. But the professional pilots in a war are the least. The others of the reserves and the new pilots will have neither the time nor the chance to make their ability adequate to the extra fast craft. And they will be the majority. In this field it is to be seen up to what point the mass of men numerically prevalent can go up to the level of the equipment and to what extent the mass of the equipment will have to go down to the level of the men.

War is a general problem not only of quality. It is not easy to find the right point of equilibrium, namely, that point that ensures the most elevated product between the two factors.

We have no other help but experience. Taking into consideration that the future actions of bombardment will nearly always take place in the night and not forgetting past experience, I must come to the conclusion that the present

average speeds of military aircraft will perhaps have to be lessened rather than increased.

GENERAL GEORGES REPPAS
Chief Commander of the Greek Air Force

I do not believe, at least for the very near future, that aerial combat tactics will be radically changed. In any coming war, like in 1918, military aviation will play a leading role, and aeronautical supremacy will mean a serious chance to win the game, but in order to realize a full victory, enemy territory has to be occupied by land army, and this task cannot be accomplished by aviation alone. It is a mere illusion to think that both land and navy forces could be entirely substituted by aviation. It is fine to own a powerful air force but it is better to be strong in the air and on the sea too.

As far as tactics is concerned, it is my opinion that the fighter being faster and of a easier manoeuvre than the bomber and having improved its armament (more machine guns and even a small gun) it is consequently superior to the bomber which, before carrying out its mission, will have many obstacles to fight. So we can conclude that speed and range increase have not essentially changed aerial war tactics. I believe that autogyros will have a few limited applications only, for instance: connection service. In the quite improbable case of an increase of its useful load it will perhaps be used for some other purposes. I do not believe in some military applications of the airship either, owing to its low speed and its huge bulk. I am convinced that the lot of aerial infantry landed by parachute is to be fully destroyed even before any serious enterprise can be carried out, its armament and ammunitions are too limited. At any rate, I think that it will be very efficient against a demoralized and routed army.

WALTER MUTTELHOLZER
Director Manager of "Swissair"

In my opinion commercial flying at 500 Kms. p.h. will only be possible at a flying altitude from five to ten thousand metres. Meantime aerodynamic design of airframes must be improved and more efficient engines with centrifugal supercharger have to be realized. Anyhow speeds of about 500 kms. p.h. will not be of any economical value except in the case of very long trips.

I firmly believe that within fifteen years international air navigation will set at a flying height comparable to that of the actual world record. As for seaplanes I think they can stand against the increasing invasion of landplanes menacing their field of utilization, but it is also my opinion that very reliable twin-engined landplanes will always overcome seaplanes owing to the fact that landplanes take off and landing can be easily performed no matter how is the weather, whilst seaplanes will be always handicapped in rough sea. * * *

ASGER GRANDJEAN

Chief of Danish Royal Navy Air Service

It seems as if the development will further emphasize the difficulty in finding such types of aircraft as are suitable both for big countries and for countries with only limited defense problems. * * * If the speed due to aerodynamical improvements in the coming years will increase still more, I believe that the aerial combat of the fighters will be discontinued, partly because the human constitution can't stand further strain and partly because the maneuverability of the aircraft is reduced with increasing speed.

The present armament consisting of 6-8 mm. machine guns is of too little effect and is most likely going to be replaced by machine guns of 20-30 mm. calibre. In countries with special interest in small targets (f. ex. ships) and in countries where the clouds most of the time are low, the dive bombing may be of increasing importance. At present there exists no efficient bomb sight for this bombing, but it is likely to be developed on the gyro principle.

At present the military aircraft seems better suited for fighting ground targets than targets in the air, and it may well be possible that many of the new types which the greater countries at present are acquiring in large quantities will be useless if called upon to fight against an air force of similar strength and standard. Peace-time maneuvers have not yet been able to verify that the theoretical foundation on which the aerial armament of the world has developed is the right one.

The speed is high but it is likely to be higher yet, but the armament is still the old one and rather out of date. The systematic attempts which the Russians started in landing infantry from aircrafts by means of parachutes are interesting and may possibly be of certain value as a supplement to the landing of troops from ships. For certain countries it may in the future be of advantage if they could lay out mines from aircraft. Regardless of the tactics employed in bombing attacks, I wish to say that this must be varied in each case in order to maintain the advantage of surprise.

CESARE PALLAVICINO

Chief Engineer at the Caproni Cab Works (Italy)

In my opinion there must be two distinct types of fighters:

1st type.- Small single-seater, very light, with short range and relatively small wing loading in order to allow high rates of climbing for towns and factories defense. To the high speed of the aggressor bomber planes it will oppose its easiness in diving attacks. The armament will consist both of large and small size machine guns. Such fighter will fully answer the English interceptor specification and its performance will entirely satisfy any exigency concerned.

2nd.- Multi-seater (more likely two than three-seater) twin-engined, very fast plane with great range and powerful armament, to be used to attack flying enemy formations.

It is to be foreseen that in future these two types will differ more and more until the

mixing of their different performances into a single type will be impossible. The actual weight of the second mentioned type is about two tons. In future, as a result of high range, high speed and more efficient armament, it will reach four and even five tons, with a consequent decrease of efficiency in diving attack which experience proves to be the best. Therefore it will be necessary to try some different methods of approach. Suggestions for such researches may be given by further advancements of armament.

For a military airplane the question of armament is a ground of research as much fertile as those of aerodynamic design and of mechanical efficiency. Automatic guns which may be directed and fired from a distance by a single operator acting a sort of key-board would be of outstanding importance. When experiments on that subject will reach positive results, then we will see a big transformation in the whole shape of that type of airplane.

The high speed actually developed by only very few prototypes will later become the normal speed of standard airplanes as well. First of all, I think we have to raise the flying altitude of aerial navigation. At 3500 meters with the same power, the speed is increased about 13 percent over the speed at sea level, only on account of air density. At 4500 meters the increase is 20 percent. That is a benefit which can be simply gotten by using a more efficient supercharger. * * *

As to aerodynamic design itself, no big improvements can be expected, at least for the moment. However, it will be interesting to know something more about aerodynamic's induction among the various parts of the airplane, which in some case has given propulsive effects. It is not improbable that when they will be fully known they may give suitable speed increase.

LOUIS F. WEILLER

General Manager, Gnome and Rhone Engines Ltd. Co.

To fly close to the ground at 700 kms. p.h. with no useful load at the cost of very high power is a wonderful performance both for constructors and pilots. To fly 10,000 kms. non-stop, to raise a plane 15,000 meters above the ground and carrying, without strain and glory, war material, goods or passengers 10,000 kms. far off, that is real future, and in my full knowledge of today's and tomorrow's aviation possibilities, the thought that this future will come true is comforting.

A 500 kms. p.h. commercial speed seems to be possible thanks to higher power per weight, to the ever increasing efficiency of engine, to advancement in aerodynamic design and to the efficient devices which allow suitable landing. In 1925 the power of air-cooled engine was hardly more than 500 h.p. Nowadays 1500 h.p. engines are a well accomplished feat. In 1925, the diameter of a 500 h.p. air-cooled radial engine was 57 inches. Actually a double-row radial air-cooled engine is only 56 in. and we can get 700 h.p. from the same engine measuring only 37 in. Step by step without particular innovations the average speed of 500 kms. p.h. will be attained. Progress in the following details will play an outstanding role:

Improvement of the octane value of fuel in order to make possible the use of higher compression ratio and higher fuel admission pressure in order to increase the engine power with no risk even at low altitude.

Speeding up of engine's cooling in order to eject, without difficulty, the heat due to superpower.

More extensive use of variable pitch propellers which allow to get from the engine the best efficiency in any case.

Refinements of cowling's shape in order to reduce the drag during high speed flying and fitting of fineness-breaking devices which give additional cooling for take off and climbing.

Suppression of spray by making smooth and continuous the shape of the plane, along with increased efficiency of superlifting devices at landing speed.

Improvements of engine and flying control instruments and blind-flying apparatus.

Further reduction of weight.

When cruising speed of civil and military aircrafts will be set at 500 kms. p.h., the question of airports equipment will be strongly of actuality and cement runways will not be any more a sheer luxury or a curiosity. High powered air-cooled engines will show more clearly their superiority for high speed, as the question of engine cooling consists particularly in leading fresh air towards its heated parts. This becomes easier when speed and air pressure in the cowling entrance are high, the deflectors being then in full efficiency.

As far as aerial navigation at 15,000 meters of altitude is concerned, I think that this is not only possible but necessary when one thinks of cruising speed from 700 to 1000 kms. p.h. for long non-stop flights. Aerodynamic design for aircrafts is approaching perfection and quite soon its improvement will be but insignificant. For any further increase of speed it will be necessary to fly in more favorable conditions of air resistance as only very high altitude can offer. The outstanding problem will be of supplying with air the engine, the pilot and the passengers at normal pressure and temperature. This is not quite impossible but has still to be worked out. According to my opinion high altitude flying is not necessary when the aim is to link Paris to New York in ten hours, but it will be so when our aim will be of improving such achievement, which five years hence will appear amazing but ten years later will make us smile.

ANGELO AMBROSINI

President of the "Societa Aeronautica Italiana."

From a general point of view I must say that at the present time aviation has only begun to leap forward. Notwithstanding all the talking that is going on about marvelous improvements, we have done nothing more than a beginning, a mere scratching on the surface of things. Our energies have not always been properly used and have not been put to contribution only towards a constant improvement and progress. A proof of this is in the many opportunities and possibilities that still stand before us. That is why I think that to standardize our flying machines on a 500 per hour basis is not difficult

and not an aim far to be reached. It will be sufficient to consider more seriously and with greater confidence the interesting problem of super-lifting devices and, awaiting new solutions, improve the present super-lifting devices so that they should not alter the ideal profile for maximum speed and maintain unchanged the present lift coefficient. The rest: constant altitude power and adaptation of the grounds is simply a question of 'will'. If those who are responsible for it and have the required capacity and experience will tackle the problem with good will and enthusiasm, we shall see very soon new wonders.

A judgement on the two kinds of engines can be given only through experience. In the first place: Why 'water cooling' and not 'liquid' cooling? If, in 1936, we still speak of water it is... air that shall have the best of us. It is a matter of course that as regards simplicity, safety, weight and little vulnerability, air has more than one advantage over the liquid system but, according to me, only for a given power and reduced diameter. To smooth out and refine wings and body to spoil them afterwards with 'pans' of a metre and a half diameter has no common sense.

All well and good the improvement brought about by Magni and the N.A.C.A. with their rings, and that which Krupp (as it is said) promises to realize with an even more brilliant solution, but there still remains 50% of frontal resistance offered by the engines and which they must support.

I would incline for a half-way solution. Air up to 300/400 h.p. - exclusively radial models - no cylinders in row (that is some well cooled against some not cooled at all) - the engine as much as possible of the 'square type' so as to reduce its diameter (the speed range has no importance as there are reduction gears) - seven cylinders up to 200 h.p.; 14, on two rows, for greater powers and up to said limit. As regards 'liquid' cooling it is time to wake up. To say nothing of the 'evaporating' system which is very interesting but, as it seems, presents now a few drawbacks, as regards fitting, for its use in aviation, we have 'glycoletilene.' This last is particularly well suited for aviation, where it will triumph and not only for the economy in weight, for its insensibility to low temperature, and for its property of reaching boiling point towards 200 centigrades, which allows the engine to tolerate very high temperatures thus realizing an economy of fuel and an increase in power.

Engines cooled by glycoletilene - circulating in canalizations made out in the casting, compressed pump - no piping and joints outside so as to get as near as possible to the low vulnerability of the 'air' type. Opposite: cylinders (eight-twelve-sixteen) so as to have a perfect balance of the efforts - of the masses - high specific horse power - reduced encumbrance, so as to allow the fitting of the whole engine in the wing (thick monoplane wing) between ribs elongated propeller axis so as to allow the setting of the propeller on the wing trailing edge.

By this formula we shall obtain: perfect aerodynamic streamlining of the plane - concen-

tration of the masses closer to the baricenter - no tapering with the leading edge of the wing which shall, at last, act as it had been conceived - increased efficiency of the propeller - easy inspection and revision (over and under) of the engine - economy of cowling as they will serve as ventral and dorsal covering of the wings.

I do not want to close without mentioning another point which, as an Italian and aircraft manufacturer, is very dear to me: the problem of metal-wood. On this matter I am unrelentingly decided: Wood! at least for many years more. Nothing is more absurd - and may even, in a certain way, become harmful - than to continue to pretend that everybody is in just the same conditions and can act as others do. * * We shall one day find how it is possible to reduce weight even by using wood. My company has built wooden monocoque - with 100% national wood, not imported stuff as is said by those who are against the use of wood - which can very well sustain comparison. We are projecting a plane with special features which are considered 'daring', made entirely of wood, and we feel sure of its satisfactory behaviour. The best records of the Italian aircraft have been scored by wood. I do not want with this to pass as a wood maniac, but only point out that, at the stage we have reached in the evolution of aeronautics, wood can still, and well, hold its place. * * *

Lastly: make room to the young. Understand them, draw them closer to us. Kindle their enthusiasm, their faith that are their living poesy. Let us not be afraid of the future, - not overfond of the past. Man crosses from old to new things over a bridge made by the unrelenting springing up of young, fresh, enthusiastic energies.

GEORGE MADELUNG, of the Stuttgart's Polytechnic

I do not believe that wood or mixed constructions will succeed in eliminating completely metal constructions. In Central Europe's temperate climate, wood as well as mixed constructions are perfectly suited. Their prototypes are often less expensive than the corresponding all metal machines, and this holds true both for serial production as well as for reparations made by small factories.

The use of stainless steel will increase. But its weight makes it not so well suited for strong stressed-skin constructions. There is the superiority of light metals, among which, in the first place, we find duralumin. Whether this last one and its alloys will be some day replaced by magnesium and its alloys it is not now easy to foresee. It will depend on a further increase in chemical and mechanical resistance of magnesium.

For the future I do not foresee a big success for biplanes as high speed airplanes. Even today they are not so appreciated compared to monoplanes against which they have the following disadvantages: small wing depth and no thickness, bigger number of constructions pieces, unpractical fuselage attachment.

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EXTENDED ACTIVE DUTY FOR AIR RESERVE OFFICERS

Under Special Orders of the War Department, recently issued, the active duty tours of 26 second lieutenants of the Air Reserve, now stationed at Barksdale Field, Shreveport, La., were extended for various periods up to nearly three years. They will continue to be stationed at Barksdale Field, viz:

To June 15, 1939

Willis Griffith Carter	John Riley Kane
David Gerard Desmond	Arthur E. Livingston
William Eades	Richmond A. Livingstone
Clarence T. Edwinston	James Crawford McGehee
Harney Estes, Jr.	Alexander F. Sangster
Willard Jones Foley, Jr.	Frank Beard Scott
John F. Guilmartin	Robert F. Strickland
J. W. Hinton	

To June 30, 1939

Moultrie P. Freeman	John William Graham
Jay Lanham Gentry	Charles Duncan Jones

To July 1, 1939

Boatner R. Carney	Lee Williams
Robert F. Worden	

To October 14, 1939

Henry Ovide Bordelon	Craven Clark Rogers
Edgar Ross Camp	John Allen Way

The active duty tours of second lieutenants, Air Reserve, now serving at various other Air Corps stations, were extended, as follows:

To June 15, 1939

Martin Ansel Bateman	Hawaiian Department
William Hogan Clark	" "
Henry Russell Spicer	" "
Ormond John Mosman	Fort Lewis, Wash.
David Reynold Nelson	" "
Robert Ashman	March Field, Calif.
Donald Wm. Eisenhart	" "
William A. Hatcher, Jr.	" "
Podge McCauley Reed	" "
Frederick Wm. West, Jr.	" "
William Walter Pannis	Hamilton Field, Calif.
Lloyd A. Walker, Jr.	" "
Wilburn Roger Hunt	Selfridge Field, Mich.

To June 30, 1939

John Wendel Massion	Mitchel Field, N.Y.
James Linn Travis	March Field, Calif.

To July 1, 1939

Theodore M. Melden	Mitchel Field, N.Y.
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To October 14, 1939

Wilbur Maurice Denham	Mitchel Field, N.Y.
Murray B. Dilley, Jr.	" "
Vernet Vucasin Poupitch	" "
John Gebelin, Jr.	Selfridge Field, Mich.
Maurice Edward Glaser	Hamilton Field, Calif.
Roger Merriam Reynolds	Hawaiian Department
James Thomas Connally	March Field, Calif.

The active duty tour of 2nd Lieut. Elmer Earle McKesson, transferred from Selfridge Field to Brooks Field, was extended to June 30, 1939.

Second Lieuts. Edwin Davis Avary, Jean Rogers Byerly, Calvin Ely Peeler and William Stephen Pockock, Jr., under orders to sail about December 19th for Panama (from duty at Hamilton Field, Calif.) will continue on active duty until November 15, 1939. Second Lieut. James Austin Philpott is continued on active duty at Hamilton Field until June 30, 1939.

An airplane at Kelly Field is nothing unusual, but one that is only 48 inches long, with a wing spread of 64 inches and weighing only 3½ pounds, powered with a gasoline engine which drives it on flights up to four miles, at an altitude of about 1500 feet, is something that even veteran flyers and mechanics at the field will stop and gaze after with interest. Such a plane has been taking off from the field on test flights on Sundays and in the late afternoons when regular training flights are at the minimum. The plane was constructed by Private William Hewgley, of the 12th Air Base Squadron. Hewgley, a native of Paris, Texas, has been experimenting on model airplane building since he enlisted at Kelly Field two years and eight months ago.

His first attempts were with rubber-band driven models, which require a many-stranded rubber band attached to the propeller. This experience gave the knowledge he needed to build a power-driven model. With the aid of William Osborne, 142 Harriman Place, a friend, a small Tom Thumb, one-cylinder gasoline engine was purchased, and Hewgley, Osborn and another soldier, Clem M. Morgan, set out on the model construction. Working on week-ends and off-duty hours, Hewgley built the plane of balsa, spruce and white pine woods, and pieces of spring wire and small bits of aluminum. The wings and fuselage are covered with bamboo paper which, when it is treated, shrinks in two directions after it dries, thus making a perfectly tense wing and fuselage covering. Hewgley estimated that about thirty days were required in building the plane.

When the plane is to be flown, the wings are attached to the other part of the plane with a strong rubber band, which is wrapped around the center part of the wings and under the fore part of the fuselage. This, an invention of Hewgley's, allows for less shock when there is a crack-up, for occasionally they do occur.

During a recent flight, the plane was caught by a wind current that carried it away from the field. It was found four miles away in a tree near the Castroville Road. Because of the rubber band, the wings were only slightly damaged and were easily repaired. It was estimated that the plane was in the air about 30 minutes and had traveled at a rate of about eight miles an hour. The engine which drives the plane is smaller than a man's hand. Its one cylinder has only a 13/16th bore and a 7/8-inch stroke. Its weight, including three dry cell batteries, coil and condenser, is 18 ounces. It is mounted on 1/16th-inch aluminum. Its fuel is composed of three parts gasoline to one part oil. The fuel tank holds only 1½ ounces of fuel.

Usually the plane flies in large circles and can be observed from the ground. This is due to the propeller torque which causes the plane to circle in the opposite direction in which the propeller turns. By luck, Hewgley's model seems to "bank" naturally in the air as if a pilot were in the plane and was making a turn. And when the plane lands it "levels off" at just the right angle instead of "nosing over" or "ground looping," as is the case sometimes in planes not under control.

(Continued on Page 23)

Air Corps officers from various stations who visited the Chief's Office during the course of flights, while on leave, etc., were as follows: Major Vincent J. Meloy, from Langley Field, while on leave.- Brigadier General George H. Brett, Lieut. Colonel Richard H. Ballar, Major George H. Beverley, Captain Robert S. Israel, Jr., and 1st Lieut. William H. Turner, from the Panama Canal Department, who arrived by boat for the purpose of ferrying to Panama several different types of planes for use on the Isthmus.- Captain Milton J. Smith, from Shoen Field, Fort Benjamin Harrison, Ind., for temporary duty in connection with Reserve matters,- 1st Lieut. L. S. Kuter, on navigation flight from Maxwell Field.

Lieut. Colonel Rosenham Beam left December 8th for the West Coast to ferry to the Boston Airport a North American BT-9.

Major Norman D. Brophy, up to recently on duty with the Colorado National Guard Air Service, Denver, reported for duty in the Plans Section. He lives at the Wardman Park Hotel.

Majors Leland S. Miller and Karl S. Axtater returned from leaves of absence.

Captain Robert V. Laughlin, until recently on duty in the Patents Section, was assigned to other duties in the Judge Advocate General's Department. His duties in the Chief's Office were taken over by Captain John J. Honan, J.A.G. Dept.

Captain Randolph Williams returned to Langley Field.

Major Hubert V. Hopkins, from Wright Field, reported for temporary duty for a series of conferences with the Aeronautical Board.

Captain M.E. Gross left for the West Coast to ferry a plane from Inglewood, Calif.

Lieut. Colonel L. B. Jacobs departed on several days' leave.

Major Earl Wenworth Moss, Air Reserve, of Fort Wayne, Ind., who is connected with the Heilbroner Baseball Information Bureau, reported for two weeks' active duty in the Information Division.

Second Lieut. William Robert Graham, Air Reserve, of Fruitland, Idaho, was ordered to extended active duty at Brooks Field, Texas, for three years from December 15, 1936.

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The CATERPILLAR CLUB

THE ROSTER

No.	Date	Name	Rank	Place of Jump
	1919			
1	July	21 Henry Wacker	Civilian	Chicago, Ill.
2	July	21 John Boettner	Civilian	Chicago, Ill.
	1920			
3	August	24 William O'Connor	Civilian	Dayton, Ohio
	1922			
4	October	20 Harold R. Harris	1st Lieut. Air Corps	McCook Field, Ohio
5	November	11 Frank B. Tyndall	1st Lieut. Air Corps	Seattle, Washington
	1924			
6	April	23 Wilfred Bottomfield	Civilian	San Antonio, Texas
7	May	13 Eugene H. Barksdale	1st Lieut. Air Corps	Fairfield, Ohio
8	June	5 Will W. White	2nd Lieut. Air Corps	Kelly Field, Texas
9	June	13 Walter Lees	Lieut. Air Corps Reserve	Dayton, Ohio
10	June	18 John A. Macready	1st Lieut. Air Corps	Dayton, Ohio
11	July	11 A. R. Crawford	2nd Lieut. Air Corps	Kelly Field, Texas
12	August	29 W. E. Goggin	Private, Air Corps	Bolling Field, D.C.
13	August	29 L. L. Koontz	1st Lieut. Air Corps	Bolling Field, D.C.
14	October	16 W. M. Coles	Gunner, U.S. Navy	Coronado, Calif.
15	November	4 William E. Lynd	Captain, Air Corps	Kelly Field, Texas
	1925			
16	March	5 Charles D. McAllister	2nd Lieut. Air Corps	Kelly Field, Texas
17	March	5 Charles A. Lindbergh	Flying Cadet, Air Corps	Kelly Field, Texas
18	March	20 Frank O'D. Hunter	1st Lieut. Air Corps	Dayton, Ohio
19	April	6 C. V. Mix	Sergeant, Marine Corps	Quantico, Va.
20	April	10 J. Thad Johnson	1st Lieut. Air Corps	Eaglesmere, Pa.
21	May	22 C. H. Schildhauer	Lieut. U.S. Navy	Lakehurst, N.J.
17	June	2 Charles A. Lindbergh*	2nd Lieut. Air Reserve	St. Louis, Mo.
22	June	28 Mrs. Irene McFarland	Civilian	Cincinnati, Ohio
23	August	17 Kirtley J. Gregg	2nd Lieut. Air Corps	Lavernia, Texas
24	October	1 Ford O. Rogers	Captain, Marine Corps	Langley Field, Va.
25	October	10 Fred C. Nelson	1st Lieut. Air Corps	St. Louis, Mo.
26	November	11 Leonard S. Flo	2nd Lieut. Air Reserve	Wright Field, Ohio
27	November	11 John McGlynn	Private, Air Corps	Wright Field, Ohio
	1926			
18	March	5 Frank O'D. Hunter*	1st Lieut. Air Corps	Selfridge Field, Mich.
7	March	24 Eugene H. Barksdale*	1st Lieut. Air Corps	McCook Field, Ohio
28	May	10 Horace M. Hickam	Major, Air Corps	Langley Field, Va.
29	May	10 Harold Geiger	Major, Air Corps	Langley Field, Va.
30	June	2 S. E. Ingersoll	Lieut. (JG) U.S. Navy	Pensacola, Fla.
31	June	17 J. T. Hutchison	1st Lieut. Air Corps	McCook Field, Ohio
32	June	17 Paul Stanley	Civilian Observer	McCook Field, Ohio.
33	July	5 Walter M. Williams	Capt. Tenn. National Guard	Nashville, Tenn.
34	July	5 John W. MacKenzie	2nd Lieut. Tenn. Nat'l Guard	Nashville, Tenn.
35	July	14 J. F. Coburn	Machinist Mate, U.S.-Navy	Oceanside, Calif.
36	July	24 Victor E. Bertrandias	1st Lieut. Air Corps	Baltimore, Md.
37	August	8 John I. Moore	1st Lieut. Air Corps	Georgetown, Texas
17	September	16 Charles A. Lindbergh*	Air Mail Pilot	Ottawa, Ill.
38	September	17 C. L. Williams	1st Lieut. Air Corps	Hawaii
17	November	3 Charles A. Lindbergh*	Air Mail Pilot	Covell, Ill.
39	November	12 Charles E. Widmer	Air Mail Pilot	Hollywood Hills, Calif.
40	December	23 Warren D. Williams	Air Mail Pilot	Bowling Green, Ohio
	1927			
41	January	18 Roderic M. Krider	Flying Cadet, Air Corps	Kelly Field, Texas
42	January	18 George T. Shleppy	Flying Cadet, Air Corps	Kelly Field, Texas
43	February	3 Fabian L. Pratt	Captain, Medical Corps	Brooks Field, Texas

*Repeater Jump

No.	Date 1927	Name	Rank	Place of Jump
44	February	3 Lawrence C. Craigie	1st Lieut. Air Corps	Brooks Field, Texas
45	February	15 Carl G. Ashley	Private, Air Corps	Galveston, Texas
46	February	27 Herbert A. Dargue	Major, Air Corps	Buenos Aires, Argentina
47	February	27 Ennis C. Whitehead	1st Lieut. Air Corps	Buenos Aires, Argentina
48	February	28 O.M. Darling	Lieut. U.S. Navy	San Diego, Calif.
49	March	26 E. B. Wilkins	Lieut. U.S. Navy	Augusta, Ga.
50	March	26 G. F. Lawhon	A.M. Mate, U.S. Navy	Augusta, Ga.
51	April	15 Stephen A. McClellan	Lieut. Marine Corps	Bolling Field, D.C.
52	April	27 Stewart W. Towle	1st Lieut. Air Corps	Champaign, Ill.
53	May	4 Hawthorne C. Gray	Captain, Air Corps	Golden Gate, Ill.
54	May	13 George G. Finch	1st Lieut. Air Corps	Edwards, Miss.
55	May	28 Lewis H. Brereton	Major, Air Corps	Reynoldsburgh, Ohio
56	May	28 Bernard A. Bridget	1st Lieut. Air Corps	Reynoldsburgh, Ohio
57	May	28 Clyde M. Taylor	Master Sergeant, Air Corps	Reynoldsburgh, Ohio
58	May	28 Fred P. Miller	Staff Sergeant, Air Corps	Reynoldsburgh, Ohio
59	June	20 Eldo Peterman	1st Lieut. Calif. Nat'l G'rd	Los Angeles, Calif.
60	June	20 H. J. Cooper	Captain, Medical Corps	Los Angeles, Calif.
61	July	10 Art Smertz	Civilian	Ogden, Utah
62	July	13 C. B. Whitney	Lieut. Air Reserve	Salt Lake City, Utah
63	July	13 Paul L. Woodruff	Staff Sergeant, Air Corps	Salt Lake City, Utah
64	July	13 Benjamin W. Craycraft	Civilian, ROTC Unit	Chanute Field, Ill.
65	August	15 Robert Seger	Civilian	Morton Grove, Ill.
66	August	18 Robert G. Fry	Sergeant, Marine Corps	Camp McMurray, China
67	August	23 John E. Heywang	Civilian	Lake Sebasticook, Maine
68	September	15 Valentine Gephart	Civilian	Grampion, Pa.
69	September	25 Fritz H. Grifno	Technical Sergeant, A.C.	Genoa, Texas
70	October	5 A.H. Gilkeson	Major, Air Corps	Edgewood Arsenal, Md.
71	October	23 Charles R. Bowman	Civilian	Tehachapi Mts., Calif.
72	October	25 Frank C. Sutton	Lieut. U.S. Navy	San Diego, Calif.
73	October	27 J. D. Cleveland	Flying Cadet, Air Corps	Kelly Field, Texas
74	October	27 E. A. Sanborn	Flying Cadet, Air Corps	Kelly Field, Texas
75	November	9 Donald H. Stuart	Lieut. Air Reserve	Norfolk, Va.
75	November	9 Fred P. Miller*	Sergeant, Air Corps	Norfolk, Va.
76	November	9 Arvin B. Jewell	Sergeant, Air Corps	Norfolk, Va.
77	November	Ernest E. Dryer	Civilian	New Mexico
78	December	12 George W. Hansen	Flying Cadet, Air Corps	Brooks Field, Texas
79	December	25 James Rutledge	Air Mail Pilot	San Francisco, Calif.
1928				
80	January	22 Gene Althoff	Civilian Observer	Wright Field, Ohio
81	January	24 Amberse Banks	Air Mail Pilot	Willow Grove, Pa.
82	February	14 Louis M. Bourne	Major, Marine Corps	Reidsville, Va.
77	February	23 Ernest E. Dryer*	Civilian	Ypsilanti, Mich.
83	March	24 Walter C. Green	Lieut. U.S. Naval Reserve	Squantum, Mass.
84	March	24 Samuel G. Colwell	Lieut. U.S. Naval Reserve	Squantum, Mass.
85	March	27 J. M. Carson	Ensign, U.S. Navy	Pensacola, Fla.
79	March	27 James Rutledge	Air Mail Pilot	Orindo, Calif.
86	April	6 Barnett T. Talbott	Lieut. U.S. Navy	Washington, D.C.
87	April	22 James T. Moore	Captain, Marine Corps	Camp McMurray, China
88	April	23 Douglas M. Swisher	Flying Cadet, Air Corps	Kelly Field, Texas
89	April	26 Lawrence J. Carr	1st Lieut. Air Corps	Clark Field, P.I.
90	May	5 Stanley M. Umstead	1st Lieut. Air Corps	Mitchel Field, N.Y.
91	May	27 Al Wilson	Civilian	Hollywood Hills, Calif.
92	May	31 Carl K. Wollam	Civilian	Westmoreland City, Ohio
93	June	8 Maxwell Balfour	1st Lieut. Air Corps	Mitchel Field, N.Y.
94	June	8 John H. McCormick	1st Lieut. Signal Corps	Mitchel Field, N.Y.
95	June	13 Wm. H. Shephard	Flying Cadet, Air Corps	San Juan Canyon, Calif.
96	June	26 Lemuel T. Cleaves	Ensign, U.S. Naval Reserve	Vallejo, Calif.
97	July	1 William L. Campbell	Captain, Air Reserve	Kansas City, Mo.
98	July	4 Ralph C. Wensinger	Civilian	Chippewa Lake, Ohio
99	July	19 E. C. Ewen	Lieut. U.S. Navy	Pensacola, Fla.
100	August	3 William J. Crosswell	Flying Cadet, Air Corps	Kelly Field, Texas
101	August	9 Byron E. Gates	1st Lieut. Air Corps	Elkins, West Virginia
102	August	13 Raymond L. Winn	Flying Cadet, Air Corps	Nuevo, Calif.
103	August	17 George E.K. MacKinsey	Civilian	Eristol, Pa.
104	September	14 Jewell S. Wilson	Private, Air Corps	Fresno, Texas
105	September	14 H. W. Pennington	2nd Lieut. Air Corps	Fresno, Texas
106	September	14 Sheldon B. Yoder	Flying Cadet, Air Corps	Castroville, Texas
107	September	25 Roger V. Williams	2nd Lieut. Air Corps	Rockwell Field, Calif.

* Repeater Jump

To be continued

DEATH OF LIEUT. COL. GEO. E. A. REINBURG, RETIRED

The death in a far-off land of Lieut. Colonel George E. A. Reinburg, U. S. Army, retired, removed another name from the roster of the "Early Birds" of aviation. Colonel Reinburg's death on December 6th occurred at Hangchow, China, where he was chief instructor at the Chinese Aviation School.

A native of the District of Columbia, Col. Reinburg was born on September 25th, 1888.

Commissioned a 2nd Lieutenant of Cavalry in April, 1912, Col. Reinburg served as commanding officer of Troop L, 9th Cavalry; Assistant Regimental Adjutant and also Squadron Quartermaster. He served in New Mexico and Arizona with the 9th Cavalry until October, 1915, when he was transferred to the 7th Cavalry.

In November, 1915, he was attached to the Aviation Section, Signal Corps, as an aviation student and, upon the completion of the course of instruction, received the rating of Junior Military Aviator. Ordered in August, 1916, to duty with the 1st Aero Squadron at Columbus, New Mexico, he served with this organization as a member of the Punitive Expedition into Mexico under General Pershing, his duties being Officer in Charge of Flying.

Upon returning to the United States territory he was stationed at San Antonio, where he received advanced flying training; served as Supply Officer of the 4th Aero Squadron and later organized and commanded the 9th Aero Squadron.

The exigencies of the war emergency led to Col. Reinburg being shifted from place to place where his ability and experience were most needed. For a brief time he served as Officer in Charge of Flying at Mt. Clemens, Mich.; then he commanded the Signal Corps Aviation School at Scott Field, Belleville, Ill.; then the Flying School at Park Field, Tenn.; following which he attended and was graduated as Aerial Gunnery Pilot from the Aerial Gunnery School at Taliaferro Field, Fort Worth, Texas. He commanded this School until July, 1918, when he was ordered to duty overseas.

After completing advanced flying training at the 3rd Aviation Instruction Center, and graduating from the Aerial Gunnery School at St. Jean de Monts, he served as a pilot with the 2nd Pursuit Group. In October, 1918, he was assigned as Commanding Officer of the 2nd Day Bombardment Group. Upon the demobilization of this Group in April, 1919, Col. Reinburg returned to the United States, and after serving for several weeks in the Office of the Director of Air Service, Washington, D. C., he was assigned to duty, August 1, 1919, as Commanding Officer of the Air Service Depot at Fairfield, Ohio.

In September, 1921, Col. Reinburg was assigned to duty in the Supply Group, Office of the Chief of Air Service. In July, 1922, he was assigned to command Bolling Field, D. C., and in May of the following year he was transferred to duty in the Philippines where he served as Air Officer of the Philippine Department. Upon the expiration of his two years of service in the Islands, he was assigned to duty at Chanute Field, Rantoul, Ill., as Executive Officer. In October, 1926, he was assigned to duty as Air Officer of the 7th Corps Area at

Omaha, Neb., which duty he performed until July, 1927, when he was assigned to duty as Assistant Military Attache, American Embassy, Berlin, Germany. This duty terminated in June, 1931, and he was assigned to Maxwell Field, Montgomery, Ala. Failing health necessitated the retirement of Col. Reinburg in April, 1932.

Colonel Reinburg was repeatedly commended by his superior officers for his efficiency.

The sincere sympathy of the Air Corps is extended to his bereaved family.

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Model Airplane Flies 4 Miles (Continued from Page 20)

Hewgley's experience in building models previously, he said, had given him a knack in getting the right balance, which in more technical terms might be aerodynamics. Due to the success of his first venture in power modeling, Hewgley said he was planning on building another plane, to be controlled by radio. He has enlisted the aid of his hangar chief, Staff Sergeant John Lewellyn, who is in charge of Hangar No. 12 of the 12th Air Base Squadron. With the aid of Sergeant Lewellyn and other radio experts, Hewgley hopes to develop a power model plane that can be controlled from the ground.

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22ND PHOTO SECTION MAPS SAN ANTONIO AREA

The 22nd Photo Section, commanded by 1st Lieut. Charles F. Densford, is working on an extensive photographic mapping project for the Commanding General of the Air Corps Training Center.

This map, to be laid as one complete mosaic, will include Kelly Field, Brooks Field, San Antonio, Randolph Field, and New Braunfels, Texas, and all points between. It is estimated that more than 700 exposures will be made. The area covered will be approximately 500 square miles.

The mosaic, when laid, will be about twenty feet long and ten feet wide. It is to be laid in two sections, then each section reduced by half, and the two reductions fitted again into a composite. The laying of the mosaic is being supervised by Staff Sergeant Charles H. Coy.

A special oxygen tank was installed in the O-25A airplane for use of both pilot and observer, since the mission is being conducted at 15,000 feet. First Lieut. Densford and Staff Sergeant Herman L. Chestnutt, photographer, have already flown seven hours on the project. Bad weather has held back the progress, but the job is now about 70% complete.

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Captain Robert M. Montague, Field Artillery, from Fort Sill, Okla., recently delivered a lecture to the students of the present class at the Advanced Flying School, Kelly Field, Texas, on the subject of "Air Corps Cooperation with Field Artillery." This subject is the heaviest one in the curriculum of the school and consists of 24 hours, taught by Captain R. E. Randall.

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NOTES FROM AIR CORPS FIELDS

Langley Field, Va., December 4th.

96th Bombardment Squadron: Lieut. W.A. Rambo and Lieut. F.K. Paul, Air Reserve, were transferred to the Panama Canal Zone. Lieut. W.C. Bentley recently returned from a three months' leave, during which time he visited the Hawaiian Islands.

The greater part of operations at the present time consists of bombing as prescribed by the 2nd Bombardment Group, GHQ Air Force.

BOWLING: Although the alleys have been opened for the past six weeks at this Air Base, it is only lately that they have swung into full action.

An inter-squadron tournament has been inaugurated, headed by the 49th Bombardment Squadron, with the 1st Air Base team barking at their heels. Due to the size of the 1st Air Base Squadron it has been necessary to divide it into two equal parts for athletic purposes to enable all who wish to try to have a fair chance of making the team.

Despite the departure last year of several of the Peninsula's best bowlers, it is felt that when the final count is taken at the end of the season, the averages will be on a par with those of last year - if not better.

Kelly Field, Texas, December 5th.

Captain J.M. Fitzmaurice, 1st Lieuts. J.W. McCoy and R.D. Butler, and 2nd Lieut. L.F. Stalder were transported in a C-14 airplane to March Field on December 3rd by Captain M.N. Clark from Randolph Field. The four officers from Kelly Field will ferry four P-12 airplanes to their home station.

Mitchel Field, L.I., New York, December 4th.

99th Bombardment Squadron: At 1:00 a.m., November 6th, the Squadron departed on a celestial navigation mission for points South and West. The Squadron Commander, Major S.L. Connell, navigated over the top to Maxwell Field, while the remainder of the flight broke away over Winston-Salem and flew to Columbus, Ohio, landing at daybreak.

The 99th bowling and basketball teams are getting under way again, and impartial observers expect them to annex the local titles without a great deal of difficulty.

San Antonio Air Depot, Duncan Field, Texas.

Congressman Dow W. Harter, of Ohio, Member of the House Military Affairs Committee, on an unofficial motor trip to San Antonio to look over Army posts here as the guest of Major General H.U. Brees, 8th Corps Area Commander, visited this Depot Thanksgiving Day, November, 26th, with General Brees.

Major J.G. Williams, of the Fairfield Air Depot, Fairfield, Ohio, arrived at this Depot by air on November 24th for several days' temporary duty, conferring on the coordination and training of crews and the operations of the new C-33 Transport planes.

Captain F.D. Klein, of the Air Corps Materiel Division, Wright Field, accompanied by Mr. Brailsford, civilian employee of the Division, arrived here by air on December 3rd for a few

days' visit to confer on the installation of the new oil dilution system in the Engineering Department of the Depot.

Recent visitors at the Depot on ferrying missions included Major M.D. Brophy, Air Corps Instructor with the Colorado National Guard, Denver, November 23-24, securing an O-19E for that activity; Captain H.H. Carr from the Rockwell Air Depot, Coronado, Calif., December 3, ferrying an OA-4B to this Depot for re-delivery to the Panama Canal Department; Lieut. J.F. Walsh, of Scott Field, Ill., December 3-4, flying a PT-3A to Randolph Field and a BT-2CL from this Depot to Scott Field; Captain S.R. Harris, Jr., and Lieut. H.M. McCoy, of Wright Field, arriving December 1, bringing in a PT-11D to the Depot for overhaul, to ferry back to Wright Field a P-26 from the Depot and a BT-2B1 from Randolph Field.

Lieut. Colonel Morris Berman, Executive Officer of the Depot, made a navigation training flight to New Orleans, La., and return, Nov. 21-25, conferring in that city with the District manager, 10th Civil Service District, on Civil Service matters.

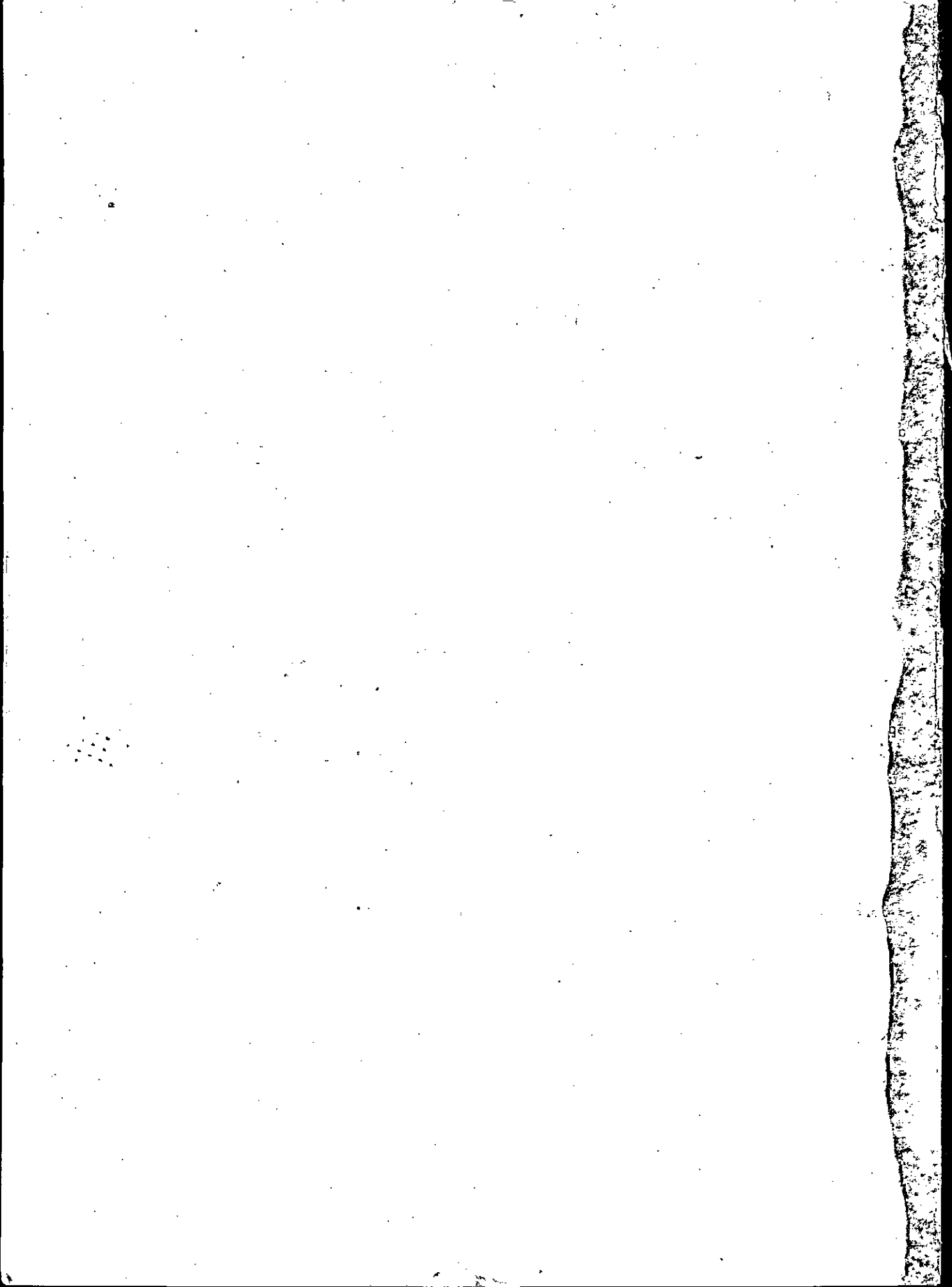
Among the numerous hunting trips being enjoyed by the personnel this season was one made by Major E.D. Perrin, 3rd Transport Squadron Commander, in the vicinity of Marfa, Texas. Major Perrin took a leave of absence Nov. 15-20. He succeeded in bagging a fine large mountain lion.

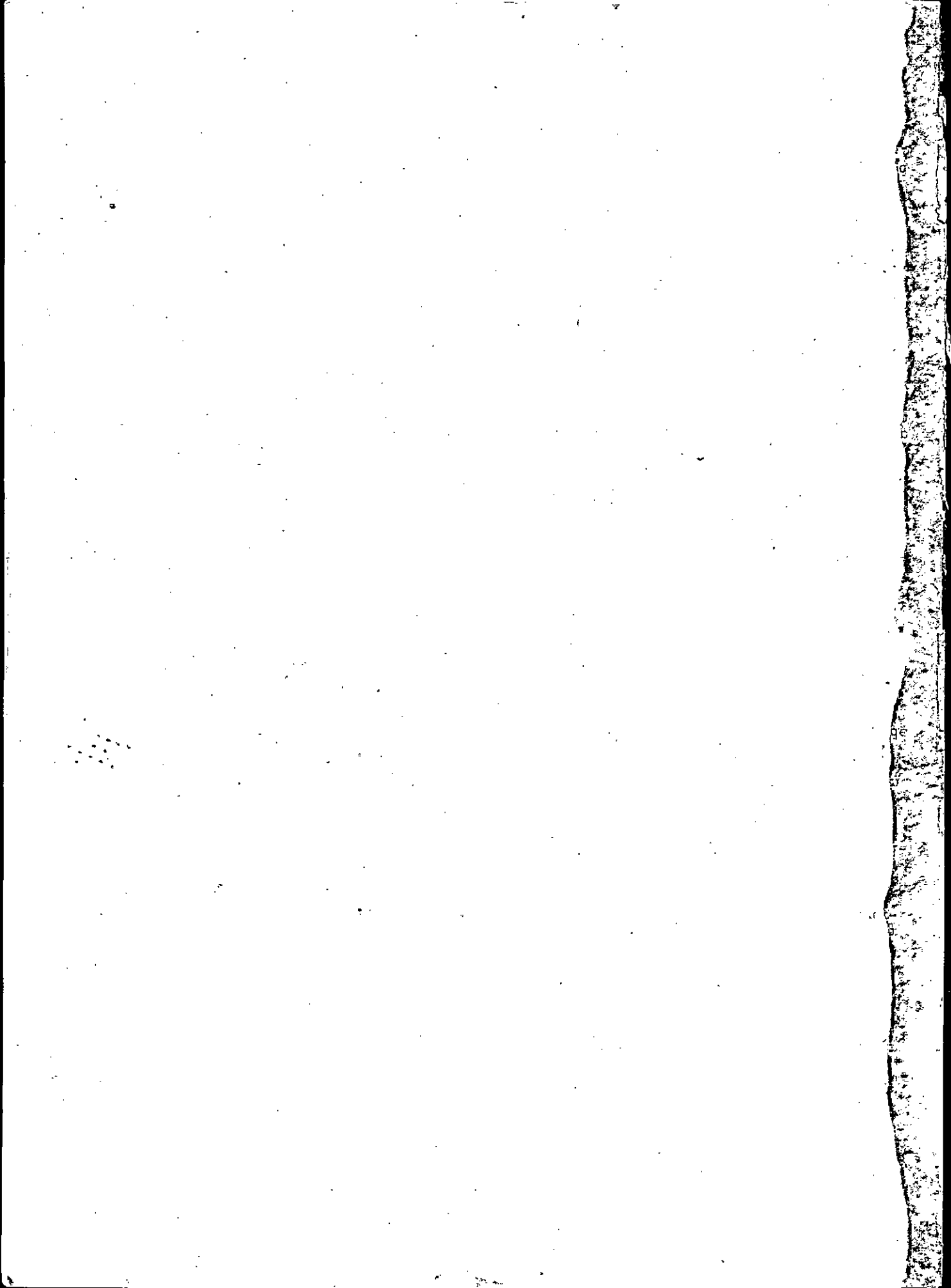
Technical Sergeant Paul S. Blair, airplane pilot, of the 1st Photo Section, Brooks Field, is attached to the 3rd Transport Squadron at this Depot for duty, beginning November 20th.

Hawaiian Air Depot, November 18th.

According to the records within the Hawaiian Air Depot, the Materiel Division and other mainland activities have rendered excellent service within the past year in filling Air Corps requisitions from this Department. In analyzing these figures, the location of the Hawaiian Air Depot far out in the Pacific Ocean must be taken into consideration, together with the fact that the delivery of all Air Corps supplies is dependent upon the movement of Army transports. Many of these supplies are routed from eastern depots and factories to the point of embarkation at New York, from there to San Francisco, and thence to Honolulu.

It is of interest to note that approximately 6,000 items of stock have been requisitioned by the Hawaiian Air Depot within the past year. The figures also show that 98% of all articles requisitioned, excepting those items cancelled due to the substitution of other articles, was received at the Hawaiian Air Depot within six months from the date of the submission of the requisition. Many of these items were received within two months from the date of the submission of the requisition. This clearly indicates that the Air Corps supply system as a whole is functioning in a highly creditable manner, and the results are highly gratifying to Air Corps personnel throughout the Hawaiian Department.





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