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THE FIELD ARTILLERY JOURNAL

EDITED BY

HARLEIGH PARKHURST

MAJOR, FIELD ARTILLERY, UNITED STATES ARMY

THE UNITED STATES FIELD ARTILLERY ASSOCIATION

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WASHINGTON, D. C.

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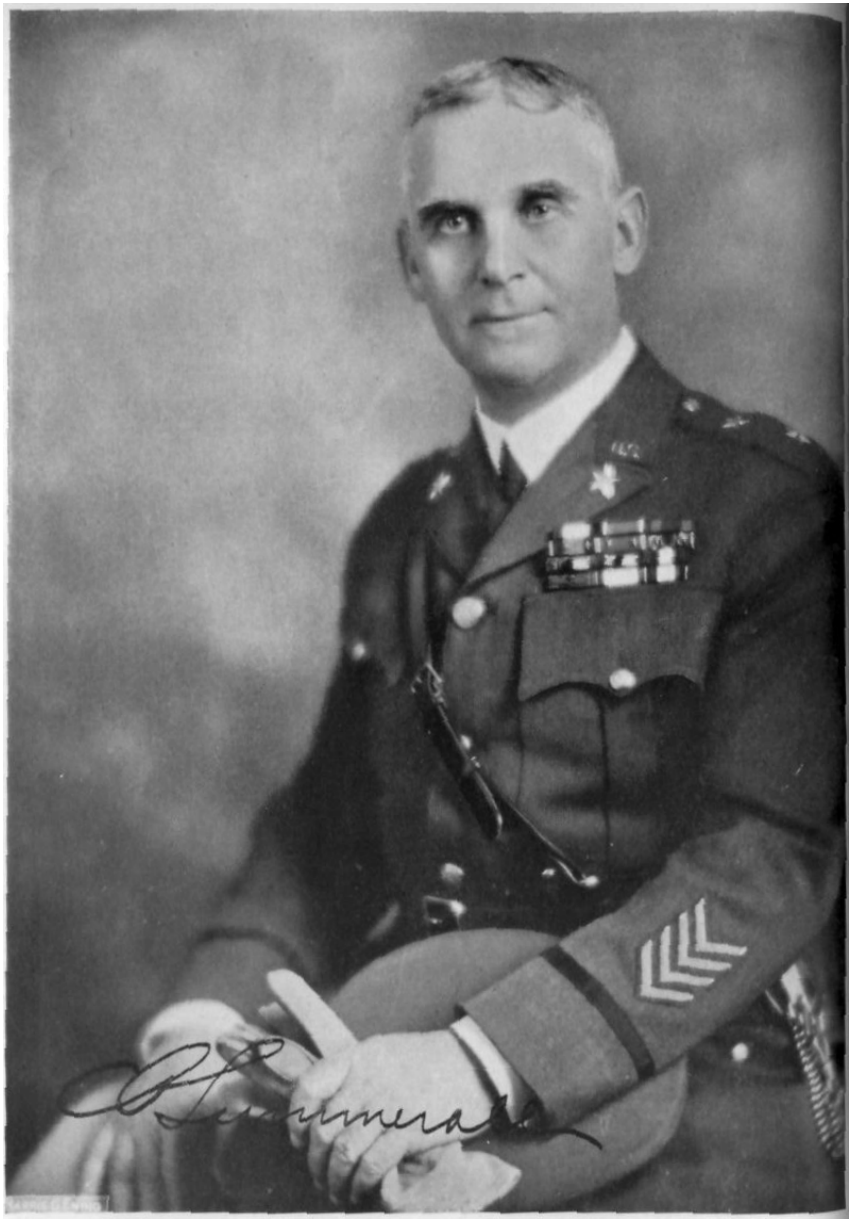


MAJOR-GENERAL CHARLES P. SUMMERALL, CHIEF OF STAFF, U. S. ARMY

THE FIELD ARTILLERY JOURNAL

VOL. XVII **JANUARY–FEBRUARY, 1927** **NO. 1**

MAJOR-GENERAL CHARLES P. SUMMERALL CHIEF OF STAFF

THIS is the new Chief of Staff of the Army of the United States. This office entitles him to a formal and respectful introduction to the Field Artillery arm, as to every other branch. Because he gave a life time of service to this arm, because we think we know him best, we are pleased to do honor, to try and find words to express what we really think about the man.

He was twenty-one years old when he entered the Army as a Cadet. Thirty-eight years later he stands at the top of his profession. And he can thank himself for that. Constant, tireless, systematic effort has been his daily life. There should be a world of comfort in this fact for young officers standing ten thousand files down the list and trying to look over the bump in promotion.

As a Cadet, when he was first known as "Honest John," as a hard driving and harder working field artilleryman, as Brigade, Division, and as Corps Commander this man commanded respect. And this respect was common to all, from the sorely tried doughboy in the front line of his Division to the German General against whom he fought.

He had the courage to hold to what he thought was right; and nothing that he thought right was too hard for him to do. His abilities, as a leader, as an administrator, as a student, as a speaker are all founded on the solid rock of his character. Just how he developed that character we do not know. Perhaps he found it in the soldier's religion that he practices.

THE ANNUAL REPORT OF THE CHIEF OF FIELD ARTILLERY FOR 1925—1926

IN TWO PARTS—PART II

HORSES AND FORAGE

Horses. Supply.—The close of the fiscal year 1926 finds the Field Artillery more than fifteen hundred horses short of its proper allowance and with a large percentage of those on hand quite old. Considerable replacement must be effected during the coming year or the mobility of the Field Artillery will be severely diminished. It is confidently expected that the appropriation for 1927 will provide an adequate number of suitable animals.

The Remount Service has succeeded in issuing to the Field Artillery a better type of riding horse than ever before, and it is probable that the draft horses, purchased during the coming year, will be better in type than those that have been supplied in the past. Certainly the Remount Service is taking a most gratifying interest in this matter which it is believed will accomplish splendid results.

Equitation.—Instruction in equitation at the Field Artillery School has materially improved during the fiscal year 1926, due principally to the elimination of a large number of unfit horses and replacement thereof by selected remounts. The main difficulties experienced during the past year were the lack of trained horses for classes and problems, and the insufficient number of training remounts. An increase in the number of horses, authorized for the Field Artillery School, will be requested shortly, and it is urged that this request be given the favorable consideration which the importance of the instruction merits.

Officers and men coming from civil life today know little or nothing about horses, but they have relatively considerable knowledge of motors. The trend of the time throughout the nation is such as to lead them to take little interest in the former, but much in the latter. Once in the service, an officer spends so great a proportion of his time on detached service or on special duties away from horsed units that the struggle to qualify him as a horseman meets with almost insuperable obstacles.

Mounted Status of Field Artillery Officers.—Every Field Artillery officer should be an accomplished horseman. Interest and enthusiasm for this art are essential to developing it. At no place in the Field Artillery can interest and enthusiasm be aroused so advantageously or with such far-reaching results as at the Field Artillery School. Its facilities for developing interest in, and

Table of Contents, Part II, on page 21.

enthusiasm for horsemanship, and for teaching its essentials, should be equal to those at the Cavalry School, and both should be the very best that the army can provide. In addition to this, greater encouragement must be given officers to own and develop mounts. Motorized units of Field Artillery in time of peace should have sufficient horses to mount their officers and keep them in thorough touch with this essential qualification for the Field Artillery service, and commanding officers should see that these horses are so used as to secure equitation to the maximum number of officers.

But this is not enough. Some of the handicaps now placed on officers owning horses must be removed. The most discouraging handicap on Field Artillery officers is the decision that officers in battery grade on duty with motorized units are not mounted officers. When such an officer is assigned to a motorized unit, he then and thereby, according to this decision, ceases to be a mounted officer. He loses mounted pay, he is not entitled to forage, he is not entitled even to stable room or to send his horse to a Remount Depot to be kept for him. Nothing could be more discouraging toward owning good horses. It is unjust for the Government to kick his horse out into the street. I have repeatedly called attention to this situation, and now again ask that remedial action be obtained.

Forage Ration.—In 1925, the forage ration for Field Artillery animals was arbitrarily cut seven per cent. While there have been no official complaints received by the Chief of Field Artillery, his attention has been called to cases where the horses of organizations have suffered from reduced rations.

The old full ration has given satisfaction in the army for a long term of years. In continuous garrison service, where the old ration is authorized, there may be a saving, but during arduous field service an increase over the full ration is frequently necessary in order to maintain Field Artillery animals in satisfactory condition. It is, in my opinion, impracticable and inhumane to arbitrarily reduce the forage ration. Judicious feeding is taught and should be practiced, but no reduction of the ration should be made without careful tests.

MISCELLANEOUS

Motor Upkeep.—It is believed that, for tactical Quartermaster motor vehicles, the present system of replacement of major parts is unwieldy and inadequate. For instance, several months are required to get a replacement for the unserviceable engine of a motor car during which time the organization is deprived of the use of one of its essential tactical vehicles. To-day, Field Artillery organizations, which are supposed to be ready to take the field, have had tactical motor vehicles on I & I Report for many months. The present system does not permit the issue of spare parts for vehicles on I & I Report. During war, it is our practice to push forward to the

tactical units such replacements and spare parts as they require. In time of peace, supply is made so difficult that it is almost impossible for organizations to maintain all their tactical motor vehicles in condition for field service. I recommend that the matter of supply and maintenance of motor vehicles be made the subject of study by the General Staff with a view to improving existing conditions.

Gasoline.—In previous years the allowances of gasoline for tactical vehicles was made on a basis of 150 hours of movement per year. For the fiscal year 1927, the basis of these estimates were changed from 150 hours to 105 hours' training. Mechanical draft is a new thing. We have little experience to guide us and much experimental work and a large amount of training are essential. No tractor-drawn organization in the Field Artillery has had a satisfactory amount of training in marching. Reduction of the allowance of gasoline at this time is a very doubtful economy.

Cleaning and Preserving Material.—The situation relative to cleaning and preserving material, which has been unsatisfactory for the past few years, has been considerably improved. It is not yet, however, entirely adequate in all items.

MATÉRIEL AND EQUIPMENT

Before taking up the matters treated in detail in this Section, I wish to make it plain that the Field Artillery is not contemplating a wholesale re-armament with its consequent cost. Nothing could be further from the fact. But no progress can be secured without experiment and development, and it is this experimental and development work that is being discussed herein. And no work is of more importance. Whenever the development of a gun, carriage, projectile, etc., has reached a point where it is a distinct advance over existing types in use, it is adopted as "standard." This simply means that no more of the old type will be manufactured but that, in the event of war, production will be concentrated on the new "standard," and in the meanwhile efforts will continually be made to further improve the "standard" or get out a better substitute.

Technical Developments, Ordnance. Experimental Guns and Carriages. Light Gun. 75-mm. Gun, Model 1923.—The pilot of this split-trail matériel was tested by the Field Artillery Board which found it to be with certain minor correctable defects, a suitable light weapon and it has been adopted as a standard type. Three additional units, to complete a battery for continuing service test, are under manufacture. It is believed they will be ready for issue within four months.

75-mm. Gun, Model 1925-E.—The pilot of this box-trail matériel is now undergoing Proving Ground Test. Its traversing mechanism was found to be not wholly satisfactory and a new one

is being built. The sighting system of this matériel is intended to give the advantages of the independent line of site without the entailed disadvantages of the rockers involved in the conventional type of independent line of site system. Excessive loss motion has developed and the sighting system is being rebuilt. It is believed that this matériel will be ready for service test by the Field Artillery Board during the fall of 1926.

Pack Howitzer, 75-mm. Model 1925-E.—The pilot of this matériel has been tested by the Pack Artillery Board at Fort McIntosh, Texas, and was found to be generally satisfactory. Several minor deficiencies were noted and alterations suggested. As many as practicable of the desired changes have been incorporated in a second unit which is now undergoing Proving Ground Test, and will shortly be sent to the Pack Artillery Board for service test. Two more units, containing additional improvements, are being constructed and should be ready for service test in the spring of 1927. The four units of this matériel will be used to equip a battery of the Fourth Field Artillery at Fort McIntosh, Texas, for continuing service test under the supervision of the Pack Artillery Board. This matériel, firing a 15-pound shell with a muzzle velocity of 1250 feet per second to a maximum range of 9000 yards, is believed to be a distinct advance in pack howitzer construction on which the Ordnance Department is to be congratulated.

Light Howitzer. 105-mm. Howitzer, Model 1925.—This box-trail matériel is still undergoing Proving Ground Test, but should be ready for service test by the Field Artillery Board in the fall of 1926.

105-mm. Howitzer, Model T-1.—This split-trail model has been under design since the fall of 1925. A wooden model has been constructed, carefully examined, and commented upon. Manufacture of the pilot should be completed during the fiscal year 1927. It is too early to comment on this matériel, but the appearance of the wooden model is very encouraging.

Comments.—I wish to reiterate the comments I have made in the past on the importance of the development of a light howitzer and its incorporation in the Division Artillery. As soon as the necessary number of units for adequate service test have been produced, a careful study will be made and recommendations submitted for the inclusion of this howitzer in Division Artillery. It is expected that this model will weigh not more than 3300 pounds and that it will have a maximum range of 12,000 yards.

Medium Gun, 4.7-inch, Model 1921-E.—This matériel has been thoroughly tested by the Field Artillery Board. With the exception of several minor defects, it was found to be suitable. Its accuracy, when fired with the supercharge, was not satisfactory, but this is

believed to be due to the ammunition rather than the gun. The noted defects in the unit now at Fort Bragg, North Carolina, will be corrected and the gun re-tested.

Medium Howitzer. 155-mm. Howitzer, Model 1920.—No effort was made during the fiscal year 1926 to improve this model. It remains in the hands of the Field Artillery Board.

155-mm. Howitzer, Model T-1.—The wooden model of this matériel was constructed, examined, and commented upon, and the pilot unit is now under construction and will be completed, it is believed, during the fiscal year 1927. It is hoped that this matériel will correct the defects noted in the Model 1920. This model is expected to fire a 95-pound shell to a maximum range of 16,000 yards, and to weigh not more than 15,200 pounds.

155-mm. Gun—8-inch Howitzer Carriage, Model 1920.—The pilot of this matériel, and its accessory transport wagon, are still undergoing test by the Field Artillery Board. A progress report has been received in which numerous defects have been noted. Modifications to cover these defects will be built into the unit now at Fort Bragg as soon as funds are available.

Automotive Matériel. Motor Carriages.—Some Proving Ground work has been done on the two 155-mm. Gun—8-inch Howitzer Motor Carriages. Number one chassis, less gun and carriage, has been tested also as a heavy tractor. It will be sent to the Field Artillery Board for service test in the near future. Number two chassis, mounting the gun and carriage, will also be sent to the Board for service test.

Tractors. Caterpillar, Two-ton (*formerly known as the Holt T-35*).—Two batteries of the Eighty-third Field Artillery at Fort Benning, Georgia, have been equipped with these tractors for continued service test to determine the suitability and the basis of issue. As a result, this has been adopted as a standard light tractor and recommendations as to the basis of issue will be submitted shortly.

The Caterpillar, 30 (*formerly known as the Best-30*).—This tractor has been tested by the Field Artillery Board and has been adopted as standard for future procurement to replace the present 5-ton tractor.

The Caterpillar, 60 (*formerly known as the Best-60*).—This tractor has been tested by the Field Artillery Board and has been adopted as standard for future procurement to replace the present 10-ton tractor.

The Fordson Tractor with Full Crawler Adapter, and with Hatfield-Penfield (*half-track type*).—This tractor is now undergoing test by the Field Artilley Board to determine its suitability for use in the Field Artillery.

Corps Tractor.—This tractor, of Ordance post-war design, has

been under test by the Field Artillery Board. After 1000 miles of running, the Board reports that this tractor is suitable as motive power for the 4.7-inch Gun, Model 1921, and the 155-mm. Howitzers, Model of 1920, and Model T-1. This tractor appears to have the best maneuverability of any tractor yet tested by the Board. However, it is not in commercial production and so has not been recommended for adoption as standard. The test is continuing.

Cross-country Car. Ford.—The Ford chassis, equipped with Warford or Hinkley transmission, has been adopted as standard for reconnaissance vehicles of motorized Field Artillery units. These cars have undergone considerable test by the Field Artillery Board, the Field Artillery School and the Eighty-third Field Artillery (tractor-drawn 75-mm.) at Fort Benning, Georgia. While, of course, it cannot be said that these vehicles are perfect reconnaissance cars, nevertheless their performance in all character of going is so superior to that of any other equipment the Field Artillery has under test, that their development comes close to solving the problem of reconnaissance in tractor-drawn units.

Chevrolet.—A Chevrolet chassis, equipped as a cross-country car, has been sent to the Field Artillery Board for test.

Ammunition. Fuses.—There are now in the hands of the Field Artillery Board three hundred rounds of 75-mm. shell equipped with type E-13 Fuse (combination super-quick and short-delay) which will be tested during the service test of the 75-mm. Gun, Model 1925-E. The development of this fuse is a most important matter to the Field Artillery, and progress up to date has been somewhat disappointing. It is hoped that the test, which will be made during the coming fiscal year, will lead to material improvement in a fuse of this type.

Projectiles. Shell-shrapnel Test.—The Field Artillery Board, during the year just passed, has conducted a series of rather elaborate tests in an effort to determine the relative efficiency of shrapnel and high explosive shell. Valuable information has been gained by these tests, but the test up to date has not been sufficient to justify the drawing of definite conclusions. This test will be continued.

Shell and Shrapnel for Pack Howitzer, Model 1923-E.—The Pack Artillery Board has fired, under test conditions, 75 rounds of shell, 75 rounds of shrapnel, and 60 seventeen pound proof slugs in the pilot of this matériel. As a result of this firing a study has been made of re-zoning the ammunition for this Pack Howitzer so as to secure a minimum angle of fall of approximately 25º throughout the range. This study promises good results and experimental ammunition based on the study will be provided and tested, it is hoped, during the coming year.

"Adamson" Projectile.—The Field Artillery is much interested in a projectile designed by Major K. F. Adamson, Ordnance Department, and which, if it is found susceptible of development and production, will probably become a valuable projectile, particularly for Light Field Artillery. The design of this projectile has not yet progressed sufficiently to permit any immediate test to be contemplated.

Drawn Tubing Projectiles.—There is now under way in the Ordnance Department a project to investigate the possibility of a process for projectile manufacture starting with seamless drawn tubing instead of individual forgings. Such a process, if found practicable, will expedite production, cheapen costs, and prove extremely valuable.

Ammunition Carriers. Pack Artillery.—The Pack Artillery Board has recommended an expendable box in which the ammunition for the 75-mm. Pack Howitzer, Model 1923-E, may be transported. Experimental Models are being constructed for test by the Pack Artillery Board.

105-mm. Howitzer.—Two types of ammunition boxes for this weapon, one containing two rounds and one containing four rounds, have been tested by the Field Artillery Board, but neither proved entirely satisfactory. Improved designs of both types are being built for future tests.

Miscellaneous. Experimental Limbers and Caissons.—An experimental limber and caisson for the 75-mm. Gun, Model 1923-E-1, is under construction and will be tested by the Field Artillery Board.

Cargo Carts.—Cargo carts, Type E-1, are under test by the Field Artillery Board to determine their suitability as ammunition vehicles for the new 75-mm. Gun and 105-mm. Howitzer matériels. Another cargo cart, Type T-2, is undergoing Proving Ground Test, and it is hoped, will soon be available for test by the Field Artillery Board.

Traveling Lock, 75-mm. Gun, Model 1897.—A traveling lock to prevent excessive wear to the elevating mechanism for this matériel was suggested by the Ordnance Officer, Eighth Corps Area. It is hoped that an extended test of this device may be made during the coming year.

Metallic Packing for Recoil Cylinders.—A battery of 75-mm. Guns, Model 1897, at Fort Sill, has had the recoil cylinders equipped with metallic packing in an effort to determine if such packing functions efficiently in service. Similar experiments have been begun with the 155-mm. Gun. If metallic packing proves practicable, it will be found very useful in preventing deterioration in storage.

Spade, Float, and Handspike, 75-mm. Gun, Model 1897.—Spade, Float and Handspike for this matériel are now being tested

by the Field Artillery Board, and the Field Artillery School to determine the desirability of modifying existing matériel of this type so as to add the spade, float, and handspike. The test has not been sufficiently exhaustive as yet to justify conclusions.

Panoramic Sight Mounting for 75-mm. Gun, Model 1897.—Two experimental types of panoramic sighting mounting for this matériel have been under test by the Field Artillery Board, and definite recommendations for the adoption of one of these mountings are expected shortly.

The adoption of the panoramic sight, a handspike, and a spade or float would materially improve the 75-mm. Gun, Model 1897, and are the only improvements at present contemplated.

Bracket Mount for Machine Gun on 75-mm. Caisson.—The experimental mount for machine gun on 75-mm. caisson, tested by the Field Artillery Board during the past year is not satisfactory. Specifications for a new mount have been submitted to the Ordnance Department, and it is hoped that a new mount will be developed for test during the coming year.

Automatic Limber Pole Support.—A simple field alteration of the standard limber pintle (75-mm. Gun-Caisson), permitting ready adjustment of the automatic pole support, has been worked out in the Eighty-second Field Artillery Battalion (horse), and is under consideration for adoption as standard.

Ten-year Program.—There has been approved in principle a ten-year program for extensive service test by limited re-armament with improved types of weapon, including for the Field Artillery:

2 Regiments of 75-mm. Pack Howitzers,
1 Battalion of 75-mm. Field Guns,
2 Regiments of 105-mm. Howitzers,
2 Battalions of 4.7-inch Guns,
3 Battalions of 155-mm. Howitzers,
3 Batteries of 155-mm. Guns,
3 Batteries of 8-inch Howitzers.

The approval of this project constitutes a distinct step forward in the development of artillery matériel, and it is earnestly recommended that this ten-year program as projected be carried into effect.

Technical Developments, Signal Corps. Telephones.—Four switchboard assemblies mounting in the same box the switchboard, operating telephone, and accessories, are undergoing test by the Field Artillery Board.

Portable Battery Charging Sets.—Ten portable gasoline-driven battery-charging sets were tested by various Field Artillery organizations with generally favorable results.

Reel Cart.—The design of a Reel Cart, mounting issue spools

of field wire, is under way. This development promises to be very valuable to the Field Artillery in time.

Pack Reel.—Five Modified Pack Reels are being made up for test by the Pack Artillery Board. It is hoped that they will be available in time to permit the test to be concluded during the fiscal year 1927.

Radio Nets.—In 1925, a system of Radio nets for the mobile field forces was approved by the War Department. This system was eminently unsatisfactory to the Field Artillery as it included no provision for General Headquarters Reserve units. This matter has been made the subject of several conferences with the Office of the Chief Signal Officer, and it is believed that a revision of the system, which is satisfactory to the Field Artillery, will shortly be recommended.

Technical Developments, Quartermaster. Trucks.—Two Coleman Trucks (4-wheel drive) are to be sent to the Field Artillery Board for test in the near future. These trucks have been desired for some time, and it is believed that their test may lead to definite recommendations extending our list of standard vehicles.

This is especially important in the case of trucks. The Field Artillery is the largest user of trucks which are employed in tactical units. The necessities of motorized artillery and ammunition trains for suitable truck transportation were fully developed in the Caliber Board Report and the necessity must not be lost sight of.

The Field Artillery must use in these motorized units trucks in commercial production rather than specially designed vehicles.

It is necessary that careful selection of the most suitable commercial types be made from time to time. This selection can be made by the Field Artillery only. No other agency, civil or military, is qualified.

Rolling Kitchens.—The Field Artillery Board has done considerable work on the study of specifications for a re-design of a Rolling Kitchen for Field Artillery. The Quartermaster General has been requested to furnish a pilot in accordance with these specifications, and it is hoped that this equipment will be available for test during the coming year.

Pack Saddle.—The test of the Phillips Pack Saddle by the Pack Artillery Board has not yet been completed.

McClellan Saddle.—The test of the modified McClellan Saddle by the Field Artillery Board has not yet been completed.

Canteen Covers.—A dismounted canteen cover, modified to render it attachable to the saddle bag, has been developed by the Field Artillery Board. This will be given extended test.

Quartermaster Development Projects.—For the first time, items to cover development projects were included in the Quartermaster

General's estimates for the fiscal year 1928. Although these estimates were considerably reduced by the War Department Budget Board, the recognition of the necessity for development is considered a distinct step forward.

Chemical Warfare Service. Gas Masks.—The diaphragm type of gas mask has been tested by the Field Artillery Board and recommended as standard for issue to the Field Artillery.

Other than this gas mask, there have been no developments of the Chemical Warfare Service this year that have benefited the Field Artillery. However, steps have been taken to secure a closer liaison between a representative of the Chief of Field Artillery and the Chemical Warfare Plant at Edgewood Arsenal, Maryland, and it is hoped that substantial progress will be made during the coming year.

Work of the Field Artillery Board.—The accomplishments of the Field Artillery Board during the fiscal year 1926 are apparent in the reading of this report. It is desired, however, to invite special attention to the quantity and quality of work done by the Board.

Not only has the Board conducted the tests of matériel just stated, but in addition it has under continuing study several problems of considerable importance—among these are:

High Burst Ranging (test suspended awaiting new instruments).
Study of effect of fire.
Comparative effect of shell and shrapnel.
Divisional gun-howitzer test.
Shell penetration and behavior after penetration.
Horses as means of tractor column supervision.
Double heading of tractors.
Study of allowances of equipment of war strength Field Artillery units.
Study of combination ration and water cart.
Study of alteration of battery and battalion reels.

Summary of Development of Matériel and Equipment.—As a general rule satisfactory progress was made during the past year in the development of matériel and equipment. In some few details, as has been noted, the progress was disappointing.

The present economy regimé indicates that it is impossible to hope for any considerable production of newly developed matériel and equipment. Under these circumstances our energies should be directed principally to development and standardization with a view to making production of improved models immediate and rapid when an emergency arises, or circumstances permit us to enter upon a production basis.

ORGANIZATION

When existing Tables of Organization were prepared, it was realized that the allotment of enlisted men to Field Artillery was so limited that organizations must be made as small as it was possible to make them and still permit them to function. An examination of these Tables of Organization will show that they are "bed rock" tables. No surplus men were allowed. No extra men were provided to do the work of absentees. When a man was absent, some other man did his work in addition to his own, or the work remained undone. The total number of enlisted men in the Field Artillery under these Tables of Organization was 16,733.

Since the approval of these Tables of Organization, the army, and incidentally the Field Artillery, has been reduced in strength. This was accomplished in successive Army Appropriation Acts. During the fiscal year 1926, a further reduction in grades and ratings having been desired by the Bureau of the Budget, the Chief of Field Artillery was called upon to recommend how this reduction should be applied in the Field Artillery. His recommendations on this subject were published in Circular 24, War Department, 1926.

When these various reductions in the army were under consideration, it was decided for many good reasons that none of the existing organizations should be dispensed with. The only possible solution, then, was to supply the reduction to existing organizations so as to do the least amount of harm.

The present enlisted strength of the Field Artillery is 15,880, with a "bed rock" Table of Organization strength of 16,733. It follows that, not counting sick, special duty details, fatigue details, etc., all Field Artillery organizations have a considerable number of permanent absentees whose work is undone, or is done by other men in addition to their own. The present organizations, under the most favorable circumstances possible, cannot function satisfactorily. Any further reduction in the strength of Field Artillery units must not be considered.

Elsewhere in this report (see page 19), I have commented upon the fact that the Field Artillery is not permitted to maintain its proper proportion of organizations to the organizations of the basic arms. In other words, it is my opinion that the original allocation of 16,733 men to the Field Artillery, out of an army of 125,000 enlisted men, was wholly inadequate.

I recommend that the General Staff re-study the allocation of enlisted men to the various arms with a view to increasing the strength of the Field Artillery for the purposes of bringing existing organizations to adequate strength, and of permitting the organization of additional units of Field Artillery so as to provide a properly balanced army. Neither of these conditions exists to-day.

WAR PLANS

During the past year the War Plans Section of my office has collaborated with the several General Staff Sections and with other branches in developing the War Department General Mobilization Plan. While eventually the Field Artillery Annex and the Unit Plans of Field Artillery Zone of the Interior Installations will probably have to be entirely re-written, the time has not yet arrived when this can be done advantageously. Unless a radical change is made in the General Mobilization Plan, the revision of the Field Artillery Annex and Unit Plans will consist merely of a correction of details. From now on, this correction process will be comparatively slow. It is apparent now that in many cases figures which were assumed are only approximately correct. Correct figures can be determined only after detailed study by all agencies concerned. The details of the Field Artillery Plans will necessarily be affected by the final plans of the various Corps Areas.

MORALE

Housing.—I come now to a subject which to my mind is the most vital, the most neglected, the most harmful evil of all, under which the Field Artillery and the Army suffer—living conditions. The morale of many Field Artillery commands is still maintained against a chronic state of miserable living conditions and personal discomfort. No adequate and suitable relief for these conditions has ever been proposed. And, in making this statement, I do not overlook the passage of recent legislation, creating the Military Post Fund, and subsequent legislation appropriating seven million dollars from this fund for construction. But the Military Post Construction Fund will never contain sufficient funds (unless largely supplemented by direct appropriations from the Treasury) to properly house the Army. And, in addition, the construction is to be spread over ten years. But the necessity for housing is not ten years away. It is to-day.

After nearly eight years the sore has become chronic and is accepted as a visitation of Providence. No delay should be permitted in presenting the deplorable housing conditions for immediate remedy—not over a period of years—for nearly eight years already have passed—but now, at once. *I cannot too strongly urge this necessity*. At Camp Lewis, Fort Sill, Fort Benning, Fort Bragg, Fort Benjamin Harrison, Camp Travis, enlisted men, officers, women, and children live under conditions which are a shame to the Government. The Government breaks faith with its officers and enlisted men when it requires them to live under such conditions, in time of profound peace. The Field Artillery requires rather considerable areas for its training. It has been placed as a rule in

camps or stations near such areas. There it struggles to patch up buildings not worth patching; to replace underpinning before the quarters collapse. In fire traps of the most absurd nature it houses its personnel, animals, and matériel. No responsible individual of the Government has ever, to my knowledge, even proposed adequate relief. It has become like a plague in India or an earthquake in Japan—too distant and too common to command more than a passing thought. A flood in the lower Mississippi, a cyclone in Texas, is recognized immediately with liberal appropriations. The more miserable chronic condition of housing for soldiers touches no purse string.

We talk of penal reform in this country. (A subject with which I am in full sympathy.) But most penitentiaries and many local jails are incomparably more comfortable and better in their housing facilities than are many places occupied by the Regular Army. The men and women in these jails and penitentiaries are criminals, degenerates, and enemies of society. Yet, if we are to judge by housing conditions, they are much more highly thought of by the American people than are the personnel of the Regular Army, the backbone of our National Defense System. Such is, of course, not actually the case, and in reality the failure to properly house the army is, I think, due to the War Department not bringing the deplorable situation to the attention of the American people with sufficient force and clearness.

Fire Losses.—Closely connected with the housing situation is the storage situation. I am fully in sympathy with the policy of economy in Government expenditures—particularly where it results in a reduction of taxes. I am a tax-payer myself, and look upon taxes in the same light as does everybody else. But there is a point below which saving becomes false economy. And this point, I think has now been reached in the army. I have just commented on the disgraceful housing conditions of the army personnel. I now desire to comment on property loss. The only post directly under my control is Fort Sill, Oklahoma. I can, therefore, speak with authority as to losses at this place only. If, however, the losses at that place are typical of the balance of the army, or anywhere near it, the fire losses are appalling. Thus at Fort Sill on June 12, 1926, a storehouse burned down with a loss of government property stored therein, of approximately one million dollars ($1,000,000). The store-house was a ramshackle, flimsy wooden building put up for temporary purposes during the war and costing twenty-five thousand dollars ($25,000). There have been numerous other fires during the past two years that have resulted in losses many times the cost

of buildings affording adequate protection. But there are no funds for erecting such buildings, so flimsy wartime tinder boxes must be used instead. Lives have been lost in these fires. In this connection I may mention that only Providence prevented a holocaust of lives being taken in a fire a little over a year ago that consumed flimsy, wartime apartment buildings used to house over a hundred officers and their families. I repeat my statement made months ago that "no city in the United States would tolerate such fire-traps as some of the army buildings used as living quarters."

Promotion.—Pending legislation directs the Secretary of War to investigate the promotion list, and to recommend such legislation as may be needed. Presumably, from the discussion preceding this enactment, Congress has in mind the correction of various alleged injustices that occurred in forming the "Single List." Doubtless the General Staff will make a thorough inquiry into this vexed question, and its recommendations will be the logical conclusions deduced from the facts developed. But in my opinion this is not enough. At the most, such recommendations will not go beyond correcting such individual injustices as may be discovered. What is needed is a long look into the future. And, if this be done, I believe that a situation will be discovered that calls for remedial legislation right now. Of course, I am familiar with the personnel situation of the Field Artillery only. But, since all arms and branches are on the "Single List" for promotion, what affects one branch will to a greater or lesser extent apply to all. In the grade of field officer, as far as I can see without facilities to make a thorough study, there will be a comparatively regular flow of promotion—slower than desirable, but endurable.

In the grade of captain and first lieutenant, however, conditions are different. Between the classes of 1917 and 1918, of the Military Academy, there is in the Field Artillery alone, a block of approximately four hundred officers. While these two classes were but four months apart in their actual graduation, they are approximately twelve years apart in their promotion. There is another block of less size between the classes of 1918 and 1919. On account of these blocks, the Field Artillery has to-day 267 Captains (practically all of whom were captains or higher, in 1918), and who will still be captains twenty years from now. In the grade of First Lieutenant, the Field Artillery has 195 officers who will still be lieutenants twenty years from now. These estimates are based on retirements for age and will doubtless be reduced by unforeseen causes. But, in any case, it discloses a serious situation calling for a remedy. Unless something is done, and done quickly, I anticipate that on account of this hopeless situation, the most aggressive,

active and desirable of these individuals will resign and the army will gradually find that it is retaining only the more inferior officers. Of course, a certain number of very high grade officers who are thoroughly in love with their profession will stay no matter what the outlook. But this number will be small. The army does not revolutionize human nature. And the average wide awake, aggressive officer will resign. It is too much to expect him to live in poverty, discomfort, and junior grade all his life, when he can so easily better his condition in civil life.

I, therefore recommend that a promotion study be made with a view to removing the blocks I have described above, and assuring these officers a steady, even though slow rate of promotion. They must have some future to look forward to, or the army itself will be the sufferer by reason of their leaving in large numbers in the next few years.

General Staff Eligible List.—This list is provided for in Section 5 of the Amended National Defense Act. The Act provides that "After the completion of the General Staff Corps Eligible List, the name of no officer shall be added thereto, unless upon graduation from the General Staff School he is specifically recommended as qualified for General Staff duty . . ." The Secretary of War shall publish annually the list of officers eligible for General Staff Duty, and such eligibility shall be noted in the Annual Army Register. I strongly recommend that names be placed on this list by the War Department, with much greater liberality than at present.

This matter was the subject of a strong letter from me two years ago, and while very considerable improvement now exists, the evil has not yet been wholly corrected.

We, in the War Department, know that the value of Leavenworth lies in the training it gives, and that every individual officer who attends the school is benefited thereby and that the placing or not placing of his name on the eligible list is only incidental. But rightly or wrongly, this view does not prevail throughout the service. The goal to-day is regarded as this list.

This present year, two hundred and forty-one officers of the army completed the course at the Command and General Staff School and became eligible to be placed on the General Staff List. Of this number, two hundred and twenty-five were placed on the list and sixteen were not so placed. All of these officers had undergone a degree of selection before being sent to Leavenworth and were so sent because they were regarded as capable and competent. In addition, they desired to go. They were a selected lot. Yet here we see seven per cent. of the class who failed to get their names on the eligible list, regarded by their fellow officers, but more especially by

themselves, as having been tried and found wanting. Their morale is crushed.

The mediocre officer who was not selected to go to Leavenworth or who was too unambitious to go, is very much better off so far as his record, morale, and career are concerned than the higher grade officer who went to the school and failed to make this list. Do we want to make Leavenworth the Waterloo for seven per cent. of our best officers? I have no words sufficiently strong for condemning this policy of Army suicide, which in truth it is, since the service by such a policy is professionally killing its own good officers.

I do not argue that every officer who graduates from Leavenworth is highly qualified for General Staff duty. In fact my observation is that only a small percentage is *highly* qualified, and often this percentage does not include an officer whose record at Leavenworth proved brilliant. In the last analysis, officers placed on the General Staff are there because they have been most carefully selected, this selection involving a thorough study of the officer's record and professional attainments. The Eligible List does not assure selection for this duty; it means simply that officers on this list enjoy the privilege *of being considered* when selections for the General Staff are made. Hence no harm, but much good is done by placing on the list, the name of *every officer who graduates from the school*.

It might be argued that the distinction of having one's name placed on the Eligible List, should not be given some officers by reason of unfavorable efficiency records. My reply to such an argument is, let the Board which designates officers for the Eligible List meet and pass on such an officer *before* he goes to the school, and deny him the privilege of that course until his record justifies this additional and considerable expense to the Government.

This matter deserves and should have prompt remedial action.

Honor and Distinguished Graduates, Command and General Staff School.—There is one other factor in connection with the Command and General Staff School that I desire to comment on. This is the classification of the graduates into Honor Graduates, Distinguished Graduates, and Graduates. The Honor and Distinguished grades should be abolished. These grades have outlived their usefulness. At the best, they can serve merely as a spur to those officers who need no spur. At their worst, I think they produce much harm by engendering a spirit of "tenth boning," instead of a desire to learn. In addition, they tend to inspire cut-throat composition in the class instead of coöperation and helpfulness. I can see no useful purpose they serve. Leavenworth is the only service school that still retains these grades.

FIELD ARTILLERY AND AIR SERVICE

During the fiscal year 1925, the attention of Congress, the War Department, and the Public generally has been repeatedly focused upon supposedly unsatisfactory conditions existing in the Air Service of the Regular Army. These unsatisfactory conditions appear to be principally in the morale of the commissioned personnel and the obsolescence of matériel.

Complaint has been made by the Air Service that the operation of the "Single List" has severely affected the promotion of commissioned personnel, with a resulting inevitable lowering of morale. Complaint has also been made that most of the matériel in use by the Air Service is obsolescent or obsolete, and recommendations have been made looking to an extensive production program of Airplanes. While it is not true that the Field Artillery of the Regular Army finds itself in the identical predicament of the Air Service, nevertheless, there are so many analogous points in the conditions existing in these two arms that it seems appropriate at this time to comment upon these conditions.

Prior to the World War, such an absurdly small proportion of Field Artillery was maintained in the Regular Army that it was found necessary during the war to expand the arm beyond all bounds. A part of the permanent expansion of the regular Field Artillery was accomplished just prior to the beginning of the World War, and a part subsequent thereto. The adoption of the Single List has given to the officers of other arms, which were not increased in as great a proportion as the Field Artillery, a greater share in the promotion caused by this expansion, than was received by officers of the Field Artillery themselves. The disproportion existing between the promotions caused by the expansion of the Field Artillery and the promotions received by officers of Field Artillery, has necessitated the transferring of officers of other arms to the Field Artillery and the detailing of a number of such officers for temporary duty in the Field Artillery.

Field Artillery officers, as a whole, have willingly sacrificed their promotion in the hope that the oft-repeated promise that the Single List would eliminate all jealousies between the arms, would prove true. Up to the present time the Field Artillery has succeeded in maintaining its morale in spite of its loss of promotion, and it is to the everlasting credit of the officers that such should be the case. There exist, at the present time, two tendencies which, however, if they develop further, will severely affect the morale of this arm. The first tendency is to relieve the Air Service from the adverse effect of the Single List on promotion in that arm. The second tendency is to reduce the number of Field Artillery organizations in the Regular

Army below the proper proportion which should be maintained under the Tables of Organization.

If the Single List has done what its proponents promised it would do, there should be no tendency to reduce any arm below its proper proportion in the army. Under the American Doctrine of organization, the Infantry, and, to a certain extent, the Cavalry, are the basic arms, and the other arms are auxiliaries, whose strength should be determined by their tabular proportion to the basic arms. The Field Artillery of the Regular Army has already been so reduced that it has not the proper number of organizations to conform to the organizations of Infantry and Cavalry now maintained in the Regular Army. Officers of Field Artillery are much concerned over this fact and, as the proportion of Field Artillery organizations falls below the proper tabular strength, the officers of that arm inevitably feel that the Single List has failed to eliminate all jealousies between the arms, and that their sacrifice in promotion has been in vain. This feeling, unless relieved, will profoundly affect the morale of the arm.

While I do not know in what form legislation pending in Congress, relative to the Air Service, will emerge, yet it is almost certain to provide for an increase of that arm. I do not say that such increase is unnecessary—far from it. Nor do I like to even imply a criticism of another arm. But I should be negligent to my duty did I not emphatically state that the Field Artillery is equally in need of an increase. In fact, most of the arguments that have been advanced for preferential treatment of the Air Service, are applicable to the Field Artillery. This is especially true as to personnel.

As to matériel, it seems fair to state that all of the armament of Field Artillery organizations is obsolescent. The development program of the Ordnance Department has been carried to such a point that pilots, far superior in power to existing armament, have been actually produced, or are in such an advanced stage of development that their future production can be confidently anticipated. The cost of producing these new models in quantity is so great that the Field Artillery has not felt justified in recommending such production in time of peace. Realizing the advantage to our country of a severely economical administration of the army during time of peace, the Field Artillery is content to enter the next war with its existing armament. Nevertheless, if exhaustive production programs are projected for other arms, the War Department should keep constantly in mind that the importance of production of the most modern and powerful types of Field Artillery armament is equally paramount.

Reverting again to personnel, it may be stated that the Single

List for promotion has punished the Field Artillery from the very day of its adoption. This punishment the arm accepted in the interests of harmony and the good of the army as a whole. Notwithstanding the injustices that were inflicted upon individual officers of Field Artillery by the adoption of the Single List, and notwithstanding the handicaps that are still being imposed on the arm as a whole due to inadequate senior officers (for which, under this law, there is no remedy except time), the Field Artillery will still accept the present plan, unless some other arm is to be made a "favorite child."

STATUS OF CHIEFS OF BRANCHES

I have commented previously in this report on a tendency I frequently find to regard the offices of chiefs of branches as separate and apart from the War Department.

The office of a chief of a line branch is essentially a part of the office of the Chief of Staff. My experience as Chief indicates that my office can accomplish most when in closest liaison with the General Staff. In 1918 and 1919, this liaison was practically perfect. It was fairly satisfactory for several years following, gradually getting less and less so. At the present time I am not always permitted even to correspond directly with the General Staff, some papers originating in my office being regarded as having originated on the outside. Policies are sometimes determined and announced in orders which I am satisfied would not have been announced, or at least would not have been applied to the Field Artillery, had I had an opportunity to show the effect they would have in my arm. I am directed to do business in a roundabout way. I notice a practice among the officers on duty in my office of referring to the offices in the State, War and Navy building as "The War Department" and a distinct tendency to feel that we are outsiders.

I have been Chief of Field Artillery, both in peace and war. I know the utility of the office in peace and the necessity in war. Short of the office of the Chief of Staff, no more important office than Chief of Branch has been created in a quarter of a century in our army. But it is not coördinated at the present time with other agencies in and out of the War Department. I recommend that such coördination be made.

ANNUAL REPORT OF CHIEF OF FIELD ARTILLERY

TABLE OF CONTENTS

PART II

STATEMENT OF GENERAL SUMMERALL

BEFORE THE COMMITTEE ON MILITARY AFFAIRS, HOUSE OF REPRESENTATIVES, DECEMBER 16, 1926

MR. CHAIRMAN, the subject under consideration for giving relief to the personnel situation in the Army is one of which I have only a general knowledge from my contacts with the Army itself. My predecessor, General Hines, was a member of the board that investigated the subject and I have only recently come to the position of Chief of Staff to relieve him. No formal statement has been prepared by me and I should like to confine myself to such observations as I think have an appeal from the viewpoint of the service itself. The study has been presented in great detail by the War Department, with the principles involved and the data in support of those principles. They will be explained by the officers who made that study, with the conviction, I hope, that they seem to carry.

In discussing the subject, I feel that I must approach it from the point of view of my conception of an army and of the peculiar status of officers and enlisted men in their relations to the country and to the Government. My views are largely based upon elements which may be intangible but, as in the case of many great problems of life, the intangible is far more potent in its necessities and appeal than the tangible elements.

MUST FULFILL MISSION

An army differs from any other instrumentality of the Government, except the navy. In fixing the status of any organization, agency, or instrumentality, the guiding purpose must be the mission of that instrumentality. It must be created and conducted so as to fulfill that mission, or else it must fail. I could not, therefore, compare the Army, its officers and soldiers to the personnel of any industry or of any civil department of the Government. My concept of an army is that its mission is to engage in war, when war is necessary and to gain peace which the agencies of peace of the Government have lost. It must be organized and imbued with the spirit that will engage in battle and that will win victory.

The officers and soldiers of an army are expected to consecrate themselves to their country, subordinate their personalities, their rights, their privileges, and their opportunities to the good of the country as a whole. They must be imbued with fortitude, courage,

and the fighting spirit that will win victory in the face of opposition of any enemy. They must be resigned to giving their lives, to suffering wounds, hardships, and privations, and to living in a state of danger and often of horror. We can not pay them in money for their service. Soldiers do not fight and give their lives for money, for fear of punishment or for selfish motives. No soldier ever fell in battle or suffered wounds for selfish advancement or selfish gain. It is the intangible that gives a man the spirit that a soldier displays on the field of battle.

While all men are imbued with certain basic qualities of human nature, these qualities must be developed to make efficient soldiers. An efficient army is a priceless possession of a government, while an inefficient army is the greatest extravagance that a government can have. In time of peace, officers and soldiers are at a material disadvantage. They must give up the opportunities offered them in our country for gain and for prosperity in civil life. They often live in remote places, and under trying climatic conditions that affect their health and the health of their families. They sacrifice what is very dear to everyone—community interests and associations. They are economically and often socially isolated, not because they want to be, but because their economic condition prevents them from participating in the normal lives of the people about them of the same education, character, and attainments. They are at a disadvantage in the education of their children, not only by reason of frequent moves, but by reason of the fact that in many places their children are denied the public schools without payment of tuition, which they can ill afford. They are not able, in a great majority of cases, to send their children to private schools.

NATION INDEBTED TO ARMED FORCES

We need not inquire why men engage in the profession of arms. It is a fact that must be accepted. From the beginning of our country, the military spirit has been a determining influence in our existence and progress. I do not believe it is inopportune to state that we owe practically all we have to the accomplishments of our armed forces. In the Revolution, the men who fought our battles gave us our Government and the territory of the original colonies. By subsequent wars, we have preserved intact or solidified this Government and we have gained all the territory we possess as a result of war and the victories of our forces, or because our country was prepared to take warlike measures to vindicate its purposes and its principles. Our Army is our reliance in maintaining a constitutional form of government, not only for our Federal Union, but for our States.

In our own day, we have experienced the employment of the

Army in various missions. We may recall the great railway strikes when, in a few weeks, our little Army restored order and saved the country from an economic loss of what would probably have been many times its cost over a period of years. It vindicated our ideals and our civilization in 1898 in Cuba and the Philippines and in 1900 in China. There is no doubt in my mind, that in the Great War, the Army preserved our liberty and made it possible for us to sit here to-day in the Capital of our country as proud citizens of a great, free people.

The stabilizing influence of our Army to-day in guaranteeing internal order and the peaceful development of our industrial life, as well as in giving effect to our international policies, is of incomparably greater economic value than its cost.

The qualities of the Army are not accidental. They are an evolution of a system, of the application of psychological principles and of the upbuilding of pride and soldierly spirit throughout its existence. I dare say that every gentleman around this table has ancestors who bore arms or has himself borne arms in the defense of the country. Among their proudest possessions, no doubt, are the trophies and the records of their blood kin who, in each generation, have vindicated the name and the family pride.

While we can not pay for the services of the Army in money, there are things more prized by the soldier than money, property, or civic power. Among the basic elements of human nature are ambition and a sense of justice. They are employed to the maximum in developing industrial efficiency and they are indispensable to the efficiency of an army. All countries have adopted a system of military grades, thus giving to each officer an opportunity to rise to a position, relative to his fellows, of importance, dignity, and pride commensurate with his services, his age, and the length of time that he has been a member of the army. They call this "promotion" and "rank." Relative to the high positions in civil life, such reward is small, but it is far more precious to the soldier than any material consideration.

If you will permit me to digress for a moment, there comes to me an illustration. When I was a second lieutenant, I was aid-decamp to a general officer. He was one of the finest soldiers and most dominant characters that I have ever known, and if I have been able to apply knowledge of the profession of arms to any degree, it is very largely because of his example and his principles. He was a distinguished officer of the Civil War, in which he commanded a horse artillery brigade. He lingered many years after the war in the grade of field officer, and toward the end of his life he was made a brigadier general. It was a very parsimonious reward doled out to a man whose services had been to this country of inestimable

value. He became sick in 1917, in very advanced years, and Congress passed one of those human pieces of legislation that are further reaching in their effect than you gentlemen know. It permitted three officers on the retired list with Civil War service, of whom he was one, to be made major generals without increase of pay. I was in the War Department when I learned of the enactment. Immediately I took his commission to the Secretary of War and to the President and asked them to sign it, which they did. I took it to his home, where he was lying, not far from here, unconscious, dying. I went to his bedside and said, "General, I have brought you your commission as a major general." Consciousness came to him. He looked at me with perfect recognition. He took the roll and clasped it to his breast and, with the tears streaming down his cheeks, lapsed into unconsciousness and died while I was in the room. That piece of paper was the realization of a life's ambition.

CONGRESS HOLDS RESPONSIBILITY

Such things are intangible, but they are what make an army and its soldiers. You can not estimate the power of the legislation that is proposed for the safety of this country in the hands of its Army. It is your Army. It is just what you choose to make it, either good or bad. You fix the measure of its usefulness, or of its inefficiency.

I said that another element of human nature is the sense of justice. We and all other men are deeply imbued with a sense of justice. It has been exaggerated in the American character because of individual freedom and jealousy of personal rights. The spirit of justice has been the very foundation of our Government, our laws, and our liberties. You can not treat any man unjustly without arousing in him a sense of bitterness, resentment, and antagonism that will mar whatever elements of native ability he may have. You may apply it in your business, your industry or your profession, and the result will always be the same.

No men have a higher sense of justice than soldiers. Officers and men are very intelligent. They weigh and think and they know what is right. While they will obey orders, they have a consciousness of whether or not they are receiving their due. No man can command successfully American soldiers or officers unless they have confidence in his sense of justice. The Government, above all, must show them that it treats them justly, according to reasonable standards of justice. If they are given the opportunity for promotion and for relative well being among their fellowmen, in recognition of their services and sacrifices, and if they are made to feel a sense of justice, we can have the finest Army on earth. We can not have the best Army if we deprive them of these basic rights which the Government owes them.

It is a fact that the American Army has never sustained ultimate defeat, but it must not be taken for granted that such will always be the case. We must protect ourselves against defeat by having an efficient army on which we can rely to achieve victory. Numbers will not be sufficient. If I may compare the army to the sword, it is not only the weight of the sword, but it is the edge of the sword that cuts. The edge of the sword with an army is morale, or the will to win. Contentment, pride, self-respect, a high sense of honor, loyalty, courage, and unselfish devotion to duty can come only through just such treatment and the adoption of those methods that put into men's hearts the love of service and the desire to wear the country's uniform and to sustain the honor of its flag.

From what I have said, it must be seen that the military profession requires a very high type of men for officers. Such men can not be secured for a wage. They are not hirelings. Theirs is not a job but a career and a life work of development and devotion to duty. Not only must we get men of high character for the performance of military duty, but we must realize that in war the officers are entrusted with the lives of great numbers of their fellow-citizens. It depends upon the officers whether men are used skillfully or whether they are sacrificed. Upon their acts rest victory or defeat and the very fate of the Nation. From the officers there must be produced supermen. You must find the Grants and Pershings among them. You must therefore draw the officers from the class of people in our country who can furnish such leaders in the Nation's crisis. Naturally, we can not attract men to the profession of arms after they have attained a stabilized place in life. We must secure them when they are young and then develop them. We must not only induce them to enter the service, but we must induce them to stay.

ARMY MEN AMBITIOUS

There is no greater extravagance than to educate for the Army fine young men of upstanding character and good minds, and then have them face a hopeless future and quit. They are ambitious and under existing conditions their ambitions can not be realized. They have a sense of justice and their sense of justice is outraged. They become discouraged and unhappy. They can not put their heart in their work and they want to quit. We have no moral right to keep them in the Army because we must recognize the justice of their views.

To have a contented and efficient army, therefore, we must have an army that will offer inducements for the best class of young men to become officers and for a class of men of fine character to become soldiers. The fact that the army is small makes it all the more incumbent to make it of maximum efficiency. We must have men

satisfied, eager, and interested. They must know that every one has the possibility of attaining, with proper service and efficiency, the highest place in his profession, just as every citizen has a right to look forward to advancement in his business or profession. Such a system is far more important than the cost of maintaining it. Indeed, I repeat, to maintain an unhappy army with low morale would be the greatest extravagance in which the Government could indulge.

The present condition is leading to a very unfortunate situation. It has been explained to you and will be further explained in detail that we have a large number of officers, who are representative American citizens and who have come from the mass of the people. Most of them have worked their way up in life. They have demonstrated, by their service in a great war, their ability to be officers and they have deserved at the hands of the Government considerate and just treatment. They see, however, that before them is a hopeless future. The great majority must remain in grades not commensurate with their duties, their age, or their length of service. They will do what every man does under such circumstances—they will stagnate. They see themselves confronted by the problem of living. Every man in this country has a right to aspire to improve his scale of living and because he finds himself initially in one scale of living he is not deprived of the right to seek a higher scale of living. It is one of the blessings of our free Government. Every man in this room has aspired to and no doubt has attained a better place in life, and Army officers are like the rest of the people.

It is not just to say to them, "You ought to do your own housework, to live in a shack and suffer inconvenience." They believe that, in serving our Government in the capacity pertaining to them, they occupy a peculiar position, one that merits such treatment as will enable them to take their place on a scale of living commensurate with their importance to the Government and to the community. I believe that, as much as any man in the room, I can speak for the people of this country. I have been in very close contact with them over a very considerable part of it in the last few years, and I believe the people thoroughly indorse what I say. They expect the Army to be taken care of by the Government in a way that is commensurate with the importance of this great country. They expect their officers to be given, by the Government, a scale of living that will enable them to have self-respect and to be respected by their associates, and that will give the country and the people a sense of pride in them as their protectors in war and as the men who must prepare this country for war and lead it in battle.

LEFT-HANDED ECONOMY

Economy that does not produce efficiency is extravagance. As I understand this proposed measure, it does not contemplate any appalling outlay of funds. It does contemplate a readjustment of an unfortunate situation that resulted from war and that is a part of the expenses of the war, just as much as the shipyards or ships or airplanes, or any other element of defense has been a part of the expense of war.

The adjustment is simple. It would appeal to the people, I believe, if submitted to them. It will establish a system of relative positions among officers that will give to them a status commanding the respect of their men, their associates, and the people. It will give them an improved scale of living, without which we can not expect to retain in the Army many of the very best young officers. It will put the edge on the sword to which the Army may be compared. If this is not done, we can only take a very gloomy view of the future of the military profession in this country.

I saw something of what we shall realize when I came into the Army. I reported to a lieutenant commanding a company. He had been a first lieutenant since before I was born, and I was then twenty-five years old. He was one of the most gallant, accomplished, spirited soldiers that we have ever had. His name lives in our history and no American can read of his life or of his accomplishments without a thrill of pride in belonging to his race and his country. I saw him fall on the walls of Peking, a few years after he became a captain. He gave his life to the country, a life of service and devotion beyond measure, when our Government was compelled by force of arms to maintain its honor and to save the lives of our people. I do not know of anything that this country ever did to say "Thank you"; to say "Well done, Reilly"; or to say "We are sorry that we never gave you justice while you lived or that we ignored your memory after you died." At the same time, I saw many grow old in junior grades and end their careers in discouragement and regret.

Soldiers know these things. You can take the heart out of them or you can put the heart into them.

I believe the time to act is now. The sooner relief can be given the better it will be for the service and for the retention in it of the high class of men whom we now have. We must house them decently, promote them equitably, and give them such a pay status, with promotion, as will enable them to live normally and give their time and their thoughts to their profession. They are salaried men with no outside sources of revenue. The officer who would attempt to devote his time to outside, selfish interests would forfeit his standing among his fellows. Moreover, his commanding officer

would not allow such a practice. The Army exacts all that an officer can give in peace and it may take his life in war. The Government should recognize it as being different from anything else and give it a status in accordance with its mission, with what it has done in the history of our country, is doing to-day, and may have to do again in spite of all our efforts to avoid it.

I should like to answer any questions that any gentlemen may want to ask.

MR. WURZBACH: I want to say, General Summerall, I wish every American could have heard the statement you have made here to-day.

MR. WAINWRIGHT: I think every member of the committee indorses that remark.

MR. WURZBACH: I think it is the most inspiring statement I have ever heard and I think it is a splendid and well-deserved tribute to the Army. I am just wondering, especially with reference to what you said about housing the Army, whether Congress is at fault or some other body is at fault.

GENERAL SUMMERALL: The Army does not know. The Army knows the Constitution says that Congress shall raise and support armies. It looks upon Congress as its source of hope and help.

GROOMING MACHINES

BY MAJOR HARLEIGH PARKHURST, F.A.

DURING the last few years several animal grooming machines have been developed with some resultant difference of opinion as to their advantages.

As to their application to the military service, the opinion is frequently expressed that for field service it is necessary to train the men in rapid and thorough hand grooming and that consequently this is the method which should be employed in barracks. As applying to a full-strength organization with men performing only their table of organization duties, this view would seem to have much in its favor. At the present time there are in our service no field artillery organizations to which these specifications apply, and the outlook does not justify the opinion that there will be in the near future.

At one extreme is the battery at or near peace strength but subject to unduly large fatigue, guard and administrative details. At the other extreme is the battery so depleted in enlisted strength as to be admittedly only a caretaking detachment. In the latter category, so far as grooming is concerned, should also be placed service school stables and R.O.T.C. units having small stable details, and the National Guard organizations employing civilian grooms.

Believing that a knowledge of the results obtained in the various field artillery units using power groomers would be of value to our arm and of interest to JOURNAL readers, officers having these machines in use in their organizations, were asked to state in detail what had been accomplished by their use.

The machines investigated might be broadly divided into three classes: vacuum groomers carried on the person of the operator; vacuum groomers having the motor, air pump and other heavy parts on a small hand truck; mechanical groomers consisting of a rotary brush operated by an electrically driven flexible shaft.

Both of the vacuum types have their counterpart in the vacuum house cleaners with which every one is familiar, the difference being chiefly in the special tools performing the functions of the curry comb and brush which are attached to the end of the suction

hose. It is obvious that by the use of the ordinary vacuum house cleaning tools, these machines may also be used for usual cleaning purposes. Some of the vacuum type groomers are provided with attachments which allow the outfit to be used as a blower for removing dust from feed boxes and other restricted places in which the common vacuum cleaning tools can not readily be used.

The rotary brush type of groomer is similar to the conventional electric motor driven flexible shaft used with animal clipping outfits. The equipment is, however, heavier than is usually used in clipping machines, due to the greater power required by the rotary brush. It is understood that these larger equipments with which the grooming machines are provided, are equally suitable for use with a clipping tool.

The question of the desirability of groomers was considered primarily from the standpoint of organizations low in personnel. Reports were received from eighteen sources and relating to thirty-six groomers of five different makes.

Considering first the vacuum types: reports received indicate, with only two exceptions, that the use of grooming machines has not been discontinued where these machines are available. These two exceptions will be discussed later, the immediately following data not relating to them.

The organizations reporting are somewhat differently circumstanced, were reporting on machines of different manufacture and from the various standpoints of labor-saving, amount of dirt removed, appearance of coat, organization of the work, etc.

An effort to give an accurate cross section of the composite view of the officers submitting data was unsatisfactory, and it therefore seemed best to include as many quotations from the letters relating to this subject, as space would permit. In making these selections, there have been included those considered the most favorable and also those considered the most unfavorable.

In general, references to reliability and cost of operation have been omitted. Most of the reports included a statement to the general effect that the machines had proved to be entirely reliable. In no report was there mention of mechanical or electrical difficulties or mention of the use of any repair parts. In no instance were the machines so installed as to allow data on power costs. These were generally estimated as low.

The following extracts relate to the vacuum type machines only and are considered representative of all reports received regarding this type.

"We have found it uniformly successful. We have ninety public animals and three private mounts. Our system is as follows:

"We have from eight to ten men available and we brush off all horses each day in about two hours. We groom about thirty-six animals with the machine. It is not used on the head or below the hocks and knees. We use two men on the machine, alternating on each horse. When our animals returned from pasture we used the machine about ten minutes per horse for the first few weeks until the coats were thoroughly cleaned. Now we average about five minutes per horse. Therefore in three hours, two men groom thirty-six horses. Their coats are thoroughly clean.

"We do not clip during the winter months. The dirt deep down in the coat is all removed by the machine. We get about three gallons of dirt a day out of thirty-six animals. We use it on all animals with no trouble. After it has been used once the animals stand very quietly.

"Disadvantages. Cannot be used below hocks and knees or on head. Cannot be used while coat is wet or covered with wet mud. Dependent upon electric current.

"Advantages. Coats are much cleaner than when hand groomed. More dirt can be removed in eight minutes with the machine than in forty minutes by hand. In running hand through coat no white streaks remain on coat. In man power it is about five times as fast. Two men are not absolutely necessary. We keep the machine stationary and bring the horses to the machine. To keep the machine continuously in action, two men are better.

"We have no data as to the cost of operation. We have had no upkeep expenses and the machine has been constantly in use. There is a "wet" attachment so that wet animals could be groomed but we did not purchase it.

"We could groom more animals each day, but with our hand grooming we keep the coats thoroughly clean. About every second or third day is as often as it should be used, due to the powerful suction removing the oil from the coat."

"During the year in which this machine has been in operation there have been an average of 50 horses at the Armory and because of the limited detachment, each man has had between seven and nine horses to look after. The best that we could do was to attempt to keep each horse clean and in this a vacuum cleaner was a great saver of time.

"It has been very successful in cleaning horses which have been clipped. After half a dozen cleanings the coat shows quite a gloss. On horses with heavy coats it was necessary to curry comb the horses before

using the cleaner. It took three days of curry comb and cleaner to begin to show any effect. On horses not clipped its use was entirely satisfactory, but it showed greatest results with clipped animals. It takes about one quarter the time to do a horse with the vacuum cleaner that it does with the curry comb and brush, and I believe this time saving is its greatest benefit. The hand grooming, if properly done, is superior to the use of the vacuum cleaner.

"There was very little objection on the part of any horse to the use of the machine. Even the nervous and headshy horses became accustomed to its use after the third or fourth time.

"Since the use of the vacuum cleaner was begun, our horses' coats have looked noticeably shiny, so much so as to attract the attention of one of our inspectors. The machine has considerable suction and is able to draw out the dust and dirt from the hair easily and quickly. I am strongly in favor of the use of the vacuum cleaner to supplement, but not replace, hand grooming."

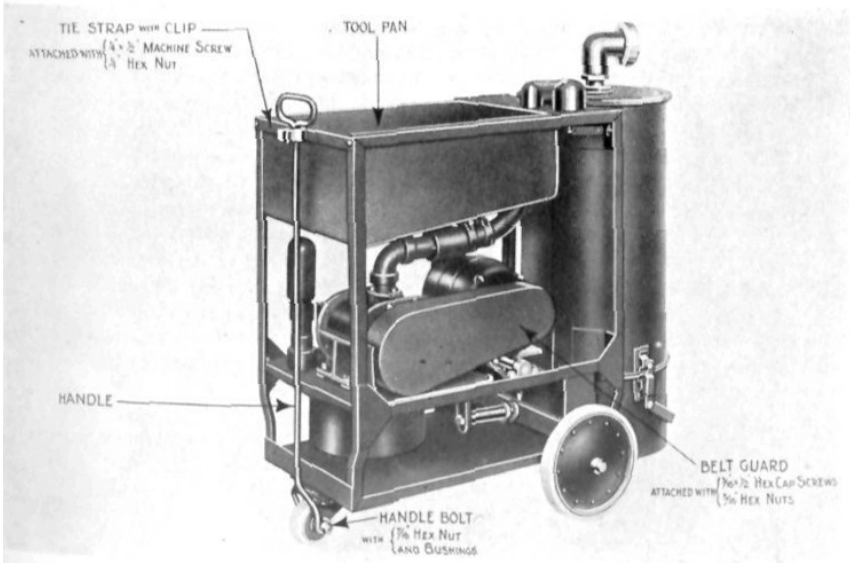
"We use it here exactly as it is contemplated in paragraph 30, T.R. 360–5. My stable sergeant keeps a roster of the battery animals and every day cuts out at least ten for machine grooming. In this way each horse is thoroughly 'cleaned' three times a month. When details are so large that it is necessary to have each man groom more than four horses at stables, we groom with the machines entirely. I have two of them and have one man go over the animal with the curry comb, brush the tail and clean the feet. Another keeps feeding animals thus prepared to the machines, where they are thoroughly brushed and finished off with the grooming cloth. In this 'production' grooming we turn them out at the rate of one horse every six minutes per machine, and with two machines can groom all the horses in about three and a half hours. Although my animals have been infested with lice to a degree all winter, but three of them have lost weight. I believe that the business of grooming them thoroughly is responsible for their condition. We finished clipping about two weeks ago and since that time I have found no lice.

"I feel sure the animals like the sensation of being cleaned. At first they are afraid of the motor. But just as soon as they feel it upon their necks, they quiet down, and after the third or fourth time take it as a matter of course. Many of the older horses visibly lean up against the brush and I know they enjoy it very much.

"Of course I have animals that will absolutely not stand for it at all. We do not take chances with them and they are never groomed with it. In the Battery I have six of these and two or three others that have to be coaxed. I have four mules and they are absolutely 'sold' on getting groomed with the machine. One of them has always been a trifle ticklish on the line and is very restless while being groomed by hand. Groomed with the machine he stands perfectly quiet and is groomed all over with it.

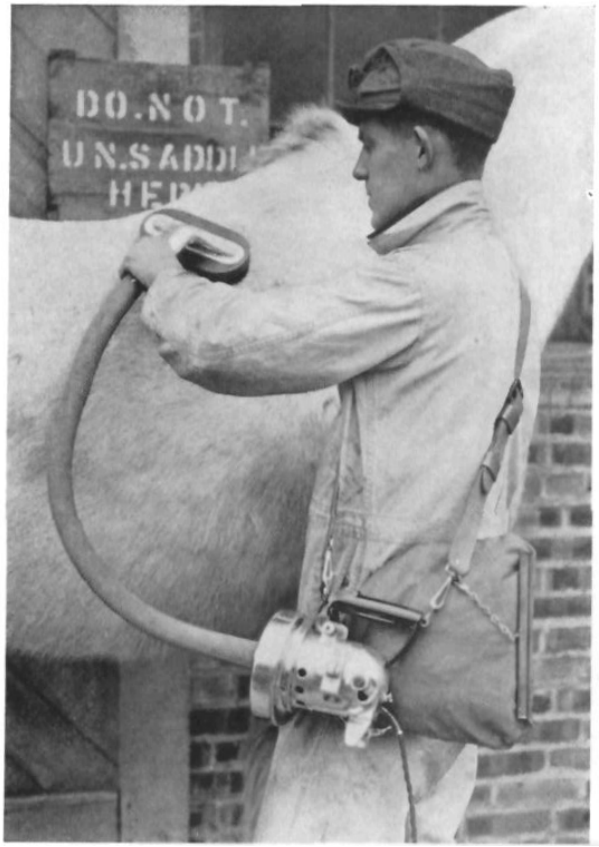
"Another significant fact presents itself that I believe worth mentioning: I previously had many desertions but have had none since

VACUUM GROOMER. HAND TRUCK TYPE



VACUUM GROOMER. HAND TRUCK TYPE. MECHANICAL DETAILS

VACUUM GROOMER. SHOULDER STRAP TYPE



VACUUM GROOMER. SHOULDER STRAP TYPE

adopting the machines. All grooming by hand is 'by detail' and 'stables' has become a formation once more rather than a thankless task of very hard work."

"During the first few days of use, some difficulty was encountered with a few horses which feared the machines. To prevent any possibility of halter breaking, two men were used on each machine for several days, one to hold the horse and one to operate the machine. Of one hundred and ten horses on which the machines have been regularly used, only four required a man to hold them at the end of two weeks of use. All others submit quietly to the use of the machine in the hands of one man, while standing tied to the heel post or picket line.

"With unclipped horses, best results are gotten by having one man go over the horse with a curry comb, followed by the machine. About three horses per hour are well groomed by this process, which means a total output of twenty minutes per horse per man. When using the machine on clipped horses, the use of the comb is not necessary. One man using the machine can give a fair grooming to six horses per hour, provided the horses are closely clipped.

"Three grooming machines were assigned to each of two stables with about sixty horses per stable. The horses in these stables usually go to two or more classes per day. It is necessary that all horses be groomed in a short period of time and three machines are not enough to groom or brush off the horses during the time available. The ideal situation would be to have one machine per groom, or about six or eight per stable. We have in the past used the system of assigning a group of horses, about seven or eight, to each groom and make him responsible for the grooming, watering, blanketing, saddling, cleaning stalls, etc., for his own horses. The horses under this system we have found get better care. Each groom should have a grooming machine as part of his equipment to carry out this scheme in good shape. We have found that the horses are more thoroughly cleaned with the machines and it is therefore preferable to use the machines on different horses each day, grooming each horse every third day.

"Grooming machines are unquestionably an advantage even in limited numbers."

"The machine requires two men to operate, one doing the grooming and the other assisting him by holding the animal, moving and guarding the machine, etc. (about the same as using a clipping machine). Three suction tools are available; the suction curry comb, the suction brush and a suction nozzle for laying the hair and dusting off (the equivalent of a grooming cloth). The process takes twenty minutes per animal. There is thus no saving in man time, as it takes a good groom to do a fair job in forty minutes.

"As to the quality of the work, it is very thorough. The hair is clean to the hide. In this it is more satisfactory than almost any amount of hand grooming. It, however, leaves the hair staring and without

gloss. Some work with a grooming cloth is necessary to lay the hair, and even then I am not sure that the shine is fully restored.

"The animals as far as I know show no change of condition. Some persons consulted felt that the more thorough grooming benefited the animal, others felt that it was not so satisfactory as the element of massage present in hand grooming was lacking. I think it is about a stand-off.

"On number of men, etc., required, no one has completely substituted vacuum for hand grooming. There seems some prejudice on the part of grooms. There is a remote possibility that they think it may some day get their jobs. All instructors talked with agreed that the present system was to get over each horse with the vacuum once a week, thus insuring that, at least once a week, the animal was thoroughly cleaned. The rest of the time, a rather inadequate hand grooming was given. You see the expense of the machines is such that most of the armories have installed only one. Allowing time for moving the animals, the machines, etc., about two horses an hour is good progress. About fifteen head are handled in a working day. With an allotment of some ninety head to an armory, you see where my figures come from that the horses get only about one vacuum grooming a week. As a rough general plan the machine might be allotted to about a section of animals (with two or three spare animals attached) on each successive day.

"As to objection on the part of the animals, all but the most phlegmatic object at first, all but the most nervous and thin-skinned become accustomed to it in the end. Nearly all do quite a little twitching of the hide while the brush tool is near sensitive parts. I think, however, that this is because the sensation is unaccustomed rather than irritating."

"Our problem is this. The stable must be cleaned, and the horses groomed, and everything made ready for the arrival of the first equitation class of the day, which reports at eight A.M. The nine men on duty at the stable report for work at seven A.M., and there are fifty-three horses to be cared for. Those horses which are to go out at eight are taken to the picket line, and groomed, except for those which are groomed inside by machine. So you see both hand and machine grooming are done initially. After the first class has gone out, the men are put to work completing the policing, and two men are put on the machines to continue grooming those horses due to be taken out at nine. With the few men we have, a twenty-minute grooming per horse is out of the question. There is enough time during the day for it, provided I could keep men in my detachment doing grooming and nothing else all day. There is always something in the way of fatigue coming up which makes it very desirable to complete the grooming in the morning. Not more than ten minutes per horse could be given with the hand grooming. We found that about seven minutes was enough with the machines to thoroughly clean a horse, which showed that the normal grooming time of twenty minutes could be more than cut in half. At first a few of the horses fought shy of the machines, but in a day or two every animal

we have stood quietly while being groomed. We use the metal attachment to remove caked mud, and the brush for the finishing touches. With our type of machine both those attachments are oblong with rounded corners.

"Absolute necessity has dictated our method of employment, and the demands on the detachment, which vary from day to day, and week to week, prevent us from laying out a type schedule of work for the average day. To sum up, the machines are used to supplement hand grooming, they do the work in half the time which is prescribed for hand grooming, and they afford a welcome relief from the drudgery of hand grooming. That last statement is really the important one for us, as it makes the men happy to have electricity take the place of elbow grease. My men are not lazy, nor are they indifferent, but they would have to be angels to do their work cheerfully if all they could look forward to during the day was wielding the horse brush and curry comb over one horse after another."

"Opinion seems to be that after horses have been clipped and the hair is very short, from six to eight horses can be groomed an hour, but by the time the feet are picked out and nostrils washed out and other details attended to, only about four horses could be completely groomed within that time. When the hair is long and damp with perspiration, there is no saving in time at all, and it is very difficult to use on horses with extremely heavy and long hair or when it is matted.

"Under favorable conditions, the action of the vacuum machine certainly takes out all the dirt and dead skin, etc., found within the horses' hair. It may be stated in another way that when the machine can be used, it seems to bring out more dust and dirt than can be obtained by the usual grooming.

"The operator likewise has to learn how to use the machine to get the most use out of it, and at the same time not make the horse object. It seems that by the time we have an operator well trained for the machine, something happens to him and we have to start over again training a new operator and accustoming the horses to the machine again.

"I would say as a final statement on the use of the machine here, that they have not proved in the limited use we have made of them, that the purchase by other institutions would be a distinct advantage."

"My organization used the electrical groomer about two years. It has proved very valuable in particular cases. For example, cleaning up horses after they have been out to pasture for a period of time; preparing horses for horse shows or for use when the organization is under strength. In general, I would not advise the use of the groomer as a daily proposition because experience has shown that in some cases, constant grooming with the electrical groomer causes an irritation of the skin. From the time viewpoint, the electrical groomer takes about ten minutes to groom a horse which time should be added to the time it takes to clean out horses' feet, eyes, nostrils, etc. While I think it will

never replace hand grooming, it is a valuable adjunct to any organization and has a valuable use in supplementing the hand grooming."

"There has been no attempt to keep data on the saving in man hours, but from all I can learn there is no appreciable saving in this respect, but the machines are considered great labor-saving devices.

"Each horse is groomed on an average of three times a week with the machine and at other times is groomed by hand.

"Quality of the work performed and the improvement in the appearance of the horses is far superior to that obtained by hand grooming. The horses are much cleaner, as all of the dust is drawn from the horse, while when the grooming is done by hand a large amount of dust settles back on the horse.

"Two men work on each horse, one man brushing off the head and legs while the other man uses the grooming machine on the body of the horse.

"Three to five horses are groomed in this manner per hour.

"The horses do not object to the machine after the first two or three groomings, but on the contrary seem to like the feeling and stand very quietly."

"Two men are used to groom a horse with this machine (one can do it), they can groom one floor of the stables, that is forty-three horses, in about two hours and a half. It takes the other three men of the stable force about six hours to groom the other forty-three horses on the other floor. The machine is alternated every other day between the two floors. The vacuum cleaner extracts about a half pint of dust and scurf from an average animal. The curry comb works very well. The brush does not function quite so satisfactorily, as air is admitted through the bristles. It requires about as much, or possibly more, energy on the part of the groomer to properly and thoroughly groom a horse with this machine than it does with the grooming kit.

"It is undoubtedly a great time-saver in such situations as confront the National Guard where men are habitually grooming from eight to fourteen animals daily. The machine has been in operation about four weeks."

"Our machine has proven satisfactory in every respect. However, one machine in an organization carrying ninety horses, is, of course, not enough. There should be at least one machine for every ten horses.

"With the machine, one horse can be thoroughly groomed in about ten minutes, but the animal should be gone over beforehand with a curry comb to loosen up the dirt that may be lodged against the skin. The legs and head, too, usually need to be finished by hand. Horses, after the first application of the machine, do not, as a rule, fear it. Two

men should be used on a machine, although one can operate it, two can do better."

"In the first place I believe there can be no question as to the superiority of the work done by the machine, as compared with hand grooming.

"With the grooming machine, twelve to fifteen minutes' use of the curry comb and vacuum brush will thoroughly remove all the dirt so that neither the skin nor the hair shows the presence of any at all. In less time, say ten minutes with the vacuum cleaner, the animal's coat will be ordinarily clean, much cleaner than at the end of twenty minutes of ordinary hand work. In fact, I believe the machine at the end of ten minutes will leave a cleaner coat than thirty minutes of hand grooming.

"We have forty mules and four horses with only one machine, and with a work schedule to maintain, it has been impracticable to use the machine oftener than once in five days or a week per animal. They have never become, especially the mules, sufficiently accustomed to the sound and appearance of the machine and its hose attachment to be quiet enough to permit the groomer to proceed rapidly without the assistance of a man to gentle the animal. However, with a man at the animal's head patting and reassuring him, we have had no material difficulty with any animal in the Train. We can reduce it to a statement that two men machine grooming can do in ten minutes what one man hand grooming would do in thirty minutes with the machine still somewhat ahead in the matter of quality of work.

"If sufficient machines can be had or conditions otherwise arranged to groom by machine oftener, say daily or three times a week, I believe that all but a few animals in an organization will become accustomed to the machine so that one man can effectively groom with the cleaner. As to a practical routine I do not see how it is possible to eliminate hand grooming by use of the machine unless there were a large number of machines, one for every eight or ten animals.

"However, a great deal of the virtue of grooming lies in the massage effect. So that, aside from mere cleaning, the longer time required to get results from hand grooming gives better final results in the animal's condition. Again, however, there is less tendency to dig the animal's skin with the curry comb if the machine is used. In fact, I have seen an animal muddy from rolling in the corral thoroughly and expeditiously cleaned with the machine without the use of the comb at all, using the vacuum brush by strokes back and forth with and against the hair. It is interesting in such a case to see the stream of dust and dirt that pours from the exhaust pipe when the collecting bag is removed.

"Summing up, I would say that as we are working it here in the Train,—that is, hand grooming for convenience and due to necessity because of work schedules, with use of the machine about once a week per animal,—we are getting highly satisfactory results, all our animals being in excellent shape, and according to the veterinary officers somewhat better than other animals of the Post, and that the possession of

one vacuum machine per fifty animals is an excellent thing in an organization and to be recommended."

Of the nineteen Field Artillery R.O.T.C. units having horses, eight are known to be now using grooming machines. Of these, six units are using the vacuum type, one the rotary brush type and one both vacuum and rotary brush type. Summarizing the brief comment made in the annual inspection reports, seven vary from "Could not get along without them" to "They are a great help." The remaining unit, which obtained grooming machines since the last annual report, stated that certain advantages as to thoroughness of cleaning are conceded but that the machines, in the limited use given them, had not proved that the purchase of machines by other institutions would be a distinct advantage. (Quotation on page xxxvii.)

Considering the two organizations which, after more or less use, have discarded the grooming machines, their reports are summarized below.

"After a few days' test, their use was discontinued for the following reasons: first, the detachment preferred to hand groom rather than fuss with the animals in accustoming them to the noise of the motor; second, they considered it desirable to use two men in grooming, whereas, to show economy, one man must be used; the machine could not be used about the head; it did not do the job as it should be done and is done by hand."

"Had one machine on trial about two years ago. It was out of order in about two months. Did not regard the machine as worth while as there was no saving in time and on most horses two men were required. Would remove dust and loose dirt very well but failed to remove the sticky mud of this locality."

Considerable search resulted in locating only two organizations in the service using the rotary brush type of grooming machine. None were found in the service that had tried this type and discarded it. One organization is equipped with both rotary and vacuum type groomers, the other with the rotary brush only. The former reports as follows:

"We have both the rotary brush and the vacuum cleaner. The latter has a standard nozzle and a removable nozzle-plate. Taking this off you have a roughened end which gives the effect of a curry comb.

"We get a new brush about every three months and a new tubing for the shaft once a year. Both machines are entirely satisfactory and reliable.

"Both machines do work almost impossible to duplicate by hand. You can take a beautifully groomed, shiny horse and the vacuum cleaner will get a campaign hat full of dust out of his coat and every stroke of the rotary brush makes a shiny path along him.

"These machines do more than groom. They give a rather stimulating massage and bring out the oil on the horse's coat, so improvement is immediately evident. For the same reason, you can't use them too much. I mean, to give a horse a ten-minute grooming every day with the brush would be decidedly overdoing it. You can use the vacuum-cleaner all you want.

"One man can groom ten horses an hour, using only the brush. He can groom six horses an hour if he uses the vacuum cleaner and then the brush.

"During the school year we have at least two two-hour mounted classes every day, except Wednesday and Sunday. We make each section when it comes in, groom for about ten minutes. Any horses that don't go out are groomed by one man with the machines. On Wednesday and Sunday two men are detailed to groom all the horses. We have sixty and they all get a good going over with both machines. This takes most of the day.

"It only takes one lesson to accustom horses to the machines. The movement of the flexible tube seems to be all they are nervous about. We have had no trouble from this source—in fact, the horses seem to like it. However, I repeat again, you can only give the horse a thorough going over about twice a week.

"The motor and the whole layout, including brass-polishing wheel, leather-polishing wheel and tumbling barrel, cost us about three hundred dollars by the time everything was working well.

"The rotary brush, being about eight inches long and six in diameter, has, when in motion, much more effect than our small brush operated by hand can ever have. Two minutes with the rotary brush is more than equivalent to the hardest twenty-minute grooming you can give by hand. For this reason I am inclined to think the machines should be classed only as auxiliaries to ordinary grooming. With small detachments they are a wonderful help when used as we use them here, but to figure that two or three men could take care of sixty horses, using the machines alone, is a mistake. They stimulate the skin and coat too much if used every day.

"The above applies only to the brush. The vacuum cleaner can be used freely any time.

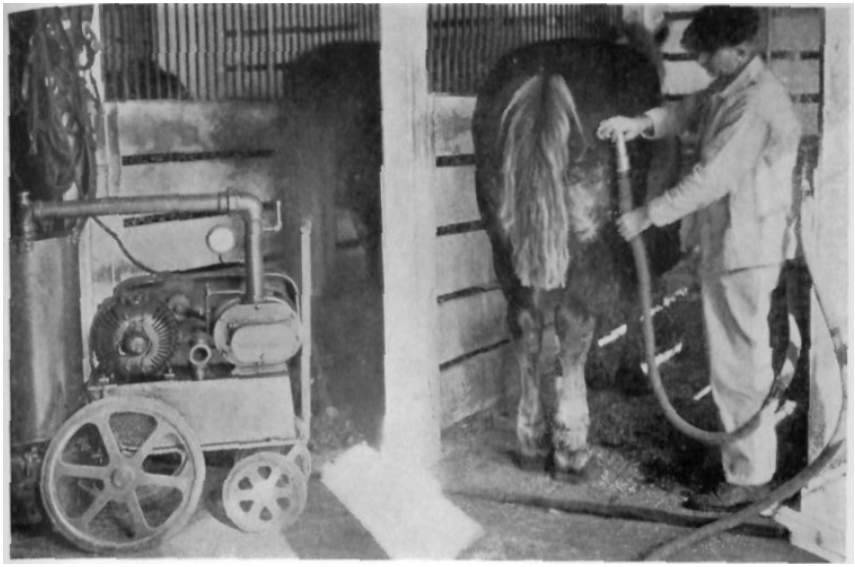
"The only drawback to the rotary brush is that whenever you install one you will have to get the right speed by experiment and change. This takes some time and effort and in my belief is what has discouraged most outfits who have tried them."

The report from the organization equipped with the rotary type only, makes no mention of hand grooming but it is believed that here also the hand and machine grooming supplement each other.

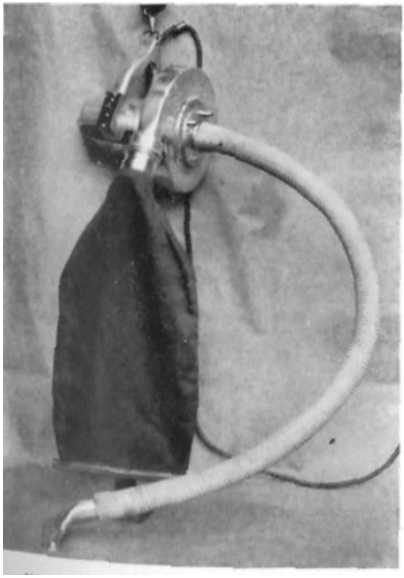
"The quality of work is excellent. With typical, clipped horses from the stable or corral, not crusted with mud, two men handle the horses at the rate of eight to ten per hour.

"Green horses, or those especially dirty or with very long hair, slow up the work. The stock is clipped twice yearly. Remounts usually object to the machine for only the first four or five applications.

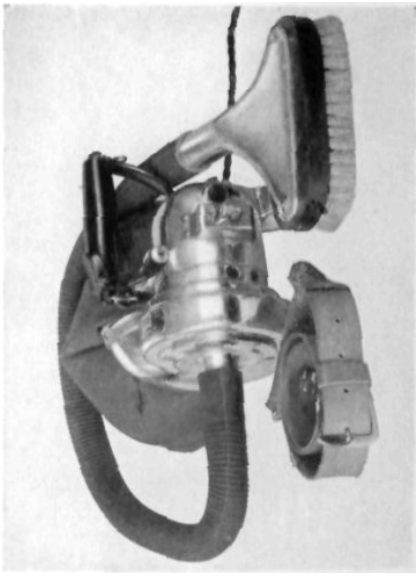
"A one and a half horse-power direct current motor, 1700 R.P.M., is used. The speed of the machines is reduced to 1200 R.P.M. through pulleys. The brush is 5½ inches long and 5 inches in diameter. The replacements required per year are two knuckles and three brushes."



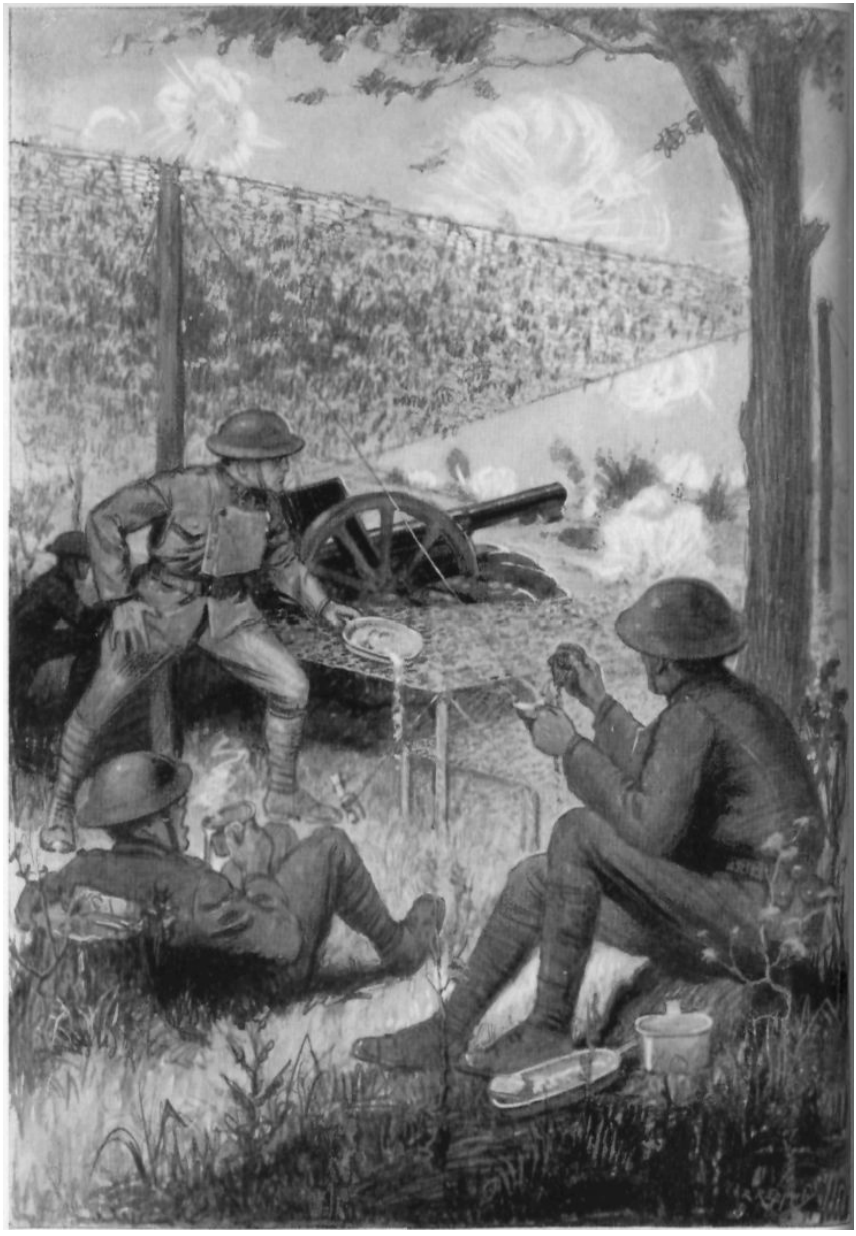
VACUUM GROOMER. HAND TRUCK TYPE



VACUUM GROOMER. SHOULDER STRAP TYPE



VACUUM GROOMER. SHOULDER STRAP TYPE



KALEIDOSCOPICS

PEN PICTURES OF THE FIELD ARTILLERY IN FRANCE

BY BURTON HARRINGTON

THIS is the first of a series of Kaleidoscopics. The purpose of the author, who served in the Field Artillery during the World War, is to make a contribution to Field Artillery literature in the form of short word pictures. These are written around the activities of a battery which was in action for 210 days officially, between the dates of February 3 and November 11, 1918. —EDITOR.

A PASTORAL. It is early May, the days are warming and scarlet poppies are building an intricate pattern in the unmown fields.

Dark against the morning sun Mount Sec broods silently, menacing fair fields which slope gently from the Beaumont ridge, fields which but partially conceal the fresh scars of stained brown earth.

Under the dappling shade of broad spreading camouflage, gun crews busy themselves polishing bright the tired breech block of Soizante Quinze, or scraping the last vestige of corn mush and karo from battered mess kits, smoked and dented from scores of personally conducted culinary efforts, or industriously trying to confine powdery "Bull" in obstinate paper, or luxuriously dozing in the warmth of the rising sun.

The day advances. A minor harmony of humming insects busy with the day's tasks, of high riding "Rumplers" and of none too distant conversations blend, breeding lazy dreams of other days.

Ants, imperturbable, are scurrying to and fro engaged in the vast engineering project involved in the reconstruction of age-long works suddenly destroyed by the meteoric arrival of a shell splinter. No doubt angrily fussing about the idiotic activities of the Big People who for ages of thundering and rumbling have been destroying the engineering masterpieces of an ant's lifetime.

The occasional lazy arrival of a protesting shell punctuates the languorous quiet as it annoys the crossroads at Bernicourt.

The day wears on. "Les sauscisses" in sharp relief against a deepening blue sky look, staringly, at every little man and makes his innocent activities thumpingly self-conscious.

The dry cough of a far-off piece, a shrilling wail which terminates too quickly. A sharp crash mingles with the spreading, mushrooming smoke which wreaths a new rent in the surface of the field while "butterflies," shrieking insanely, rush past to bury themselves into whatever obstructs their involuntary paths.

Cannoneers follow their several temperaments. Some scramble wildly for dugouts across the road. Others hesitate as if to test out the intentions of an unseen "offizier" lest they later curse themselves for permitting a casual arrival to interrupt their trivial enough activities which assume importance only with a threat of interference from unwelcome sources.

And while they wait a brief preliminary warning from the throaty coughing of many guns behind some hill.

The sense of time, space and hearing is lost in a complex roar as a pitilessly rent air moans and hisses out its vain protest, partially silenced by crashing and thrashing of exploding shells. The shrinking cannoneers gaze, unthinking and transfixed to strained poses, at the erupting, leaping swirl around them.

Other lesser noises gradually penetrate. A swelling crescendo in rhythmic roll wells up from behind as the storm subsides in front. The sun is setting redly. The ants, affrighted, have crept from sight. And gradually the throbbing fields settle down for rest, starting up momentarily as the occasional shell resumes its grumbling search for the crossroads at Bernicourt through which swaying trucks and rattling wagons are rushed fearfully for the front.

A quiet day on a quiet front.

SIX MONTHS WITH A JAPANESE ARTILLERY REGIMENT

BY MAJOR WILLIAM C. CRANE, JR., F.A.

(Continued from last issue)

IN THE 16th Division area, whose headquarters was in the suburbs of Kyoto, there were four regimental recruiting district headquarters; two infantry brigades of two regiments each; one cavalry regiment of two troops; one field artillery regiment of three battalions; one engineer battalion of three companies; one transport battalion of two companies; one air service regiment of three squadrons; one detachment of military police; one battalion of coast artillery of two batteries; and one division hospital. All of the above organizations except the air service regiment and the coast artillery battalion are in the typical Japanese division.

Division headquarters was divided into seven sections as follows:

1. General staff.
2. Administrative staff.
3. Ordnance.
4. Quartermaster and finance.
5. Medical.
6. Veterinary.
7. Law.

The 22nd Field Artillery consisted of regimental headquarters and three battalions of three batteries each. Only two batteries per battalion were actually organized, but a number was left vacant in each battalion for the third battery which would be organized in time of war. Batteries 1, 2, 4, 5, 7, and 8 were active, while batteries 3, 6, and 9 were inactive.

The headquarters of the regiment was in effect subdivided in much the same manner as that of the division, although sections corresponding to those in division headquarters were not actually organized. In place of sections there were various boards headed by appropriate officers, either line or staff, attached to regimental headquarters. The principal boards of officers were the intendance and ordnance boards. There were in addition minor boards for the superdivision of such activities as the officers' mess, the warrant and noncommissioned officers' mess, and the canteen. The regimental commander delegated authority freely to the boards and concerned himself principally with training and periodical inspections of other activities.

The officers attached to regimental headquarters consisted of one

colonel in command, one lieutenant-colonel, two majors, four captains, and one first lieutenant of field artillery; three intendance officers (captain and lower); three medical officers (major and lower); and three veterinarians (captain and lower). The foregoing personnel varied slightly from time to time, but the numbers given represent those of the various grades and branches usually present. The warrant and noncommissioned officers on duty at regimental headquarters totalled about nineteen. The various boards of officers and administrative offices had certain noncommissioned officers and men detailed by roster from the batteries for their use as orderlies, etc. These men totalled thirty-four privates and eight noncommissioned officers, who, together with the above-indicated attached personnel, represent the general administrative and supply force for the regiment in garrison. In other words, a total of eighteen officers, twenty-seven warrant-officers and noncommissioned officers, and thirty-four privates were employed exclusively in regimental administration, supply, repair of equipment, and medical and veterinary service.

The size of the force employed in office work throughout the regiment is due to several causes, the most important of which is the Japanese language itself; and the second in importance is the great number of records, programs, and schedules with which all offices are burdened. The disadvantage of the Japanese language is briefly that the large number of ideographs required in writing the language makes a high-speed typewriter impossible with the result that practically all writing must be done by hand. At regimental headquarters thirty-eight written records are required to be kept up to date, and the annual regimental training order alone contains some twenty tables. This burden is carried on down through the battalion and battery which have respectively twenty-seven and forty-three written records and seven and thirty tables in their annual training orders.

The system of supply of food, forage, clothing and animals is quite different from that followed in our service. The regiment receives rations of rice and barley (1.3 pints of rice, .58 pints of barley) from the division and in addition a ration allowance which in Japan proper varies with the station from about 9½ cents to 10½ cents, and is about 13 cents in Formosa, Korea and China. A cash credit is received for returned rice and barley which goes into a regimental ration fund and is then available for the purchase of other kinds of food. During maneuvers and marches an additional ration allowance of 2 cents is received.

The two days' iron ration carried by individuals consists of two components and a supplementary ration as follows:

"A" component .....2 pints, or about 2 pounds of rice
"B" component .....1½ pounds hard bread
Supplementary ration .....⅓ pound canned roast beef

The regular field ration consists of 1.4 pints of rice, 6 pints of barley, 5.2 ounces of canned beef, condiments and some green vegetables and pickles.

The forage and bedding allowances for artillery horses in garrison are 10.7 pounds of barley, 8¼ pounds of hay, and 8¼ pounds of rice straw. During marches and maneuvers in peace-time, an additional 3 pounds of barley is allowed. About a peck of barley is the war ration. When practicable, forage is issued in kind to the regiment by the division just as are the rice and barley components of the men's ration. And similarly, forage savings are placed in a regimental fund which is available for the purchase of carrots, grass, etc.

The method of clothing supply differs from the foregoing in that, in peace-time at any rate, it is on a strictly money basis. The regiment receives a yearly allowance of about $18 per man for the purchase of new clothing and about $2.30 per man for the repair of clothing. Uniforms, caps, boots and shoes are manufactured at government clothing factories and sold to regiments. Woolen uniforms cost about $6.50 and are supposed to last three years; shoes cost about $3 and are supposed to last about 9 months; riding boots cost about $4 and have a longer life than shoes. Clothing and footwear which the regimental commander decides are unserviceable are sold at auction and the proceeds, together with savings from the clothing allowance, are placed in a regimental clothing fund and may be used for the purpose of special articles, such as barrack slippers, etc.

Unserviceable equipment is replaced through the division ordnance officer.

Regiments receive a number of remounts each year, depending on the number available for issue from the remount depots. When the number of horses to be received is learned an equal number of undesirable horses is selected for disposition either by transfer to organizations where they can be of service; by allotment to recognized riding clubs; or by auction. As the remounts received are in excess of the number of really unserviceable animals in organizations, there is a steady flow of useful horses from the army to civilian use. The one horse auction witnessed by me was unique in that the average price to be received for horses had been fixed by the division veterinarian, and based on this price the amount to be received for each horse had been decided be forehand by the officer conducting the auction. The result was that a horse went to the bidder who guessed the price fixed, and not necessarily to the

highest bidder. A record is kept of serviceable horses which leave the army as well as of other privately owned animals which would be requisitioned on mobilization.

Since battalion commanders had only the administrative work connected with the training and command of their organizations their headquarter's personnel consisted of but one adjutant (either a captain or a lieutenant) and one sergeant.

Batteries averaged about as follows:

1	captain	3	corporals
4	lieutenants	7	lance corporals
2	warrant officers	15	superior privates
2	sergeant majors	40	1st class privates
5	sergeants	68	2nd class privates

Total—

5	commissioned officers	17	noncommissioned officers
2	warrant officers	123	privates

Before proceeding it should be explained that the exact details of organization tables are confidential and the figures given are from manning tables, but probably differ little from the prescribed numbers given in organization tables. Also, the lack of complete uniformity throughout the regiment in the numbers in various noncommissioned grades is explained by the fact that every effort is made to promote men in their original batteries, so that a battery which has had popular battery commanders invariably has more noncommissioned officers, especially in the lower grades, than a less fortunate battery. A noncommissioned officer is transferred to another battery only under very exceptional circumstances.

Regimental, battalion and battery details are not permanently organized and trained as units, but are extemporized when the occasion demands from specially trained battery personnel supplemented by clerks from the headquarters to which they are attached.

Repair work of all kinds, horseshoeing and cooking were done in the regimental shops and kitchen. Men from each battery were detailed for this work as follows:

	Horseshoers	Shoemakers	Tailors	Gun Mechanics
Privates	3	3	3	3

Cooks	Medical Attendants
3	3

All training in the Japanese Army is in accordance with the more or less detailed instructions contained in the "Training Order for the Army." This order divides training into four classes and

specifies the ground to be covered by each. As applied to the field artillery the classes are as follows:

"General Training," which includes all instruction of individuals as cannoneers and drivers, garrison and field training of organizations, combined exercises with other arms, and service practice.

"Specialists' Training," which includes the instruction in their specialties of horseshoers, horse trainers, buglers, stretcher-bearers, and members of communication and reconnaissance squads of the various details.

"Special Training," which includes the particular instruction to fit them for higher grades of candidate officers, noncommissioned officers, and superior privates; one-year volunteers; noncommissioned officers; and officers.

"Training in Duties," which is given reserve officers and men when they return for their periodical refresher service with the colors.

The culmination of the training year is the fall maneuver.

GENERAL TRAINING

At about nine in the morning, on the 10th of January, those men who had been designated to take the regular conscript training reported for duty. At Kyoto all recruits for the various units were assembled on the division drill ground, checked by the regimental district commander whose headquarters was at Kyoto, and turned over by him to representatives of the various organizations who conducted their groups to barracks. Japan is a country of various and mixed costumes and every imaginable one was represented among the clothing of recruits as they reported. Pure Japanese formal dress with kimono, shirt-like hakama, haori resembling overcoats, white tabi (socks with division between the big and first toes), geta (wooden clogs), and derby hats mixed with pure European dress, while here and there were combinations of Japanese and European costumes with a sprinkling of reservists' cotton uniforms. Many recruits were accompanied by members of their families, friends and representatives of local young men's and reservists' associations to whom were to be intrusted the recruits' clothing as soon as the men received their army outfits.

For weeks previous preparations had been made for the reception of the new men. Battery commanders had received the names of recruits assigned to their batteries and for each of them there was a record sent in by the local mayor showing the man's social status, occupation, education, and police record, if any. The results of the physical examination made the previous summer were also available so a very complete estimate of individuals was possible, and

based on this, men were assigned to squads, and their equipment and clothing were made ready for them well before their arrival.

As soon as the regiment's recruits were assembled on the parade in front of the barracks, medical officers, addressing small groups, questioned the men to locate those who had been exposed to contagious diseases. All such men were collected and marched immediately to the dispensary for a thorough examination. The other men were assigned to and received by batteries, and marched to barracks to be put into their uniforms. Physical examination of all recruits followed that of those men previously isolated.

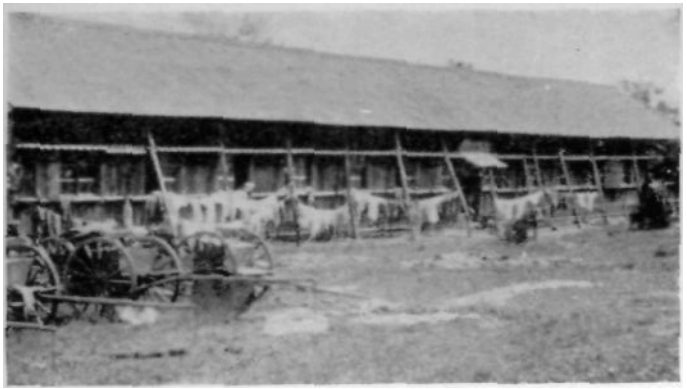
In the meantime parents and friends had not been forgotten, but were made to feel at home by an inexhaustible supply of tea provided at rest places here and there throughout the regimental area. In the middle of the morning the visitors were assembled in a vacant gun shed and the regimental commander gave them a short talk in which he thanked them for coming and asked their help in accustoming the recruits to the restrictions of unfamiliar military life. He asked that money and food be not sent and cited instances of the terrible effects of the nonobservance of this regulation. He then went on to enlarge on the benefits of military service to the nation and the individual, and promised the very best care and wholesome, hardening training for the recruits. Following this, battalion commanders gave short talks along similar lines to the relatives and friends of men in their battalions.

Throughout the morning there was free access to barracks for those who accompanied recruits and following the talks by the colonel and battalion commanders they began to leave, carrying with them the civilian clothes of the men they had escorted, who by this time were all in uniform.

Three short ceremonies completed the entry into service and enrollment of the recruits. First, battery commanders assembled their new men, read and explained the oath of allegiance and witnessed the signatures of the men. Having taken the oath, the recruits were marched to the officers' club, where photographs of the Emperor, Empress and Prince Regent were hung in the special place provided and the men were allowed to view the portraits and bow before them. The ceremonies ended when the colonel read and explained the Imperial Edict to the assembled regiment with the new men in the front rank.

Annual experience in receiving conscripts has produced a system that runs quietly, smoothly and efficiently and which is a fine illustration of Japanese genius for detailed plans.

The sudden transition from civil to military life was made as painless as possible, and the recruit drill which began immediately was also calculated to start mildly and gradually increase in severity



BARRACKS AND GUN PARK AT THE TARGET RANGE

RUNNING THE GUNS UP BY HAND

THE BREAST REEL USED EXCLUSIVELY FOR LAYING AND TAKING UP HEAVY WIRE

A DISPLACEMENT FORWARD

A COMBINATION OBSERVATION AND COMMAND POST

A POSITION DURING SERVICE PRACTICE

FIELD OFFICERS OF THE REGIMENT

A CRITIQUE

as the men hardened physically and became more and more used to the routine of barrack life. As the training of second-year men continued without interruption special instructors were detailed with the recruits and devoted all of their time from reveille to taps to drilling and teaching their men everything down to and including sewing and bathing.

The training year, December 1st to November 30th, is divided into three periods in the field artillery. The first period, from December 1st to May 31st, is primarily devoted to battery instruction, including foot drill, calesthenics, section drill mounted and dismounted, battery drill mounted and dismounted, duties in the field, equitation and field engineering. The work in the second training period, from June 1st to July 31st, is a repetition and continuation of that in the first period and in addition includes battalion training. The last period, ending November 30th, is naturally the most interesting and strenuous of all with regimental training, service practice and the autumn maneuvers.

From January 10th until the middle of February all recruits receive exactly the same instruction which includes foot drill with emphasis on the position of the soldier, and the Japanese version of the "goose step"; and duties of the various cannoneers. Depending on the ability shown by men as cannoneers in this elementary instruction, they are divided into cannoneer and driver squads of equal size, and for the remainder of their service are trained particularly in the duties of the squad to which assigned, with but elementary instruction in other duties. Drivers, for example, are supposed to be proficient as cannoneers for any post except that of gunner; and cannoneers are supposed to be qualified swing drivers by the end of July in their second year.

There are two Japanese customs which militate against recruits when they first join. The first of these is the wearing of sandals instead of shoes; and the second is squatting, seated on crossed feet on the floor. Consequently men have to be taught to wear shoes and their feet must be hardened to the new constraint and friction; and they must have special instruction in marching to overcome their usual bent knee, sliding walk and turned-in toes. Some men never become really used to shoes and it is a common sight on a long march to see shoes strapped to knapsacks of men trudging along in straw sandals. The "goose step," originally learned from German drill masters, may have been retained on account of its value as a precise marching exercise and knee straightener.

Throughout the conscript's service a great amount of time and care is devoted to his individual instruction, and comparatively little to drilling him as a member of a battery or larger team. For example, in one battery hours were divided approximately as follows:

First-year Men

Cannoneers:		
Service of the piece	193	hours
Combined section drill	26	hours
Firing battery	37	hours
Combined battery drill	60	hours
Drivers:		
Section driving	110	hours
Combined section drill	26	hours
Battery mounted	10	hours
Combined battery drill	60	hours

Second-year Men

Cannoneers:		
Service of the piece	46	hours
Combined section drill	12	hours
Firing battery	12	hours
Combined battery drill	72	hours
Drivers:		
Section driving	10	hours
Combined section drill	12	hours
Battery mounted	9	hours
Combined battery drill	72	hours

The above does not give an exact picture of the relative attention paid to individual and combined unit training. Service practice and autumn maneuvers lasting twenty-three and fifteen days, respectively, and a week's field training are not included under combined battery drill; but on the other hand, the over-abundance of drivers and cannoneers for the organization in use and the horses and matériel available does not allow all men active parts as members of the team on the indicated occasions of combined drills. Therefore the figures given approximately indicate the proportion of time devoted to individual instruction.

For the system of training in use, batteries are remarkably well supplied with matériel. Each battery has two sets of guns (one set of four guns is carefully reserved for war use, but is nevertheless available for standing gun drill), six caissons, fifteen limbers, one battery wagon, four dummy sight shanks with tops corresponding to the rotating heads of panoramic sights complete with deflection graduations and micrometer attachments: extra hand fuse setters (the only kind in use), numerous dummy shrapnel, a dummy gun for loading drill, and relics of the Chinese-Japanese and Russo-Japanese wars for driving drills. Seventy-seven draft horses, ten riding horses and corresponding amounts of harness and saddle equipment provide for mounted instruction.

Other branches of the service are called on freely for assistance in training as illustrated by the following incident:

Colonel Fujino was not satisfied with the military appearance and dismounted drill of his regiment so in December, when there was little going on except preparations for the incoming conscript class, he arranged with the colonel of the infantry regiment nearby to send a specially qualified officer to instruct the officers and noncommissioned officers of the regiment in foot drill. Most of two days was spent by this officer in teaching his class the methods employed in the infantry to obtain military carriage and precise marching. The officers and warrant officers observed while the noncommissioned officers drilled under the borrowed instructor, working up gradually from individual instruction in the position of the soldier, facings, salutes, etc., to battery foot drill.

In addition to the above-noted drills there are other practical exercises such as equitation, calesthenics, foot drill and field engineering which bring the total hours devoted to practical "general training" to about 900 hours for first-year men and 400 hours for second-year men. The remainder of "general training" consists principally of lectures on such subjects as Imperial Rescripts, military courtesy, rank and insignia, characteristics of the various branches of the service, organization, decorations, guard duty, duties and privileges of ex-soldiers, and instruction in the care and use of arms, the care and feeding of horses, and first aid. The total hours given such theoretical training is about 75 hours for both first- and second-year men, making a grand total of about 975 hours of general training for first-year men and 475 hours for second-year men. It should be noted that the above is all battery training and does not include that given by the battalion and regiment.

There is certain training directed by battalion commanders which should properly be included under battery training, *i.e.,* (*a*) a three days' march under service conditions of a composite battery of second-year men, (*b*) two days of exercises with a war strength battery from each battalion, (*c*) three days of exercises with a firing battery and battery detail from each battalion.

Strictly, battalion training is limited to eight days (one per month, from March to October, inclusive). The first four days' exercises are considered preliminary training and consist of instruction and practice in communication within the battalion, reconnaissance and occupation of position in a meeting engagement, and the attack. The remaining four days' training is devoted to instruction in the functioning of an independent battalion in the defense; of an independent battalion with one battery in the advance guard in a meeting engagement; and of the battalion as part of the regiment

in an attack. The four preliminary training exercises last a half day each, while the other four are whole day problems.

The regiment functions as a unit in the field a maximum of about six days a year. In 1925 the 22nd Field Artillery had one regimental problem including firing during service practice, and two days' experience as a regiment during the fall maneuvers. For 1926, however, two additional days of regimental training are prescribed.

Service practice and the fall maneuvers complete "general training" in the field artillery.

Service practice, including two two-day marches to and from the range, lasted twenty-three days. The range used by the 22nd Field Artillery was located near the north end of Lake Biwa and west of the small town of Imazu. Barracks, said to have been made from lumber used in hospitals during the Russo-Japanese War, and ample stable room for the regiment made living conditions more like those of garrison than of field training. The barracks were long, narrow, frame buildings with dirt floors. Along both sides of a longitudinal aisle were continuous, slightly upward sloping wooden shelves upon which the men placed their bedding. Equipment was arranged on shelves along the walls and fastened to the uprights down the center of the aisle. The stables were also frame buildings with dirt floors and were conveniently near the barracks. Guns were parked in the open. As usual the indispensable common bath was in the same building with the general kitchen.

The firing range, which adjoined the cantonment, was long and narrow with hills on all four sides, but it was so broken up by deep ravines at the east and west ends and so closely surrounded by villages and farms on the north, east and south that the battery positions and targets were practically confined to a roughly rectangular strip about 4000 by 2000 yards with the direction of fire limited to that of the longer dimension. The terrain within the above rectangle was in general a slightly wooded, gently sloping valley indented by ravines on the east and south and bordered closely by steep hills on the north and west.

Firing was divided into three classes: preliminary firing for candidate officers, selected warrant officers and lieutenants; battery battle firing for first lieutenants and captains; and battalion battle firing. Problems under all of the foregoing classifications consisted of a tactical situation which required the reconnaissance and occupation of position and firing which varied in amount with the ammunition allotted for the instruction of the officer concerned.

The usual procedure during preliminary and battery battle firing was as follows: The officer directing the practice (the battalion commander or specially detailed officer) acting as a detachment

commander would explain the situation and issue his orders to the battery commander detailed to conduct the fire. Having heard the situation through, the battery commander would repeat verbatim the situation and orders and proceed to solve the problem. The battery positions habitually used were well known to all, so reconnaissance took but a few minutes and then the battery commander, leaving his reconnaissance officer and detail to establish the combination observation and command post and to prepare the data, would ride back to meet his battery and conduct it to the position selected. Gun markers were not used. Having occupied the position, the battery commander would lay one piece on a terrain feature within his sector and have the other pieces laid parallel by reciprocal laying. This method of giving the guns their initial direction was habitual and was possible thanks to slightly defiladed positions and more or less distant hills. The observation post was rarely more than three hundred yards from, and frequently within a hundred yards of the guns. Telephone communication was usually established but the principal means of communicating firing data was a chain of men who relayed the commands verbally.

During the absence of the battery commander the officer directing the practice would sometimes attempt to make the problem realistic by indicating to the reconnaissance officer the movements of enemy and friendly troops and would continue this and finally designate particular targets to the battery commander upon his return. It was very exceptional for officers to be interrupted until either the problem was completed in the opinion of the officer directing the practice, or the allotted ammunition was expended. When the problem was declared at an end, all officers present, both those taking part in the firing and observers, assembled at the observation post for the critique. During the early preliminary firing it was also customary for warrant officers and noncommissioned officers acting as chiefs of platoons and sections to be assembled for the critique. When his assistants had assembled in line facing the targets, the battery commander would salute the officer directing the practice, who in turn would turn about and salute the officer (the colonel or lieutenant-colonel) supervising the firing of the battalion, who would then direct the critique to proceed. Officers not connected with the problem formed in line at right angles to the officers of the battery and facing the officer directing the practice. They, too, saluted the officer supervising the practice and remained at attention until "at ease" was given. When warrant and noncommissioned officers were present, the details of the problem under their supervision were discussed first. Following the remarks of the officer directing the practice, the officer supervising the practice would add his opinion, usually at considerable length,

and the warrant and noncommissioned officers would be excused before the actions and commands of officers were discussed. Free detailed criticism was the rule and brief comment on main essentials was the exception. The time consumed by critiques is indicated by the fact that six problems was the greatest number fired in any one day by the two batteries of a battalion from eight o'clock in the morning until three o'clock in the afternoon with one hour for lunch.

No attempt was made to select and use the best gun squad combinations throughout the firing. All cannoneers served in the various positions for which qualified and during the preliminary firing, drivers were mixed with cannoneers in gun squads. The natural result was that firing was neither as accurate nor as rapid as would have been possible with specially selected gun squads; but on the other hand, all men had the advantage of experience with the guns during actual firing.

The targets fired on were the customary deployed infantry, machine guns, and batteries in position represented by wooden silhouettes. Due to the limitations of the range practically no targets were more than 3000 meters from the guns and the majority were plainly visible on forward slopes.

The principles of fire laid down in present regulations are very similar to those used in our service prior to the World War. (A new manual due to appear in 1926 will correspond very closely to the present French regulations.) The application of the regulations was, however, quite different, as is indicated by the following:

(*a*) Only the most experienced officers attempted to adjust more than one element of fire at a time.

(*b*) The usual bracket for all targets was 100 meters.

(*c*) Errors in deflection and height of burst were corrected by exactly the observed deviations.

(*d*) Corrector changes for individual pieces were the rule.

During service practice in 1925 a total of 2960 rounds of ammunition was fired by the regiment. This ammunition was of three varieties, fused as shown in the following table:

AMMUNITION

Type of Fuse	Practice Shell	Shrapnel	High Explosive Shell	Total
Instantaneous percussion	825	. . .	75	900
Short-delay percussion	75	. . .	75	150
22 Sec. combination	824	1086	. . .	1910
Total	1724	1086	150	2960

The fuses and both the shrapnel and high-explosive shell are similar in appearance and action to our own, but the practice shell, with which any of the fuses can be used, is different from anything

used by our field artillery. It is a cheap, roughly finished projectile with small smoke producing bursting charge and approximately the same ballistic characteristics as the high-explosive shell and shrapnel. High-explosive shell and short-delay fuses were reserved for a special problem.

The ammunition allotted to various officers varied as a rule, both in quantity and kind with their rank. Captains fired about 175 rounds apiece of mixed shrapnel and practice shell, first lieutenants about 55 rounds apiece (20 rounds practice shell and 35 rounds shrapnel); second lieutenants about 40 rounds apiece (half practice shell, half shrapnel); and warrant and candidate officers about 20 or 25 rounds of either practice shell or shrapnel.

(To be continued in our next issue.)

FIELD ARTILLERY IN HAWAII

BY WAIKOLOA

To a very large proportion of Field Artillery officers, foreign service will mean duty in Hawaii. The Eleventh Field Artillery Brigade is motorized and comprises the 8th Field Artillery and the 13th Field Artillery (both 75-mm.), the 11th Field Artillery (155-mm.), and the 11th Ammunition Train. As constituted, it is the largest active artillery unit in the Regular Army. Assignment to the Hawaiian Department affords the field artilleryman an unequalled opportunity for training in his own arm and in the combined arms. From arrival in the Department until three years later when YOUR boat leaves, a veritable gold mine of experience is available.

The large commissioned overhead necessary in the Department requires the detail of many officers on various duties. In the past, it was not unusual for an officer to be detailed on such duty on the day of his arrival. The present departmental policy is that an officer must serve at least one year with his arm before he becomes available or eligible for special duty or detached service, and he can remain on such duty no longer than one year. The value of this policy is evident when considered with the many demands made upon the service for officers to serve with the Organized Reserves, National Guards, and Reserve Officers' Training Corps. The officer arriving here now is assured of at least two years' duty with a regiment.

RECRUITS

Due to delays in recruits reaching the Department from their first station and other causes, the turnover in enlisted personnel is large, amounting at times to more than thirty per cent. per annum. Organizations are, however, kept up to the strength allowed in tables of organization and the influx of recruits is continuous throughout the year. Upon assignment to regiments, recruits are given eight weeks of intensive instruction in regimental recruit detachments. The present system of instruction is the result of much study on the part of many officers and has proved extremely effective. It contemplates sending the recruit to his battery at the end of eight weeks, fully competent to meet the rigid requirements laid down for the field artillery soldier. The recruit is given a final inspection by the regimental and brigade commanders and is sent to duty only after demonstrating his ability to take his place in his organization, and there to meet a high standard of efficiency. Current unit training is not retarded by the arrival of these recruits. Recruit training

has been standardized and the results attained have proved the value of systematic instruction. During the training period, the recruit is relieved from all battery duty and placed directly in charge of the officer commanding the recruit instruction group. Incidentally, the value to the officers and enlisted men who conduct the training is very apparent. No one stays on this duty for a longer period than four months and the last month is used in training successors, thus insuring an overlapping and continuous system. Duty as recruit instructors under the present system of training amounts, virtually, to a course in training methods and training management. Battery commanders have found that their noncommissioned officers are of much greater value to the organization after a tour of duty with recruits.

COMPETITION WITH INFANTRY

The participation by field artillery units in purely infantry competitions has been stopped. During his recruit instruction, the field artilleryman is thoroughly trained in close-order drill to include the platoon, and at the end of this instruction he should be as good at individual close-order drill as the infantryman. His disciplinary drills thereafter are not neglected by any means, but they are confined to such ones as are useful to him in his arm. Standing gun drill and service of the piece are disciplinary drill to the field artilleryman and guard mounting is his only dismounted parade formation. The proper field artillery spirit requires turning out with field artillery equipment. This precludes infantry formations. As well ask the infantryman to compete in standing gun drill.

ACADEMIC PERIOD

From the field artillery point of view, it is highly desirable that a certain period of the year be devoted to individual instruction and the development of necessary specialists. Within the brigade there is a definite period in the year's training devoted entirely to schools. Sufficient work is done by the batteries to insure the proficiency necessary to meet an emergency; matériel is kept in excellent condition; ordinary garrison duty is performed; but during the academic period the main effort is made in developing the individual. From November 1st to March 1st the specialist is given instruction in his particular line. The detail men, the mechanics, and the officers attend schools. Nothing is permitted to interfere with this instruction. Once trained as individuals, specialists are welded into a smooth working organization in a relatively short time. Successful results have been obtained under this method in the past year and the individual training during the academic period will be even more in the future. However decentralization has not been lost

sight of. Organization commanders have at their disposal both time and opportunity to exercise full initiative in the training of their organizations.

SCHOOLS

Schools have received special attention in the past two years. Their development has been progressive. The motor schools have been completely reorganized into a brigade school. A central shop has been built and equipped. Instruction is under the direct supervision of the brigade commander, through commissioned and enlisted instructors drawn from the brigade at large. This makes possible good theoretical instruction combined with practical application in the repair of organization equipment under competent instructors—all in a well-equipped school. While the essential purpose of the school is that of training of artillery motor mechanics in vehicle repair, a limited number of students are accepted from other organizations in the division. The officers' section is designed to give sufficient training to enable officers of motorized organizations to intelligently inspect, march and maintain their units.

TACTICAL INSTRUCTION AND TERRAIN EXERCISES

The situation on this island permits units to do their peace-time training on the ground they will actually fight over in war. In this connection the training received in the Joint Army and Navy Maneuvers of 1925 was of great value to field artillery brigade and the work of all field artillery units was the subject of much favorable comment. The revised basic plan for the defense of the islands forms the basis for study in the officers' schools and gives a practical application to the theoretical instruction received there.

COMMUNICATIONS

Communications officers and certain enlisted personnel attend schools under the division signal officer. The course is practical and adapted to the needs of the artilleryman. Radio communication is especially stressed. Students at this school act as instructors in their organization schools which run during the same period.

MATÉRIEL

The matériel of the brigade is rapidly reaching the age when rightfully it might be retired and yet, despite its infirmities, it daily demonstrates its ability to function. Spare parts are hard to get and have to be improvised in many cases. The system of supply is undergoing a change and it is hoped that improvement will result. In May and June, the brigade made a march around the island and supplied itself with its own truck train for two months while encamped at Waimanalo, using the famous, or infamous, route over

Photo by Signal Corps, U. S. Army

FIELD ARTILLERY CLUB, SCHOFIELD BARRACKS

Photo by 11th Photo Section, Air Service, U. S. Army

ARTILLERY AREA, SCHOFIELD BARRACKS

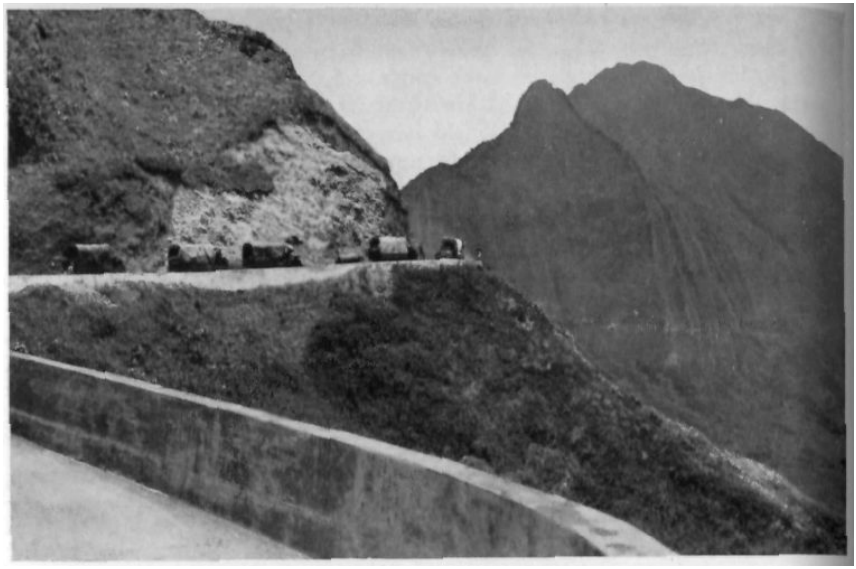


Photo by Signal Corps, U. S. Army

APPROACHING THE SUMMIT OF NUUANU PALI FROM THE NORTH

Photo by Signal Corps, U. S. Army

WAIMANALO MILITARY RESERVATION, LITTLE PALI AND NUUANU PALI IN THE DISTANCE

the Nuuanu Pali. On the return march, the tractor columns of the three regiments made the march over the Pali on three successive nights and passed through the congested streets of Honolulu—all without mishap. Every vehicle of the brigade, except a few undergoing major repairs at Schofield Barracks, made the march. This is considered a most creditable performance with matériel of wartime vintage, nourished for seven years on short rations of spare parts. Those of the artillery who have been stationed in Hawaii will appreciate this march over the Pali, not by one battery, but by an entire brigade.

IMPROVISED MATÉRIEL AND EXPERIMENTAL WORK

Certain improvements of the matériel on hand have been made and are in use; others are being tested or recommended for further development. Chief among these have been command posts mounted on trailers or self-propelled mounts, radio trucks, switchboard equipment, and wire-laying vehicles. Development along lines of value to artillery in general has been the aim though the topographical difficulties of the island of Oahu have had a guiding influence.

Experimental work with portée artillery has been carried on in the light regiments. The probable necessity for quick movement of heavy artillery has resulted in extensive tests in hauling 155-mm. howitzers with F.W.D. trucks. These have proved the feasibility of this means of transportation and one battalion of the 11th Field Artillery has covered practically every road on the island. Further tests with the view of finding the capabilities of the commercial trucks in use on the island are to be made shortly.

TRAINING PROGRAM

Unlike organizations on the mainland, the field artillery in Hawaii is not called on for work with summer training camps. This permits twelve months' training, with practically no let up for inclement weather—an ideal situation. The period from November 1st to March 1st is devoted to schools, gunners' examinations, pistol firing and other individual instruction. The next four months are utilized for battery, battalion, and regimental training. The final four months' period comprises service practice, combined training, rest camps, and the brigade, division, and department inspections.

MISCELLANEOUS

Service in Hawaii is apparently gaining in popularity. There is no need of separating recruits from "Old Timers" as in the past to avoid their starting out with vivid tales of the misfortunes of service on the "ROCK." Reënlistments for Hawaiian service are steadily increasing. Also, more officers are asking for an extension

of their tours. Leaves to the mainland, detached service at Hilo, and rest camps each year help to keep up morale. The quarters at Schofield Barracks are excellent.

Neglecting no opportunity to encourage embryo artillerymen, there has been built in the last year a children's playground, where rudiments of field artillery and naval tactics are taught with the aid of a miniature 75-mm. section and a real honest-to-goodness "Pirut Ship." For youngsters of the frailer sex, a miniature stage has been erected. With a supervisor on duty each afternoon, mothers can park their offspring and enjoy golf, tennis or bridge.

OFFICERS' CLUB

Erected through the efforts of a few indomitable members of the garrison, the club will be a lasting monument to the great Army God "Rustle." Designed and built by artillerymen with such material as was not anchored down, the building fills a long-felt need in the artillery area. Ideally located, its large lanai and reception rooms are ample to care for the brigade social affairs. Dressing rooms, kitchens, and last, that consummation much to be desired—a Bachelors' Refuge, complete with pool table and lounges—make a really comfortable and attractive club in which the whole Field Artillery may take pride.

REGIMENTAL NOTES

FIRST FIELD ARTILLERY — FORT SILL, OKLAHOMA

Major George M. Peek, *Commanding*

Roster of Officers

Colonel Charles D. Herron
Major Robert H. Lewis
Major George M. Peek
Major Jesse B. Hunt

CAPTAINS

William J. Schaal, Jr.
Robert W. Yates
William H. E. Holmes
Harry B. Barry
Charles A. Esterbrook
Harold Kernan
Francis M. Crist
Frank C. Mellon
Stanton L. Bertschey
Chauncey A. Bennett
Marion L. Young
Elmer S. Van Benschoten
Leo L. Partlow
Armand S. Miller
John E. Ray
Maylon E. Scott
Richard C. Mallonee

FIRST LIEUTENANTS

Jesse B. Matlock
Arthur E. Fox
Ronald T. Adams
John T. Schneider
Hiram W. Tarkington
Harold J. Guernsey
James P. Boland
Thomas F. Hickey
Robert O. Montgomery
Jesmond D. Balmer
Thomas M. Tiernan
Thomas R. Willson
Murry C. Wilson
Arthur P. Moore
Joseph A. Sullivan
Edward M. Taylor
Robert B. Hood
Maurice K. Kurtz
Godfrey D. Adamson
William I. Brady

SECOND LIEUTENANTS

Robert P. Hollis
Einer B. Gjelsteen
James H. Workman
Paul D. Hanson
Voris H. Connor
Robert A. Ellsworth

THIS regiment is starting its tenth year as a school regiment functioning for the Academic Division of the Field Artillery School. In order to give some idea of the duties of a school regiment during the school year, the following figures show the number of details furnished the Academic Division for the school year ending June 13, 1926. Each detail required one firing battery.

For the Department of Gunnery	391
For the Department of Tactics	369
For the Department of Animal Transport	188
Total	948

In order to meet the constantly changing demands of the Academic Division, numerous changes have been made in the organization and armament of the regiment. The three motorized batteries are now equipped with two 155-mm. howitzers in addition to their normal equipment of 3″ matériel. This additional equipment was issued in order that demonstrations in the use of medium artillery could be given for the Academic Division.

Regardless of the fact that each organization functions on an average of four days a week for the Academic Division, time is still found for athletics, and the regiment has always been well represented in baseball, football, track and field meets and polo.

There have been numerous changes in officer personnel during the past year and this article would not be complete without mentioning the retirement of our former Regimental Commander, Colonel Edward T. Donnelly. Colonel Donnelly assumed command of the regiment on August 19, 1924. He retained active command of the regiment until March 12, 1925, at which time he was sent to the Army and Navy General Hospital for observation and treatment. He assumed command of the regiment again on December 2, 1925, remaining until January, 1926, when his health was such that he was forced to give up all activities. He was retired for physical disability on June 26, 1926. Colonel Donnelly is not only an officer and a gentleman, but he is a gentle man, loved and respected by all with whom he comes in contact. The loss of such an officer is keenly felt, and it is sincerely hoped that his health will improve so that he can enjoy to the fullest the many years of rest which he has so rightly earned.

SECOND FIELD ARTILLERY — FORT BRAGG, NORTH CAROLINA

Major James L. Collins, *Commanding*

Roster of Officers

CAPTAINS

John S. Winslow
Calvin S. Richards
Clifford B. Cole
Pierre Mallett
Bernard Sweet

FIRST LIEUTENANTS

Desmond O'Keefe
Walter A. Metts, Jr.
Royal L. Gervais
Herschel D. Baker
Hugh G. Elliott

SECOND LIEUTENANTS

George P. Privett
Thomas B. Whitted, Jr.
John F. Powell
Richard W. Mayo
Richard K. McMaster
Samuel P. Collins
Harry P. Storke
Maurice P. Condon
John F. Fiske
Oliver W. van den Berg
Malcolm Faulhaber
Claude A. Billingsley
Frank C. Holbrook
Charles A. Sheldon

This battalion can almost boast of a complete change in the roster of officers, Captains Richards, Winslow and Cole and Lieutenants Metts, Gervais, Baker, Powell and Whitted being the only ones left to say, "Now last year." Major John C. Wyeth and Lieutenant Kenneth H. Sanford going to the Field Artillery School; Captain Frank E. Royse to the Illinois Guard; Lieutenants Edwin S. Brewster, John M. England, Raymond T. Beurket, James W. Clyburn and Charles L. Booth to Hawaii; Lieutenants Raymond K. Quekemeyer and Littleton A. Roberts to the 5th Field Artillery; Lieutenant Ernest V. Holmes to the 17th Field Artillery; Lieutenant

Walter H. Kennett to Massachusetts Institute of Technology; and Lieutenant Gerson K. Heiss to the Ordnance at this Post.

The chief reason for our being here to ride past the roar of the two motor regiments is test work with the Field Artillery Board. Last spring, B and C Batteries fired 5000 rounds for a "Shell *vs*. Shrapnel" test. Battery A was filled to war strength, men, officers and equipment, for a six-day test in the field. This fall, Headquarters, A, B, and C were in the field for six days with war strength details for test. Battery B is preparing for a test with the 105-mm. howitzer firing; Battery C for a "Shell *vs*. Shrapnel" test; Battery A for photographic work with the Air Service. Headquarters Battery has a water and ration cart on a 250-mile test; Service Battery has an escort wagon accompanying it, and Battery C has started with a new rolling kitchen for the same distance. Minor tests are being carried on continually, such as cotter pins in hub caps, modified officer's field saddles, new harness, etc.

Our regular training and duties under the Defense Act are not neglected, Alabama Polytechnic sending over a hundred students for six weeks' Reserve Officers' Training Corps training with Battery A. The Citizens' Military Training Camps added another 680 for training with Batteries B, C and Headquarters, the latter being converted into a gun battery for a month. This fall the battalion went on a ten-day road march, combined with the tactical inspection, covering seventy miles and not leaving the reservation. The Corps Area and Post Commander's tactical inspection came the next month, with special attention being paid to communications and camouflage. Our pistol firing will show a good average of qualified men and the machine-gun firing will be continued from last spring. Five new graduates from the Academy and six officers appointed from civil life insure full attendance at the Battalion schools and with twelve reserve officers taking the correspondence course, we feel like a young college.

We started the horse events with the Fort Bragg Horse Show, Battery B being first and C second. The entire Battalion moved over to Pinehurst for six days for the horse show, taking its share of ribbons. Headquarters Battery had the best gun section, Battery C winning second place. The last show was held at Fayetteville, N. C., by the Fox Hunters' Association. Headquarters repeated again, with Battery A second. We were represented on the Post polo team at the tournament last spring by four officers and again this fall at Pinehurst by Major Collins, Captain Cole and Lieutenant Baker.

The officers, during the Thanksgiving holidays, set out with shot guns and many dogs, trying to bring home one of the wild

turkeys on the range, but the only results to date have been sore feet, expended ammunition and a bill at the Post Exchange for the cold storage variety. The Christmas holidays, however, give promise of longer hours and harder chase.

THIRD FIELD ARTILLERY — FORT BENJAMIN HARRISON, INDIANA

Lieutenant-Colonel George R. Greene, *Commanding*

Roster of Officers

CAPTAINS

Arthur C. Fitzhugh
Mark A. Dawson
Everett M. Graves
Melvin L. McCreary

FIRST LIEUTENANTS

Horace Harding
Harvey J. Thornton
Roy A. Carter
Arthur L. Shreve
Foster J. Tate
Wilbert E. Shallene

SECOND LIEUTENANTS

Everett C. Meriwether
Percy W. Thompson
Albert Land
Stewart F. Yeo

FOURTH FIELD ARTILLERY — FORT MCINTOSH, TEXAS

Colonel Robert C. Foy, *Commanding*

Roster of Officers

Major Joseph A. Rogers

CAPTAINS

Emil G. DeCoen
John C. Adams
John H. Keatinge
Claude G. Benham
John W. Russey
John R. Young

FIRST LIEUTENANTS

Versalious L. Knadler
Marion M. Pharr
Ernest A. Elwood
John M. Works
Harry L. Watts, Jr.
Robert R. Raymond, Jr.

SECOND LIEUTENANTS

David D. Erskine
Albert N. Stubblebine, Jr.
William T. Sexton
Carroll R. Griffin
Charles E. Hart
Stephen S. Koszewski
Felix Marcinski

The past year has been one of exceeding activity for the 2nd Battalion, 4th Field Artillery, including Regimental Headquarters, Headquarters Battery and Service Battery, stationed at Fort McIntosh, Texas. Intensive training, a fair portion of it in the field, followed by a hike to Fort Ringgold and return, were the salient features of the program.

During the spring and early summer, in connection with target practice, the organization engaged in maneuvers and field training on the target range, in order to condition both men and animals for the Ringgold hike.

The Battalion, commanded by Major Rogers, left Fort McIntosh August 17th enroute to Ringgold, arriving August 24th. Despite the extreme heat and scarcity of water, the health of the men was excellent. This same statement also applies to the morale, as every man, including the rawest recruit, seemed imbued with the spirit of

the "Fourth of old" and succeeded in maintaining its reputation as an organization that can go anywhere, regardless of terrain, and takes nobody's dust.

Upon arrival at Ringgold the Fourth encamped and later participated in maneuvers with the Twelfth Cavalry, preparatory to the annual inspection by the Corps Area Commander. During these maneuvers the pack artillerymen experienced no difficulty in holding their own, so far as hiking was concerned. When a battery was detailed in support, the cavalry found it on hand when wanted, despite the comparative wide radius of mounted operations.

The inspection by the Corps Area Commander, Major-General Ernest Hines, was held September 7th, and the reports on this inspection were exceedingly gratifying to every member of the command. From these reports it was evident that hard work and diligent endeavor on the part of all concerned had resulted in field efficiency and a marked degree of general improvement.

The Battalion left Ringgold September 10th and arrived at its home station, Fort McIntosh, September 16th. Pistol practice followed immediately.

At present the command is engaged in an extensive salvage and repair program, with the result of considerable improvement in both the appearance and living conditions on the post. By many, however, the post has always been regarded as the best on the border.

Athletics, always a paramount feature in the activities of the Fourth, maintain a high standard of interest among its members. Recently, under the direction of Lieutenant Knadler, several star boxing matches have been staged. Football and baseball are also very popular and there is never a scarcity of players or aspirants for the various teams. Due to field training and the hike, polo practice was suspended during the summer months, but now virtually every member of the commissioned personnel is interested in the sport.

Several changes in the officer personnel have taken place during the year. Colonel Pierce A. Murphy left in April for duty with the Organized Reserves at Columbus, Ohio. Major Fred H. Gallup left in July and was assigned to duty with the Artillery Group at Harrisburg, Pa. Captain W. Stuart Zimmerman, Jr., and First Lieutenant Phil Cass have been transferred to Hawaii, while Second Lieutenants Roy D. Reynolds and Leighton M. Clark resigned. Colonel Robert C. Foy, former military attaché to the American Embassy at Constantinople, Turkey, arrived and took command during the early part of October. The new commanding officer is an enthusiastic horseman and polo player. Other officers who have joined during the year are Captain John W. Russey and First Lieutenant John M. Works. First Lieutenant Harry L. Watts, Jr., and

Robert R. Raymond, Jr., have been assigned to the organization but have not yet joined.

FIRST BATTALION, FOURTH FIELD ARTILLERY

FORT W. D. DAVIS, CANAL ZONE

Major John M. Eager, *Commanding*

Roster of Officers

Major Hamilton E. Maguire

CAPTAINS

Clifford H. Tate
John D. Key
Stuart McLeod
Arthur L. Warren

FIRST LIEUTENANTS

Jonathan Hunt
Francis W. Crary
Louis W. Prentiss
James B. Clearwater

SECOND LIEUTENANTS

Lawrence W. Kinney
Robert C. Hendley
George E. Mitchell, Jr.
Daniel P. Poteet
George B. Crosby
Edward L. Andrews
James B. Anding
Nathaniel C. Cureton
Malin Craig, Jr.
Henry F. Garcia
George H. McManus, Jr.

The 1st Battalion, 4th Field Artillery, is the only field artillery now stationed in the Panama Canal Department. Its home is the Camp at Gatun, a subpost of Fort W. D. Davis, home of the 14th Infantry. The barracks are not far from the Gatun Locks, the Atlantic end of the Canal. Until about a year ago the battalion was entirely a mountain, pack, organization, but the need of increased mobility and guns of a longer range then caused the experimental motorization of Battery B as a portée battery. In a relatively short time that battery proved the adage that "a pack battery can do anything" even to becoming an excellent motor organization. At the recent annual Division inspection the motor equipment of Battery B was found to be in better condition than that of the other motorized units at Fort Davis.

Major John M. Eager took over the Battalion from Major W. A. Pendleton on September 17, 1925. Many of the officers completed their tours of foreign service and returned to the United States, being replaced by new officers. There are eight names on the roster that were not there a year ago.

The activities of the troops stationed in the Canal Zone vary but little from year to year because the short dry season must include the annual maneuvers and the long wet season must always be devoted to the training period. Joint maneuvers with the Navy were held in 1926 and proved very interesting and instructive. At the close of the maneuvers most of the officers were given an opportunity to go out on a week's cruise with the Navy so as to be able to learn something of the possibilities and limitations of that arm of the service. This is particularly important in this Department because it is obvious that any attack must almost certainly come from the sea.

The battalion moved to the Pacific side of the Isthmus for the

concluding phase of the Joint Maneuvers and remained in camp there for about six weeks. During this time each of the batteries made one long march into the Republic of Panama for the purpose of reconnaissance and training. The annual service practice also took place during this period. The culminating event of the field service was the annual contest of Field Artillery Sections for the Department Commander's Trophy. The prize was won this year by the 4th Section, of Battery A, Sergeant Dexter S. Minton being Chief of Section. Sections from Batteries B and C tied for second place.

After return from maneuvers the Battalion commenced the long training period in preparation for the 1927 maneuvers. Two hundred and sixty-one enlisted men qualified with the pistol, Battery A making the best record with 91 qualifications out of the 108 men who fired. A great improvement over preceding years was made in gunner's qualifications, two hundred and seventy-four candidates (115 Experts, 105 1st Class Gunners, and 54 2nd Class Gunners) successfully passing the test out of three hundred and twenty-eight entries. Battery C made the best record with 78 qualifications, Battery A being close behind with 76. Battery B did remarkably well in qualifying 65 gunners on entirely new matériel, the French 75.

Battery C was selected to take the test for the Knox Trophy and once more made an excellent showing. Word has just been received that Battery C won the Knox Trophy competition for this year.

Perhaps the outstanding achievement of the year, barring the motorization of Battery B, has been the very marked improvement in appearance of the men, animals, matériel, equipment, barracks, and grounds. It has long been asserted that mountain artillery could not be made a "spoony" outfit, but after long and hard work, the 1st Battalion, 4th Field Artillery, compares very favorably with any other troops in the Department in appearance as well as in efficiency. The reports of the tactical inspections by the division and department commanders were very satisfactory. Battery A won a letter of commendation by their part in the maneuvers.

Great success was attained in athletics during 1926. It was the desire of the Commanding Officer that as many men as possible participate in athletics and a very high percentage were induced to do so through the medium of post leagues in baseball, basketball, boxing and swimming. Within the battalion, Battery A carried off athletic honors by winning the basketball, track, boxing and baseball championships, while Battery C won the swimming. The Headquarters Battery won the Department championship in basketball free throws. This was an excellent event in which every organization

on the Isthmus was obliged to enter its entire enlisted personnel. In a similarly conducted swimming contest, Battery C stood high in the Department Competition. In department baseball and basketball the battalion made creditable showings.

The greatest success in athletics was attained in athletics in which the battalion furnished three of the seven Atlantic side champions and one Department champion, Private, First Class, Vincenzo Gallo, Battery A who won the bantamweight championship for the second time.

The new battalion commander introduced polo as a battalion activity and, while handicapped by inferior mounts, the artillerymen made a creditable showing and laid the foundation for future success.

Altogether it has been a fine year for the battalion and everyone is now ready for the 1927 maneuvers, the most interesting work of the year, and the culmination of a year of hard work.

FIFTH FIELD ARTILLERY — FORT BRAGG, NORTH CAROLINA

Colonel T. E. Merrill, *Commanding*

Roster of Officers

Lt.-Col. Geo. P. Hawes
Major J. H. Van Horn
Major Joe R. Brabson

CAPTAINS

Charles Porterfield
Joseph A. Sheridan
Warren D. Davis
Alfred M. Goldman
William F. Kernan
David Loring, Jr.
Howard C. Brenizer
Melville S. Creusere
Paul C. Boylan
Henry C. Harrison, Jr.

FIRST LIEUTENANTS

Gerald A. O'Rourak
Paul W. Beck
James H. McWilliams
Clinton S. Berrien
Franklin H. Canlett
James Y. LeGette
Richard C. Partridge
John R. Culleton
Cornelius O. Garrison
John Gross
Edward C. Engelhardt
Lauren B. Hitchcock

SECOND LIEUTENANTS

William H. Drummond
Charles W. Cowles
William D. Paschall
Raymond K. Quekemeyer
Littleton A. Roberts

The history of the 5th Field Artillery extends back to 1776 when the First Provincial Company of Artillery, now Battery D of the 5th, was organized by General Washington and placed by him under the command of our first Chief of Field Artillery, Alexander Hamilton.

The 5th is now stationed at Fort Bragg, North Carolina, under the command of Colonel T. E. Merrill. It is a motorized heavy mixed regiment comprising two battalions. The 1st Battalion, commanded by Major J. D. Brabson, is armed with 155-mm. G.P.F. guns. The 2nd Battalion, commanded by Major John H. Van Horn, is armed with the largest caliber guns of the Field Artillery, the 240-mm. howitzers. The 3rd Battalion is at present inactive.

The series of annual tactical inspections began with battalion maneuvers in October, each battalion taking the field for a week at a time under its battalion commander. These inspections culminated in a Brigade Field Exercise on November 19, 1926, during the course of which the 5th was inspected by the Brigade Commander, Brigadier-General A. J. Bowley, accompanied by the Representative of the Corps Area Commander, Colonel Duncan K. Major. The 5th during this problem was true to its old form and both General Bowley and Colonel Major commented very favorably on its work in making the brigade problem a success.

The 5th receives from time to time from the Field Artillery Board guns, vehicles, and other equipment of various types, for test. The use under such conditions of this new and purely experimental matériel is one of the most important functions of the regiment. During the past year the batteries have done a great deal of test work for the Board. Battery A has been working with the experimental 155-mm. gun—8-inch howitzer matériel, Model 1920 E, of conventional split-trail type, and Model 1921 of automotive type, and is also engaged with Battery B in making a comparison of methods of putting a 155-mm. G.P.F. gun into action. Battery B has recently completed a series of tests on the efficiency of horses as mounts for officers and section chiefs of a motorized battery. Battery B is now testing the Best, Monarch, and Corps experimental tractors.

Battery D is conducting a test of the Fordson Tractor equipped with full crawler and Hadfield-Penfield adapter and is assisting the Artillery Board in the drafting of Drill Regulations for a War Strength 240-mm. Howitzer Battery.

Battery C sent 52 men to Muscle Shoals, Alabama, on September 14, 1926, with a truck convoy under Lieutenant C. S. Berrien. This detachment, which is known familiarly as the "Muscle Shoals Rustlers," has been doing noble work in salvaging, loading and shipping to Fort Bragg building material of every description as well as a miscellaneous assortment of useful articles varying from barber chairs to band instruments. From all indications this detachment will be at Muscle Shoals until late spring of 1927.

Fort Bragg is famous for its athletics, and the 5th is a strong contender at the top of the list. The Basketball Team began practice on November 1st and under the coaching of Lieutenant C. W. Cowles is rapidly approaching the excellence of form which enabled it last year to win the Post Battery Championship, and to defeat the Post Champion Team in a post-season game. To stimulate basketball among all organizations of the regiment, a battery handicap league was formed and a prize given the winning team.

Polo at Fort Bragg is a post and not a regimental activity and,

though motorized, this regiment is represented on the squad by four officers in addition to Lieutenant-Colonel Hawes, Post Polo Representative. The squad spent the week of November 28th to December 4th at Pinehurst, participating in the Pinehurst Annual Polo Tournament, Lieutenants Gross and LeGette being members of the team.

The hunting season opened November 15th and with the usual North Carolina fall weather hunting parties on the range were very popular. The Reservation with its 130,000 acres of wooded country is one of the finest hunting preserves in the United States, and abounds in wild turkey, quail, and dove. It is by no means an unusual occurrence for an officer to go out and kill his own Thanksgiving or Christmas turkey.

The 5th has had the following losses in officer personnel during 1926: Lieutenant-Colonel James H. Bryson, former regimental commander, left the regiment to become Secretary of the General Service School at Fort Leavenworth; Major Arthur White went to the Advanced Course at Fort Sill; Captain J. G. Coxetter and Lieutenant Charles K. McAlister to the Philippine Islands; Lieutenants Leonard J. Greely and Leslie L. Hittle to Hawaii; Lieutenant Otto Ellis to the Battery Officers' Course at Fort Sill; Lieutenant George P. Privett transferred to the 2nd Field Artillery; Lieutenant G. E. Heiss transferred to the Ordnance Department; and Lieutenants E. H. Auerback, H. H. James, and F. V. Armistead resigned.

SIXTH FIELD ARTILLERY — FORT HOYLE, MARYLAND

Lieutenant-Colonel Augustine McIntyre, *Commanding*

Roster of Officers

Lieutenant-Colonel Thomas P. Bernard
Major William F. Sharp
Major Newton N. Polk
Major Edwin P. Parker, Jr.

CAPTAINS

William J. Jones
Richard T. Guthrie
Herman Feldman
William Michener
Francis S. Conaty
Gennard A. Greaves
William M. Wiener
George H. Stuts
Samuel White
Richard B. Willis
Hanford N. Lockwood, Jr.

FIRST LIEUTENANTS

Arthur E. King
Hamilton F. Searight
John M. Lentz
Earle S. Neilond
Hobart D. Reed
Alexander S. Bennet
Charles N. McFarland
Timothy F. Keefe
George D. Vanture
Homer W. Keifer
Donald R. Van Sickler

SECOND LIEUTENANTS

Victor P. Noyes
Russell L. Mabie
Charles P. Summerall, Jr.
Willard L. Wright
James J. Deery
John L. Chamberlain, Jr.
William L. Kost
George P. Harrison
Ralph M. Osborne
William A. Walker
Lewis B. Griffing
Thomas F. Plummer
John E. Perman
William B. Ennis

The 6th Field Artillery is stationed at Fort Hoyle, Maryland, about twenty-five miles away from Baltimore, by automobile *via* Baltimore-Philadelphia Road, and about twenty miles by rail, *via* Pennsylvania Railroad, Station Edgewood—Fort Hoyle. The Post is situated on a peninsula between the Bush and Gunpowder rivers, on the Gunpowder side. The Bush River side of the peninsula is occupied by Edgewood Arsenal of the Chemical Warfare Service. The entire peninsula originally was a part of the Aberdeen Proving Ground, and was turned over by the Ordnance Department to the Chemical Warfare Service, and later a portion was turned over by the latter to the 1st Field Artillery Brigade (less 7th Field Artillery).

The Post is garrisoned by the 1st Field Artillery Brigade (less 7th Field Artillery). The First Gas Regiment pertaining to, and administered under, Edgewood Arsenal, occupies four of the sixteen barracks of Fort Hoyle.

While the accommodations for both officers and enlisted men are considerably better than the average throughout the Army, nevertheless there is a great deal of fatigue and construction work required of the troops, in order that these relatively favorable conditions may be improved. All this fatigue at present is being directed toward the welfare of the Enlisted personnel.

Until the past summer the regiment has been spending its summers at Camp Meade, Maryland. Last summer the regiment sent the 1st Battalion (less Battery C) to Camp Meade. Battery C was sent to the Sesquicentennial Exposition at Philadelphia, and will be back at Fort Hoyle by the 15th of December. Next summer the entire regiment will remain at Fort Hoyle for summer training. The training will consist of Citizens' Military Training Camps and Reserve regiments.

With respect to the facilities of the reservation for training, and for sports and amusements, a brief outline will be given, as it is believed these are the things in which all readers will be interested.

For training there are two large drill fields, each of sufficient size for a battalion. There is a fairly good range permitting of firing at ranges from 1800 to 6000 yards. For sports there is a fair polo field, and another area has been set aside which can be converted into a very good one. At Edgewood Arsenal is a very good nine-hole golf course. Officers of this garrison may become members of this club. There are three good baseball fields for our spring Post baseball league teams, and a good football field. In summer the Gunpowder

River furnishes excellent swimming and boating. Fishing is fairly good. In the fall and winter there is good duck shooting, and in mid-winter skating.

On the Post is a fairly good Moving Picture Theatre giving six shows per week. By the middle of January an excellent gymnasium will be completed. An amateur theatrical company has been organized among the officers and ladies of the Post, and the first performance is scheduled for December 15th in the Moving Picture Theatre.

A Chapel has just been completed. Episcopal and Catholic services are held every Sunday.

Each year sees some improvement in the Post, and it is believed that as it becomes better known, for officers it will be one of the most popular posts in the Field Artillery. Its location with respect to Washington, Baltimore, Philadelphia and New York can be appreciated without even seeing the Post. Its naturally attractive features must be seen to be appreciated.

The Post has not been particularly popular with enlisted men, due to its comparative isolation, and lack of facilities for amusement. This latter deficiency is being corrected as rapidly as possible, and apparently the mere fact of this visible effort has had a good effect on the men.

The activities of the regiment have been about the same as those of other regiments throughout the service. A sincere effort is being made by all to develop and maintain a standard of efficiency which is worthy of the regiment and its history of achievement. To enumerate the difficulties encountered would be enumerating the difficulties of the entire Army at the present time.

The Sixth has had the following losses in officer personnel during the past year: Major Jonathan W. Anderson; Captains John W. Faulconer, Jr., William R. Woodward, Theodore W. Wrenn; First Lieutenants Hugh Cort, William J. Daw, Lawrence McC. Jones, Francis A. March, 3rd, John F. Sturman, Jr.; Second Lieutenants Edward L. Andrews, Oliver M. Barton, Vonna F. Burger, James A. Davidson, Jr., Floyd C. Devenbeck, James H. Dickie, Francis T. Dodd, Howard J. John, Leslie S. Fletcher, Bernard F. Luebbermann, Paul L. Martin, Robert C. Oliver, Arthur A. Ruppert, Winfield W. Scott, Marcus B. Stokes, Jr., Arthur Willink.

SEVENTH FIELD ARTILLERY — FORT ETHAN ALLEN, VERMONT

Lieutenant-Colonel Upton Birnie, Jr., *Commanding*

Roster of Officers

Major Ralph Talbot, Jr.

CAPTAINS

D. J. Page
C. S. Ferrin
R. E. Dupuy
William Mayer
H. B. Dawson
H. E. Camp

FIRST LIEUTENANTS

J. H. Corridon
C. E. Sargent
M. C. Calhoun
E. H. Metzger
P. W. Allison

SECOND LIEUTENANTS

J. F. Williams
R. C. Lawes
J. T. Loome
E. Parmly, 3d
W. R. Forbes
C. G. Follansbee

With the coming of the winter snows the 7th Field Artillery has completed a very busy training year, and a most successful one. The Artillery Range at Underhill, Vermont, is now being purchased after two years of rental, and the regiment rests content with the fact that it is at a training center, with one of the finest ranges in the country to shoot over, and without the incubus of the summer move to a camp.

During the past year the regiment in its training of other components of the Army of the United States struck its highwater mark. Five Reserve regiments went through our mill, and very successful Reserve Officers' Training Corps and Citizens' Military Training Camps were held. The artillery quota of trainees in the Reserve Officers' Training Corps was 60, in the Citizens' Military Training Camps 150. In all 175 Field Artillery Reserve Officers trained at the Post, either in unit camps or as individuals attached for active duty.

This, it must be remembered, was only the Field Artillery side of the picture. Our comrades of the 1st Squadron, 3rd Cavalry, had a similar mission for the Cavalry components, and the Post staff had the job of handling a good-sized three-ring circus throughout the summer.

Polo was very successful at the Post and the 7th, with two teams in the field, more than held up its end. The Post team, consisting of both Cavalry and Field Artillery Officers, engaged in international polo, playing the Montreal Polo Club and the Royal Canadian Dragoons at St. Johns, Quebec, on their home grounds, during the early part of the season and winding up with the same teams on our field in a tournament in September.

Colonel Alfred A. Starbird, commanding the regiment and the Post, was detailed to duty with General Staff and left early in the training season to take up his duties as Assistant Chief of Staff, G-3, Second Corps Area; Lieutenant-Colonel Upton Birnie, Jr., took his place as Post and Regimental Commander and has kept them

"rolling" through the stress of training and through our own tactical inspections that followed close.

The history of the Seventh Field Artillery, and in particular that part of it pertaining to the regiment's service in France, has been in course of compilation for more than a year. Last winter Colonel Starbird sent an officer to Washington to study the records in the Historical Section, Army War College. The history is now nearly completed.

The Jeff Feigl Medal, awarded to the best soldier in the regiment, fell this year to First Sergeant William Casey, of Battery D. This medal is donated annually by Colonel Fred Feigl, of New York City, to the regiment, in memory of his son, the late Lieutenant Jefferson Feigl, 7th Field Artillery, who was the first artillery officer killed in the World War. It is awarded as the result of the deliberations of a board of officers, based upon honest and faithful service, soldierly character, and technical qualifications. Major-General Charles P. Summerall made the presentation to First Sergeant Casey while he was at this Post during the Citizens' Military Training Camp.

The Regimental Organization Day, October 21st, was celebrated this year in fine style, despite a sharp snow squall that threatened to disrupt the program. Boxing bouts, special organization dinners, a dance for the enlisted personnel of the Post and a supper and bridge for officers of the Post and their families, were the principal features, the regiment being the host to the garrison.

SECOND BATTALION, SEVENTH FIELD ARTILLERY

MADISON BARRACKS, NEW YORK

Lieutenant-Colonel E. R. W. McCabe, *Post Executive*

Major H. J. Malony, *Battalion Commander*

Roster of Officers

CAPTAINS

Stanley Bacon
Victor A. Dash
Rex B. Shaw
Parker G. Tenney
Arthur M. Sheets

FIRST LIEUTENANTS

John B. Lord
Maurice P. Chadwick
Albert G. Hastings
George De Graff
Frederick H. Black
Stephen E. Bullock
J. A. Samouce

SECOND LIEUTENANTS

Glenn B. McConnell
Joris B. Rasbach
Alfred B. Devereaux
George J. Deutermann
Harry C. Larter
John Meade

Lieutenant-Colonel McCabe and Major Malony joined the battalion late in the summer. Captain Bacon, Lieutenants Chadwick, Hastings, and De Graff arrived from the Philippine Islands and Hawaii during December, and Lieutenant Lord from recruiting duty in Baltimore during the same month. The other officers have been

with the battalion for periods varying from six months to three years, and all hope to stay on indefinitely as we feel that Madison Barracks is one of the best posts in the country. The winters, though long, are not usually severe and the situation of the Post near the Thousand Islands and Adirondack sections make the summers very pleasant in spite of the multitudinous civilian training programs. The arrival of the 1st Battalion of the 28th Infantry, commanded by Major A. E. Brown, from Fort Porter, Buffalo, was a very welcome addition to the Post. Almost doubling the size of the garrison, it affords a splendid opportunity for expansion in training of troops, sports, and entertainment. Already plans are being made by General Frank Parker, Post and 2nd Brigade Commander, for combined maneuvers at Pine Plains next summer, and several expanded athletic and amusement programs are now being carried out which show keen spirit and competition between the doughboys and the wagon soldiers.

The pièce de résistance of our summer season in the way of festivities was the fourth annual horse show and polo tournament held during the second and third weeks of August this year, so that the field artillery Citizens' Military Training Camp attendants of the 2nd Corps Area could enjoy the spectacle. Over two hundred entries were made for the various classes of the show, many from civilians in Watertown, N. Y., and vicinity. One of the most interesting events was the ladies' jumping class in which the honors were carried off by Mrs. Thurber, wife of Major Philip L. Thurber, F.A., The lion's share of the officers' jumping prizes was carried away by Lieutenant Larter and Lieutenant Scott, the latter up from Fort Hamilton for the polo tournament.

Four splendid teams contested valiantly for supremacy in polo—First Division from New York City, Cornell (made up of regular officers instructing Reserve Officers' Training Corps there), 2nd Infantry Brigade led by General Parker, our own 2nd Battalion team.

Results: 1st. 2nd Brigade lost to 2nd Battalion, 7th Field Artillery.
2nd. Cornell lost to First Division.
3rd. 2nd Brigade lost to Cornell.

Final: First Division lost to 2nd Battalion, 7th Field Artillery. The final game was very fast indeed and the result, 11 to 9, was in doubt to the last. The First Division team made a great finish and nearly overcame the lead piled up on them earlier.

First Division Team	*2nd Battalion, 7th Field Artillery*
1. Lieut. Allen	1. Lieut. Samouce
2. Lieut. Scott	2. Captain Sheets (Captain)
3. Major Poole	3. Lieut. Black
Back. Captain Neu (Captain)	Back. Lieut. Conrad

Cups were presented to all teams and individuals by General Summerall after the final game.

Summer training for 1926 followed the usual strenuous schedule. Battalion tactical training was compressed into one month and the inspection by Corps Commander took place before the opening of the Reserve Officer schedule late in May. One battery was on duty throughout the summer at Pine Plains with the Reserve, and over twelve regiments and many unattached officers were given instruction. Two hundred students of the Cornell and Princeton Reserve Officers' Training Corps units made their annual pilgrimage to this Post from June 1st to the middle of July. They took over the horses and matériel of the two batteries not at Pine Camp and ended their instruction period with a few weeks' firing at the range. August was given over to work with Red, White and Blue field artillery candidates of the Citizens' Military Training Camps. They also took over two batteries and drilled intensively in preparation for work in the field. Our main difficulty as usual was a shortage of personnel and animals for the absolute needs of civilian training, and a great shortage of suitable horses for Reserve Officer training. At the close of summer work for the other components of the Army, we had about one month of weather suitable for the task of bringing our own organizations back into fighting trim as a battalion.

At present a comprehensive school schedule is being carried out for both officers and men—enlisted and noncommissioned in the morning, and officers one hour both in morning and afternoon. But the old proverb about making Jack a dull boy has not been forgotten. So the sports and amusements this year are the best ever. The football team has just finished a very successful season under Captain Tenney, formerly an all-American player at Brown. An intercompany bowling tournament is now in progress with the Infantry, the basketball teams are limbering up, a pool tournament is in the offing and each battery spends at least two different periods each week in the post gymnasium playing indoor baseball, volley ball, and other competitive games. Thanksgiving Day was notable for something beside the regular heavy gastronomic events. A pistol competition, tug of war, mounted wrestling, and various trick race program was enjoyed by the men. The Saturday following the officers and ladies had a great cross-country ride in a snowstorm, followed by a hunt breakfast at the club, and a mask dance at night in the auditorium which was well disguised as a pirate ship a la Captain Applejack. The following Monday the Infantry gave a dance for the Artillery which was well attended and hugely enjoyed. The organization day dinner was another event in which the honors were equally divided between the eats and the speeches, reminiscent and otherwise. Colonel McCabe was awarded the prize as racontéur.

The advent of the Infantry made it imperative to increase the housing facilities quickly. A new administration building and quartermaster warehouse, and one artillery barracks, and stable have been completed and are models of modern design. Nearing completion two sets of quarters of four apartments each, and a bachelors' quarters and mess building promise to take care of the present overflow as well as setting an example to other posts of what comfortable, convenient housing can be in the Army. When this work is done and all the officers have brought their families to the Post, we can look forward to a happy, profitable winter, and a continued adherence to the regimental motto—*"Numquam Aerumna Nec Proelium Facto."*

EIGHTH FIELD ARTILLERY — SCHOFIELD BARRACKS, HAWAII

Colonel Henry B. Farrar, *Commanding*

Roster of Officers

Lieutenant-Colonel William H. Peek
Major Carl A. Baehr
Major William A. Raborg

CAPTAINS

John G. Cook
Laurence H. Hanley
Cyril Bassich
Oliver F. Porter
Ralph L. Joyner
Carlos W. Bonham
John C. Butner, Jr.
Garth B. Haddock
Lawrence A. Kurtz
Zenas N. Estes
Andrew R. Reeves
W. Stuart Zimmerman

FIRST LIEUTENANTS

Charles R. Forrest
Ralph D. Sproull
Stephen E. Stancisko
Alexander S. Reynolds
William H. Jaeger
Francis G. McGill
William H. Obenour
James P. Barney, Jr.
George R. Scithers
Alfred Vepsala
Burton L. Pearce

SECOND LIEUTENANTS

Alfred E. Kastner
Stephen C. Lombard
Alfred L. Price
Paul L. Martin
Rochester F. McEldowney
Francis T. Dodd
David S. Babcock
Leslie L. Hittle
Amel T. Leonard
Ernest T. Owen
Marcus B. Stokes, Jr.
Bernard F. Luebbermann
Oliver M. Barton
Kenneth N. Decker
Leonard M. Johnson
Philip H. Enslow
Charles P. Nicholas

THE EIGHTH FIELD ARTILLERY IN HAWAII, 1926

The 8th Field Artillery has passed through a year of heavy changes in its officer personnel. Fortunately the enlisted strength has been quite stable, hence incoming officers fitted readily into the general scheme of training.

Colonel Henry L. Newbold, who had commanded the regiment for three years, departed for his new station at Chicago, Ill., in March of this year. The excellent 8th Field Artillery Hut at the Kilauea Rest Camp on the Island of Hawaii will always be a reminder of his presence in the regiment. It was through his efforts that

the 8th has one of the best cottages available for officers' use at the camp.

Colonel Henry B. Farrar, who arrived in February, assumed command of the regiment upon the departure of its former commander. Coming from Texas, he was prepared for the arid summer which the regiment experienced.

The regiment departed for "Rest Camp" in May, making a sixty-mile march with all equipment *via* Haleiwa, Kahuka, Hauula, and Kaneohe to Camp Waimanalo. This involved a two-day march for the tractor column.

The important features of this camp were: First, the decided contrast to the Happy Hunting Ground of the camp site at Hauula for the two previous years; second, the uncertainty of the camp duration due to causes now a matter of history.

However, there is an end to everything, and on June 30th the regiment made an overnight march back to Schofield Barracks *via* the famous Nuuanu Pali and Honolulu. The accent of the Pali was made at midnight, to avoid traffic congestion, and was an unusual test for motorized artillery. The march of forty miles was completed by noon.

The regiment settled down to normal garrison training and the artillery firing season. The month of October saw the regiment inspected by the Department Commander, Major-General Edward M. Lewis. The inspection was in conjunction with that of the brigade as a whole, for the first part of the program, and the tactical inspection consisted of a problem for the 21st Infantry Brigade, with the 8th Field Artillery in support. A mounted review of the division formed part of the program, and the regiment took its normal place in the formation. On this occasion ex-Secretary of War Stinson was in the reviewing stand along with the inspecting officer.

Battery A of the regiment, after a strenuous competition, was again selected as the 11th Field Artillery Brigade representative in the Army competition for the Knox Trophy. This is the battery which won the Knox Trophy in 1925, and has been the Brigade Efficiency Battery for 1922, 1923, 1924, 1925 and 1926. This is a remarkable achievement, in view of the continuous change in officers and enlisted personnel.

The regimental Polo Team won the William R. Smith Cup in the Post Tournament during the year. This team consisted of the following officers in the final game: Lieutenant A. E. Kastner (1), Lieutenant L. E. Jacoby (2), Major C. A. Baehr (3), and Lieutenant A. S. Reynolds (4). Lieutenant C. E. Berg played (3) on this team while still in the regiment and Lieutenant J. P. Barney,

Jr., Lieutenant C. S. Babcock and Lieutenant S. E. Lombard were substitutes during the season.

Lieutenant Reynolds and Lieutenant Jacoby also played on the Hawaiian Department Army Team, which won the Inter-Island Championship this year. The other players on this team were Captain Wesley J. White, 13th Field Artillery, and Major G. S. Patton, G. S. Corps.

Boxing received a great deal of support in the regiment and in the winter tournament, and the regiment was among the leaders up to the end of the season. Corporal Hansen of the regiment was the Post champion in the middleweight class.

During the year the following officers left the regiment for other stations or duties: Colonel H. L. Newbold; Majors John E. McMahon, Jr., and Daniel A. Connor; Captains Preston T. Vance, John McDowall, Marion I. Voorhes; Lieutenants John G. Brackinridge, Francis J. Achatz, Ralph C. Benner, Ernest A. Bixby, William W. Dixon, George D. Vanture, Michael G. Smith, Mortimer F. Wakefield, Donald R. Van Sickler, Carl E. Berg, Freeman G. Cross, Maurice P. Chadwick, Edward C. Gillette, Jr., Leslie E. Jacoby, John R. Culleton, Cornelius Garrison, Seward L. Mains, Edward F. James, Michael V. Gannon, John B. Murphy, and Nicoll F. Galbraith.

NINTH FIELD ARTILLERY

FORT DES MOINES, IOWA
FORT SNELLING, MINNESOTA
FORT LEAVENWORTH, KANSAS

Lieutenant-Colonel Fred C. Doyle, *Commanding*

Roster of Officers

CAPTAINS

George D. Wahl
Guy H. Dosher
Dana C. Schmahl
Duncan T. Boisseau
Alfred M. Greunther
Leslie B. Downing
Joseph P. Wardlaw
Escalus E. Elliott
Walter D. Webb, Jr.
Anthony C. McAuliffe

FIRST LIEUTENANTS

Lloyd M. Hanna
William N. White
Herman J. Crigger

SECOND LIEUTENANT

Kenneth L. Johnson

The 1st Battalion, 9th Field Artillery, was organized in September, 1922, from the 4th and 7th Training Batteries. The battalion (less one battery, Battery C) was organized at Fort Des Moines, Iowa. The personnel was that of the 4th Training Battery, for this portion of the battalion, and came by rail from Camp McClellan, Alabama. Battery C was organized at Fort Snelling, Minnesota, from the 7th Training Battery that was stationed at that Post. The strength of the 7th Training Battery when it was redesignated Battery C was 6 officers and 105 enlisted men. They were able to carry

on the usual functions of a battery without any hardships. The rest of the battalion at Fort Des Moines was not so fortunate as the strength of the 4th Training Battery was only 1 officer and 96 enlisted men. During the first five months of its existence the portion of the battalion stationed at Fort Des Moines was sadly handicapped due to the lack of personnel and the fact that a full complement of animals and vehicles was received during the first three months after organization. A local recruiting campaign during the first three months of 1923 remedied the situation. Most of the recruits obtained were Iowa men and because of this fact the Battalion was designated "Iowa's Battalion of Regular Field Artillery" by the governor of the state, N. E. Kendall. Battery A was transferred to Fort Riley, Kansas, in June, 1923, leaving only Headquarters, Headquarters Battery and Combat Train and Battery B at Fort Des Moines. The station of Battery C has remained unchanged since its organization.

The battalion has suffered the usual ups and downs as regards strength. An enlistment cycle end arrived in the spring of 1926 and all organizations of the battalion except Battery C suffered a heavy loss of personnel. At the present time the battalion is in fair condition so far as strength is concerned. It is short forty men. The portion stationed at Fort Des Moines is in the best condition at the time of writing, being up to within five of the reduced strength authorized. However, the presence of one-year men and of recruits makes the training problems of the organization commanders for the coming winter a very difficult one. They are thankful for recruits, whether one- or three-year men, and when the summer training camps begin will do what they have always done, namely, make a very creditable record in the work.

Each of the units of the battalion is fortunate in its station. The Posts are all of good size and the officers and ladies of the 9th enjoy the various social affairs incident to garrison life. The close proximity of large cities adds further to their enjoyment of their stations. Those stationed at Fort Snelling enjoy a variety of winter sports in season and are close to a beautiful lake region for their summer entertainment. The reservation at Fort Riley presents unequalled opportunities for the enjoyment of riding and a pack of hounds at the station provides additional sport. Fort Des Moines officers and ladies, while not so fortunately situated as those at Riley, enjoy frequently arranged rides terminated by breakfast at the Target Range three miles from the Post. Needless to say that relations with the town people are most cordial and social activities are quite frequent.

Battery A is the only unit that is so fortunate as to be able to fire at its permanent station. They do considerable firing in demonstrations

for the Cavalry School and are enabled to "keep their hand in" at all times. The other units are not so fortunate. The contingent at Fort Des Moines and Fort Snelling have hiked to Camp Sparta, Wisconsin, the past two years to hold their target practice. On the completion of the target practice a camp for the Field Artillery Reserve Officers of the 7th Corps Area is organized, and provides training for an average of 100 officers. After the training of these officers is completed, the organizations march to their respective stations and participate in the Citizens' Military Training Camps. Battery A marches to Fort Leavenworth in the latter part of July for participation in the Citizens' Military Training Camp held at that station and returns the first part of September to meet a regiment of Reserve Officers at Fort Riley and train them for two weeks. There is no time hanging on our hands. In the winter we "get ready"; in the summer we march and "do our stuff."

Every effort possible is made under adverse conditions to develop athletics in this battalion. The excellent coöperation on the part of Battalion Headquarters has made it possible to develop winning teams in football, basketball, and to produce a fairly good baseball team.

Headquarters Battery and Combat Train was declared the Basketball Champions of the year 1924–1925. This same organization after a thrilling race, in which many obstacles were overcome, won the Post Football Championship for the season of 1925.

During the basketball season of 1925–1926, Battery B, after a gallant fight in the face of injuries, lack of time to practice, due to the shortage of personnel, and military duties, fought their way to a tie of an eight-team league, only to lose first place in the play-off by one point. However, as stated before, injuries to star players crippled our chances for ultimate victory.

Now to go back to football. The season of 1926 opened with six teams in the Post league, two of them being from the 9th Field Artillery. Sergeant William C. Koett was the captain of the team. The race for the Post Championship of 1926 will long be remembered as one of the greatest races ever witnessed by the writer in Post Football. The final wind-up of the season found three teams tied for first place, one of them being Headquarters Battery and Combat Train, 9th Field Artillery.

A play-off was arranged in which Headquarters Battery and Combat Train was fortunate enough to draw the by. The final game to decide the Post Championship was played between Headquarters Battery and Combat Train, 9th Field Artillery, and Headquarters Troop, 14th Cavalry. The Artillery team won this game 6 to 0. This game was probably the most thrilling of any ever

played at this Post. First Sergeant Kahler, Privates Thomas and Osborne, all of Headquarters Battery, did yeoman service in the winning of this game and thereby again making the Artillery supreme in football at this Post. Every other member played his part and the spirit of the team was shown by the sacrifice made by Lieutenant Lloyd M. Hanna, who, though on leave showed up and played in the back-field as only he can play it. Sergeant Koett, the captain, started the game painfully crippled. He pluckily stayed in until near the end of the game and only came out when Nature would stand up no longer.

Due to the absence of the 9th Field Artillery at summer training camp, it is impossible to enter a team in the Post Baseball league. Were it possible to do so, there is no doubt this team would give an excellent account of itself.

To give the men a chance at baseball, a number of games are arranged during the three weeks the Battalion is enroute to Camp Sparta, Wisconsin, for summer training. This form of baseball is highly interesting, in that the teams are traveling from town to town daily. After the arrival at Camp Sparta, a number of games are arranged with local teams.

TENTH FIELD ARTILLERY — CAMP LEWIS, WASHINGTON

Colonel Philip R. Ward, *Commanding*

Roster of Officers

Lieutenant-Colonel Francis W. Clark
Major Richard B. Paddock

CAPTAINS

Henry B. Parker
Lawrence V. Houston
Wallace W. Crawford
Kenneth Rowntree
Edward T. Eneboe
Albert C. Searle
Arthur O. Walsh
George P. Seneff
Myron W. Tupper
Joseph R. Bibb
William H. Brady
Martin C. Walton, Jr.

FIRST LIEUTENANTS

Frederic A. Metcalf
Bryan L. Davis
Edgar T. Anderson
William A. Beiderlinden
Francis H. Vanderwerker
Harold C. Raymond
Henry B. P. Boody
Edward J. Roxbury
Robert T. Strode
Charles W. Hensey
Charles D. Calley
Michael G. Smith
Edward O. Hopkins
Eugene M. Link

SECOND LIEUTENANTS

Maxwell F. Taylor
Robert K. Haskell
Kenneth S. Sweany
Roy P. Turner
Dalies J. Oyster
Kenneth W. Treacy

Norman H. Smith
Charles Cavelli, Jr.
George H. McManus
Harlie H. Parks
Earl J. Murphy
Walter C. Stanton
Charles A. Meny
John A. McFarland
Lindsey R. Wingfield
Irvin Schindler
Franklin C. Nielson
Chester E. Margrave
Frederick A. Bacher
Charles W. Stratton

CHAPLAIN (CAPT.)

Cornelius A. Maher

Situated in the land of Lewis and Clark (not too close to the Canadian border but close enough), Camp Lewis is noted for its

many Christmas trees, dry rain (nobody wears a raincoat), and the 10th Field Artillery. You have but to cross the parade any foggy morning and all the drab cantonment buildings (we have blue prints of good ones) lose their identity and the trees take on new shapes, your fancy turns to other great explorers and you imagine that you, too, are discovering a new country. As your imagination runs riot you pause to listen, expecting any moment the stealthy tread of an Indian or a fleeting glimpse of some frightened animal. You hear the faint clink of stone and metal, prospectors perhaps, then somebody swears and you realize it's just another fatigue detail working on the riding hall. Heaving a long sigh you proceed to the stables, the other man of the battery saddles your horse and you take a long ride to think it over.

However, despite the fact that the regiment did 103,088 man hours of fatigue and 184,497 man hours of guard between January 1st and September 30th, they still had a little time for other things.

The regiment had the usual successful baseball season, winning both the Camp Lewis Championship and the Pacific Northwest Military Championship for the fourth consecutive year. During Military and Naval Week in the city of Tacoma the regiment also won a handsome trophy from the Navy by defeating the strong Navy aggregation from the *U. S. S. Pennsylvania* in the finals. During the year a new regimental ball field was constructed with stands sufficient to accommodate the entire regiment.

Early in the year a Regimental Polo and Hunt Club was organized. While still lacking hounds (other than the tea variety), the club has held a number of very successful hunts—for breakfast. The more "rough and ready" of the club have enjoyed wrangling the wild horse herds of the reservation.

Polo games are played every Sunday and during the summer a team was sent to participate in tournaments at Boise, Idaho, and Vancouver, B. C. Games were also played with Yakima, Washington, and the Tacoma National Guard. Due to the efforts of the Camp Commander, the Tacoma Camp Lewis Polo Association was formed and a turf field with club house and stable accommodations is now under construction.

In September the Veterans of the 91st Division broke ground at Camp Lewis for the new memorial stadium to be built by that organization.

In small arms firing and gunner qualification this year, the 1st Battalion Headquarters Battery retained the Nichols Trophy and Battery A won the Regimental Cup for gunner qualifications.

To stimulate interest in routine duties and also reward the deserving, a holiday has been granted each month to the battery whose barracks and stables present the most creditable appearance

at all times. For this purpose a board consisting of each of the battalion commanders and a member of the Commanding Officers' staff was formed to make a series of inspections at unknown times throughout the month and rate each organization on the condition of barracks, including squad-rooms, day-rooms, orderly-rooms, storerooms, outside-area, stables and stable areas. To facilitate comparisons the batteries were divided into two groups, one consisting of the Gun Batteries and the other of Service Battery and the Headquarters Batteries. To ease the minds of Battery Commanders they themselves are frequently called upon to make the inspection, rating all organizations except their own. As a result, the condition of all organizations has reached a higher standard and the advent of an inspector produces scarcely a ripple.

In September a team consisting of both officers and enlisted men from the regiment was sent to participate in the South Tacoma Horse Show and Fair. Out of twenty-six events this team won fourteen blue ribbons, nine red ribbons and eleven yellows.

The Knox Trophy representative this year was chosen by each of the battalion commanders picking a battery to represent their battalion in a series of tests to be given by the regimental commander. A disinterested board was appointed and the tests as given were the same as the Knox Trophy Test of 1925. This was won by Battery B. By virtue of winning this test Battery B also retains the "Best Battery" guidon of the brigade for the third consecutive time.

During 1926 the following "Old Timers" have shaken the moths out of their civies and taken to the wide open spaces where there "ain't" no reveille and the roof don't leak:

Master Sergeant Herman Leprohon—retired February 2, 1926.

Master Sergeant Per A. Strong—retired April 15, 1926.

Master Sergeant John M. Hardesty—retired August 10, 1926.

Warrant Officer Robert Treiber—retired October 19, 1926.

Now that the summer harvest is over, the regiment has gone back to nail pulling, repairing wartime buildings between times snatching a little "larnin'" and sometimes a little "soldiering."

FOREIGN MILITARY JOURNALS A CURRENT RÉSUMÉ

FRANCE

"Revue d'Artillerie," October–November, 1926

"Reflections on Counterbattery," by Major G. Pellion, is an attempt to furnish the artillery commander with the information as to how many rounds of ammunition will be necessary to neutralize an enemy battery under different conditions of range and exactness of known location of the target, by means of mathematical tables so dear to the French mind.

The tables are prepared for a target whose coördinates are exactly known; for one whose coördinates are known to within fifty meters; and for one whose coördinates are known within one hundred meters. It is assumed that the enemy battery will be contained in a square one hundred meters on a side, the sides being parallel and perpendicular to the plane of fire. Another premise for the construction of the tables is that errors will exist as follows:

	Range	Deflection
Adjusted fire	1 probable error	2 mils
Transfer of fire	2 probable errors	4 mils
Map fire corrected for conditions of the moment	4 probable errors	8 mils

For guns to be used over long periods of time, rates of fire are given as follows:

75-mm. gun	60 rounds per hour
105-mm. gun	36 rounds per hour
155-mm. howitzer	20 rounds per hour
155-mm. G.P.F.	16 rounds per hour

It is claimed that the best cadence of fire demands that a gun shoot steadily for fifteen minutes and then remain idle for forty-five minutes. Thus according to the above table a 75-mm. gun would fire steadily at four rounds per minute for fifteen minutes and then rest for forty-five minutes.

Fire for neutralization should be of short duration but highly concentrated, and when possible the fire of three battalions, or a total of nine batteries, should be thrown simultaneously on an enemy battery for a period of five to ten minutes.

The latest French firing regulations contemplate the following

number of *hits* per hectare before an area can be considered as neutralized.

75 mm.	100
105 mm.	80
155 mm.	50

"The Long Range German Guns" is a description of the gun that fired on Paris in the spring of 1918, translated from the German.

The tube of this piece was made from a 38-cm. naval gun fitted with an interior sleeve of 21-cm. bore. This barrel was prolonged by a smooth bore tube of approximate equal length attached to the muzzle of the rifled barrel by a screw coupling. The total length was 34 meters or about 110 feet. When assembled at the firing position a truss was added to overcome any tendency to droop at the muzzle.

The carriage was built on a turntable installed at the firing position. Across the turntable ran tracks which could be aligned with a connection spur of the railway. The gun was brought to the position on a special flat car and lowered on to the carriage with jacks, after which the flat car was removed from the turntable. It is said that after the turntable had been installed, it required less than a day to put the gun into firing position.

The projectile was of 21 cm. in diameter and weighed 125 kilograms. The length of the powder chamber was about 5 meters long and the weight of the charge exceeded 200 kilograms. The muzzle velocity was about 1500 meters per second, and it was found that the maximum range was obtained at an angle of elevation of 52º, at which the maximum ordinate of the trajectory reached the enormous height of 40 kilometers. After each shot the long barrel would quiver like a fishing rod for several minutes and a special device was necessary to realign the axis of the bore after each shot.

The gun position captured by the American forces in the Bois du Chatelet, near Chateau Thierry, was built for a 38-cm. naval gun. The special "Paris Gun" was never fired from this position but the platform, turntable, and mount were the same.

The first round was fired at 7.15 A.M., March 22, 1918. Several guns of 21-cm. were located in the vicinity and fired simultaneously in order to confuse the French sound-ranging sections. No information on the results of their firing was received by the German gunners until the next day, when at 1 P.M. they were notified by their general headquarters that the Paris press had reported a bombardment of the city by an unknown gun. The same afternoon the

French shells began to fall near the German position, for the sound-ranging sections had caught the special note of the long-range shell and in less than thirty hours retaliation had been started.

"The Distance of an Invisible Burst," by Major Menjaud, is an ingenious scheme for determining the distance between the observer and the point of fall of a shell by utilizing the time between the instant that the first whine of the shell reaches the ear and the time that the sound of the burst is heard.

The method has special application for forward observers who are close to their targets, yet cannot see them due to woods, intervening crests, darkness, or to fire of enemy snipers who may force the observer to remain hidden.

By experiment it was found that the normal 75-mm. shell began to whine when it reached a distance from the point of fall equal to one-third the range. Beginning with a position for the observer in the plane of fire, a table has been prepared having for arguments the gun range and the intervals of time in seconds between the arrival of the whine and the sound of the burst. Using these two arguments the distance of the burst from the observer can be read in hundreds of meters. One table has been prepared for an observer located in the plane of fire and other tables at distances of 300, 600 and 900 meters, respectively, from the plane of fire.

"Coast Defense Methods," by Colonel Benoit. Since 1919 the French coast defenses have been under the navy. The purpose of this article is to acquaint the artilleryman with naval methods.

Scattered and completely concealed guns, with the corollary of indirect fire, is the foundation of modern coast defenses, according to the writer. The preparation of fire seems to have changed but little and the long base range finder, plotting board, and range clock, are still the primary tools. All in all the French practice seems quite conventional.

"Revue Militaire Française," October, 1926

In **"Maneuver in Automobiles,"** Commandant Janssen studies the organization of a motorized infantry division and the new problems that must arise with the birth of such an organization. Keeping in mind the limited resources of his country in material and wealth, the author confines his study to tanks and to commercial transportation which can easily be adapted to military use. His suggestions are very practical and are apparently the result of a careful study of the maneuvers of 1924 and 1925.

He discusses not only the problem of transportation, but also the

new problem of security for motorized columns. Although entire divisions were carried in trucks during the last war, when the front was continuous, the motorized columns were not concerned with the danger of enemy attack that will confront them in the next war which will probably be one of movement.

Dealing first with the more technical problem of transportation within the zone of security, Commandant Janssen points out several defects in the organization of troop movement during the last war. These defects will be more apparent and more serious in a war which may demand greater mobility. During the closing months of the last war troops had to do for days without their rolling kitchens and had to carry machine guns and ammunition for several kilometers from the detrucking point to the line. Some provision must be made for the transportation of machine guns, other infantry accompanying weapons, and rolling kitchens after the troops are unloaded from the trucks. It is an easy matter to transport either tractors or horses with the column of trucks. During the 1924 French maneuvers 100 trucks carrying 300 horses gave all infantry organizations of the division two horses for each rolling kitchen and one horse for each machine voiturette and other similar infantry carts.

The author next considers the organization of a zone of security for the motorized column, by special motorized security units. Cavalry has neither the endurance nor the speed for this task. During the maneuvers studied by the author, motorized units, each containing a reconnaissance group and a shock group, were successfully employed. The shock group was to overcome any scattered resistance that could not be overcome by the reconnaissance element.

The basic unit of the reconnaissance group is the patrol, made up of two scout cars. Three of these patrols form a scout platoon. The next higher unit, a scout squadron, contains two of these scout platoons and two platoons of infantry combat groups carried in small slightly armored trucks moving on tracks. The infantry combat group consists of a noncommissioned officer and seven men equipped with an automatic weapon and grenades. It is necessary to carry along these combat groups which fight on foot and wipe out concealed resistance which cannot be reduced by the fire of the patrol car.

The shock element which follows the reconnaissance element is made up of light speedy tanks. Like the reconnaissance element, it is accompanied by a support of Infantry carried in light caterpillar trucks. During the 1924 maneuvers the infantry support was a company of four platoons of infantry combat groups.

This whole security unit must be looked upon as a tank unit

supported by infantry and not as an advance guard of infantry with tank support.

The matériel should include:

(*a*) The armored reconnaissance car for the reconnaissance patrols, which should be capable of a speed of twenty-five miles per hour on the road and ten miles per hour off the road. The armor must be necessarily light but proof against short-range rifle or machine gun fire and shell fragments. The car should carry one machine gun and a crew of two men. A few of the cars may carry one 37-mm. gun.

(*b*) The light trucks carrying the combat groups should be able to move over any terrain and should have the same speed as the armored reconnaissance cars. Although the personnel disembarks to fight, the car should be lightly armored for protection from rifle fire at short ranges.

(*c*) The light tanks of the shock group should be able to travel on roads at a speed of ten to twelve miles per hour. In estimating the distance between the security unit and the main column, the author is guided by the time necessary for a division to disembark and take up its battle formation. This time he estimates as one and a half or two hours, or an equivalent of twelve miles march. This is the minimum. Frequently when an immediate engagement is not expected the special security forces will be as far as fifty miles, a day's march, in advance of the main column. This will probably be the normal distance since the reconnaissance must be made by day while the main column is resting in concealment to prevent enemy observation.

Should day marching be unavoidable some defense must be organized within the column itself in case the advance party has passed over isolated enemy groups. Since a few machine guns could annoy an entire division column, armored cars should be scattered along the column, one to each fifty trucks. Anti-avion defense should be organized with anti-avion sections stationed in advance along the line of march. These sections should have transportation which enables them to leap-frog the column when they have been passed over.

In the article, **"One Man is Everything,"** Commandant Cotard points out very logically that a brilliant commander with mediocre or even inferior troops can defeat a more seasoned army poorly led. He quotes many examples to prove his theory, mentioning, of course, Napoleon, Hannibal and Frederick the Great.

As Napoleon himself remarked after learning that his brother and his generals had neglected the only opportunity to destroy Wellington, "What is an army without a leader?" Under circumstances

somewhat similar he repeated the thought, "In war men are nothing, one man is everything." The example of Napoleon after his return from Russia shows what a great leader can do with an improvised army. With his army of boy recruits he beat back the armies of all Europe at Lutzen and Bautzen. On the other hand, France in 170, with an excellently trained and seasoned army, failed miserably because of the weakness of MacMahon and other leaders.

The author, of course, does not conclude that military instruction is useless. He admits that Napoleon won his most decisive victories and followed them up with crushing pursuits when he had such a seasoned army as he had at Austerlitz and Iéna. He could not have done as well with his armies of 1813 and 1814. He could not do as well at Wagram.

"The Evolution of Ideas on Organization of Terrain," by Lieutenant-Colonel Baills, begins in the October number with a study of Napoleon's doctrine of terrain organization. In later numbers the author will show how failure to observe this doctrine contributed to the disaster of 1870, and how it was incorrectly applied during the last war. He will conclude his article with a study of the 1924 instructions and their adaption to modern science.

Commandant P. Janet continues in this issue **"Action of a Division in a General Offensive."**

"Agasu," by General O. Boian, is a detailed account of a mountain engagement between the 14th Roumanian brigade and the 61st Austrian division in October, 1916.

CURRENT FIELD ARTILLERY NOTES

Knox Trophy, 1926

THE Chief of Field Artillery has announced that Battery C, Fourth Field Artillery, Fort Davis, Canal Zone, commanded by Captain John D. Key, Field Artillery, is the winner for the year 1926, of the Knox Trophy, donated by the Society of the Sons of the Revolution of the Commonwealth of Massachusetts to that battery of Field Artillery which shall have the highest rating as judged on "firing efficiency, mobility, communications, and interior economy."

The batteries selected to represent the commands of which they were a part and to take the final test were:

Ft. Ethan Allen, Vt.	(1st C.A.)	Btry. A,	7th F.A.	75-mm., Horse drawn
Madison Barracks, N. Y.	(2nd C.A.)	Btry. D,	7th F.A.	75-mm., Horse drawn
Fort Hoyle, Maryland	(3rd C.A.)	Btry. B,	6th F.A.	75-mm., Horse drawn
Fort Myer, Virginia	(Dist. of Wash.)	Btry. C,	16th F.A.	75-mm., Horse drawn
Fort Bragg, N. C.	(4th C.A.)	Btry. B,	17th F.A.	155-mm. H., Tractor drawn
The Infantry School		Btry. C,	83rd F.A.	75-mm., Tractor drawn
Ft. Benj. Harrison, Ind.	(5th C.A.)	Btry. C,	3rd F.A.	75-mm., Horse drawn
1st Bn., 14th F.A.	(6th C.A.)	Btry. B,	14th F.A.	75-mm., Horse drawn
1st Bn., 9th F.A.	(7th C.A.)	Btry. B,	9th F.A.	75-mm., Horse drawn
The Field Artillery School		Btry. E,	1st F.A.	75-mm., Horse drawn
2d Div., Ft. Sam Houston, Tex.		Btry. B,	12th F.A.	75-mm., Horse drawn
1st Cav. Div., Ft. Bliss, Tex.		Btry. C,	82nd F.A.	75-mm., Horse
Ft. D.A. Russell, Wyo.	(9th C.A.)	Btry. A,	76th F.A.	75-mm., Horse drawn
Presidio of Monterey, Calif.	(9th C.A.)	Btry. E,	76th F.A.	75-mm., Horse drawn
Camp Lewis, Washington	(9th C.A.)	Btry. B,	10th F.A.	75-mm., Horse drawn
Canal Zone		Btry. C,	4th F.A.	2.95″ Pack
11th F.A. Brig. (Hawaii)		Btry. A,	8th F.A.	75-mm., Tractor drawn

In the Knox Trophy Test, certain batteries were so reduced in strength that they could not comply with test conditions; two reports were received too late for consideration in making the award, and the score of one battery was disallowed due to the composition of the board. The thirteen scores considered in making the award were as follows:

Firing Efficiency	Mobility	Communications	Interior Economy	Totals
91	94	92	100	377
97	100	77	100	374
92	91	81	100	364
89	100	77	98	364
86	96	75	100	357
96	95	65	100	355
73	97	81	100	351
84	100	56	100	330
75	82	66	100	323
98	90	34	100	322
56	77	84	100	317
53	96	60	100	309
26	100	68	100	294

A detailed study of the figures of the sixteen batteries submitting scores, indicates clearly that the high totals were obtained by those batteries which were consistently good in all subjects rather than those that obtained a "max" in a number of subjects.

The detailed instructions for the test and the rating sheets were sent each artillery command during the spring of 1926 and were confidential until November 20, 1926, only. They should therefore now be available to all batteries, for which reason they are not here given in full. A knowledge of the cause and amount of the deductions made in the various subjects is of value as an indication of the elements of training which should be given greater attention.

In the following tables are given the number of batteries competing and the total deductions made. In the columns, the figure in parentheses indicates the number of batteries given deductions for the stated cause, the number preceding the parentheses being the aggregate deductions made for this cause. For example, in "Firing Efficiency, 75-mm. and 2.95″ Pack," all deductions made against the fifteen batteries entered in this particular test are shown. In the axial problem four batteries were given deductions aggregating twelve points or an average of three points per battery for the four batteries, due to "Failure to obtain correct distribution on target (each gun)." The other eleven batteries were given no deductions in the axial problem for this cause.

FIRING EFFICIENCY—75-MM. AND 2.95″ PACK. (15 BATTERIES)

	Deduction Values	1 Axial Time 3 Min. Value 33	2 Advanced Time 6 Min. Value 33	3 Advanced Time 6 Min. Value 34
		Deductions		
Failure to obtain correct range bracket	8		8 (1)	8 (1)
Failure to obtain correct distribution on target (each gun)	2	12 (4)	10 (4)	6 (3)
Failure to obtain correct corrector	4	4 (1)		
Failure to select proper projectile	2			
Failure to select proper fuse	2			
Failure to select proper method of adjustment	2	2 (1)		
Each error in sequence of commands.	1	6 (6)	2 (2)	1 (1)
Each error in setting or laying in excess of those allowed in Gunners' Examination	5	40 (3)	15 (3)	
Error in command other than sequence (each)	2	12 (1)	4 (2)	12 (5)
Each setting or laying within the accuracy of Gunners' Examination but not exactly accurate	1	10 (5)	3 (2)	
Each 30 seconds over time for problem	1	19 (5)	35 (2)	74 (9)

Initial Credit 100

In the 1926 Firing Tests, additional emphasis was laid on accuracy of setting and laying. The average scores of the 75-mm. and 2.95″ batteries were as follows:

1st Problem—Axial, Shrapnel	78.4 per cent.
2nd Problem—Advanced, Shrapnel, or Shell	84.2 per cent.
3rd Problem—Advanced, Shell	79.8 per cent.
Average total	80.4 per cent.

MOBILITY—75-MM. BATTERIES, HORSE DRAWN. (12 BATTERIES)

	Deduction Value	Deduction Score
For each 2 minutes delay in starting march	5	
For each horse saddled or harnessed prior to 30 minutes before starting time	1	
For each 2 minutes overtime for march	5	
For each saddle or collar puff, or spot where sensitive tissue is exposed resulting from a saddle, collar or harness sore	2	34 (7)
For each lead pair left unheld or improperly held during halts	3	3 (1)
For each team in which limber (or pole) prop is not employed at regular halt to relieve weight from necks of wheelers	1	3 (1)
For each enlisted man who leaves the marching column without proper authority	2	
For each carriage not parked on the right of the road at a halt	2	
For each animal that is lame at the completion of march	1	
For each individual loitering on left of road at halt	1	
For each carriage falling out of column	3	6 (2)

Initial Credit 100

MOBILITY—75-MM. BATTERIES, TRACTOR DRAWN. (2 BATTERIES)

	Deduction Value	Deduction Score
For each 2 minutes delay in starting march	5	
For each tractor cranked or coupled prior to 30 minutes before starting time	5	
For each 2 minutes overtime for march	5	
For each 2 minutes excess in time for any halt	3	
For each unauthorized halt of the column except to change gears	10	
For each enlisted man leaving the marching column without proper authority	2	
For each vehicle not parked on right of road at halt	2	
For each individual loitering on left of road at halt	2	
For each tractor falling out of column	5	20 (1)
For each other motor vehicle falling out of column except for tire failure	3	6 (2)

Initial Credit..... 100

The scores in the Mobility Test have always been high. It is difficult to prescribe cuts for all the possible errors and until our Training Regulation on Camps, Marches, etc., is published there will remain certain rules for the conduct of marches not covered by regulation. The average on mobility was 94.2 per cent.

COMMUNICATIONS. (16 BATTERIES)

(1) *Telephone*. Time allowed, 9 minutes.

	Deduction Value	Deduction Score
Each 30 seconds, or major part thereof, in excess of allowed time	1	102 (12)
Failure of any telephone in the battery net to operate satisfactorily	10	10 (1)
Each error of digit or letter in message received	1	90 (13)
Failure of any telephone not originally in the net to operate immediately when tested on the line	5	

Initial Credit 60

(2) *Visual Signaling*. Time allowed, 4 minutes.

	Deduction Value	Deduction Score
For each 15 seconds overtime	1	1 (1)
For each incorrect letter or digit	2	60 (8)

Initial Credit..... 10

(3) *Range Finding*. Time allowed for each range, 1 minute.

	Deduction Value	Deduction Score	
		First	Second
For each 1 per cent. error in range in excess of 5 per cent. of the range	1	24 (4)	14 (4)
For each 10 seconds overtime	1		

Initial Credit.....15

(4) *Computation of Firing Data*. Time allowed for each problem, 3 minutes.

	Deduction Value	Deduction Score	
		First	Second
For each 15 seconds overtime	1	17 (3)	4 (2)
For deflection error between 10 and 15 mils	1		1 (1)
For deflection error between 15 and 30 mils	3	6 (2)	9 (3)
For deflection error between 30 and 50 mils	6	12 (2)	6 (1)
For deflection error more than 50 mils	8	24 (3)	24 (3)
For site error between 1 and 2 mils	1	3 (3)	1 (1)
For site error between 2 and 7 mils	3		12 (4)
For site error between 7 and 12 mils	6	6 (1)	6 (1)
For site error more than 12 mils	8	8 (1)	8 (1)

Initial Credit 15

In the Communication Test the averages of the four parts were as follows:

Telephone ..... 79.0 per cent.
Visual Signaling ..... 68.2 per cent.
Range Finder ..... 84.2 per cent.
Firing Data ..... 45.0 per cent.
Total average ..... 73.6 per cent.

In Visual Signaling, the method to be used was left to the battery commander. Three used semaphore, six used wig-wag, and seven failed to indicate the method employed.

Interior Economy. In computing the scores under this heading the following interesting data was brought out.

Desertions	Discharge by Purchase	Summary Court Martials	Reënlisted Men	Gunners
28	4	12		29
16.7	4.3	6.8	28.5	19.2
19	13	13	30.7	20
8	7	8	34.5	39
6	8	16	23.5	70
14.3	5	7.7	36.3	24.7
12.7	7.8	11.1	25.5	43.4
18	11	5	17	18
25	8	6	33	45
21	10	5		25
1.3	6.2	8.1		40.2
6.3	8.7	5	33	59
13	5	10	13	10
14	4	4	29	38
15.3	4	4.3	19	32
5.7	11.3	8	31	21.7

The figures on each horizontal line are the averages for all gun batteries of like armament in each command. Desertions, Discharges by Purchase and Summary Court Martials are for the twelve months immediately preceding that in which the test was held. Reënlisted men and Gunners are the numbers in the batteries as of the first day of the test.

It will be noticed that three figures are omitted under Reënlisted men. In these instances there was some doubt as to the correctness of the figures submitted. These were, however, quite low.

Since the conditions of the Knox Trophy Test were quite materially changed in 1924, it is interesting to note that the Knox Trophy has been won by a horse-drawn battery, a tractor-drawn battery and a pack battery. While it has not been won by a 155-mm. howitzer battery, the fact that a howitzer battery has been the representative of an artillery command in which there were also horse-drawn 75-mm. batteries, indicates that the system of scoring is so balanced as to neutralize any apparent advantage in type of armament or draft.

The test for the Calendar Year 1927, will be similar to that for 1926, changes being introduced to require general training in preparation, and to meet certain suggestions made by rating boards. The battery to represent any command must be selected in accordance with a system which will insure that the battery will be truly representative. Initiative as to method of selection is left to local field artillery commanders, but unless excused because of exceptional conditions, the test battery must complete its test so that the report of same may be mailed in time to reach the Office of the Chief of Field Artillery on or before November 20th. The test may be held at any time after the receipt of the yearly instructions.

For 1927, a separate battery will not be authorized, each, for the Ninth and Fourteenth Field Artillery Battalions but, instead, a test battery will be chosen from the field artillery units conducting summer training at Camp Sparta, Wisconsin, local commanders coöperating in selecting the test battery. Otherwise, a test battery will be chosen as before to represent each field artillery command of size not less than a complete battalion stationed together.

Knox Medal

The winner of the Knox Medal, 1926, is Corporal L. J. Arnold, 1st Battalion Headquarters, 18th Field Artillery, Fort Sill, Oklahoma. The Knox Medal is awarded annually to an enlisted man for excellence as a student at the Field Artillery School.

13th Field Artillery Football Team

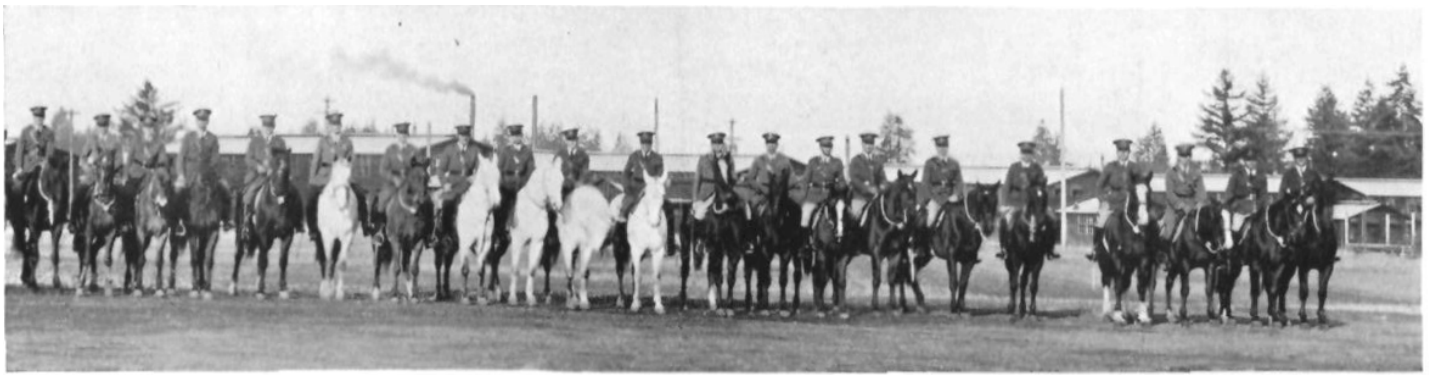
The excellent record of the 13th Field Artillery football team, stationed at Schofield Barracks, should be of interest to all the Artillery service. For four successive years this regimental team has won the football championship of the Hawaiian Division against strong competition.

Those who have served in Hawaii will recall the intense interest

13TH FIELD ARTILLERY FOOTBALL TEAM—1926

TOP ROW: (LEFT TO RIGHT) CPL. CUSIC, LT. MC KINNION, LT. CREWFORD, LT. ERICSON, PVT. MERRITT;
2ND ROW: PVT. PIPESTEM, PVT. OWEN, PVT. WILSON, CPL. WALLER, PVT. LAFNEAR, CPL. STUANICKA, PVT. PACOVSKI, PVT. EHRMAN, CPL. NEENAN;
3RD ROW: ST. SGT. CANNON, CPL. MUNRO, SGT. FISHER, CPL. TRAMMELL, PVT.SHIMKO, PVT WILSON, PVT. HODGSON, PVT. WILLIS;
4TH ROW: PVT. FORDE, PVT. SCHMIDT, 1ST SGT. KURT (CAPT.), PVT. GILL, SGT. TREMPLE, CPL. AUGUSTINE, PVT. TILSON, CPL. VAN HAM, AND PVT. REYNOLDS;
BOTTOM ROW: PVT. BAILEY

LEFT TO RIGHT. CAPTAIN W. W. CRAWFORD, LIEUT. W. A. BEIDERLINDEN, LIEUT. H. H. PARKS, CAPTAIN G. P. SENEFF, LIEUT. E. J. ROXBURY, LIEUT. R. K. HASKELL, LIEUT. F. A. BACHER, JR., LIEUT. E. T. ANDERSON, CAPTAIN K. ROWNTREE, LIEUT. M. G. SMITH, LIEUT. C. A. MENY, LIEUT. F. C. NIELSON, LIEUT. D. J. OVSTER, LIEUT. F. H. VANDERWERKER, LIEUT. B. L. DAVIS, MAJOR R. B. PADDOCK, COLONEL P. R. WARD, CAPTAIN A. C. SEARLE, CHAPLAIN C. A. MAHER, CAPTAIN W. H. BRADY.



LIEUT. E. M. LINN, LIEUT. E. O. HOPKINS, CAPTAIN M. C. WALTON, JR., CAPTAIN E. T. ENEBOE, LIEUT. H. B. P. BOODY, LIEUT. C. D. CALLEY, LIEUT. K. S. SWEANY, LIEUT. C. W. HENSEY, LIEUT. G. H. MCMANUS, LIEUT. W. C. STANTON, LIEUT. I. SCHINDLEE, CAPTAIN M. W. TUPPER, LIEUT. H. C. RAYMOND, LIEUT. R. T. STRODE, LIEUT. N. H. SMITH, LIEUT. J. A. MCFARLAND, LIEUT. L. R. WINGFIELD, CAPTAIN J. R. BIBB, LIEUT. M. D. TAYLOR, LIEUT. R. P. TURNER, LIEUT. C. W. STRATTON.

OFFICERS OF THE 10TH FIELD ARTILLERY, CAMP LEWIS

of both soldiers and civilians in the competitive sports there. When 9000 soldiers are assembled on an army post, well removed from any city, the normal interest in the relaxation of sport and competition becomes highly intensified. Such is the situation in Hawaii. Football, boxing, and baseball, all bring out competitive teams in each organization. Every organization has its own set of athletic fields. Leagues are formed in each sport and the games are fought out on a competitive plan that is reached probably nowhere else in the service. Regiments turn out en-masse to back their men. The crowded stands, the organized cheering, the scarlet and the blue guidons fluttering against the sky, the enthusiastic assemblage and the Hawaiian mountains give a setting to the contests similar to that of college games, yet one that retains its own unique military atmosphere.

Football in Hawaii as in most other places is the premier competitive sport. The Division league is made up of eight teams from the regiments of the Division. Officers are detailed as coaches and officials, and the quality of football is distinctly good. Hard charging rush lines that know how to use their hands, elusive, fast backs, excellent passers and kickers combine to furnish many close and exciting games.

At the close of each season the best players of the various Army teams are selected for the All Army team of Hawaii. This latter team plays a selected Navy team and the game has all the usual color and excitement attendant on inter-service contests.

The 11th Field Artillery Brigade has more than done its share in supplying players for the All Army team. The Field Artillery teams are stern competitors among themselves, but when a regimental team from the Brigade goes up against an outsider, all Artillerymen, irrespective of regiment, are there to cheer for the Artillery. The percentage of men from the 11th Field Artillery Brigade on the All Army squad has been consistently very high—over fifty per cent. Moreover, in 1921, just prior to the victories of the 13th Field Artillery team, the league championship was won by the 11th Field Artillery.

For two years the All Army team has been made up entirely of enlisted men. In 1925 six of the first string players were from the 13th Field Artillery and this year fourteen of the squad and seven of the first string players are again from the 13th Field Artillery. One of the very interesting features of the list of these selected players is the large number of noncommissioned officers included.

The 1926 13th Field Artillery team, as well as this year's All Army team, was coached by Lieutenant Crawford, 13th Field Artillery (head coach), and Lieutenant McKinnon, 13th Field Artillery

(line coach). Lieutenant Eric Ericson, 13th Field Artillery, was assistant backfield coach of the 13th Field Artillery team.

Army Riding Team at National and Chicago Horse Shows

The record of the Army Riding Team is of unusual interest to our readers this year since for the first time, Field Artillery officers are members of the team. Of the five members, two, Captains William H. Colbern and Norman J. McMahon, are officers of Field Artillery.

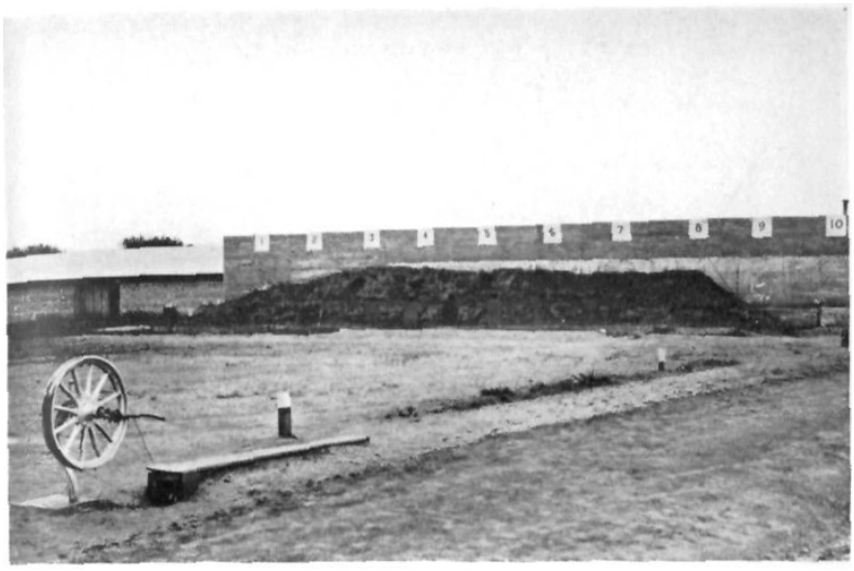
The National Horse Show was held in Madison Square Garden, New York, November 22–27, 1926, the U. S. Army team having many entries. The performances on the Olympic Course were such that all places were captured by foreign officers. Disappointment at the outcome of this one event has, in the minds of many, prevented a proper appreciation of the remarkable results obtained by the Army team.

The situation may be summed up by the statement that while we lost the Olympic event to the foreigners, the members of the Army team outclassed them in all other jumping, and won many places in the open classes in which the foreign officers also competed and won little. In riding with a hunting seat, over hunting jumps and at a hunting pace, we clearly excelled the foreign officers. For the particular conditions of the Olympic Course, the foreign riders and horses were unquestionably superior.

A comparison between our horses and the foreign horses in the Olympic event may be obtained from the results of the Hunter classes in which many of the Olympic horses were entered. Preliminary to this event, all hunters were given scores on conformation. The foreign horses shown in the Hunter classes were all in the lower third on conformation, while all the Army entries were in the upper third.

If we wish to win this event in the future, it is thought that we must pick and train horses for this one event alone. It would appear that these horses should be picked for their desire to jump rather than for their conformation or looks, and should then be trained to take four and a half and five-foot jumps at a slow canter and without any thought of a following jump.

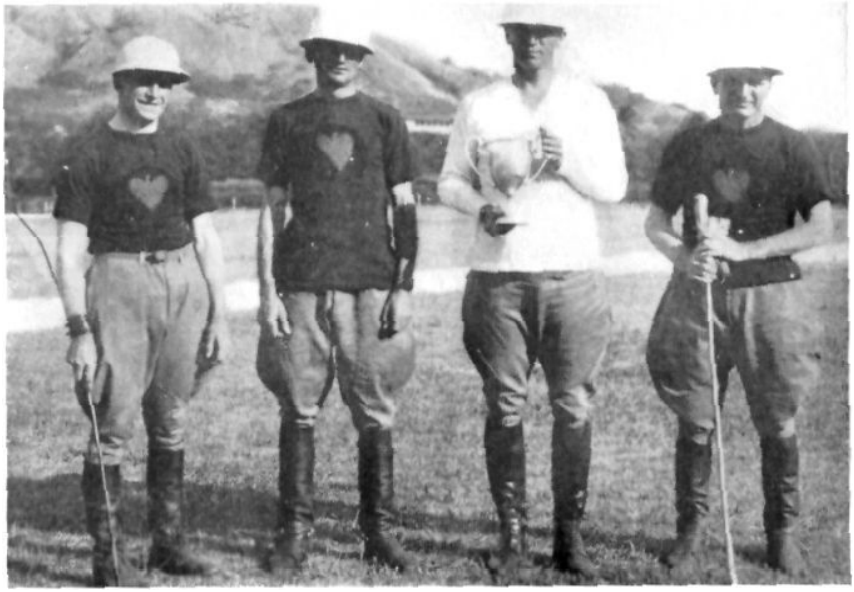
The following are some of the outstanding features of the New York show: Nigra, ridden by Captain Waters, won the "Touch and Out" over 97 entries, including all the foreign entries. Black Boy, ridden by Captain Bradford in the Open Jump, won over 39 others. In "Teams of Three" the Army team won over 17 teams, including all foreign teams. We also won second and third for the Westchester Challenge Cup (teams of three) over 13 teams, including all countries. Proctor won an excellent second in the Hunter



PISTOL RANGE. UNIVERSITY OF OKLAHOMA R.O.T.C.

BOBBING TARGETS ARE OPERATED SIMULTANEOUSLY BY CRANKING THE WHEEL SHOWN AT LEFT

DETAILS OF THE BOBBING TARGETS



HAWAIIAN DEPARTMENT POLO TEAM. 1926 CHAMPIONS OF THE HAWAIIAN ISLANDS

No. 1, Lieut. L. E. Jacoby, F. A.; No. 2, Lieut. A. S. Reynolds, F.A.; No. 3, Major G. S. Patton, G. S.; Back , Capt. W. J. White, F.A.

THE POLO CHAMPIONS OF THE SECOND CORPS AREA

The Princeton R.O.T.C. Team: (Left to Right) Capt. F. B. Prickett, F.A., No. 4; H. R. Erdman, 1927, No. 3; Arthur Borden, 1929, No. 2; Capt. Z. E. Lawhon F.A., No. 1

$1000 Stake over 57 entries, representing the best in this and other countries. Proctor also won the Officers' Mounts, all countries, over 29 entries, thus winning the Bowman Challenge Cup for the second time. The Army team also won first and third in the class for officers' pairs, against all nations, 23 pairs.

The winnings of the Army team at the National Horse Show in 1926 exceed by about 50 per cent. their winnings of the previous year, which were then considered most creditable.

At the Chicago Horse Show, December 7–11, 1926, the Army team in the Open Classes, won three firsts, one second (Olympic Course), three thirds and three fourths. In the Military classes they won first and second in "Troopers' Mounts," the first four places in both "Officers' Chargers" and "Officers' Jumpers" and the first three places in "Pair Jumping."

In the "Touch and Out" class and the $1000 Stake, Miss America won brilliantly, defeating the horses that had won these two events in New York. Miss America in the jumping stake was one of nine horses to go clean over eight four-foot fences. The jumps were then raised to four feet six inches and Miss America jumped the eight jumps without a fault, the only one to do so, winning with a very brilliant performance.

Metal Targets Supports for Bobbing Targets

Two pictures are shown of the excellent arrangement for bobbing targets installed by the Reserve Officers' Training Corps unit at the University of Oklahoma. The chief purpose of this arrangement was to provide a permanent installation and to prevent the destruction of the target and interruption of firing due to the shooting out of the wooden stake usually provided as the target support. The use of this new device has been found to result in a considerable economy in targets. The two metal side supports for target are slotted on the inside, the targets being slid into position from above.

Princeton R.O.T.C. Polo Team

From headquarters at Governor's Island, N. Y., came the orders which this year inaugurated an annual handicap polo tournament, open to all military organizations within the Second Corps Area. From Princeton came the team which progressed undefeated through the tourney, won first leg on a large silver cup presented by Major-General Charles P. Summerall, U. S. A., and captured the championship honors involved.

The winning team, Princeton's R.O.T.C. four, was composed of Captains Lawhon and Prickett, officers assigned to the University's F.A.R.O.T.C. unit, and Undergraduates Erdman and Borden, members of the outfit. After practicing at Fort Monmouth, N. J., and

at Rumson through the courtesy of Brigadier-General Howard Borden, the team began play on October 5th as one of the nine tournament entries—and handicapped as a six-goal team. The other competitors were representatives of the 105th Field Artillery, the First Division, Cornell R.O.T.C., Fort Monmouth, 101st Cavalry, Madison Barracks, 112th Field Artillery, and Governor's Island.

In the first two games, in each of which Princeton was obliged to start its opponents with three tallies, the prospective champions gained victories over Fort Monmouth and the 112th Field Artillery, the scores being 11–3 and 10–4. In the semi-finals Princeton met a favored Cornell team, and by a display of perfect coördination, strong hitting and hard riding, tallied nine goals to add to a handicap of two, thus winning 11 to 3.

The most spectacular victory was achieved in the finals, when Princeton spotted the 101st Cavalry of Brooklyn three points, and then came from behind to vanquish them, 9 to 6. At the end of the first chucker the equestrians led, 5 to 1; by the close of the fifth period Princeton had drawn up on even terms at 6-all; during the sixth and final chucker Princeton flashed its best game, and made the championship certain by a determined scoring rally which netted three goals. (*Princeton Alumni Weekly*.)

The line-up of the teams entering the Tournament was as follows:

Princeton R.O.T.C.

1 Capt. Lawhon
2 Arthur Borden, '29
3 H. R. Erdman, '27
4 Capt. Prickett

101st Cavalry

1 Kornbaum
2 Wilson
3 Thornberg
4 Brachtell

Cornell R.O.T.C.

1 Lieut. Hammond
2 Capt. Maraist
3 Maj. Anderson
4 Lieut. Smith

105th Field Artillery

1 Lieut. Anderson
2 Lieut. Maguire
3 Lieut. Cutler
4 Lieut. Thorpe

1st Division

1 Lieut. Booth
2 Lieut. Scott
3 Maj. Poole
4 Capt. Neu

Fort Monmouth

1 Lieut. McCormick
2 Lieut. Hayden
3 Capt. Rasor
4 Capt. Temple

Governors Island

1 Lieut. O'Connor
2 Lieut. Holman
3 Capt. St. John
4 Lieut.-Col. Scott

Madison Barracks

1 Lieut. McHugh
2 Gen. Parker
3 Lieut. Smith
4 Capt. Legge

112th Field Artillery

1 Lieut. Terhune
2 Lieut.-Col. Hartdegan
3 Lieut. Miller
Sub-Lieut. Dixon
4 Maj. Towers

Field Artillery Board Notes

The Board has on hand at present 58 tests of varying degrees of importance. The attached list gives the names of these tests. In most cases the general purpose of the test can be determined from the name itself. It will be noted that the tests cover the development of new matériel and apparatus; the modification and improvement of present matériel and apparatus; and the effectiveness of present matériel, apparatus, ammunition and methods. As, for instance, development work is concerned in the "Test of the 105-mm. Howitzer, M-1925E"; modification is concerned in the tests of the "Modifications of Trail, 75-mm. Gun, French," and "Modified McClellan Saddles"; the effectiveness of present matériel, etc., by the "Study of Effect of Fire" and "Defense Against Low-flying Airplanes." From the above, the extent of the Board's work can be clearly seen and an idea can be gained of the ground being covered. In previous notes, it has been the policy to describe only those tests which had been completed and those which seemed of especial interest to the service. In general, that policy will be continued. It seems advisable, however, to show the service, every once in a while, the entire field that the Board is covering.

Since the preceding notes, the Board has been active on the motor side, especially. The work on new matériel has been suspended until the new divisional weapons arrive from Aberdeen. The Training Regulations Section has started functioning and has completed several regulations.

Motors. General.—In motor equipment, the Board is working along the line of simplification of equipment and reduction of the number of different types in any one organization. For instance, in the battery, it is believed that heavy trucks can and should be eliminated, trailers and tractors being substituted for them. For passenger-carrying vehicles, the light reconnaissance car, such as the Ford, has been adopted. Tests are now being started on the use of light vehicles of the same type with a capacity of one to one and a half tons for carrying the personnel and equipment now carried by the White Staff and Reconnaissance Cars and the G.M.C. trucks. The battery has at present the following different types of motor equipment:

1. Tractors.
2. White cars.
3. G.M.C. trucks.
4. Motorcycles.
5. F.W.D. trucks.
6. Dodge cars.

Six sets of spare parts must be carried for this equipment. Under the scheme toward which the Board is working, the battery would have the following motor equipment:

1. Light reconnaissance cars.
2. Light trucks.
3. Tractors.

Since 1 and 2 would have the same engine and similar chassis, there would be but two sets of spare parts and the upkeep and maintenance of the equipment would be greatly simplified.

As mentioned in the last report, types of trailers have been ordered and will be tested shortly. In addition, several types of light trucks, one to one and a half tons capacity, have been ordered and will be tested, also, upon arrival.

Double-heading Test.—At least one weapon of our present standard matériel is too heavy for any of our present tractors, or for any commercial tractor now existing or under development. This is the 155-mm. gun which weighs around 28,000 pounds, an overweight of 8000 pounds over the ten-ton tractor. The new model of this gun weighs about the same. It, however, can be carried in two loads, by placing the gun on a transport wagon. The Double-heading Test has two main purposes: First, to determine the best methods to use when it is necessary to double-head matériel in going over bad ground; secondly, to determine the efficiency of double-heading in time and labor as compared to the two-load assembly with its increased length of column and the time and labor involved in assembling and disassembling the matériel. This test has started but has not reached the point where conclusions can be drawn.

Horses as a Means of Column Supervision in Tractor Batteries.—The first report on this test is being written. The purpose of the test has been described in previous notes and will not be repeated here. It has been determined for the ordinary peace-time, garrison training and maneuvering, the horse is by far the best means for tractor column supervision. No motor vehicle so far designed has the flexibility and narrow width of the horse. Consequently on narrow roads, roads with heavy traffic, or ditch-lined roads present motor vehicles are very much hampered, where the horse can move freely. Whether the horse can stand up under continued service in wartime, with its long marches and constant movement, has not been determined. It has been recommended that the test be continued to settle this point, especially.

Motor Carriages, 155-mm. Gun—8″ Howitzer.—The Board has received recently two motor carriages of Ordnance design for the 155-mm. gun—8″ howitzer, M-1920. These are tractors of approximately fifteen tons' capacity. With the weapon mounted on the carriage, the total weight will be around 40,000 pounds. One tractor has had the 155-mm. gun mounted on it and will be tested as a

self-contained mount. The other will be tested as a tractor to pull the 155-mm. gun, M-1918 (G.P.F.). In the tests to date, these tractors have proved to have great power and to be very flexible. They have pulled the 155-mm. gun through places and up grades where the six-horse team has difficulty in moving a 75-mm. gun. The test is continuing.

New Trucks.—Two F.W.D. three-ton trucks have been rebuilt with all of the latest improvements to date.

Two four-wheel-drive Coleman trucks are also to be sent to the Board.

All of these trucks will be given a tryout during 1927. So far as tested, the three-ton F.W.D.'s have shown remarkably good performance in deep sand and on steep grades. This will also include the test of comparative efficiency of hard and pneumatic tires.

Tractors.—The tests of Best two-ton, 30 and 60 commercial tractors and the Corps Tractor of Ordnance design have been completed. All these tractors showed excellent performances. The reports are being written up and will recommend adoption as standard for the commercial types.

Matériel. General.—The status of the matériel under development is as follows:

The 155-mm. howitzer, M-1920, has been tested and the carriage proved unsatisfactory. A new model is being, or will be, constructed. The howitzer itself proved a very accurate weapon.

The 4.7″ gun, M-1922, has been tested and would seem to be satisfactory, provided certain modifications are incorporated. These changes will be made in the carriage and the material will be retested. The supercharge did not give the required accuracy, but this is believed to be more of a question of the ammunition than of the gun.

The 155-mm. gun—8″ howitzer matériel, has been tested as far as possible. New design ammunition has yet to be fired from the tubes and the carriage has some minor defects. It is possible that the carriage may be redesigned so as to equalize the two loads. This has not been decided. The transport wagon was not satisfactory.

The M-1925, 105-mm. howitzer, box-trail, has recently arrived for test. Two other models of this howitzer, the T-1 and T-2, both split-trail, will be ready for test in 1927. At that time, a comparative test, especially in firing, will be held. Due to a shortage in ammunition, no other firing will be done, the present test of the M-1925 being confined to mobility, manhandling, etc.

The M-1923, split-trail, 75-mm. gun, has been tested and adopted as a standard for manufacture. The M-1925, box-trail, 75-mm. gun, has just arrived for a comparative test with the other model. This test will start immediately after January 1, 1927, and will be pushed to a conclusion as quickly as possible.

No medium or heavy type of weapon has yet been accepted as standard. Progress in the development of these is slow because of shortage in funds.

In the Corps and general headquarters reserve weapons, only one has been accepted as standard. It is understood that the continued development of the others is temporarily held up by a shortage in funds.

Ammunition.—Three hundred rounds of the latest design ammunition, with a combination instantaneous short delay fuse are on hand and will be tested at the same time as the new 75's.

Work on shell fragmentation and the behavior of the shell after striking continues.

Flashless powders for the 75-mm. and 155-mm. howitzers have been tested and reported on favorably.

Training Regulations.—The training regulations section have completed and sent forward the first drafts of the new gunners' examination and the new dismounted drills and ceremonies. In addition, several technical regulations on matériel by the Ordnance have been reviewed. This section is now working on "The Tractor Driver" and the "Service of the Piece, 240-mm. Howitzer."

Equipment Tables.—The first of the new equipment tables have been sent forward and it is understood that a conference with the General Staff on them has been, or will be shortly, held.

Defense Against Low-flying Airplanes.—Tests are being conducted by the various branches of the service to determine how the present equipment can be used as a defense against low-flying attack aviation. This involves, of course, mostly the use of machine guns. This test is just being started by the Board and will take several months.

General.—A Jack-O-Lite lantern is being tested. This is a flashlight with a generator in it actuated by a spring which in turn is wound up by a handle. It contains no batteries. The test is incomplete.

Wheel blocks for the 155-mm. gun have been tested and reported on unfavorably. This test involved the use of 14″ × 12″ blocks under the wheels of the matériel to reduce the amount of digging usually necessary. It was found that the gain in time and reduction in amount of digging was not sufficient to justify the addition of 1000 pounds of equipment.

A new rolling kitchen of special design has arrived. It is much too heavy but is being modified.

New telephones, the Type EE-8, have arrived and are being tested.

New Tests.—Three new tests of interest to the service are just being started; *i.e.*, one on the accuracy of the different methods of

obtaining a parallel sheaf; a second on the efficiency and use of time fuses; and a third on the accuracy of unobserved and unadjusted map prepared fire, this including transfers of fire.

Incomplete Subjects Before the Field Artillery Board

Reel, Artillery, M-1909, and Cart, Artillery, M-1918 (horse-drawn).
Sound-ranging.
Training Regulations.
High-burst Ranging.
Ford Cross-country Car.
Cargo Carts.
Modification of Trail, 75-mm. Gun (French).
Study of Effect of Fire.
Holding-up Straps and Loin Strap Extension Straps for Field Artillery Harness.
Modification of Forge Limber, M-1902, and Chief Mechanic's Chest, Roll and Tools.
Carpenter's Chest and Tool Roll, and Chest for Cleaning Material and Small Stores.
Modified McClellan Saddles.
50-gal. Gas Tank on 5-Ton Artillery Tractor.
155-mm. Gun—8-inch Howitzer, Models 1920-E.
4.7″ Gun, Model 1922-E.
F.N.H. Powder for 155-mm. Howitzer.
Indian Prince Motorcycle.
Best 60 Tractor.
Corps Tractor, Model 1921.
Two Best 30 Tractors.
Water Tank and Pump Mounted on Ordnance Limber Chassis.
Light Divisional Howitzer-gun.
Harness Repair Links.
Basic Allowance and Equipment Tables.
Review of Tables of Basic Allowances for Observation Units.
Pouches for Carrying Signal Corps Knives and Pliers.
105-mm. Ammunition and Ammunition Packing Boxes for 105-mm. Howitzer.
Horses as a Means of Column Supervision in Tractor Battery.
Study of Tool Equipment for Five- and Ten-ton Tractor Driver.
Double Heading of Heavy Tractors.
Chevrolet Cross-country Car.
Fordson Tractor with Full-crawler Adapter in Comparison with Fordson Tractor with Hadfield-Penfield Adapter.
Wire-laying Tractor.
Artillery Offset Meter.

Stirrup Strap Loops.
Lighting Equipment for Tractor.
Diaphragm Gas Masks.
Jack-O-Lite Lantern.
Brackets on Caissons, 75-mm. for Carrying Night Lanterns with Hoods.
Defense Against Low-flying Airplanes.
Oil Screw Filler with Metallic Packing for 75-mm., M-1897, and 155-mm., M-1918 (G.P.F.).
Jacks *vs*. Chain Hoists for Mounting and Dismounting 240-mm. Howitzer Matériel, M-1918 (Schneider).
Limbered Ration Cart on Ordnance Caisson Chassis.
Rolling Kitchen.
Comparative Test of 155-mm. Gun—8″ Howitzer Motor Carriages, M-1921 No. 2, and M-1921 No. 1.
Type EE-8 Telephones.
Accuracy of Establishment of Parallel Sheaf.
DuPont N.H. Powder for 155-mm. Gun, M-1918.
Accuracy of Fire, and of the Preparation of Fire.
105-mm. Howitzer, M-1925E2.
Two Rebuilt F.W.D. Trucks with Drop-gear Case, Equipped with Pneumatic and Solid Rubber Tires.
Test to Determine Effect of Time Shell.
Lanterns and Masks for Illuminating Aiming Posts.
75-mm. Gun, M-1925E.

THE UNITED STATES FIELD ARTILLERY ASSOCIATION

Annual Meeting

PURSUANT to the call of the Executive Council, the sixteenth annual meeting of The United States Field Artillery Association was held at the Army and Navy Club in Washington, D. C., December 18, 1926. The meeting was called to order at 5.45 P.M. by the President of the Association, Major-General Wm. J. Snow, Chief of Field Artillery.

The Secretary read the call for the meeting, which had been sent by mail to all active members within the continental limits of the United States, as required by the constitution. He reported that he held the written proxies of more than fifty per cent. of such members and there was therefore present a quorum for the transaction of business.

On motion, the reading of the minutes of the last meeting was dispensed with and the minutes were approved as published in THE FIELD ARTILLERY JOURNAL.

The Secretary-Treasurer read his annual report and presented his financial statements, appended hereto, and made a part of these minutes. The President announced that he had appointed Major Donald M. Beere and Captain Erwin C. W. Davis a committee to audit the Treasurer's financial statements, as required by the constitution. The report of this committee, stating that they had performed the duty and found the financial statements to be correct, was read. A motion was adopted approving the report of the committee.

The chair announced that the next order of business would be the election of one member of the Executive Council from the Regular Army to succeed Major-General Fox Conner, whose term of office had expired. The Secretary reported that he had been instructed by four members whose proxies he held to cast their votes, one for Major-General Fox Conner, one for Brigadier-General George LeR. Irwin, one for Colonel Alfred A. Starbird, and one for Major E. P. King, Jr. After the vote was taken, the chair announced that General Conner was elected.

The Secretary presented several resolutions endorsing certain proposed legislation, submitted in writing by members not present in person. As action on these resolutions by officers of the Regular Army would be in violation of the spirit if not of the letter of Section 206 of the Budget and Accounting Act, 1921, consideration could not be given them.

After an informal discussion of the affairs of the Association, the meeting adjourned.

ANNUAL REPORT OF THE SECRETARY-TREASURER

The finances of the Association during the past year have continued to gain, as shown by the following:

Assets, December 1, 1925:		
Cash on hand	$3,166.17	
Securities on hand	17,600.00	$20,766.17
Assets, November 30, 1926:		
Cash on hand	$4,821.51	
Securities on hand	17,600.00	$22,421.51
Net gain		$1,655.34

A detailed statement of the receipts and expenditures during the last fiscal year is as follows:

RECEIPTS

Cash on hand, December 1, 1925	$3,166.17	
Membership dues	6,399.03	
Advertising	2,707.95	
Interest on securities	996.49	
Sale of books	374.18	
Miscellaneous receipts	210.50	$13,854.32

EXPENDITURES

Publishing THE FIELD ARTILLERY JOURNAL	$6,413.28	
Miscellaneous printing	103.00	
Postage	211.23	
Personal services	520.00	
Office supplies	90.05	
Books	308.16	
Telephone and telegrams	70.38	
Authors, translators, draftsmen, and photographers	474.45	
Rent	360.00	
Miscellaneous expenses	482.26	
Cash on hand, November 30, 1926.	4,821.51	$13,854.32

It will be noted that the total expenditures for the year ending November 30, 1926, were $9032.81; total receipts $10,688.15, or a net gain on the books of $1655.34. At the time of the closing of the books for the year, however, the bill for printing the November-December JOURNAL had not been received. Hence in considering the year's gain, the deduction of the printing bill and the addition of such earnings (chiefly advertising) as would reduce this statement to the same basis as that of last year should be made. On this basis the year's gain can conservatively be estimated as about $800.

The expense of publishing the JOURNAL during the last year has

been about $350 more than during the previous year, this being due chiefly to an increase in the average number of pages per issue.

The membership remains about the same as on November 30, 1925, the proportion of active members in the Regular Army, National Guard and Reserves, as well as that of Associate members and other subscribers also being about the same. The receipts from membership dues have, however, been somewhat less, due to an increase in the number of members, particularly in the Regular Army, who had not paid their dues prior to the closing of the books on November 30, 1926. It will be noted that unpaid membership dues are not carried as assets until paid.

While an increase in membership is not in itself a primary aim of the Association, the accomplishment of our mission of "disseminating professional knowledge and furnishing information as to the field artillery's progress, development and the best use in campaign" is dependent to a considerable extent upon the funds available. Of the Field Artillery officers in the Regular Army, slightly over twenty per cent. are not members. Analysis discloses that to a large extent these are junior officers, many of whom have to exercise the utmost economy. It is therefore not believed that any large increase in membership may be effected in the Regular Army.

In the National Guard and the Reserves it is believed that a material increase should be obtainable. While it is not believed that the matter of membership should be made burdensome to any who cannot well afford it, it is believed that a more general knowledge of the Association, its aims and accomplishments, would, among Field Artillery officers of the National Guard and Reserve, result in a considerable increase in membership. This belief is indicated by the high percentage of Association memberships in those units having on duty Field Artillery officers who have made it a point to bring the Association to the attention of the officers of the National Guard or Reserve units to which they are detailed. It is hoped that a larger number of members may render assistance to our Association in this way.

Our other chief source of revenue is obtained from the advertisements carried in the JOURNAL. It is hoped that each member will realize that our activities on the present scale are only possible because of the support of these advertisers. They are all concerns of excellent standing and deserving of patronage. The goodwill and purchasing strength of our members in their personal, semi-official and official capacity is enormous. May not as much of this as is proper be given to the advertisers who are assisting us in our activities. It should be further borne in mind that no matter how much

return may be received from an advertising outlay on their part, this can only be definitely accredited to the JOURNAL by a reference by our members to seeing their advertisements.

There is an increasing volume of correspondence with our members regarding professional information desired by them. To the extent that the Secretary may be able to furnish information regarding field artillery subjects more readily obtainable in Washington, it is believed that this is one of the missions of our Association.

HARLEIGH PARKHURST,

Major, Field Artillery,

Secretary-Treasurer.