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**THE  
FIELD ARTILLERY  
JOURNAL**

**EDITED BY  
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**THE UNITED STATES FIELD ARTILLERY ASSOCIATION  
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FIRST DIVISION MONUMENT

# THE FIELD ARTILLERY JOURNAL

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VOL. XIV

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NO. 6

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## THE SPIRIT OF THE FIRST DIVISION

ADDRESS BY MAJOR GENERAL C. P. SUMMERALL AT THE UNVEILING OF THE FIRST DIVISION MONUMENT, OCTOBER 4, 1924

THE purpose of this monument is to preserve the memory of the men who gave their lives for their country in the First Division during the World War and to bequeath to our people the inspiration of the spirit that actuated them in their heroism and sacrifice.

It is a popular practice at present to inveigh against war and to condemn its evils and those who participate in it alike as enemies to humanity. While its horrors are to be deplored beyond almost all other calamities, those who condemn it unreservedly are uninitiated in the spiritual attributes that it discloses in the men who devote their lives to the call of duty, honor and country.

War has come to our people only when the agencies of peace have failed, and its sole object has been the restoration of peace. Thus its mission is one of the highest obligations of civilization. It is the supreme test of the physical and spiritual qualities of man, and it demands for its sacrifices only the best. It lifts men above the sordid and selfish things of life as nothing else save martyrdom has ever done, and it reveals in the soldier as in the martyr those divine attributes that the Maker gave when He created man in His own image. To endure hardship, danger and death for one's country and one's people, to fight for their faith and their ideals and to defend the weak, the home and the loved ones requires not only courage, but consecration of the body and exaltation of the soul that make war in a righteous cause a holy thing, and battle an expiation.

Viewed from this lofty ideal the career of the First Division was providential in its progress and growth to meet the ever-increasing demands that lay before it from the selection of its elements along the Texas border to the cessation of hostilities. Under the skilful convoy of the American Navy, it made the initial crossing of the submarine infested seas and carried the visible proof of aid to the sorely pressed Allies. Trained within sound of the enemies' guns, it came early to a realization of the part that it was destined to bear, and stoically endured the hardships and privations inseparable from the rigors of the climate and the exactions of discipline. Thus, even before it was called upon to bear the shock of battle, it had developed

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fortitude and self-sacrificing devotion to duty. In the trenches of Lorraine and Picardy its courage and self-reliance were tested, and loyalty to every obligation became almost a religion. At Cantigny it proved its fighting qualities to friend and foe alike and heartened our countrymen by the knowledge that the America of Bunker Hill and Gettysburg was the America of the battlefields of France. When thrown into the desperate fighting at Soissons, where it could reach the position only by almost superhuman effort, there were added the sublime resolution and selflessness that alone could have changed the tide of battle on that decisive field. In the grim and haggard faces of the remnants who returned from this glorious victory there shone the exultation of triumph that was to crown the brilliant advance at St. Mihiel and the irresistible onslaughts on the Meuse-Argonne.

In all of its vicissitudes the Division never complained of its lot. It never asked to be relieved and it never failed to take its objectives and to hold the ground it had won. The bodies of its dead were ever behind its fighting lines and no enemy's hand ever gave them burial. It was eager to respond, however difficult the task; and whatever the obstacles, it took pride in executing its missions according to schedule. There was mutual confidence and comradeship in all ranks and elements and it attained to the highest ideal of a fighting command.

The resolution and unconquerable spirit of the veterans spread to the thousands of recruits who came to replace the losses after each battle. All knew the sacredness of their mission and the responsibilities that rested upon them to do their part in bringing victory to our arms and peace to the world. They fought from pride in their regiments and the Division, from self-respect and from loyalty to their comrades and their leaders. They dedicated their powers and their lives to their tasks with renunciation of whatever else was held dear. They hoped for victory and resolved to achieve it, but they cherished no illusions as to the price that they must pay. In the face of staggering losses and with their dead and wounded comrades about them, they never wavered nor became disheartened. The men in the foremost line were always the most cheerful. Their self-control and calm courage added to the fierceness of their assaults and their spiritual endurance sustained them when physical exhaustion and pain overcame their bodies. Quietly and unquestioningly they met each situation, whether it was an order to renew the attack with pitifully depleted ranks or the spectacle of their neighbors being relieved when there was no relief for them.

It was their pride that they were worthy of being selected for the most difficult posts in the line and that they went where they were needed most. Confident of themselves and possessing the confidence

## THE SPIRIT OF THE FIRST DIVISION

of their leaders, each man was determined not to let the prestige of his command suffer through any act of his.

The first to go, and the last to return, the Division constituted a great instrumentality for doing the Nation's will. Today its veterans in every part of the land are maintaining the ideals of their old command as patriotic and industrious citizens. The fortitude and courage of our wounded challenge admiration and gratitude. The members of the active Division wearing the insignia and the emblems of valor are worthily upholding the traditions created by the living and the dead. They are a priceless asset for the stability of our institutions, and for the preservation of the peace that those who preceded them in its ranks helped so abundantly to win.

No tribute to the soldierly virtues of the young American manhood who composed the Division would be complete without a recognition of the sources of its inspiration. The mothers who sent their sons to serve, with pride that they could make such an offering in the Nation's hour of need and who have borne bravely heartache and bereavement by thousands, are the ones to whom the country is most indebted for whatever its soldiers have accomplished. The mother's words were ever in the ears of the fighting men. The mother's love was ever the most precious treasure in life and the mother's brave and uncomplaining spirit lived in the hearts of the men who knew how to fight, to suffer and to die.

Though the bodies of our dead are scattered from the cemeteries of France to the uttermost part of our land, this monument will ever remain a shrine wherein their memory and their spirit dwell. It cannot fail to bear a message of helpfulness to all who behold it. It cannot fail to glorify service, to sanctify sacrifice and to honor triumph. These were the attributes that led 5586 men of the First Division to lay down their lives; more than 18,000 to suffer wounds, and many more thousands to endure hardship and danger and to offer life, even though it was not taken. Their richest and the only reward of most of them, save that of the consciousness of duty well done, is the encomium of their great leader, who knew better than any one else the measure of their deserts when he said:

"The Commander-in-Chief has noted in this Division a special pride of service and a high state of morale, never broken by hardship nor battle."

There is more than passing significance in the roll call of our dead, which contains the names of sons of every state, territory and possession under our flag. It is a realization of the vision of our greatest patriot and martyr, when he said:

"The mystic chords of memory stretching from every battlefield and every patriot grave to every living heart and

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hearthstone all over this broad land, will yet swell the chorus of the Union when touched again, as they surely will be, by the better angels of our nature."

This chorus must ever resound from chords of memory multiplied by sacrifices of which he could not dream.

Today we have fulfilled the pledge made to our fallen comrades. Let us not hereafter fail to keep the faith for which they died. May the infinite God in the mysteries of His grace, waft to their spirits the message that their sacrifices have not been forgotten and that their deeds will live to strengthen the hearts of all who come after them in whatever hours of trial may yet await our beloved land.

The winds blow in from eastward, mist laden, reeking brine,  
And out o' the ocean's ending—uplifting line on line—

All faint at first but nearer—though naught of sound we hear—  
Roll forth the proud battalions who never met a peer.

The tread of tramping thousands falls gently as the dew—  
The great guns lunge triumphant in menacing review:

The Phantom First is passing!—A glorious, gleaming host—  
This is their only homing to those they loved the most.

Each brow aglow and following where high the Great Flag flies—  
But oh the wondrous fires that light the ghostly eyes.

Infrangible, intangible—as serried northern pines,  
Horizon to horizon proud lift the far-flung lines.

Earth of the earth in power—air of the air in tread—  
Sweep on in a blaze of glory the ranks of the deathless dead.

And a heritage of valor, of faith and loyal flame  
Shall wrap in a cloak of honor a Land's immortal name.

(Written by Erwin Clarkson Garrett, Co. G.,  
16th Infantry, First Division, A.E.F.)



# JUDGING THE DRAFT HORSE

BY J. L. EDMONDS, PROFESSOR OF HORSE HUSBANDRY.  
UNIVERSITY OF ILLINOIS

## JUDGES' IDEALS

IT WOULD not be fair to say that all judges hold in mind the same ideal when selecting drafters. Despite this fact we shall endeavor to set forth some of the essential factors which are usually kept in mind. Correctness of underpinning, with regard to set of feet and legs, and the shape, size and quality of the different parts may be considered the foundation upon which "good-using" draft horses are built. Important as they are, feet and legs, are by no means the whole story since a "real" one has to be good all over.

The extremes in type are not desirable. The long-legged, light-boned, light-muscled, upstanding, "slim-bodied" type, sometimes dubbed the "cherry picker," is not desirable. Neither is the other extreme, the very low set, squatty, pudgy sort, a practical type. The first mentioned sorts do not give good returns for the feed consumed; the latter are good enough doers but not satisfactory workers because they do not usually stand heat well and are generally lacking in action. One "old-timer" after a successful lifetime of experience as breeder, dealer and user of draft horses, remarked that he liked the "high-up" and "low-down" type that has sufficient height at the withers and proper length and strength of legs to insure good action, accompanied with bodies so deep and thick as to make the individual appear rather short legged.

Our model should stand over a good deal of ground but be short, broad and straight of back and loin. Much of this length of body should come from long, sloping, well-muscled shoulders and a long, heavily-muscled croup which is not too straight but which is possessed of a moderate slope. The very straight, level-crouped draft horse is frequently light in his thighs. The draft horse must be heavily muscled. "Good looks" which come from perfect proportion of parts, level lines, and a well made and well carried head and neck should by no means be overlooked.

## DRAFT HORSE SPECIFICATIONS

The minimum specifications on the market, as to height and weight are usually set at 16 hands and 1600 pounds. There are, of course, horses built on draft lines under the measurements just given. The 16.2 to 17 hand high horse, which will work at 1800 or 1900 pounds, is big enough for most purposes. The 17 hand draft stallion that weighs a ton in good breeding condition, is proportioned

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about right. There are 17.2 and 18 hands high-draft stallions with weights of 2250 which are splendid individuals and good sires; they are not plentiful, however. Frequently it is desirable to get more horse and less size. The over-grown mare is not usually a regular producer of the best. In young things we do not wish them to appear too mature or too finished at too early an age. There is a happy medium with respect to this point.

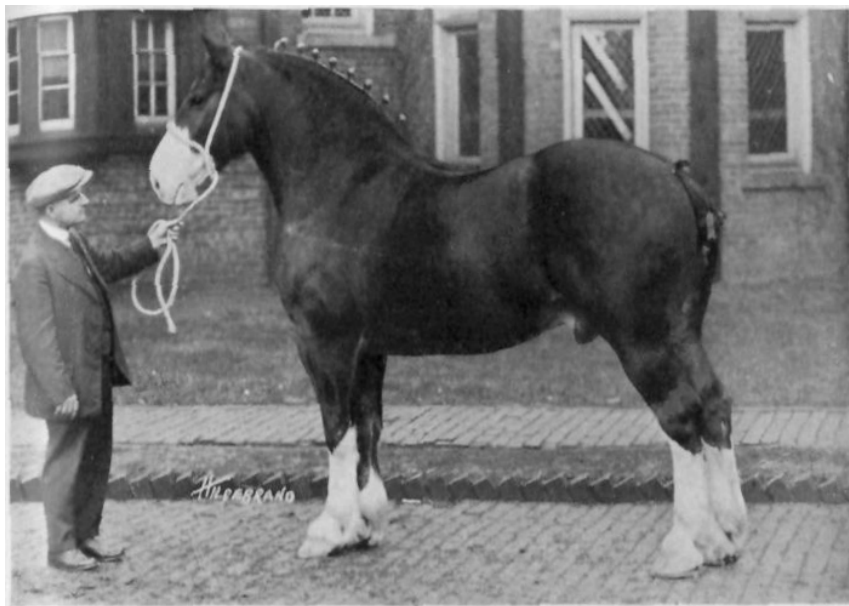
Mere scale should not be over-emphasized. Great weight alone does not make a valuable horse. Both the power and the facility with which it is applied must be studied. The confirmation, which combines to the greatest possible extent, strength to do the work of a draft horse and the action to "get there" without waste of time or energy, is ideal. There cannot be too much quality if accompanied by sufficient substance. Ruggedness without coarseness, or putting it the other way around, quality without lack of substance, are important features. If by condition we mean fitness, then we cannot have too much of it; on the other hand, if we use the term synonymous with fat, it is possible to over do it. In judging drafters in the show ring, those individuals overloaded with blubber have sometimes gotten more than was coming to them. A shrewd dealer in draft stallions once remarked: "The fatter they are, the nearer the graveyard they are."

### FEET AND LEGS

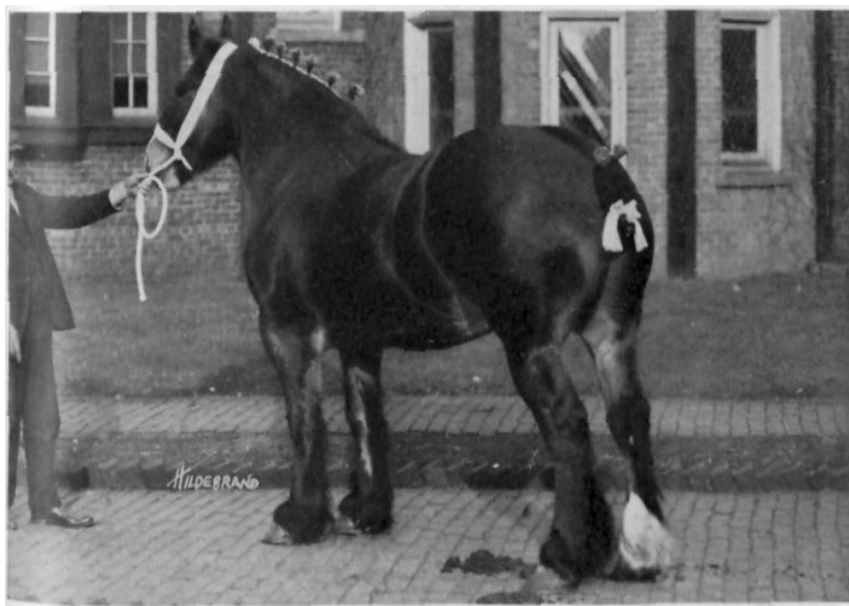
The study of the feet and legs of horses of different ages, worked on pavement, will prove illuminating to the breeder and user of draft horses. Good feeding is necessary both previous to and after development. It is well to remember, however, that feed is quite largely wasted when put into specimens whose "underpinning" is seriously at fault.

In front it is desirable to have the legs set squarely under the body. Both should not appear "to come from the same hole" in a too-narrow body; nor should they be "clapped" on to the outside of an already too wide front, because the individuals so made roll and paddle in motion. The forelegs bear more weight than the hind, their function being largely that of supporting the body and dispersing concussion (lessening jar when the feet come in contact with the ground) rather than propulsion. The long, sloping shoulder, both heavily and smoothly muscled, properly combines strength with a long easy stride. The development of shoulders, neck and withers should be such as to give a good collar bed. The arm should be heavily muscled, relatively short, and carried forward. The forearm should be long and heavily muscled.

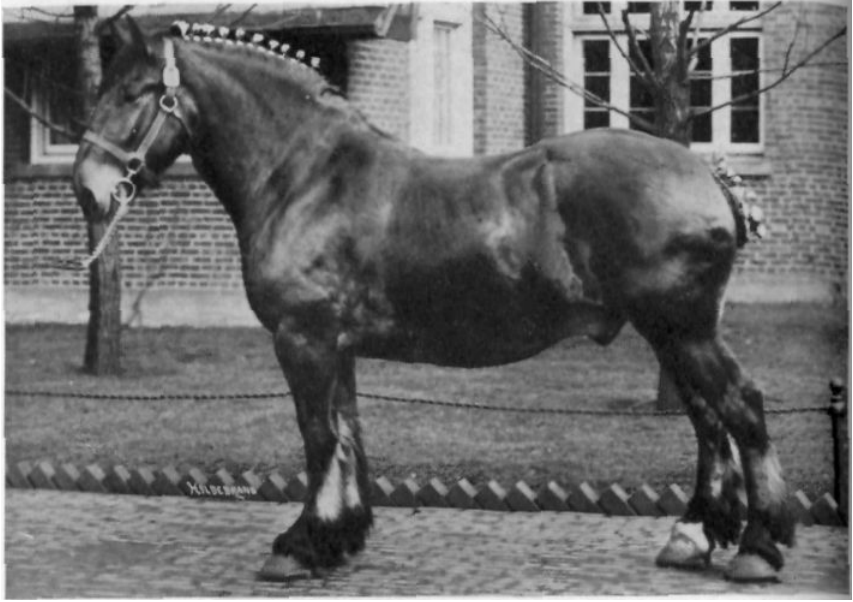
The knees should be of good size, broad, deep, straight, clean and well supported from below. Standing too-open at the knees,



GRADE CLYDESDALE



GRADE SHIRE  
CHAMPION DRAFT GELDINGS



GRADE BELGIAN



GRADE PERCHERON  
CHAMPION DRAFT GELDINGS

## JUDGING THE DRAFT HORSE

knock-kneed, knee-sprung, and calf-kneed are terms applied to the more important defects found in the position of the knees. Such defects decrease strength, sure-footedness, and speed; they do not improve with age and length of service, but grow worse rapidly with hard work. The cannons should be short and flat, with the tendons clearly defined and well set back. A "tied-in" condition of the tendons below the knees is a serious defect. Again we would emphasize that no draft horse ever had too much clean, flat, flinty bone below either his knees or his hocks. Thick, coarse, gummy skin and coarse, kinky feather spell trouble because they are associated inevitably with scratches, grease, etc. Long, slim cannons generally go with a "weed." Weediness has no place in any kind of horse and particularly is this true of a draft horse. Clean, smooth and well-supported fetlocks of good size are desirable.

Draft horse pasterns should be of moderate length with plenty of slope and show good quality. Proper length and slope of pasterns go with springy, sure-footed action; these points of merit in the pasterns act as "shock absorbers" and give the horse good control of his feet. The opposite conformation means a short, hard stride and a short period of usefulness. Any tendency toward cocked ankles is bad. Properly-placed feet, medium or a little larger in size, round and well defined at the hoof-head, wide and deep at the heels, stand wear best. The horn should be tough and dense; most horsemen believe the dark colored horn wears the best. Flat feet, *i.e.*, those with wide, flaring hoof walls and lacking in depth, are not of much use in withstanding the punishment hard-footing metes out to them; and further, to add to the trouble, the horn is generally shelly with this type of foot. It is hard to keep a foot of this kind properly shod. The high narrow-heeled foot is subject to contraction. Feet toeing either in or out interfere with straightness of action and hence, are the sources of waste energy in action. Several surveys have shown, that in the case of draft horses used on paved streets, they more frequently go wrong in their front feet than in any other place. Quite commonly, forefeet prove the limiting factor in the usefulness of street horses. The same qualities that make feet wear well on the streets add to the usefulness of horses worked on the land where their footing is better. Any further decrease in the number of horse shoers in rural districts will necessitate breeding and using the kind of work horse that possesses feet good enough to stand steady work when going bare-footed.

## HINDLEGS

Propulsion is the chief function of the hindlegs, which support less weight than the forelegs and also suffer less from concussion. It is important that the legs be properly set and the joints be strong

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so that the heavy muscles of the hind quarters may exert their power to the best advantage. It is frequently said that a perpendicular line dropped from the point of the buttock should divide the back of the hock, cannon and foot in lateral halves and meet the ground a short distance back of the heel. In practice, however, draft horses are found to have freer action when the points of the hocks are turned in a bit and the toes of the hindfeet out. This set of hindlegs allows for more freedom of movement at the stifles. Furthermore, hindlegs thus placed insure a horse travelling "with his hocks well together" and well under him. Clydedale breeders, in particular, emphasize very close, as well as true, hock action. "Out-bowed" hocks do not permit of proper delivery of power. Horses with hocks of this sort have a hard job in keeping their feet under them when the going is slippery; this condition becomes worse with service. The hock is an exceedingly important centre of movement. The pull of the extensor muscles which propel the body is concentrated here. The hocks should combine good size with clean-cut quality and should be wide, deep, point prominent, and have plenty of support below. Sickie-hocks, hocks too straight, cow-hocks and hocks bowed-out, are defects which result in faulty action and consequently undue strain and unsoundness. Many of the points already made respecting fore-cannons, pasterns and feet will apply to the hind ones.

Correct underpinning goes far toward insuring soundness. Unsoundnesses which develop on good limbs are usually not so serious as those developing on coarse, misshapen limbs. We ought to emphasize the importance of breeding for soundness, not only of feet and legs but of wind and eyes. Since horses increase less rapidly than meat producing animals, improvement is slower, and this is another reason for the necessity of good foundation stock.

### ACTION AND TEMPERAMENT

Action has been mentioned a number of times already in the discussion. Mechanically correct action usually follows when the feet and legs are correct. Draft horses should walk and trot with a long, free, easy, straight stride with hocks carried well together. The heavy draft horse does most of his work at the walk; the light draft horse frequently has to trot as well.

The temperament of the individual is a compensating factor which must always be taken into account. Some nervous, "rattle-brained" horses wear out a good set of feet and legs in a much shorter time than do individuals favored by nature with a "good head" and only moderate merit in underpinning. While we are striving hard to breed model conformation, we should also bear in mind that intelligence and a cheerful, willing temperament are likewise to be striven for.

# **A PHASE OF R.O.T.C. TRAINING AT CAMP KNOX, KENTUCKY**

BY FIRST LIEUTENANT R. D. DELEHANTY, F.A., OHIO STATE UNIVERSITY

WHAT does the Reserve Officers' Training Corps accomplish? This academic question can be answered at great length by numerous officers who are familiar with such duty and who can, no doubt, relate interesting facts regarding the results achieved by various R.O.T.C. units and camps throughout the United States. It is hoped that this article will be borne with and appreciated by them; but it is primarily to the great number of officers who have not had any opportunity to become familiar with this feature of our training that his article is addressed. The progress that is made will be a revelation to the latter, while the former will agree, it is believed, that the succeeding narrative records to what limit summer training can be extended.

Space does not permit the detailing of programs of instruction as carried out by the R.O.T.C. units at the various institutions, but this effort aims rather to show the spirit and ability of embryo reserve officers in a practical instance—a practice march that occupied the greater part of three days, the last twenty-four hours of which were devoted to a continuous problem. Such a problem was completed by the Field Artillery R.O.T.C. at Camp Knox, Kentucky, July 16th, 17th and 18th, 1924.

The summer training period of the field artillery units of the Fifth, Sixth and Seventh Corps Areas was held at Camp Knox and extended from June 12th to July 23rd. The institutions represented were: Culver Military Academy, Ohio State University and Purdue University from the Fifth Corps Area; Universities of Chicago, Illinois and Wisconsin from the Sixth Corps Area, and Iowa State College and the University of Missouri from the Seventh Corps Area. These students, three hundred approximately, were grouped into three batteries for administrative purposes. Each battery was divided into two tactical units making six firing batteries for range work.

The purpose of the camp is to utilize the instruction, both theoretical and practical, that the student has received at his institution, and by practical training with increased facilities to round out a second lieutenant of field artillery who is exceptionally well grounded in all the fundamentals of the profession.

The senior instructor was Major J. N. Hauser and training was scheduled and supervised by directors of four departments, namely: Gunnery, Major J. D. Von Holtendorff; Mounted Instruction,

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Major J. H. Wallace; Reconnaissance, Captain W. G. Dockum; Dismounted Instruction and Pistol Practice, Captain M. C. Rice. Each department succeeded in bringing out for consideration and solution every possible problem that a field artillery officer might have to contend with. No opportunity was lost to develop initiative in and to throw responsibility on the student officers and noncommissioned officers who were rotated by roster through the various battery duties. The climax to the progressive instruction was the practice march culminating in an all-night problem with live ammunition, and every duty, except cook, was carried out by a member of the Reserve Officers Training Corps. All departments coöperated with the Reconnaissance Department supervising the arrangements.

On Wednesday, July 16th, the batteries, with full field equipment were marched to the stables of the 1st Battalion, 3rd Field Artillery. This organization, to whom much credit is due for its splendid coöperation with summer training, turned over its equipment intact to the R.O.T.C. Battalion. Each student then occupied himself with the equipment and duties incident to his detail for the day. The scene was worthy of a seasoned organization. Without delay or confusion teams were harnessed, individual mounts were saddled, saddles and carriages were packed with rolls, and guns and carriages were inspected.

The manner in which these young men went about their duties was a sight to behold. It showed not only a thorough grasp of the principles involved but a spirit that would be commendable to any organization. Before long the picture was complete—each man horse and baggage was in place, battery agents reported and the order to march was given.

The halt for the first night was to be Grahampton, a locality on the edge of the Camp Knox reservation. It was an inconsiderable distance, about eight miles and was marched in less than three hours. However, distance was not important, for the route selected offered excellent opportunities for driving due to steep grades, sharp bends and creek beds to be forded. The march was made without particular incident except to note the quality of driving and spirit manifested. Upon arriving at the camp site the customary routine connected with establishing camp was attended to without the least trouble or confusion.

Grahampton, located in the southwestern part of the reservation, is an ideal camping place for mounted troops due to the abundance of water. Otter Creek, which flows through the village, is the source of the Camp Knox water supply and the intake and pumping station is located within a stone's throw of the site of the first night's camp.

Shortly before noon of the next day, Thursday, July 17th, orders were issued that the command would form on the road above Grahampton



## A PHASE OF R.O.T.C. TRAINING

ready to move out at 1:30 P.M. The general and special situations were given an outline of which was to the effect that an enemy corps had invaded Kentucky from the north and was in possession of both banks of the Salt River east of West Point, Kentucky. This river, a tributary of the Ohio, flows through the northern part of the reservation. Two friendly divisions, 1st and 2nd, were in a close contact with a mission to drive the enemy across the Salt River to the north. The 3rd Division (friendly), of which the R.O.T.C. Battalion formed a part, was in reserve. The Commanding General, 3rd Division, was ordered to send one infantry brigade (assumed), the R.O.T.C. Battalion of Field Artillery and attached auxiliary troops (assumed) to the vicinity of Howard Ridge, to reinforce the line and with a special mission to force a crossing of the river under cover of darkness and to organize a sector of the right bank for defense. The immediate mission of the artillery then resolved itself into marching that afternoon, making a halt to feed and water, to continue the march and occupy positions after dark.

The route selected was a different and more difficult one than used the first day and was over roads east of the reservation through Garnetsville to Muldraugh. Again the character of the terrain with its hills and valleys offered splendid opportunity for the student drivers to learn their game, and they accomplished it in fine style.

Muldraugh, a village on the Dixie Highway in the eastern part of the reservation, was selected for the halt for supper because of the water tanks located at the rifle range. These had to be resorted to because all streams were practically dry.

As the battalion was crossing the Dixie Highway, a short distance from the halting place, an official car appeared and the Chief of Field Artillery, Major General Snow, stepped out and reviewed the column as it passed.

The battalion was halted in a large field, teams were unhooked and unhitched and watered by means of canvas tanks. After feeding the animals the personnel was fed from the rolling kitchens. General Snow was present, partook of the supper and then made a short and complimentary talk in which he commended the students for the interest and spirit which they showed and the results they were accomplishing.

Orders were then issued for the batteries to be ready to move out at 6:00 P.M. The real test was to follow, as the remainder of the march was to be over roads unused for years because they led through terrain used for daytime firing and were consequently in bad shape, bridges out, etc. The final stage of the march would be in darkness over practically no roads and through woods.

At 6:00 P.M. the assembled battery commanders, reconnaissance

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officers and details started out under Captain W. G. Dockum, Director of Reconnaissance and Tactics. The batteries were to follow at a walk with the leading executive in command of the column.

The first obstacle was encountered after a march of about a mile. A bridge was out, and in order to find a passage for the reel carts, a detour was made through the brush to the right. It was much more difficult for the batteries to surmount these obstacles of which there were several, but they negotiated all of them successfully and with comparatively little delay. Rains had washed the dirt roads into deep ruts on many of the grades and driving was full of thrills.

This portion of the road (Lincoln), between the Dixie Highway and Wilson Road (old Dixie), was traversed by the details in the greater part of an hour. Preliminary pioneer work and detours had consumed time. However, the route was well marked for the batteries which were not far behind. Turning west on Wilson Road and then north on Lincoln road continued, the reconnaissance proceeded more rapidly as the route was in better shape. This was well, for twilight was coming on and it was known that the moon would not be up until about 9.00 o'clock. A quick march of ten minutes brought the details to a point where the reconnaissance had to be completed through woods and over fields.

When the site of the battalion position was reached, darkness had succeeded twilight and it was the inky darkness of a midsummer night before the moon comes up. Battery positions were picked out, locations for kitchens and picket lines made in appropriate areas along the route of approach and the scout corporals were sent to lead the batteries into their positions.

The reader will appreciate the accomplishment of these young men, drivers and detail, when he considers that none of them had ever been in this locality, the major part of the reconnaissance completed after darkness and not a man or vehicle went astray. In fact, there were only two persons in the entire battalion who had ever been over the ground in daytime.

The batteries came up in fine shape. A few carriages were hung up on trees but not seriously and nothing more than could be expected because of the narrow width of passage and the darkness which was accentuated in the woods. These incidents whetted the enthusiasm of the drivers and furnished topics for much joking and braggadocio by those who were more fortunate. The guns were put in position, limbers withdrawn and echelons established. The train was a short distance behind and before long the kitchen crews were busy preparing a midnight lunch to be served during an armistice period after the night firing.

In the meantime the battery commanders' details had proceeded with their duties. A battalion observation post had been selected on

## A PHASE OF R.O.T.C. TRAINING

Howard Ridge, a kilometer distant from the guns to the right front. The route to it was travelled in complete darkness. A portion was over fields and the latter part over a road just wide enough for a reel cart. It led through a dense woods and the darkness was so great that at times, those in the lead had to dismount and walk to keep from getting off the road. The reel carts accompanied the details and after battery observation posts had been located in the vicinity of the battalion observation post, an effort was made to establish communication.

One battery got through immediately, another in a few minutes and the third, experiencing difficulties, did not have success for about fifteen minutes—to their dismay, because they had been industrious enough to go over all their wire and tape where needed that day. The wire had broken and when located and patched, communication was established.

The observation posts organized, all batteries were laid on the base point and Captain Dockum assumed direction of fire. Each battery had been supplied with an excellent 1/10,000 map, coördinates of gun position, base point, a normal barrage line and five concentration areas. These coördinates had been accurately located in a preliminary reconnaissance in order to insure the safety of all concerned and to facilitate direction of fire. With these points plotted each student battery commander computed all necessary data at the observation posts and telephoned it for record to the guns.

In an effort to make everything as realistic as possible a considerable number of rockets had been procured. A code was established, assigning some to the enemy, some to our alleged infantry and the remainder calling for the barrage or any of the five concentrations. The code was telephoned to the batteries and recorded. No effort was necessary to recruit a volunteer detail of two students to fire the rockets.

An inspection of the observation posts was gratifying and proved the worth of the R.O.T.C. Every man was playing the game. In defiladed nooks with pocket flashlights they were poring over their map, figuring ranges and deflections for barrage and concentrations.

Without warning the various rocket signals were fired. The guns responded with alacrity—exciting the admiration of observers who witnessed the results in response to the signals.

Each battery was given several opportunities to fire, separately and with the battalion. General Snow visited the battery positions during the firing and rumor has it that one young man, not recognizing the General in the dark, requested a match with the usual "Say, Buddy," and received a box in response.

At 11:00 P.M. an armistice was declared until 3:45 A.M. Coffee and sandwiches were issued at each kitchen and sufficient forwarded

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to the observation posts. An excellent opportunity was afforded over the "chow" to swap tales about the night's work and every man was enjoying himself and it was apparent they had received much in experience.

Communications were checked at various times during the armistice. At 3:45 A.M. all gun crews were standing by and when dawn appeared and daylight sufficiently advanced, all remaining ammunition was fired. The data of the previous night were checked on barrage and concentrations. New problems were assigned and when ammunition was exhausted, "Cease firing, Close station" was ordered. Breakfast was served, teams harnessed and hitched and carriages limbered. At 8:00 A.M. the battalion moved out, bound for the stables.

Upon arrival at the 3rd Field Artillery area, equipment was checked and turned over to the regular batteries with surprisingly few shortages. The remainder of the morning was spent in the care of animals, leather equipment and carriages with an effort to return everything in good condition. Although tired from their unusual efforts of the past twenty-four hours, this task was efficiently dispatched with excellent good humor. Then, shouldering their rolls, the batteries were marched to barracks and dismissed for the afternoon.

The problem was a prodigious accomplishment for these young men but they proved their worth and the value of the Reserve Officers Training Corps idea. The nature of the training received, the spirit and enthusiasm with which it is received and the results obtained, all tend to show that this work is the greatest attempt towards preparedness made in this country. The finished product would be a credit to any organization, Regular Army, National Guard or Reserve.

# OBSERVATIONS ON MOTOR-DRAWN AND HORSE-DRAWN ARTILLERY

BY EUGENE S. BIBB. LIEUTENANT-COLONEL, O.R.C., 490TH F.A.

ONE of the most interesting discussions growing out of the late war has been that of the relative merits and demerits of horse-drawn and motor-drawn field artillery. Each side has its ardent enthusiasts and protagonists; each claims for its favorite motive power qualities far surpassing the other in every detail. Indeed, the argument has become so heated among some field artillerymen that it may prove as dangerous to mention any phase of the subject as to institute theological or political debates in some lay circles. This subject is a vital one for the obvious reason that immobile field artillery is worse than worthless.

It is impossible for the writer to advance any novel arguments either for or against motorization of field artillery. And it would be an impertinence for him, with his limited experience, to attempt to enter seriously into the discussion. Two years of active service is too short a time, obviously, to acquire by experience a thoroughgoing knowledge of the subject. However, it may be of interest to secure one more viewpoint. At any rate the following observations are offered only for what they may be worth.

The conservative General Staff is always charged with a steadfast unwillingness to change from existing forms and modes. That same unwillingness is found in the general public in everyday life. We all dislike new ideas because the lines of least resistance follow old and established habits. This resistance is generally beneficial to all concerned, because it usually forces the absolute proof of improvement in the new idea over the old, before its acceptance. On the other hand, an over conservatism is destructive of progress. Of course, the ideal is the position of requiring proof of improvement in the new idea and, if found, of substituting wholeheartedly the new for the old.

The burden of proof it would seem, therefore, rests on the supporters of the motorization principle to prove, by fair and satisfactory tests under all circumstances, that the tractor and truck are a superior motive power to the horse for the uses of field artillery.

From a sentimental viewpoint the horse artillery has a decided advantage over the motor. But it is only just in approaching this subject to cast aside all sentiment. It is an unquestionable fact that all of the dash, the romance and the great charm of the field artillery goes with the mounted service. Certainly no one can experience any thrill in witnessing a battalion of Schneider howitzers, drawn by

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eight snorting Holt tractors, going into action. It has been argued in at least one article appearing in THE FIELD ARTILLERY JOURNAL that this evident truth detracts from the morale and, therefore, the efficiency of the troops. Experience and personal observation belie this statement. A highly developed state of discipline may be achieved with equal ease by any organization whether horsed or motorized. No men could have been more eager or determined to keep their animals in good condition than were the men in the writer's organization abroad to maintain properly their motor equipment. Morale as such cannot be confined to the attitude of the troops toward their form of motive power. It is based upon a foundation laid much deeper than horses or tractors.

The first phase of the subject to be seriously considered is that of the relative present supply of horses and motor equipment for field artillery. It is estimated that it would require ten to twelve months from the date of the commencement of a war to produce standard motor cars, trucks and tractors in amounts adequate to equip in the United States a field army's artillery. This means that any motorization movement must become effective unit by unit throughout the service until completed, rather than at any one time. Gradual motorization would be the ideal move, commencing with the heaviest types of mobile matériel, and reaching down to the lightest, improving the equipment continually to conform to sober and mature conclusions reached as the results of rigid tests and experimentation under actual field conditions.

“ On the other hand, the present supply of available animals is enormous and probably is more than adequate, in numbers at least, to provide for the normal requirements of a large field army. But trained draft animals are always scarce. Statistics are not available to show just how many such trained, hardened, service horses can be had, but it is a safe estimate that this number does not exceed the present requirements of the regular establishment. The last annual report of the Chief of Field Artillery discloses a serious shortage of animal strength of field artillery units. In that report it was stated that there were then available to the field artillery only seventy-one per cent, of the minimum number of horses required under peace strength tables of organization. ”

The second phase is that of maintenance. The many difficulties in keeping the animals fit, attendant upon the mounted service, in any strenuous campaign are too well known to require space here. Sufficient forage, good water, freedom from disease and injury, and a thousand other demands of the animals, are the *bêtes noires* of every artilleryman on field duty. The horse demands all such manifold attentions whether he is called upon for service or not. The motor requires no such continuous detailed care when idle. It "eats"

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gasoline and oil only when it is active. It does require, however, scrupulous mechanical care and handling at all times when in use. As between the two, the writer's experience is that less time and effort of the personnel are entailed for the adequate upkeep of motor matériel than is necessary to care properly for horses and equipment.

Much has been written of the unreliability under trying service conditions of motor matériel. Experience in the late war is largely responsible for opposition to this view. With approximately two-hundred-and-sixty motor vehicles in at least one outfit in France, observed by the writer, ranging in design from motor cycles to Holt "55" caterpillar tractors, including four types of motor cars, side cars, four types of trucks, field machine shops and attendant paraphernalia, and with the frequent movement of the regiment over almost impossible roads under the most difficult conditions of weather and circumstance, ample proof was had of the probability of success with the motorized 155 G.P.F. matériel when manned by well-trained officers and men. It requires the highest degree of discipline, constant care while in service, and continuous foresight. But success with a horse-drawn outfit requires no less, rather more.

A fundamental cause for whatever unfavorable reputation that motorized matériel has achieved is the unfortunate attempt to coördinate the use of heterogeneous types of this matériel. The tables of organization actually provide for no less than ten totally different types of motors for one organization! These types range from vehicles of very low speed, such as heavy tractors, to light rubber-tired motor cars and motor cycles, designed for very high speed. Each type has its particular use, and no effort should be made to enforce its use out of the sphere for which it was intended. Totally different types should never be required to move together for extended periods. Any violation of these principles means trouble. Tractors and motor cycles never make congenial road companions. Yet it has been said frequently that the Holt is "no good," because it cannot maintain the speed of the truck train; or the Packard 5-ton truck is "worthless," because it cannot carry its capacity load, haul a caisson or piece, and then pull through a deep mud hole. Some officers demand a type of matériel which will swim rivers, climb mountains, float lightly over heavy roads, haul impossible loads, travel at all speeds from 2 to 35 miles an hour in the process without heating or developing other mechanical trouble. There is only one answer to such a requirement, and that is what the countryman said when first viewing the giraffe in the circus—"There ain't no sich animule!".

The possibilities of expansion in this subject are so many as to afford great temptation to continue at length. This being impossible,

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other phases of the discussion will be touched briefly, not because of having any less importance but for lack of space.

The horse is extremely sensitive to changes in climate and climatic conditions; the motor is not.

The horse regiment of 155-Schneider howitzers, less the guns and small arms, but including forage for 30 days, requires about 13,000 ship tons of space to transport it by boat; the motorized regiment requires about 3700 ship tons. It takes about 300 railroad freight cars of the French type to load a horse-drawn 155-howitzer regiment, and only 125 cars a motorized regiment. The road space on the march required for a horse-drawn regiment is almost two and one-half times that required for a motor-drawn regiment.

Forage and supplies for a horse organization fill up infinitely more tonnage and are much more difficult to handle than necessary gasoline, oils, spare parts and supplies for a motorized unit.

The relative draft-powers are much disputed. Many of the men who were in France during the late unpleasantness probably will testify that they saw tractors pull teams of horses and matériel out of the mud, or *vice versa*. The writer's personal experience and observations were that Holt caterpillar tractors could go anywhere and do anything that horses could do, and much more besides. In the writer's opinion there was no motive power for artillery used in this war that had the tremendous power of draft under all conditions and at all times that the heavy Holt caterpillar tractor developed. Of course the experiences of others might have led to different conclusions.

It is certain that the motor regiment cannot travel at the slow rate possible with the horse regiment. By the same token, the motor regiment will cover normally from two to three times the distance that the horse regiment can march. There are many conditions encountered on the march with which the motor regiment cannot cope, such as ordinary country road bridges. It is comparatively simple to cross such bridges with a 2000 to 3000 pound gun, leading the horses by separate pairs, but it is difficult, if not impossible, to get over with a tractor and gun that together weigh 30,000 to 32,000 pounds. On highly crowned, hard roads it is difficult for the motor matériel to maintain proper road discipline.

Great noise and some flash at night accompany any movement of a motorized unit; this feature is absent in the case of the horsed regiment. To preserve quiet and to show no lights are rules highly important to follow in protecting personnel and conserving matériel upon entering or retiring from a firing position, and while on the road in the advanced zone. Here the horsed regiment has all the advantage.

The Ordnance Department is presently engaged in a number of



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interesting and instructive experiments in their effort to develop a type of self-contained mount and other motor power for the light and medium heavy field guns. As a result of that effort, it is hoped, will come a new and generally satisfactory apparatus which will fill all requirements. That is entirely in expectancy, however.

Arguments of every nature can be advanced *ad infinitum* for and against a motorization of all or part of our Field Artillery. The question cannot and should not be decided in a year or two. It requires much experimentation, continued tests and much thought. It is undeniably true that this is a mechanical age. Our trend today is all toward the perfecting generally of motor power and transportation. With closer approach to such perfection will come the answer to the problem discussed here. However, until a more reliable device has been produced and tried out for field artillery adaptation, it would seem the better part of wisdom to confine the process of motorization to the heavier type of guns.



## BRANCH ASSIGNMENT COMES INTO ITS OWN

BY COLONEL EDWARD J. McCORMACK, F.A., O.R.C. (BAG)

OFFICERS of the Field Artillery Reserve belonging to that small and very much discussed Branch Assignment Group are no longer giving the "Darnifino" answer to the oft-repeated question, "What is Branch Assignment?". Instead of the hazy atmosphere formerly surrounding this group, its status is not only now definitely established, but its personnel is splendidly enthused over its mission and the plans laid out for it.

September, this year, at Camp Meade, Maryland, officers of this group for the first time since their designation, had an opportunity not only to meet each other most pleasantly but to be brought into contact with the operation of the Chief of Field Artillery's office, witnessing at first hand the working of the machinery in which they, in time of emergency, would be an important part.

Hitherto, Branch Assignment officers have, for training purposes, been attached to organizations in their own corps areas. Their work in the field during the summer periods has been identical with that of the Territorial Group. Although, owing to their designation they felt that some special line of duty had been laid out for them, they had no information as to its nature and were not as enthusiastic as one might expect. Through the efforts of the Chief this was corrected this year when forty officers of the Group from territory east of the Mississippi River, were called into service at a camp reserved for Branch Assignment and given a course especially designed for them.

The officers reporting for duty at Meade were divided into two sections, the first reporting on September 1st and upon their relief 15 days later, the second section came into camp.

The instruction was in the nature of a "refresher" course. For purposes of instruction the Second Battalion of the 16th F.A. came over from Fort Myer. The assignment of Major R. E. D. Hoyle and his officers to the work was one of the many happy events of the tour. The Major had not only outlined a course which met all of the requirements but had worked out the details in such a manner and in such fine spirit that the fifteen days will long be remembered by the officers so fortunate as to have served with them.

It was, as explained in the *Information Bulletin*, realized that a large portion of the visiting officers were thoroughly familiar

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with the technical means at their disposal as field artillery men. The main purposes of the course were, (a) to refresh them in the knowledge they already possessed by actual field work, (b) familiarize them with the changes in the regulations since their last service, and (c) acquaint them with their special duties as Branch Assignment.

Reserve Officers were assigned according to grade to the various units of the training battalion. Undoubtedly for the first few hours the Reservists had that "visitor" feeling, a mixture of timidity and reluctance to try their hand at something which seemed to be a part of the distant past. Hardly had the batteries gotten out on the road, however, than the "visitors" made themselves "at home," and in a very short space of time were working with the same energy and vim as in the old days.

Service practice, reconnaissance, animal management, gunnery, manœuvres limbered, communications, and matériel were allotted every possible moment and in addition thereto each officer was given every opportunity to put in as much time as possible upon the specialty to which he would devote his time in emergency. The entire group went at its work with fine spirit. The weather during the first period was somewhat mixed but did not interfere to any extent, although there was more than sufficient rain. (Major Hoyle evidently believes that in some future war there is a possibility that a down-pour *might* occur during artillery adjustment.) Always at one's elbow there was a Regular, eager and ready with suggestions and helpful to the nth degree. The result was that the Reservist soon felt that he had been in uniform for months instead of days.

There were quite a few class-room sessions. Problems were given the field officers on Gettysburg, Meade and Sill maps. So eager were the Branch Assignment Officers for the success of the course that several of the field officers found themselves pressed into service at impromptu classes in "skull practice." It was very much remindful of the days at Sill to hear through the buildings: "Right 20-Down-5", etc., etc., or some discussion relative to regulations, map problems, arm signals or what not, upon which the officers felt they were hazy.

A break in the routine came with a visit of the group to Aberdeen Proving Ground where, under the guidance of Major H. A. Pennell, a day replete with information as to the progress being made in field artillery and the heavier calibres was put in. This trip was an eye opener and brought about a much sharper appreciation of the many problems surrounding the development and coördination of the various arms.

On Defense Day, September 12th, the first section went to the

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Chief's office for a series of conferences and to hear the Chief outline the plans he had in mind for the Branch Assignment Group. It was the first time that the Chief had had the opportunity of meeting personally the officers of this section and the occasion was a delightful and memorable one to the Reservists. Not only was the exact status of the Branch Assignment explained to the visiting officers but a new spirit was injected into them. When General Snow had completed his talk the entire group was impressed with an increased sense of responsibility and a determination to keep mentally, physically and professionally fit so as to in every way possible merit the trust imposed.

Following the Chief's conference, the officers were presented to General Pershing and bade him goodbye on the eve of his retirement, which took place the next day. An exposition of the working of the Chief's office in time of peace and in event of an emergency had been arranged, and step by step the departmental heads explained the function of their assignments.

These talks covered the work of the War Plans Section of the Chief's office, the Matériel Section, Training Section, Field Artillery Publications, and the Personnel Section. As the officers of the Branch Assignment group passed through the various sections, each one discovered the niche into which he was fitted. I wonder how many reserve officers in our Branch Assignment Group know that each is selected for a particular job in case of emergency, and only a telegram is necessary to place him on a duty already foreseen.

Luncheon at the Army and Navy Club as the guests of General Snow, a glimpse of the world flyers, and the Defense Day Parade were among the other high points of the day. And then back to camp with a much keener appreciation of the fact that there was a definite job for every man and that it was incumbent upon him to make himself master of that job.

The course at Meade will be followed next summer by another course, most likely at Sill, where officers west of the River will be given the same opportunity. Owing to limited funds only a small portion of the 509 officers designated as Branch Assignment were ordered out this year but even under these circumstances the value of the camp as a refresher and a morale builder was inestimable. Among the points brought home by the Reservists were:

1. The obligation of the Reservist to keep abreast of the progress being made to the best of his ability and opportunity.
2. That the lessons of the last war are being utilized and that the field artillery is, everything considered, in position to function properly upon demand.

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3. The necessity for bringing the reserve corps up to the proper strength and for the training of larger groups of officers each year.

4. That between the Regular and Reservist there is a unity and coöperation best expressed:

"It is not the individual  
Or the army as a whole  
But the everlasting teamwork  
Of every bloomin' soul."

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## THE EFFECT OF GAS ON ANIMAL TRANSPORTATION

BY CAPTAIN WILLIAM H. COLBERN, F.A.

CLOSE and continuous support of the infantry makes necessary the presence of animals well forward in operations of every nature.

An offensive action demands immediate and effective fire from machine guns, infantry howitzers, accompanying guns, and the light artillery of the division upon the front lines of hostile resistance. As the attack progresses, the units producing the fire must be displaced forward to insure continuity of support.

Equally vulnerable will be the position of the animal-drawn transportation in defensive combat when the infantry weapons are disposed throughout the outpost area of the organized position, and the artillery with its necessary combat and ammunition trains is well up in the battle area or perhaps the delaying area.

Stabilized or mobile, the situation will call for ammunition to be transported or reconnaissance initiated, and will present difficulties of transportation which only the horse and mule can be relied upon to overcome. Our generation inclines to motors and is producing a race of mechanics who ignore the utility of animals, but it is very doubtful that any of us will live to see them eliminated from the battlefield. We must, therefore, look to their protection and conservation and, in time of peace, take into account the effect which the use of gas in future operations will have upon our animals and their employment.

Like many of our modern forms of warfare, the use of poison gas was developed from ideas originating in the campaigns of ancient history. Having proved effective, its use persisted through the middle ages, and even later as the British seriously contemplated its employment in the Crimean War. However, it was not until the late conflict with Germany that it was developed to the extent which now makes it a formidable factor of modern warfare.

Little has been recorded of the actual physical effect on animals of the gases employed in the World War, and in the later developments

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by the Chemical Warfare Service most of the experiments have been conducted with dogs, guinea pigs, rabbits, and even pigeons as the unhappy subjects. Although the horse is the most sensitive of all animals to the effect of gas, his susceptibility is only about one one-thousandth of that of a man, and for some time after the introduction of gas by the Germans it was not considered necessary to protect him. It was only after concentrated attacks that the effects were readily observed.

Gases classed as lachrymatory and irritants need not be considered as they apparently have no effect whatever upon a horse's eyes.

The so-called lethal gases, including phosgene and chlorine, when encountered in concentration, are very dangerous in their action. The effect is characterized by its delay and a gradual loss of condition resulting in many instances, in the death of the gassed animal from the formation of pus in the irritated lungs. An animal once subjected to a sufficient amount of gas of this nature, even though he recovers, never regains his former condition or muscular vigor. Immediate evacuation and complete rest is essential in the treatment of these cases, and on no account should the animal be required to move at a gait faster than a walk. To do so will increase the respiration and render recovery more remote.

Of all the gases used in the World War or likely to be used in future wars, mustard gas is by far the most deadly in its effect on animals. It burns the body inside and out, wherever there is moisture, the most affected parts being the lungs, anus, dock, and feet. Having once produced a lesion or burn, it penetrates the skin and the resulting poison is carried by the blood to every part of the body. Due to its persistent nature, it lingers two or three days in the warmest weather, while in cold, damp weather it is dangerous for weeks or until the ground and atmosphere become warm enough to volatilize the liquid. In this liquid state it is particularly injurious to animals operating in shelled areas, attacking the feet about the frog, coronary band, and the sensitive skin in the vicinity of the pastern joint and heel.

Contact with mustard gas, even in liquid form, does not blister the animal's skin and therefore the effects are not apparent for several hours. Horses exposed to an attack of this nature should be kept quiet and exertion tending to cause sweat avoided, as any moisture on the body greatly increases the burning action of the gas. As soon as possible thereafter he should be washed off with soap and warm water, particular attention being paid to the feet and soft parts of the body. In all cases when called upon to traverse shelled areas the feet should be protected.

It would be well to take up here the development of the horse

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mask and other protective appliances. When Germany ignored The Hague rules of warfare and launched the first gas attack against the British lines in the Ypres salient, in April of 1915, it took the Allies completely by surprise and found them wholly unprepared. Naturally every resource was taxed to provide protective appliances which would enable combat units to operate in the presence of gas. The need of protection for animals grew to be of such importance that masks and boots were finally developed for the horse.

The German horse mask was the first produced and was of the nosebag type, enveloping the mouth and nose of the animal. It was fitted by means of a rather complicated draw string and fastened to the harness by strap hooks. The mask itself was not impregnated with any neutralizing chemical, but was used wet or with a filling of wet straw or rag to act as an absorbent.

The French brought out two types of mask, impregnated with an absorbent chemical. One type had a closed bottom, while in the other the bottom was open.

The British mask, as still used, has a two-layer flannelette bag with a canvas mouth pad and an elastic drawstring to fit it snugly about the nose. It was impregnated with a mixture of formaldehyde, ammonia, soda, and glycerine.

The first type of American mask was modelled after the British, but its resistance was too high and caused complete exhaustion in running horses. The second mask was formed of a large number of layers of very open cheese cloth, fashioned into two bags and each saturated with different mixtures. This mask affords complete protection and its porous construction enables a horse to run several miles without showing signs of exhaustion. When in its case and not required for immediate use, the mask can be conveniently carried on the neck strap of the breast collar or, in case a collar pad is used, still more conveniently inside the pad. Before entering dangerous areas the mask is fastened in the "Alert" position on the noseband of the halter or bridle, so that in case gas is encountered, the driver is able to make a quick adjustment. The mouth of the bag is drawn over the upper lip and upper teeth, slipped into the mouth, and drawn well up to the angle of the lips. The elastic head band is seized on either side, close to the mouth piece, and pulled upward and outward so as to draw the mouth of the bag tight around the upper jaw and above the nostrils and is then slipped over the poll. With the mask in position, the animals may be worked without difficulty or undue distress. The action of the bit and reins is not interfered with in any way.

In case of emergency a fair mask may be improvised by filling

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a double feed bag with straw, leaves, or moss, and saturating with a sodium bicarbonate solution.

The increased amount of mustard gas used during the latter part of the war made it necessary to protect the feet and lower legs of animals entering gas areas. As a result a special hoof pad and boot was devised. The pad was made of sheet iron embedded in a composition rubber hoof protector to which the shoe was applied. The shoe overlaps the metal plate and provides a solid metal surface for the bottom of the foot, thus offering protection not only against gas, but also against shell splinters and barbed wire. The boot proper was made of satin, treated so as to be impervious to mustard gas. It covers all of the foot except the bearing surface of the hoof and extends to just below the knee. When wrapped about the leg, it is secured by a strap which passes through five loops on the body of the boot. In order to protect the sensitive parts of the foot in the vicinity of the pastern joint and frog, a perfect joint at the rear of the boot is accomplished by means of a strap passing around the hoof and held in position by projections from the toe clip.

It was found in France that the horse mask did very little actual good and an idea has become more or less prevalent that it is not practical and affords but a slight degree of protection. This idea is erroneous. It was not that the masks would not protect or that the animals would not wear them, but that the riders and drivers were either ignorant of their correct adjustment or failed in the attempt to put them on. Gas attacks, often at night, made adjustment of the horse mask difficult, and in the resulting confusion the drivers absolutely forgot their horses or feared that in attempting to adjust the mask on them, their own would be torn off. This last was to be expected as a partially trained animal naturally fights the adjustment of the mask. It is also true that unless animals, especially if they are hot blooded and nervous, are accustomed to the mask, the adjustment of it will do more harm than good. With such animals it is much better to walk them quietly up any high ground that may be in the vicinity, than to attempt to put the mask on them. The untrained animal plunges and rears, thus endangering the driver; moreover, he becomes highly nervous and excited and breathes at a rate far more rapid and far heavier than is natural, thereby endangering himself. We can only hope that in the future these difficulties will be found to be obviated and the mask found to afford absolute protection, when the animal through training has become accustomed to wear the mask.

It would be criminally short sighted to assume that civilized nations will refrain from the use of poisonous gas in the future. The provisions of the Washington Conference relating to the elimination



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of gas warfare were nullified when France declined to consider land armament reduction. Even had the prohibition attained existence on paper, it would hardly have endured in actual practice. Our foremost military authority on the subject, General Fries, predicts a use of gas ten-fold greater than at any time during the World War, and it certainly seems safe to assume that the improved methods of manufacture of gas and its all-around effectiveness renders it such a powerful weapon that no nation will ignore its development.

The further use of cloud gas, except in small local actions, is improbable. Sprinkling from airplanes is contemplated but its most general use will be by the artillery. Gas shells have been adapted to every type and calibre of gun and modern staff officers regard its projection as a function of that branch. It will be used in barrages, in counter-battery fire, to cause the evacuation of areas, and against targets of indefinite location.

The effect of such employment upon the disposition of our animal-drawn transportation is obvious. Combat trains, limbers, and machine-gun carts, once secure in wooded ravines will be no longer safe as the persistence of gas in such localities will render them untenable. The picket lines of the rear echelons will, of necessity, be placed on high ground and where there is little vegetation. Operations will necessarily be carried on over large areas thoroughly poisoned with mustard gas where, to survive, the horse must be masked and booted. In the churned and broken ground around the front line there will always be need for animal transportation.

We can draw but one conclusion; that, unless through systematic training and practical drills in time of peace, we familiarize our officers and drivers with the means of protection at hand and teach the animals themselves to submit quietly to the mask; the effect of gas on our animal transportation will be that of partial, if not complete, neutralization.

# TRAINING OF FIELD ARTILLERY IN THE NATIONAL GUARD

BY COLONEL T. S. HAMMOND, 124TH F.A., ILLINOIS, NATIONAL GUARD

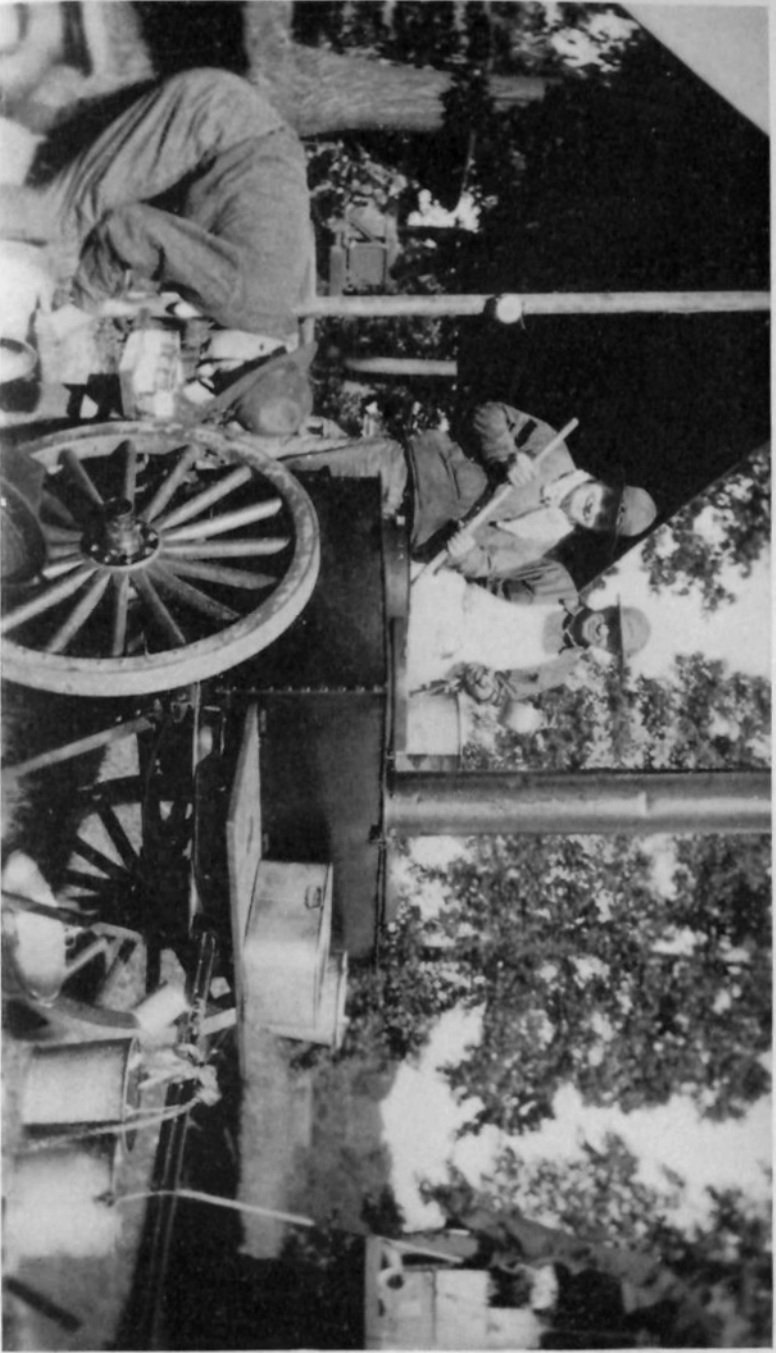
IN THE artillery of the National Guard, the most serious problem is to cover the many subjects that should be taught in the limited time available for training. A battery averages about seventy-two hours per year of armory training. This is followed by a two weeks' period of annual encampment. An organization commander in the National Guard must depend chiefly on these periods for the training of his organization. The time is so limited that he must take advantage of every additional means of training.

The chief sources of additional training are: voluntary individual work in the armory, overnight hikes, and attendance at special schools. By improving our facilities at the armory and building up the interest in competitions and drill, we were able to encourage the men to devote a great deal of their spare time along military lines. By interesting the men in their drill and getting them willing and anxious to take overnight hikes, we can give valuable training in road marches, camp making, guard, care of animals, etc. One of the greatest assistance to organization commanders is the privilege of sending men to special service schools and to four-day encampments held prior to summer encampment. Increasing the number of men we are allowed to send to such schools is the greatest means of strengthening the National Guard and of building up the type of instruction given for enlisted men in the National Guard.

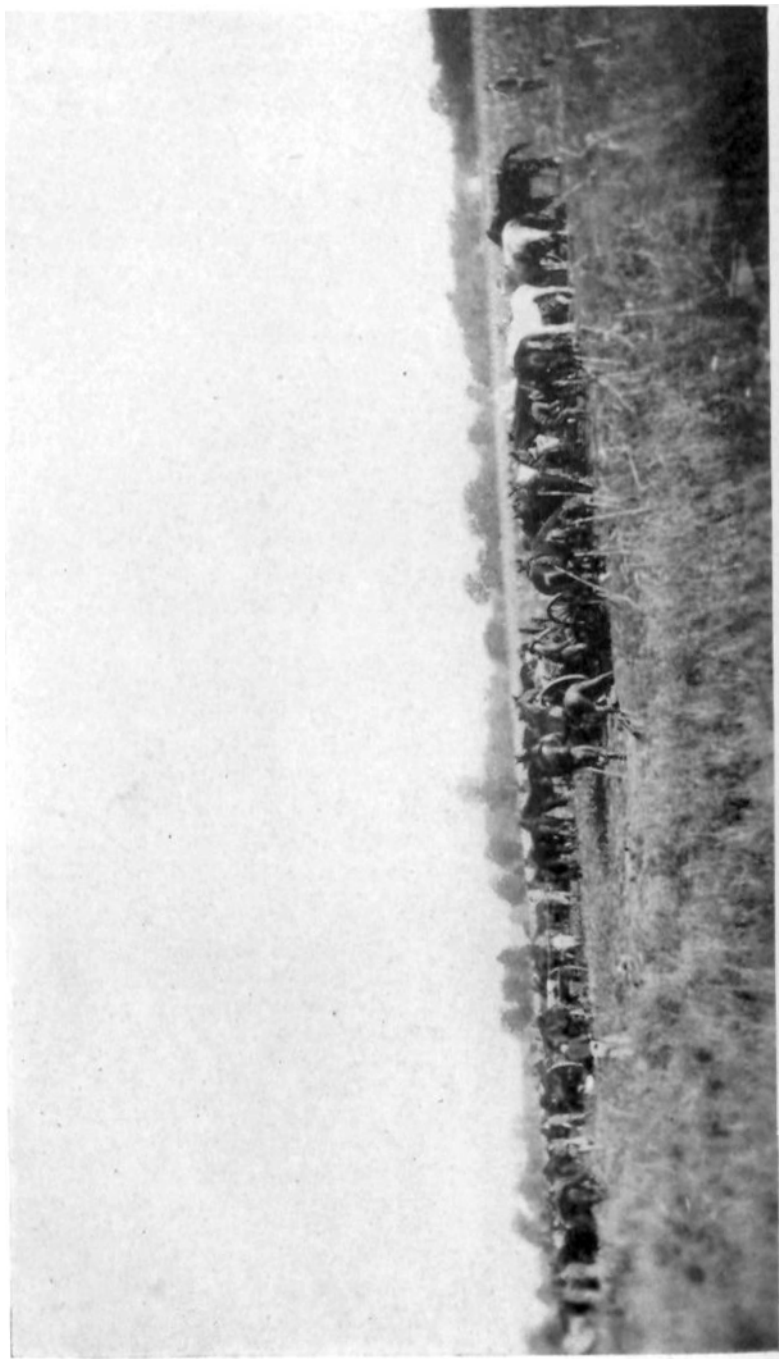
This summer, the 124th Field Artillery made an experiment along another line of additional training. This experiment was the march of a provisional battery from Chicago to Camp Custer, Michigan, a distance of 165 miles. The purpose of this paper is to pass along the benefits of our experience to others.

Each year our Regiment goes to Camp Custer for its summer encampment. Captain Sweet, F.A., DOL, on duty with the Regiment as instructor, suggested that valuable training could be given by marching our animals, part of our matériel, and part of our personnel to Camp Custer, instead of shipping, as had previously been the custom. By this plan, opportunity would be given to train the personnel especially in the care of animals on the march.

In case of a general mobilization in an emergency, the greatest problem in the Guard would be to train the officers and men in the care of animals. The experience in the World War showed this to be the case in all animal-drawn organizations. Our training as now given in the Guard is not sufficient along these lines. The battery officers cannot be given the real problem as presented in the field.



WHEN DO WE EAT?  
A picture from this summer's training of the 124th. F. A.



IN CAMP  
One of the nightly stops on the road.

## TRAINING OF FIELD ARTILLERY IN THE NATIONAL GUARD

The plan as suggested by Captain Sweet was carefully investigated. It was found that the hike could be made at very little more expense than by shipping the matériel and animals. In the case of shipping, the railroads get the money and only training in entraining and detraining is secured; whereas, the money spent on the overland hike went directly for training.

These facts were explained to Major General Milton J. Foreman, Commander of the 33rd Division. He has always been an advocate of this type of training. The Adjutant General, State of Illinois, and all state officials were enthusiastic for the march and secured permission for the State to pay the small difference in the expense above the cost of shipment by rail. The officer in charge of National Guard Affairs, Sixth Corps Area, Colonel S. McP. Rutherford, and Colonel A. McIntyre, Representative of the Chief of Field Artillery who inspected the regiment, were consulted and advised the march. They believed it would be a great thing for the training of the Regiment. General Foreman secured permission from the Militia Bureau for the hike, with the understanding that the State of Illinois would pay any additional expense above the rail transportation resulting therefrom.

Permission having been secured, detailed plans were made for the march. We had 106 horses available for the hike, and it was decided to take a provisional battery of six sections. Each unit in the Regiment was allowed to send an equal number of men so that all units would share equally in the benefits derived from the hike. Nine officers were detailed to go. In order to allow them the maximum amount of instruction, they were assigned to various duties. The following assignments were made:

Lieutenant-Colonel H. E. Ragland .....	Battery Commander
Captain Fred B. Skeates .....	Chief of Section, 1st Section
Lieutenant L. MacClatchie .....	Chief of Section, 2nd Section
Captain M. D. Crowe .....	Chief of Section, 3rd Section
Lieutenant E. Shuler .....	Chief of Section, 4th Section
Lieutenant R. Johnston .....	Battery Clerk
Lieutenant R. A. Waldron .....	Supplies and Mess
Captain J. B. Laker .....	Stable Sergeant
Captain H. E. Emerson .....	Veterinarian

The remaining personnel was detailed from the enlisted men in the Regiment. In most cases, the drivers were noncommissioned officers.

The batteries of the 14th Field Artillery that marched from Fort Sheridan to Camp Custer, made the distance from Chicago to Camp Custer in eight marching days. We decided to make the distance in the same time so that the provisional battery would be operating on the road under normal marching conditions. By operating under

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such conditions, it would have to meet the problems that such conditions imposed.

Below is the distance made each day:

Place	Leaving Time	Distance	Destination	Arrived
June 29				
Armory	6:30 A.M.	16	Mark Centre	12:30
June 30				
Mark Centre	6:25 A.M.	20	East of Miller	1:45
July 1				
Miller	5:30 A.M.	14	Michigan City	11:00
July 2				
Michigan City	5:35 A.M.	22	Galien	1:50
July 3				
Galien	6:00 A.M.	23	Pocagon	2:30
July 4				
Pocagon	9:45 A.M.	27	2 mi. E. Decatur	8:00
July 5				
Decatur	5:45 A.M.	24	Kalamazoo	3:15
July 6				
Laid over in Kalamazoo				
July 7				
Kalamazoo	5:50 A.M.	15	Camp Custer	11:00

Before starting on the hike, the duties of cannoneers and drivers at rests were carefully explained to the men. Great care was given in the instruction for proper care of animals on the march and in camp. Compliance with instructions was carefully checked at each hourly halt and at the end of each march.

Besides giving this essential training, the Regiment has already derived many additional benefits from the hike. The knowledge of a good deed well done has developed *esprit*. The basic military training of the personnel was improved by the strict military discipline on the hike.

The provisional battery arrived at Camp Custer four days before the remainder of the Regiment. During this time, they erected permanent picket lines for the 330 additional horses that arrived with the remainder of the Regiment. Previous years, this work was done by the Regiment after its arrival. This year, all horses were unloaded and on permanent picket lines, camp practically erected, and the matériel unloaded when the Regiment detrained. This allowed the Regiment to start immediately in training, while in previous years too much of its limited time had to be devoted to the work of making camp.

We undertook the hike as an experiment, hoping to add to our means of training. At first, there was considerable doubt in our minds as to its being a complete success. The hike as conducted was even more successful than we had ever hoped for. We now consider it as being one of the best steps made in the training of the the Regiment.



124TH FIELD ARTILLERY ON THE MARCH



PAT AND BARNEY



## PULLING CONTESTS

BY WAYNE DINSMORE, SECRETARY OF THE HORSE ASSOCIATION OF AMERICA

THE recent pulling contest at the Iowa State Fair, for pairs weighing over 3000 pounds was won by the Blue Line Storage Company of Des Moines, on Pat and Barney, weight 3405 pounds, driven by M. A. Miles. This pair exerted a tractive pull of 3000 pounds for the full distance of 27½ feet. Second went to the Merchants Transfer Company of Des Moines, on King and Jim, weight 3500 pounds, driven by John Gilbert; third to the Des Moines Ice and Fuel Company, on Sam and Morgan, weight 3565 pounds, driven by Henry Dyer. Both these pairs were able to start the dynamometer at a tractive pull of 3000 pounds, but were unable to pull it for the required distance. The fourth prize went to the C. C. Taft Company of Des Moines, on Cap and King, weight 3620 pounds, driven by A. H. Jones; fifth to the White Line Transfer Company, driven by Harry Edmonds of Des Moines, and sixth to a team owned by Lew Coles of Ames, Iowa, driven by Harlan Smith. The Taft pair exerted a tractive pull of 2750 pounds for 27 feet—just six inches short of the required distance. The fifth and sixth prize pairs were alike unable to start the machine at 2750 pounds, but both pulled it the full distance at 2500 pounds. The tie between them was resolved in favor of the White Line Transfer Company, which made the pull in the shortest time.

After the regular class tests were completed on Thursday morning the first prize team was sent against the world's record of 3100 pounds, now held in Canada. The horses were game and started the load, but were unable to maintain the pull for more than 12 feet, 6 inches, and consequently did not equal the present world's record.

The value of these pulling tests lies first in focusing the attention of horse raisers and horse users on the great reserve power horses possess. The force exerted by the first prize team was sufficient to start a load of 38,960 pounds on granite block pavement, but with this important difference. In starting such a load on a wagon, the force would be exerted for less than a second; in this test it was maintained continuously for 9 seconds while they were covering the required distance of 27½ feet.

The second point developed by the tests is that no pair of horses can exert a tractive pull in excess of their own weight. No pair yet tested has been able to exert a tractive pull of 9/10 of their own weight for the required distance, although the black mares owned by the Des Moines Ice and Fuel Company were able to exceed this

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in a pull of 10 feet and 7 inches. The emphasis placed on weight is therefore entirely correct, for a light weight pair cannot possibly pull as much as a heavy weight pair, all other factors being equal. Lest tractive pull be misunderstood, this story may be pertinent. An Iowa farmer, when told the champion team had exerted a tractive pull of 3000 pounds, said: "Shucks—I have a team at home that has pulled 8000 pounds." He did not understand that a 3000-pound tractive pull is the pull required to lift 3000 pounds out of a hole in the ground—in other words, a direct perpendicular lift of that weight—and that such an amount of force would be sufficient to start a load of 116,880 pounds on steel rails, 38,960 on granite block pavement, or 12,980 pounds on a dirt road.

The load moving force a pair of horses can exert is determined by the tractive pull they can exert; the tractive pull is limited, absolutely, by their weight. Fact determined by these cold-blooded scientific tests, takes the place of opinion, and those who claim that they have 1200-pound or 1400-pound horses that can pull larger loads than 1800-pound horses are merely making themselves ridiculous. A well-trained small pair may outpull a poorly trained heavier pair, but where training and disposition to pull are equal, the heavier pair will inevitably pull the larger load.

The third point that is being developed by these tests is the matter of type. Not enough horses have been tested to draw final conclusions, but preliminary indications point to the superiority of very deep bodied, thick made, powerfully muscled horses.

For the benefit of thousands of Iowa farmers who would like to know how their horses compare with the winning pair, the following measurements were given. Pat, off-horse, blue roan, 9 years old, height 16 hands  $2\frac{1}{2}$  inches, weight 1695 pounds, heart girth 85, loin girth  $90\frac{1}{2}$ , front cannon  $9\frac{1}{2}$ , hind cannon 11 inches. Barney, near horse, red roan, 8 years old, height 16 hands and  $\frac{3}{4}$  of an inch, weight 1710 pounds, heart girth  $87\frac{1}{4}$ , loin girth  $89\frac{1}{2}$ , front cannon  $9\frac{3}{4}$ , rear cannon  $11\frac{1}{4}$  inches. Their breeding was unknown but apparently carried both Belgian and Percheron blood. It may be interesting to soldiers to measure their own best horses and see how they compare.

Horses such as these will bring two hundred dollars or over, right now on the farm. Every 5000 such horses sold bring a million dollars to Iowa farmers, and if even one-fourth of Iowa farmers were to sell one pair of such horses at the close of each work season, it would bring in more than twenty million dollars in cash.

Such supplementary revenue is all the more important because such horses can be reared to 36 months of age for not more than one hundred dollars each. As they more than earn their keep by

## PULLING CONTESTS

work performed while growing from 3 to 6½ years of age, whatever they bring over one hundred dollars per head is to be looked upon as clear profit. The man who does his work with good draft mares, rears just enough colts to furnish his own replacements, and sells off his older animals as soon as they are 6½ years old, is doing his farm work at a minimum cost for power and has an annual cash revenue which is an ever-present help whether crops are good or bad. The pulling tests, by establishing definite standards, will speed up the improvement of all horses in Iowa. Larry Stone of the Blue Line Storage Company remarked that they wanted the biggest and best draft horses they could possibly obtain, as it cost no more to shoe, harness, and shelter and drive a pair weighing 3500 pounds or over, and that were capable of handling loads weighing twelve tons or over, than to do the same for horses that could pull only half as much. The only difference was in the feed consumed, and this difference was so slight as to be of no consequence compared with the greater earning power, daily, of the A-1 draft horse.

These maximum pulling tests are but one link in the chain of experimental projects being worked out by the Iowa Experiment Station and the Horse Association of America, which will, in the near future, speed up the production of good horses, and reduce the number of poor ones—which poor ones, by the way, are damned by the buyer and user, and are a loss to the farmer who raises them.



# **EFFECTS OF ADJUSTMENT OF SIGHTS AND INSTRUMENTS ON ACCURACY OF FIRE**

BY LIEUTENANT HUGH CORT, F.A.

THE data and observations contained herein are based on service with a battery of American 75-mm. guns, Model 1916, and accordingly cannot be strictly applied to other calibres. The principle of perfect adjustment to obtain accurate fire, however, holds good.

The American 75-mm. gun, in spite of its reputation in the service, fostered largely by officers who have not had an opportunity to observe its functioning under the control of an experienced executive, and operated by a trained gun crew, is admirably suited as a test piece for observing the effect of carefully applied adjustments and corrections. Its manifold assortment of gears and its long sight bracket together with the independent angle of site and adjustable range strip, give abundant room for lost motion and errors in adjustment. On the other hand the construction of each separate element of the carriage is simple and once understood can be adjusted in the battery with almost exact precision.

The methods used to adjust the sights in this battery were based on those given in the ordnance handbook but with a few additions and modifications. In the first place it was found that an adjustment of the sights alone, no matter how carefully performed, did not give even fair results unless the following elements were first tested and any looseness or play corrected.

1. The elevating worm is set at such a pitch that the force of recoil will reverse the gears if any play exists. Due to the fact that the gun is used more at mid ranges than at either the short or long limits of its trajectory, an uneven amount of wear develops between the worm and rack. The result is that when the gun is stable at 6000 yards it will run down at the breech when fired at 3000 yards. If tightened by ordinary methods until it is stable at 3000 yards it becomes almost impossible to move the elevating handwheels at 6000 yards. A mean position must be struck since the amount of drop is often in excess of a thousand yards and since the long ranges must also be used. Although the crown nut used in the adjustment of this worm is capable of an eighth turn adjustment this is often too much. The difficulty was overcome by placing a washer made of ordinary stiff paper below the nut to take up the play. When play again became apparent the paper was taken out and the nut could then be tightened an eighth turn without causing the

## EFFECTS OF ADJUSTMENT OF SIGHTS, ETC.

gears to jam at the long ranges. The paper washer was quite satisfactory in wearing qualities and I have often taken one out after three months use only to find it in perfect condition.

2. Due to the large number of gears in the elevating and angle of site systems, play or lost motion is always present even when the rack and worm adjustments are correct. This allows a vertical wobble of the tube, amounting to several mils without any change of the handwheels. The gun when in battery is very nearly resting on its centre of mass and the same reading can be obtained on the range strip by several different quadrant elevations of the tube, depending on the direction of last movement. This was corrected by always making the last motion in a direction which would elevate the breech, thus giving a constant point of rest and also making that point of rest the one that the gun would otherwise have assumed when the propellant was exploded.

3. The traversing gears also become worn and suffer loss of motion. The correction is similar to that above. The gun is always brought on the aiming point from the right. This is in accordance with the regulation causing the gunner to shove the breech to the right with his shoulder, and if at any time the gunner failed to do this the direction of movement of the handwheels performed the same task.

4. The last loss of motion, and the one that nearly evaded our corrective powers, was the play that developed in the panoramic sight bracket. For those who are not familiar with the gun the following description of this part and its mounting is inserted. The left rocker arm is extended about eighteen inches from the gun trunnions and forms the support for the panoramic sight bracket. Now this rocker arm cannot be clamped laterally on the trunnion as that would cause excessive friction and prevent the gun elevating smoothly. The very small clearance between the rocker arm and the gun cradle at the trunnion translates itself into a wobble, at the end of the eighteen-inch arm that often approaches five mils between its extreme right and left positions. Now the slight resistance that the panoramic sight makes to any change of its setting is sufficient when multiplied by the leverage of the rocker arm, to push the arm left or right on the trunnion, depending on the direction of change of sight. The remedy was simple when once hit upon. An ordinary screen door spring fastened, at a slight tension, between the rocker arm and the elevating strip bracket on the opposite side of the carriage served perfectly to hold the sight bracket firm and prevented all wobble.

Having stabilized the mount by these aforementioned means, adjustment of the sights produced results that could be depended

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upon. However, it was found that an adjustment made in park was not accurate after the guns were transported four or five miles over rough roads to the firing point. Therefore it was always my policy to reach the firing point sufficiently ahead of time to recheck every one of the adjustable scales on both the panoramic sight and range strip.

The sequence of this operation is as follows: Level the angle of site bubble and then with the range handwheel bring the gun tube horizontal using the gunners quadrant placed on the tube as a check. Unloosen the range strip locking screw and raise or lower the range strip until its zero is opposite the zero index. Lock the screw. With the bore sight lay the tube of the gun on some distant object using the site handwheel and being careful to keep a range of zero on the range scale. The more distant the object the better. Without disturbing the laying of the gun, loosen the locking screw in the tilting head of the panoramic sight and bring the horizontal cross hair on the distant object with a reading of zero—300 on the scale. Tighten the screw. Unloosen the locking screw of the panoramic sight micrometer and bring the vertical hair on the distant object with a reading of zero on the scale. Lock the screw. The gun is now in order and ready to fire.

I served in Battery C of the 1st Field Artillery as assistant executive for six months in 1919 and again for three months in 1920 and had become acquainted with the American 75 gun in that organization so that when I was transferred to Battery A of the same regiment in May, 1921, and assumed the duties of executive I had a fair idea of what sources of error I would have to eliminate. It took about four months to arrive at the sum total of these operations and to train the gunners and number ones in the battery to automatically perform the correct movements of the handwheels.

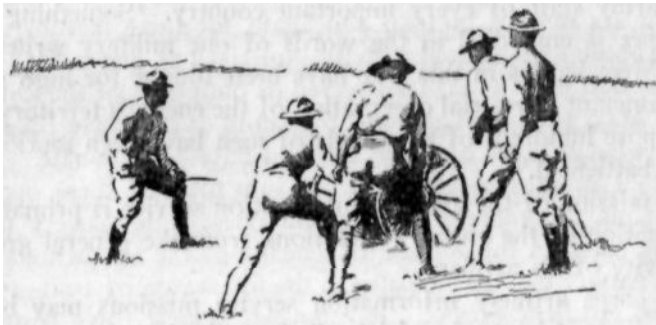
The battery then participated in the fire season of 1921–1922 for the Field Artillery School. It competed against three batteries of French 75's, two batteries of heavy and medium guns, and two batteries of American 75's. During this firing season I can safely say that not once did the battery fire a shot before the aforementioned adjustments and checks had been made. The result was that we won the Knox Trophy for service firing. The following year, 1922–1923, the competition was increased by the arrival of the First Battalion of the 18th Field Artillery, armed with French 75's. Again we took the same care with the adjustments and again we won the Knox Trophy.

Not once do I recall, in these two firing seasons, a gun out of its place in the sheaf by a perceptible amount or a shot whose range appeared to be erratic, unless the cannoneer had made an error, and there were few of those cases. The field probable error must almost

## EFFECTS OF ADJUSTMENT OF SIGHTS, ETC.

have been the same as that of the proving ground. Student officers continually expressed their pleasure upon hearing that we were to shoot for them.

Several days ago as a student, it was my privilege to fire a problem with this same battery, which is still continuing to take the same care with their adjustments. My target was a machine gun in the open definitely located. My sheaf measured 15 mils. I closed 5 on number two and got four target shots. Luck! yes; but it more than repaid me for two years' work because I knew with such methods in vogue such LUCKY shooting is more and more likely to occur.



# THE CORPS ARTILLERY INFORMATION SERVICE

BY LIEUTENANT VERGIL D. REED, F.A.,O.R.C.

OF TWO contending armies, other conditions being the same for both, that which has the best information regarding the activities and intentions of its adversary will be victorious.

As a general rule any one phase of this intelligence regarding the enemy will not turn the tide decisively, yet taken as a group of knowledge covering a number of details, no one of which would in itself have a noticeable effect upon the outcome, this information spells victory or defeat as it is available or lacking.

In like manner the same law applies to each unit of the armies. This is especially true when the unit concerned forms an absolutely necessary support and protection to attacking infantry and is depended upon to clear away resistance which to infantry alone would prove decidedly disastrous in modern warfare. As a necessary and decidedly effective agent in securing this vital information the artillery information service holds a very high rank. During the World War the importance of this service grew rapidly from the beginning and since hostilities ceased is constantly being studied by the army staff of every important country. Something of its importance is embodied in the words of one military writer, who says, "Most battles in this war have been fought for high ground giving constant terrestrial observation of the enemy's territory. For this purpose hundreds of thousands of men have been sacrificed on a single battlefield."

The mission of the artillery information service is primarily the determination of the enemy's intentions from the general grouping and activity of his artillery.

The corps artillery information service missions may be conveniently grouped into five fairly distinct divisions:

It collects all information from artillery sources and transmits it to G-2 under such rules as G-2 may desire.

It studies and interprets all information regarding enemy artillery positions and activity, and distributes it along with all other information concerning their targets to the heavy artillery units.

It makes up the intelligence agency of the corps chief of artillery enabling him to enter into the plans of all operations involving the artillery in a most effective manner.

It organizes and controls observation and liaison for the purpose of detecting immediately any enemy activity, especially



## THE CORPS ARTILLERY INFORMATION SERVICE

artillery, and forwarding information of it to the officer responsible for ordering fire.

It adjusts or ranges heavy batteries when impractical for the battery's means of observing fire to be used, providing these adjustments are of more tactical importance than gathering information or when the enemy is very inactive.

As a collective agency for G-2, experience has shown that purely formal and routine records alone should not be depended upon entirely, but there should also be a means of having frequent personal contact between officers of G-2 and the corps artillery information service.

Enemy artillery activities, positions, and protection are distinctly the field of the corps artillery information service. It is responsible for the verification and distribution to those interested, as well as for its collection, and information merely collected but not distributed is useless. Information regarding the friendly artillery's other targets must also be collected and distributed, but this comes largely from G-2 and the army artillery information service, and generally the corps is not responsible for its original accuracy.

The corps artillery information service is under all circumstances responsible for the most complete study possible of the targets in the normal corps artillery zone and as the corps artillery is primarily interested in counter-battery work, its artillery information service must necessarily be largely devoted to constant study of the enemy's artillery in all its phases.

It is very necessary that the corps chief of artillery be able to supervise the artillery work of the divisions, but especially is this necessary where divisional zones overlap. He must also know the strength and weaknesses of the artillery in the formations of all plans. As adviser to the commanding general and his chief of staff along with his duties of coördinating and supervising all the artillery in the corps, it is necessary that the chief of artillery know all general circumstances regarding the enemy situation, important zones of action and targets for our guns. He must also have data and records showing location, activity and changes in the hostile artillery layout. For all this information the artillery information service is very largely his only source and an elaborate system of records becomes a necessity on a stable front. These records will be covered below.

Under the mission of supervision of observation and liaison a constant study of both friendly and enemy observation nets is necessary and not only the net existing at the moment, but the possible changes of it in case of advance or retreat must be well in mind at all times in this study. The artillery information service locates the observatories of the flash ranging section and sound ranging

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section with a view to covering the largest possible part of the hostile sector. In locating these posts, it is important to get as many cross-views and great angles of intersection as possible to insure accuracy of results as well as a wide field of usefulness.

A fairly detailed summary of the duties of the corps artillery information service would include the following:

- Collecting all possible information concerning the enemy and distributing it to its own and other units.

- Obtaining from the army artillery information service and G-2 maps, bulletins and publications relative to intelligence.

- Preparing a daily intelligence bulletin for G-2.

- Checking and verification of all information received from other sources.

- Preparation of panoramic and topographic sketches for the zones covered by observation.

- Study of enemy matériel when possible.

- Carrying out of counter-battery work.

- Recording of technical features of enemy areas within the corps zone such as location of machine guns, "pill boxes," batteries, cross-trenches, communication trenches, railroads, ammunition dumps, observation posts and new works.

- Interpretation of aerial photographs.

- Supervision of artillery ground observation service, including the sound ranging section and flash ranging section.

- Preparation of artillery maps required by the corps.

- Proper employment of air units assigned to the corps artillery.

- Maintenance of liaison net.

- Adjustment of fire in case of tactical need.

In a war of movement or in a very quiet sector the missions of the artillery information service for the different units may vary, with the corps artillery information service performing some or all of the missions ordinarily assigned to the army or division, but under normal or stabilized conditions the corps artillery information service missions are distinct and separate from that of the other units with no duplication of work except that which is necessary for accuracy and confirmation.

### DEVELOPMENT AND ORGANIZATION

The artillery information service as a permanent and distinctly functioning unit is a direct outgrowth of conditions developing early in the World War. Before this war and at its beginning such service was done by personnel temporarily detailed from the regular

## THE CORPS ARTILLERY INFORMATION SERVICE

units of the army and therefore having in most cases no special training or permanent working organization. The necessity for a trained and experienced staff with a permanent organization and distinct missions, however, became apparent immediately after the war of rapid movement had developed into a stabilized warfare with comparatively permanent and elaborately fortified lines and systems of defense, and is now recognized as an indispensable unit in a warfare of movement as well.

There began a race in the development of artillery, especially of the heavy types, and this was echeloned deeply behind the front lines, giving for offense or defense a brutally heavy concentration of fire covering important areas so effectively that headway against it was next to impossible for uncovered troops. The immediate result was a rapid development of counter-battery work to neutralize or destroy the hostile artillery, both to prevent effective enemy fire and to prepare the way for offensive operations by breaking down all possible concentrations of artillery and machine-gun fire before the infantry attack was launched.

Matériel and ammunition were precious in this race for superiority of artillery, therefore accurate adjustment and exact knowledge of enemy artillery was necessary in order to prevent waste of ammunition, rapid wear on guns and a heavy waste of human energy. The artillery information service grew up as the agency for collecting, interpreting and distributing through proper channels this much needed intelligence.

On a corps or army front which might remain almost without change for long periods as in the Meuse-Argonne sector where the lines were little changed for over three years before the offensive of September, 1918, the permanence of the artillery information service as a unit also assumed permanence of position, with divisions and smaller units changing, but with the corps and army artillery information service personnel remaining in the sector, thus taking advantage of the intimate knowledge of conditions and terrain. This proved a very considerable aid to new units who did not know the sector. The author was in the Meuse-Argonne sector almost a week before American fighting units began to arrive and through being attached to the information service of the 2nd French Army in that sector for the offensive, had an excellent opportunity to observe the advantages arising from information concerning enemy artillery given out by this experienced French personnel to incoming American Artillery. The knowledge of the terrain and of enemy organization and activities, along with the accurate records kept by this organization which had been constantly in the sector, proved of

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inestimable value to the American troops who were forced to go into action very soon after arrival and without the opportunity of becoming acquainted with the friendly terrain, much less that of the enemy.

On stabilized fronts the efficiency and accuracy of the French S. R. A. (service de renseignements de l'artillerie—artillery intelligence service) were so great that the Germans were forced to resort to emplacements and positions heavily protected by reinforced concrete or heavy steel bars covered with a heavy layer of earth, with a top layer of a substance sufficiently hard to explode shells before penetration. When the development of howitzers with a high angle of fall and shells containing a heavier disrupting charge of high explosives with delayed fuses made this means of protection no longer effective, it became the practice to depend largely upon concealment and camouflage, keeping the batteries quiet after being put into position until the beginning of a heavy surprise shelling, then moving to other prepared concealed positions, making the work of the artillery information service considerably more difficult but at the same time more necessary.

Constant development was needed to keep up with the rapidly changing conditions all through the war, and from lessons learned the development is still being carried on to the end of making the artillery information service more efficient in fulfilling its missions, especially under the trying conditions entailed by a war of rapid movement where the gradual gathering and classification of information under comparatively favorable conditions is impossible, while the need of information becomes extremely pressing at that time.

In the organization of the corps artillery information service the personnel should, where at all possible, be made up of artillerymen forming a permanent unit instead of being made up of individuals detailed from other units and liable to be detached at any time. However, in a sub-commission report of the Field Artillery Board in 1920 and through General Herr of the French Army, we find the following: "Many corps artillery commanders desire (information) sections to be assigned to the corps, but the sub-commission views this plan with disfavor. The question of obtaining artillery information is one which is more dependent on the form of the terrain than on an artillery distribution of the army corps."

Each army corps must at least have a sound ranging and a flash ranging section. These form an efficient intelligence source on active fronts, whether stabilized or moving. The artillery information service must also have control over balloons and airplanes if the service is to fulfill its missions in a satisfactory manner. It must likewise have constant connections with the artillery information service

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of higher, subordinate, and neighboring units, corps G-2 and army G-2.

The organization must be flexible enough to adapt itself to necessarily widely different terrains and dense or thin groupment. In an open terrain, for instance, one fixed observation post per half mile of front can observe any targets appearing, and in a quiet sector an even smaller number may suffice provided the surface is level enough to permit two or more posts to read on targets discovered in order that they may be accurately plotted. Such a small number of posts, however, will not permit their use for fire adjustment. In hilly, wooded sectors with crooked valleys and much possible defilade for enemy guns, this number will be multiplied many times over if effective work is expected.

Each corps must be amply supplied with the means to move the artillery information service equipment and personnel rapidly, and failure to provide this transportation cripples the service beyond any effective use in a warfare of movement. This lack of conveyance held up the flash ranging section and sound ranging section inexcusably in the Meuse-Argonne, and although the sound ranging section is of little value in a war of movement, due to the delicacy of the microphones and other equipment, as well as the time needed for installing it, yet the flash ranging section remains a very useful source of information so long as it can be conveyed. The result in this particular instance was that our flash ranging section equipment could not be moved for two days after the enemy was pushed beyond our view, and although the author with a French officer pushed forward locating the sites for new observation posts, there was no possibility of getting telephone connections or instruments up to them. The roads were so jammed for miles that the heavy guns could not be moved up, but the lighter batteries needed information on enemy strong points which we could have given had transportation been available to bring up equipment. Not even motor cycles and side cars were available after the first day of the attack.

As regards personnel for the corps artillery information service the permanent organization as embodied in proposed changes in regulations is a staff composed of:

- One major as chief of artillery information service

- One captain

- Two first lieutenants, with one additional line officer for each advance report centre above one

- One master gunner

- Two sergeants

- Two corporals

- Two first-class privates.

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This at most can only form a skeleton so far as the enlisted personnel is concerned, for when it is considered that the number of posts manned, besides the central post, may vary from one to half a dozen or more with at least one relief necessary for each post, it becomes apparent that a larger number of enlisted men will be necessary in even normal cases. Over an extensive sector it is doubtful if the number of officers provided in this organization is large enough. In a stabilized sector with little artillery activity and a light distribution of possible enemy targets to be studied, a large personnel would not be necessary, but in any movement where the officers and more experienced enlisted men would find it necessary to locate and prepare or supervise the preparation of new posts the observation would suffer to a very serious degree.

Present army organization tables for the corps artillery brigade provide an observation battalion consisting of 17 commissioned officers and a total enlisted strength of 204, with a medical detachment of 1 officer and 3 enlisted men in addition. The headquarters and headquarters detachment for this battalion is composed of 7 officers and 34 enlisted men. These tables also provide for the necessary transportation equipment for obtaining a high degree of mobility. This battalion is made up of two observation batteries, thereby giving greater flexibility of employment and ease of tactical manipulation.

In the organization the possibility of the absorption of some or all of the missions of a higher or lower unit's artillery information service, in a specific sector, must be kept in mind. Such a redistribution of duties is especially probable, either in a very quiet sector or in a war of movement where a unit may be suddenly shifted.

Many changes in the theoretical organization of the corps artillery information service are still being considered, but the idea of a distinct and separate tactical unit is the basis for any form the organization may assume.

### INFORMATION SOURCES AND OPERATIONS

The sources of intelligence available to the corps artillery information service cover a broad field and are dependent very largely upon close coöperation and the maintenance of uninterrupted liaison among a large number of collecting agencies, some of them outside of corps control. Under these conditions the maximum of efficiency is not gained merely by the usual mechanical means of maintaining communications or through routine reports, but it is also necessary that there be a great amount of personal contact between the officers of the different agencies available in order that the problems of each may be thoroughly appreciated and solutions for them planned on the knowledge available through their discussion.

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The corps artillery information service has at its own disposition the following agencies:

General terrestrial observation

Sound ranging stations

Flash ranging posts

Aerial observation and photographs

Balloon observation

Artillery information service of subordinate units.

Other sources not under its control but available for its use through personal contact, communications and reports include:

Corps G-2

Army artillery information service and army G-2

Heavy artillery information service

Artillery information service of neighboring corps

Infantry liaison officers

Captured maps, artillery plans and matériel.

Temporary or shifting observation posts used merely for the gathering of general information regarding special movements or activity in the enemy lines and not accurately located topographically are quite common after a movement has begun and may give much valuable information. Likewise, small artillery information parties following closely behind infantry advancing lines make up a very useful source of information when parties are equipped to signal to the rear by heliographs, "blinkers," messenger pigeons, radio or runners. This information should be distributed from the nearest telephone post.

Infantry contact planes and liaison officers must keep artillery headquarters informed concerning the location of advancing friendly infantry in an offensive. Aerial reports, however, in this respect cannot always be depended upon because of confusion in distinguishing friendly and enemy troops when visibility is hampered by woods, smoke or mist. This error led to much confusion in the Meuse-Argonne advance after troops had advanced beyond the reach of the S. R. O. T. (section de recherche de renseignements par l'observation terrestre—flash and sound ranging groups) posts, and one air pilot informed the writer that in the case of the "Lost Battalion" he had tried to drop some needed food in the position reported, only to find later that part of it was dropped into the German lines.

Sound ranging posts are very valuable in a so-called quiet sector where four or more readings may be had on the same gun, giving under favorable circumstances an error of less than fifty yards. They cannot be counted upon when heavy artillery fire is being executed, either by friendly or enemy troops, and are useless in a

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rapid advance, requiring about two days for proper installation. The microphones are very delicate and besides the mere interference of the sound of other guns than those being observed, are sensitive to other shocks such as are unavoidable when moving over rough country. The delicacy and susceptibility of these instruments to weather conditions and other interferences make it necessary to leave its proper operation or employment entirely up to the judgment of expert personnel, including the choice of time and conditions for fire adjustment when used for such a purpose. Windy weather makes accurate work impossible as does rapidly changing temperature.

Sound ranging can be used equally well by night or day and in light rain or mist. In fact, misty weather with no wind is ideal for its employment. It is best done with large calibres having a heavy explosive charge and in all cases instantaneous fuses must be used except for high-burst ranging. Ranging by sound should not be generally used except when visual observation is impossible.

Flash ranging posts form generally the most reliable and accurate information regarding the locations and activities of the enemy artillery. Likewise when they are used for adjusting friendly guns, the accuracy is surprisingly great if three or more posts can get readings on percussion bursts. In high air-burst ranging, however, American and French officers are somewhat skeptical as to the accuracy obtained, and this method was only used generally when the objectives were greatly defiladed or ground bursts could not be seen. The English used the air-burst method to a very considerable extent, but generally adjusted on a distribution of half air, half graze bursts instead of all high bursts. Dispersion in time fuses is the great problem of adjusting in this manner, but for locating the bursts effectively for harrassing or zone fire when bursts cannot be seen from battery posts, the method is well worth while.

Where the flash ranging section has a number of posts each post should know the terrain visible from other posts and when movements or enemy flashes are visible to one post the approximate location should be immediately telephoned to other posts which can read on the same point. With three or more readings on a burst or flash giving sharp angles of intersection the central post can plot the location with great exactness on the battle map. In locating enemy batteries a small number of plottings by the readings telephoned from each of the posts seeing the flash, enables the central post to give the location to batteries covering the zone, and fire can in turn be adjusted on this enemy position immediately, or data may be figured by the batteries covering this target for use when there is need for silencing the enemy gun later.

Each of the observing posts is located very accurately and its telescope is carefully oriented on some well-known point which is



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taken as its zero point. The central post has a large battle map of the sector on which each post is plotted and an angular scale is laid off with each post as a centre and comparing with the scale of each instrument. Taut fine wires or threads are fastened at the plotted post location. Immediately when a reading is received from a post the wire from that post is revolved on the scale to the reading given over the telephone. With a reading from one post merely the line on which the observed object lies is shown, unless the object is a very outstanding one, which cannot be confused with others on the same line. With readings coming in from two posts the intersection of the two wires or threads of these posts gives the location of the point observed and with three posts reading the location is much more accurate. These locations are all recorded either on the map or on other records for further reference and confirmation. This method or plotting board is based upon the same principles as the coast artillery plotting board and is equally effective where the posts are accurately located on the terrain and accurately plotted on the board.

On the central post map described above, locations of friendly troops as reported from the observation posts are plotted and colored lines drawn, showing the position of friendly lines and changes in the front as reported. It was as interesting as it was informative to watch this map as the advancing American lines were plotted and laid out on it during the first days of the Argonne drive. Before the advance began we were busily watching enemy activity and carefully plotting each German battery that opened up. A 150-mm. long gun firing on the cross-roads at Neuilly and on the main road leading forward from there received special attention, but it was assumed that the German artillery did not suspect the presence of heavy enemy guns capable of silencing it and therefore for the sake of surprise in the coming attack it was left unmolested. The exactness of its location and the effectiveness of our fire upon it was, however, very apparent when the writer inspected the position after the American preparation fire on the morning of the attack.

In adjusting fire of three railway mounted naval guns upon the enemy stronghold on the heights of Montfaucon when the attack of September 26th began, S. R. O. T. 57 (Flash Ranging Post 57) gave very good service until about 4:00 A.M., when the dense smoke hanging over our own positions and in the sector of the enemy prevented any observation except of a very intermittent nature, and about half an hour earlier communications to one of the observation posts being used in the adjustment were entirely cut off. When daylight came the posts were of course taken off all adjustments in order to observe the field in general.

After the advance passed beyond the reach of the observation

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posts our great problem was transportation. Neither trucks nor motor cycles were available and all the main roads were so choked with ammunition trains, guns, and débris along with enemy obstructions that any means requisitioned could not get to us.

In all cases telephone lines used for artillery information service must be entirely specialized and not burdened with administrative duties or messages. These lines must at all times be at the disposition of the artillery command. Close liaison with all heavy artillery or corps artillery operating in the vicinity must be kept up.

Referring specifically to the use of the flash ranging section and sound ranging section for artillery adjustment on enemy objectives largely located by these units, it should be understood that neither of these sections is to be used for adjustment except when it is impossible for the batteries to range by their own means or when the enemy is unusually quiet, thus releasing part of the posts of the sound ranging section and flash ranging section from observation duties.

Cases will arise when it is necessary to interrupt adjustment for the location and observation of active enemy batteries. Decision in this matter should rest entirely with the artillery.

Each battery being ranged is responsible for the installation and maintenance of telephonic communication to the central post of the section doing the adjustment.

The artillery commander of the sector should draw up a program of adjustment for the flash ranging section and sound ranging section. The objectives to be fired upon are indicated and the kind and location of each battery which is to be adjusted is given. Such a program avoids a great deal of delay and duplication of effort when quick opening of fire is necessary. This program is sent to each of the groups to take part in the ranging. In each case adjustment is by piece, and corrections by the method of measured deviation of shots.

The flash ranging section should inform the corps artillery information officer on what batteries it can range before the program is made up. Adjustment is greatly simplified if the guns have been previously calibrated and the calibration correction applied to the data for each of the guns except that adopted as the standard.

Sound and flash ranging stations are installed by the corps or army and comply with instructions received from the corps to which they are connected. In like manner the corps or army is responsible for their supply and movement.

The air service furnishes indispensable information and it should photograph the entire hostile front as nearly as is possible, covering areas where activity is expected frequently in order that photographs may be compared and any changes interpreted. These photographs

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are closely examined by experts of the corps and army artillery information service. In all cases the pictures should be supplemented by reports of the observer or pilot. The artillery information service makes requests for air reconnaissance and photographing usually through the army corps intelligence section. Maps should be supplied with each of these requests having the zone marked on them, which is to be covered. The scale of the photograph desired and the urgency of the matter should be included in the request. Work of this nature is especially urgent in rapid movements or changes in the sector to determine enemy tactics and plans immediately. After the adoption of a program for this type of reconnaissance it should be changed only when absolutely unavoidable, thus preventing confusion in the air service. The artillery information service should attempt to foresee the needs of artillery units and furnish information with as few special or urgent requests as possible.

When used for adjusting heavy guns the air service should be depended upon for pilots only with trained artillerymen as observers. There is a vast difference between a good pilot and a good artillery observer, and every artillery officer should have the training that will enable him to adjust fire from a plane. The air service should handle upkeep, mechanical detail and technical problems related to the planes, but the assignment of observers must be under artillery control.

Balloons are valuable sources of information where they can be kept in the air, but they are generally very distant from objectives observed and have an oblique line of vision. Weather conditions greatly influence the employment of balloons and they are very difficult to move when inflated, interfering with all overhead telephone lines besides drawing hostile fire on the roads. The greatest difficulty is experienced in keeping them in ascension near the front on account of hostile airplanes. The writer has seen American balloons hauled down as often as four times in less than two hours because of the activity of German planes and in spite of heavy antiaircraft gun fire against the planes. In one instance a balloon was shot down before the observer's instruments could possibly have been adjusted. Night ascensions sometimes are worth while and may assist in locating enemy movements through the presence of lights, gun flashes, fires and sometimes travel on white-surfaced roads.

Information from other sources mentioned previously is obtainable mostly through reports, bulletins, maps and personal liaison in addition to the usual means of communication employed.

Captured documents, maps and plans are generally needed by G-2 more than by the corps artillery information service, but much information may be noted from them before forwarding

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these papers. There should be no time lost in making use of this information.

Matériel captured, shell fragments, "duds" and enemy emplacements offer an effective means of determining new enemy inventions or changes that might prove decisive. Methods of protection used for the emplacements will aid in determining effective methods to be employed against hostile artillery.

The corps artillery information service should make detailed studies of the observation net both on the existing front and over territory that would be covered in case of advance or retreat. This work is especially valuable on a stabilized sector. Knowledge of strong and weak points in present or possible future positions, including observation possibilities, defilade, dead spaces and possibilities of concealment proves of great weight in planning an operation.

The establishment of proper liaison for counter-battery work, except lines for adjustment, is a duty of the corps artillery information service. The necessity of an advance report centre at the post of command of the heavy artillery commander is now generally admitted and the corps artillery information service will probably be made responsible for it.

Great value is gained from conferences held at corps and army headquarters daily between the assistant chief of staff from G-2 and the heads of the artillery information service. At these conferences the artillery should request special work such as maps or air photographs of particular areas. There also the artillery information officer should assist in making up the part of the daily "summary of intelligence" covering:

Enemy artillery activity on the army or corps front including time, rounds fired, objectives, batteries firing and comparison with previous activities.

Definitely located batteries (new).

Previously located batteries suspected of activity.

Any apparent change of enemy tactics.

In all the artillery information service work it is impossible to overemphasize the importance of the duty of every person turning in all the information he receives no matter what his position may be. The efficient operation of this service requires constant watchfulness and the maintenance of uninterrupted communication. The coöperation of all the agencies of intelligence is absolutely necessary.

### RECORDS AND REPORTS

The accumulation of valuable information is of little benefit to the artillery information section unless it is made available and put into circulation. To serve this need a great number of records

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and reports have come into use. The whole problem in keeping these records is that of making quickly available any desired information that has passed through the corps artillery information service. In the effort to make the largest amount possible available, there was a tendency during the war to collect heavy files of material that often proved valueless.

The records that must be kept by the corps artillery information service include:

- A corrected battle map
- A history of enemy batteries
- An indexed file of aerial photographs
- A counter-battery card file
- A file of objectives
- A map or chart of enemy battery activities
- A liaison and communication chart
- Panoramic sketches and visibility charts.

Other records may be included, but whatever their form the records taken as a whole should supply information covering the following:

- Enemy occupation of the front
- Enemy sensitive points
- Enemy artillery location and activity including:
  - (a) Quantity
  - (b) Kind
  - (c) Increase or decrease in kind, quantity and activity
  - (d) Changes of position
  - (e) Groupment
  - (f) Zones of fire
  - (g) Adjustments
- Friendly observation and liaison net
- Friendly occupation of the front.

The Corrected Battle Map is the ordinary plan directeur, generally at a 1/20,000 scale, kept up to date by the plotting and designation of all newly discovered enemy objectives or works. These corrections may come from any of the sources of information and many of them will of course be located directly by the corps artillery information service. At stated intervals, or when specially needed, the army G-2 makes up new battle maps for distribution containing all available corrections at the time of issue, but there will often be positions of interest to the corps in its own sector which may not be of general use, and on each of the newly issued maps many new entries will be made on active fronts, especially through the discoveries of the flash ranging section and through information received

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from G-2. Each section's central post will of course have use for this same map in the form described in the discussion above, and if neatly kept these maps are well worth filing as a permanent record, being replaced by the latest map issued each time. G-2 in connection with the army artillery information service issues every few days a "List of Correctives." As these lists are received every information section must immediately enter these corrections on its battle map. On quiet fronts the battle map may be kept on a 1/10,000 scale which admits of more detail on a highly organized enemy sector, but maps to this scale are of little use in a war of movement and are therefore not very generally used.

The History of Enemy Batteries is the most important record in the corps artillery information service. Its use is the verification of information concerning batteries and the study of each separate battery requires its own history card. These cards or histories have been used in many different forms. The most valuable part of the history cards is the history of the battery's activity and should be kept strictly up to date. In studying a plan for attack or for counter-battery work, this history of activity will have considerable weight in the determination of objectives needing concentrated fire and will save much waste of energy and ammunition.

In most corps the battery history is kept as a card file, either under a system of indexed reference numbers or by location on the battle map. A carefully indexed loose leaf book form of file would give better service and probably cause less confusion through misplacement of records. An excellent index method would be that of indexing according to the map square in which the battery is located.

In some organizations these battery records contain very detailed information, including date of firing, target fired at, number of rounds fired, number of intersections had on the flash by friendly observation posts, results of fire, calibre of the battery, kind of ammunition used, fuses and even the name of the enemy unit.

The File of Aerial Photographs of the enemy regions may be kept in two ways. The photos may be filed according to numbers given them by the air service, which is very clumsy and unhandy when referring to specific batteries hurriedly, or they may be indexed by the map squares covered by the pictures. These photos are of course all interpreted before filing and, knowing the location concerning which you desire information, it is quite easy to get out all the photographs covering that region. With the interpretation notes on each it is in turn an easy matter to find the exact photograph desired.

Counter-battery Card Files or a record of areas shelled are used to facilitate counter-battery work, especially in the absence of more specific information on the battery to be fired upon. The best

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system for this is a card file with one card for each map square showing date, kind of protection, exact location, calibre and objective of the enemy battery.

In a File of Objectives the purpose is a complete file of the enemy's sensitive points in addition to enemy batteries. They are of course covered already in the battery history. This record covers the following items and these items are indexed according to map squares.

Machine gun and 37-mm. emplacements

Trench mortars

Important crossings of trenches or roads

Railroads

Bridges

Camps

Depots

Ammunition dumps

Observation posts

Command posts

Telephone lines

Signal stations.

The Chart or Map of Enemy Activities may assume several forms, the best of which is an annotated map kept up to date, and following pretty closely the description of the central post battle map previously given. Present artillery information service regulations also give an excellent form for this record.

Liaison and Communication Charts should show the exact layout of the communication system used for the collection and distribution of information, control of fire and liaison with infantry units supported as well as connections to the rear. As nearly as possible all lines and paths of communication should be included in the chart.

Panoramic Sketches and Visibility Charts are for the information of new observers and for giving artillery officers a clear idea of dead spaces and observation possibilities from each observation post. One copy of these should be posted at the observation post, one at the central post and one at corps artillery information service centre.

Aside from the permanent records and for the preparation of those records, many and various reports are necessary in the corps artillery information service. These may be oral, signalled, or written. In the latter class there may be included bulletins, periodical reports and special reports.

Oral reports are of course not standardized in any form and are not generally confined to a special time, being given by individuals upon the acquisition of any information and passed through

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personal contact or telephone to the proper centres. This includes reports of observation posts to central posts, reports of general observers, reports of pilots, reports of officers in council and a limitless field covering any individual whose communications are of value. Signalled reports generally concern themselves with small and specific details and are of secondary importance.

Written reports assume many forms but the most valuable of them is the bulletin. These may be made up daily or at the end of other specified periods or may be of special character. Whatever its form or time of issue the corps artillery information service bulletins cover the following details:

Operations

Identifications

Air reconnaissance

Front-line location and activity

Command posts, observation posts, telephone centrals, wireless stations, etc.

Battery activity and nature

Entanglements, machine guns and strong points

Occupation of villages, woods or heights

General enemy activity

Description of terrain

Circulation and movements

Ammunition and supply dumps

Billets

Gas

Aerial activity

Morale

Enemy reserves, number and location.

The Corps Daily Bulletin gives G-2 all detailed information from artillery sources and is besides its general information a compilation of data concerning artillery targets. Some difficulty was experienced in the recent war by the degeneration of this bulletin into a mere routine report to G-2. This report goes to the army artillery information service, corps and army G-2, all heavy artillery units, divisional artillery information service, balloon sections, air service, flash ranging sections and sound ranging sections.

Ranging sections generally report by daily bulletin sent to the artillery information officer at an hour designated by him, giving the following information:

Coördinates, hour and accuracy of fire of enemy batteries

General information and location of observed activities

Activities of old batteries of the sector

Daily shelling report and ammunition expended.



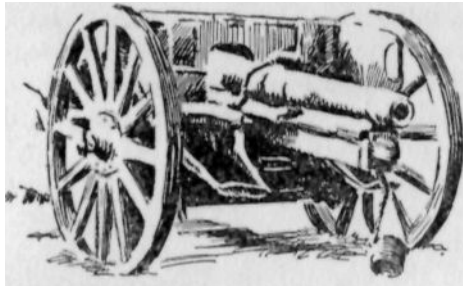
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This bulletin may be made up with a number of prepared forms. Besides this daily report the officer in charge of the sound ranging section reports to the corps artillery information officer each morning as to the possibility for sound ranging under conditions existing at the time. He will likewise report any decisive changes in conditions as they occur.

Some of the flash ranging sections keep in addition to the reports mentioned a sort of log or observation book, giving an outline of each day's work by dates.

Any unusual activities of the enemy are immediately reported by telephone.

The records and reports given here are sufficient to cover all the fundamental needs of the corps artillery information service. As the present development goes on or minor changes are made, some of these reports and records will be changed, some in form, perhaps, but the information covered by them and the general methods used will remain the same.



# MINIATURE RANGES FOR USE IN THE ARMORY

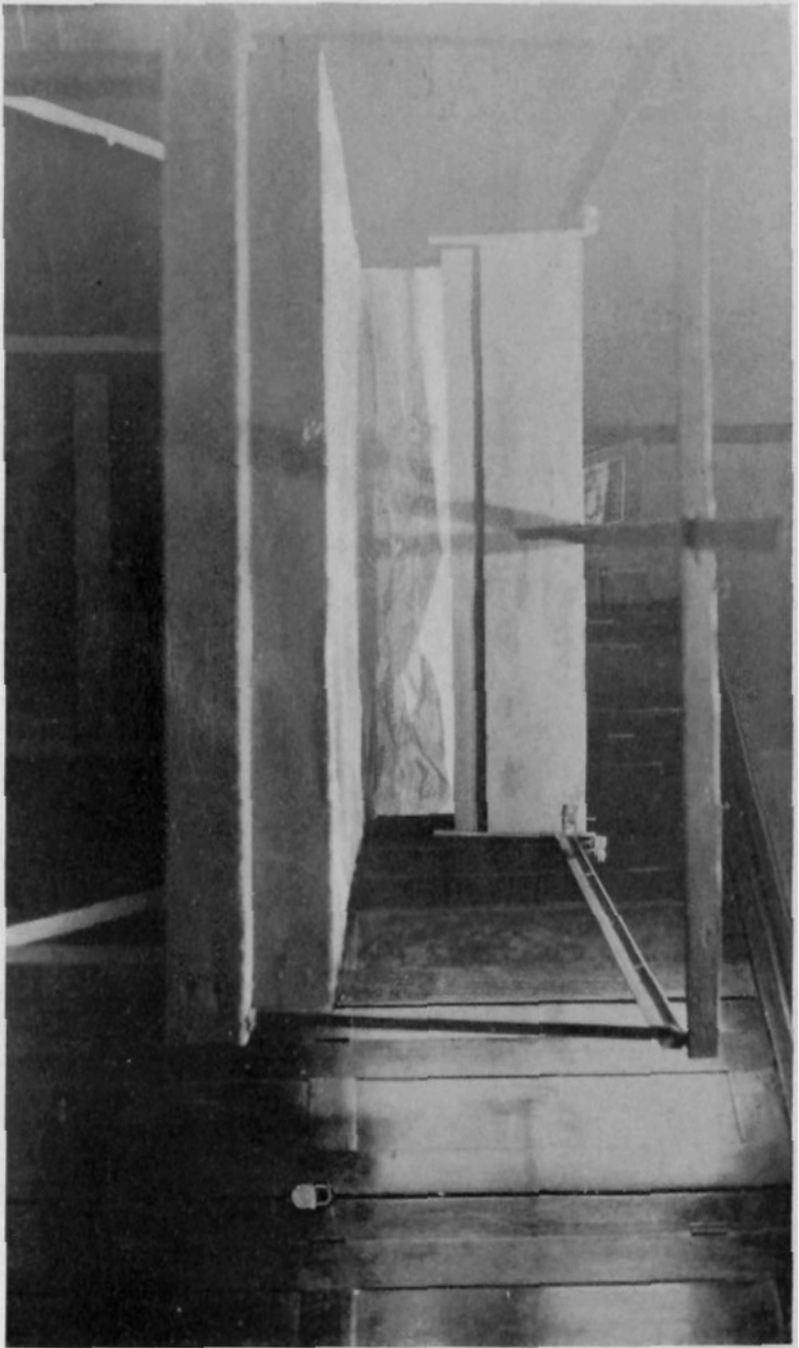
BY MAJOR CLIFT ANDRUS, F.A.

ONE of the most difficult phases of the training of the national guard field artillery officer is the teaching of gunnery. Theory becomes wearisome if not mixed with practice. But practice is more or less expensive, depending on the situation, and is usually given in one large dose each year. Some less expensive means should be developed whereby the interest in firing can be maintained throughout the entire period of the armory instruction year.

In the 146th Field Artillery armories in Seattle and Tacoma, Washington, are terrain boards that have proven great successes. This regiment was recognized in May, 1921, and was organized partly from converted infantry rifle companies and partly by the raising of new units. Its first camp came in July of the same year and it was necessary to impart some ideas of the shooting game in a very short time. The officers, with the exception of four or five, were all new and many had only hazy ideas concerning field artillery. For the two months preceding my arrival the exceptions were doing valiant work with "Volume III" in trying to remedy the deficiencies, but the subject of gunnery was especially hard for them to handle.

In the January-February, 1921, issue of the FIELD ARTILLERY JOURNAL was an interesting article about the "Jasper-Ward" terrain board that had been put in use for the students at the University of Wisconsin. This article formed the basis of the work on which we started toward devising a practicable terrain board.

The board as first constructed consists of a table framework about forty inches from the floor in front and about three inches higher in rear. It can be made any convenient size. The surface of the table is made of wall board. Above the wall board and extending around the edge of the table is placed another frame of one by fours. The sides are cut away to permit freedom of motion to the pantograph. The rear is entirely open. At the rear is a screen of wall board with sufficient height to hide the movements of the operator and yet not too high to obstruct his view of the class. A landscape can be placed on this screen to add to the effect of a terrain. Across the upper frame of one by fours is nailed ordinary window screening that is later dented to represent irregularities in the ground. A light coat of issue OD paint over the whole adds to the effect. Trees, houses, targets, and other objects, cut from



THE TERRAIN BOARD AS SEEN FROM THE FIRING POINT

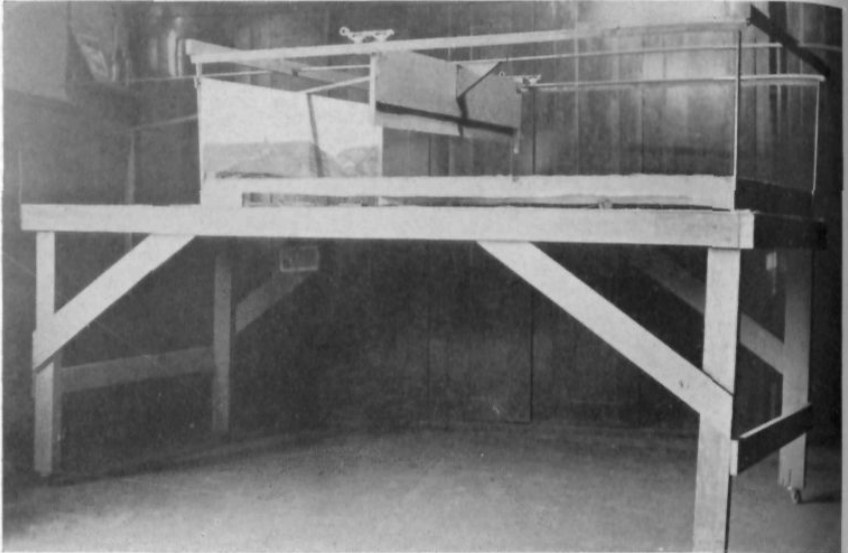


FIG. I.—SIDE VIEW OF THE COMPLETED BOARD

The smoke-puff apparatus attached to the pantograph for precision work can be seen under the frame supporting the horizontal, screen-wire terrain. The overhead, roller-borne construction is used for time fire and bracket adjustment.

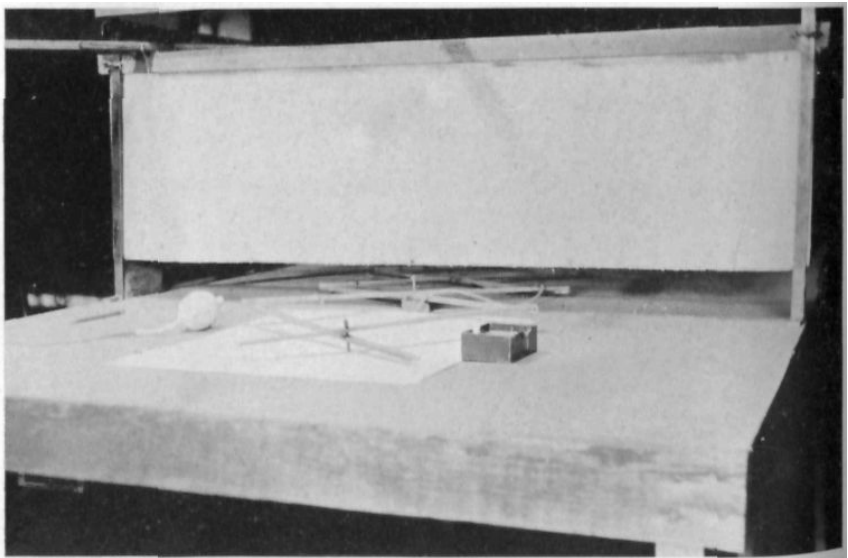


FIG. II.—THE REAR END OF THE PANTOGRAPH, THE GUN SHEET AND THE SMOKE-PUFF BULB  
The smoke-puff "gun" is attached to the front end of the pantograph, beyond the vertical screen in this picture.

## MINIATURE RANGES FOR USE IN THE ARMORY

pasteboard and painted, and made to scale can be placed at various locations so that the officers will not become weary from eternally looking out at the same sector night after night. Also, ranges can be altered in convenient style (for the instructor) and old landmarks shifted around.

The smoke producing part of the board caused unlimited trouble and a great deal of experimentation. The original "Jasper-Ward" style did not render satisfactory service. The officers became interested and sought new ways of making realistic bursts and an assistant professor of chemistry from the University of Washington came in and worried over it for a while. One day Sergeant Huffman was reading the *Scientific American* and found the solution—hydrochloric acid and ammonia. A bottle of each is placed in a small box (shown under the table in Fig. 1). A rubber tube extends from a bulb on the operator's table at the rear end, through a hole in the table to a glass tube in the cork of the acid bottle. A second tube leads out of the acid bottle and into the ammonia one. A second perforation in the cork of the ammonia bottle holds a glass tube connected to the hose, which is run on to the front part of the table and attached to the pantograph. The bulb and the "gun" are shown in Fig. III. The "gun" consists of a right angle glass tube with the nozzle pointing upward. It is held in a wooden block and firmly attached to the end of the pantograph. Squeezing the bulb causes smoke to come up through the screen. By expert manipulation the burst can be made most realistic, as the smoke slowly rises above the ground, stands in a column for a second or two, and then slowly rolls over the screen and out of sight just as many actual shell bursts appear.

The pantograph is built with a working ratio of 1 to 3. It is hinged under the rear screen at the end of the terrain and the rear end is supplied with a pointer for use on the gun sheet. The end of the pantograph, the bulb, and the gun sheet are shown in Fig. II.

Fig. V shows the gun sheet as viewed from the operator's position. It is marked for range in metres or mils, depending on whether it is desired to simulate bracket or precision fire. Deflection rays are indicated in two-mil divisions, with tens marked with heavy lines for use in precision work, or in five-mil divisions for bracket work. Because of the operation of the pantograph the sheet is made to read "direct," and when a change of "Right 5" is ordered, the operator moves the indicator five mils to the right and the burst moves the same amount to the right of the observer.

The first gun sheet was designed for bracket work to facilitate the handling of the sheaf, and was drawn to read in metres. The next year when we came to precision work and to lateral observation,

## THE FIELD ARTILLERY JOURNAL

it was necessary to change the design to read in mils. It is in such work that the advantage of having two-mil lines, on the deflection fan, becomes apparent.

At first, interest was great in the device, but none of the guard officers hazarded operating the old style flat terrain board on which dependence was made for instruction in time fire. This attitude was not desirable because one of the ideas in having a terrain board is to give the officers opportunities to work with each other in odd moments and to develop instructors in firing. The next step, therefore, was to find some means of combining all kinds of fire on the same board. The result was still in a more or less experimental stage when I left the Regiment, but it worked very well as it was.

Above the original table a frame of small angle iron was constructed, standing about eighteen inches higher than the terrain. Placed on this frame is a cross-board, supported by two carriages on rollers. The arrangement can be seen in Figs. I and VI. Attached to the board, and extending through the centre of the front and rear upper frames, is a light board or rod. On this is marked ranges in metres. The desired range can be obtained by sliding the rod (and cross board) forward or backward until the indicated range reading comes opposite the rear frame.

On the rear face of the cross-board is placed the gun sheet for time fire. As there is no helpful pantograph connected with this element, the sheet is constructed to read "reverse." Deflections are drawn as shown in Fig. IV.

Parallel to the gun sheet is a brass rod along which slides a block. To this block is fastened another rod or stick that extends toward the operator. (The details of this are shown in Fig. IV.) An indicator of stiff metal drops from the block. Any desired range and deflection can be set by moving the indicator and the cross board to the proper place. For bursts two sinkers are shaved down to a suitable size. One is coated with cotton and represents air bursts, the other is left *au natural* and takes the place of grazes. Each is suspended by a silk fish line which runs from the centre of the rod or stick on the under side, to the upper side and, thence, to the operator. At the rear end of this rod are placed tacks spaced to give a burst at the average height of two, four, and six mils above the terrain. Each string has a loop. To obtain a two-mil height, the loop of the airburst string is placed around the two-mil tack, the sinker is dropped and comes to a halt at the average two mils above the board.

For precision work, or for the introduction of the "probable error," the usual box of one hundred markers is provided. This board gives realistic and accurate results of especial value in teaching precision or lateral adjustment. By the summer camp of 1923

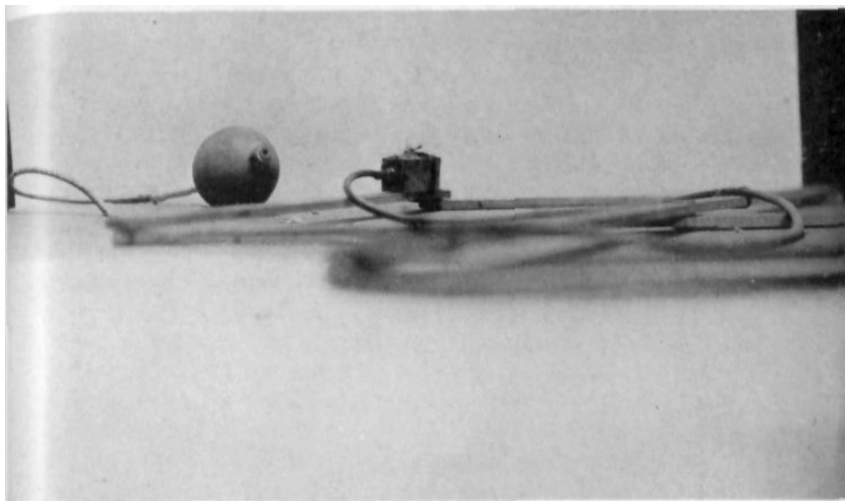


FIG. III.—THE SMOKE-PUFF BULB AND GUN

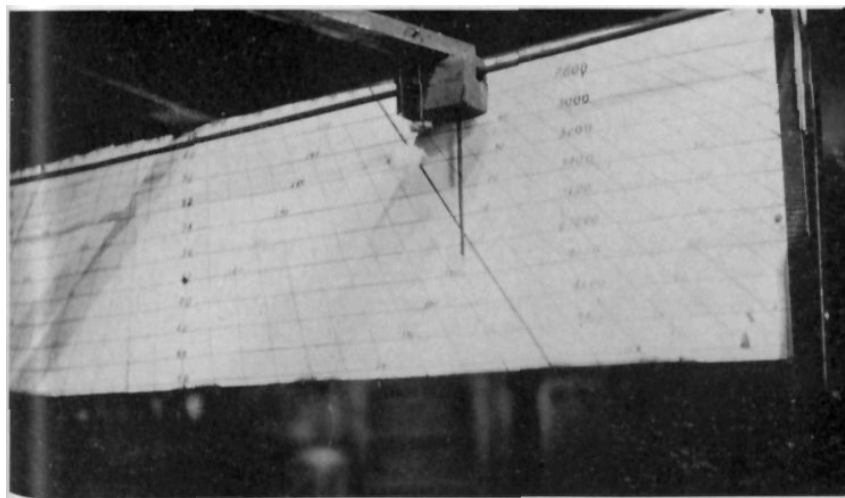


FIG. IV.—THE BURST INDICATING DEVICE AND THE GUN SHEET FOR TIME FIRE

Note that any deflection is nearer the centre of the board for short ranges. Remember to mils subtend 30 yards at range 3000 and 40 yards at 4000.

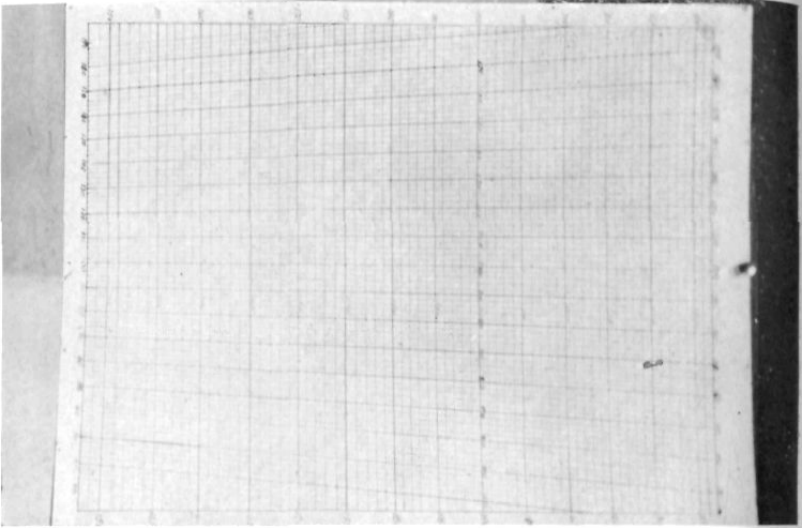


FIG. V.—THE GUN SHEET AS VIEWED FROM THE OPERATOR'S POSITION

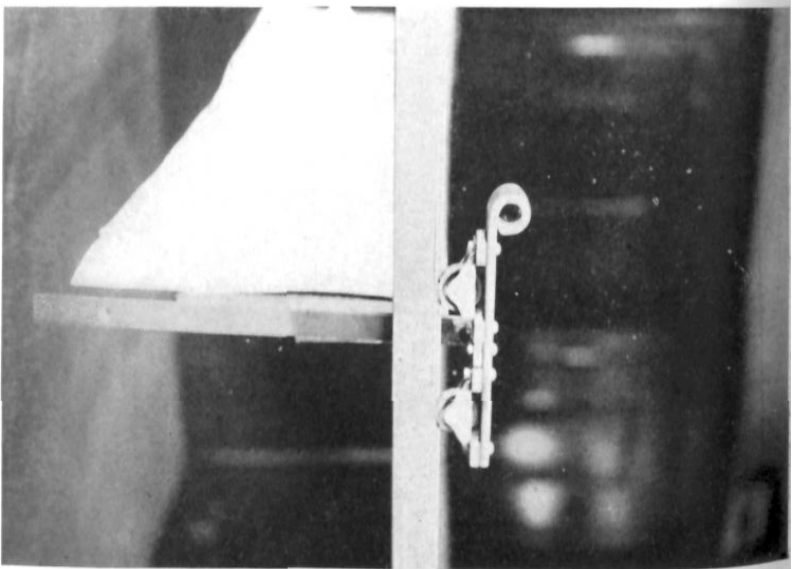


FIG. VI.—THE ROLLER CARRIAGE SUPPORTING THE CROSS BOARD



## MINIATURE RANGES FOR USE IN THE ARMORY

there were five officers in the Seattle station, alone, who could adjust a four-gun shrapnel problem under any conditions of observation. Because so much depends on the law of errors, and terrain sensings are usually disallowed, firing on this board is actually more difficult than service practice on the Camp Lewis range.

As a means of arousing interest and professional pride this board is one of the best things that has come to my notice. There was rarely a day that did not see two or more of the officers working. And the arguments and tricks that were attributed to "Probabilities"! It made the theory of gunnery so much easier to teach, and it developed some excellent "shooters."

Lieutenant Tarkington built a large electrically operated board that worked on the principle of a smoke bomb range. His heights were regulated by changing the positions of the bursts on the rods. The bursts were small bulbs, red indicating graze, and white air bursts. The scale was one to a hundred. This board had the advantage that it trained officers in the use of field glasses as the bursts could not be observed without their aid.

Over in Walla Walla Captain Doran built a replica of Chateau Thierry. His operation was the same as used in the terrain board at Fort Sill. It was a work of art and it greatly assisted in training in firing and in the work of the battery detail. Yet the Captain considers that his greatest achievement was in the discovery of how to make life-like trees. He cut sections from sponges and dyed them green.

Of the three types used, the one given the more elaborate description above stood the test of time the best. It is the most economical and versatile.

# FOREIGN MILITARY JOURNALS A CURRENT RÉSUMÉ

ITALY

## "*Rivista di Artiglieria e Genio*," May, 1924

A DISCUSSION of the relation between losses in men and expenditures of ammunition in modern warfare forms the subject of an article by Colonel Fulvio Zugaro, Infantry, which is given the leading place in this number of the *Rivista*. The author, who is a well-known student of war statistics, illustrates his points by giving several interesting tables and charts. In this article he confines his research to the operation of the British Army and particularly to losses and expenditures incurred in France. Colonel Zugaro shows that generally the expenditure of ammunition is in inverse proportion to losses in troops, for example in the summer of 1916 when the British losses in troops were very heavy, the expenditure of ammunition was very low; also in March and April, 1918, when the British suffered their greatest losses in prisoners and missing, the expenditure of ammunition during their withdrawals was below normal.

The use of mulberry fibre in the manufacture of smokeless powder is the subject of an interesting article by the chemist, Dr. Gino Forli-Fonti, who states that towards the close of the war experimentation had been so successful that had the war continued much longer, he is convinced that Italy would have substituted mulberry fibre for cotton in the manufacture of its smokeless powders. For centuries Japan and China have been using mulberry fibre for fine paper, and Italian textile manufacturers use it in making certain threads and cloth. Samples of smokeless powder made by nitrating mulberry fibre have been kept for five years without deterioration. The author claims that in case of a future war, Italy could make tremendous amounts of ballistite by using leaves and twigs of mulberry trees without any damage to her silk industry.

An interesting description of the Italian Artillery and Engineer Library is given by Captain Italo Zanotti. The rooms occupied by this library are in Rome in a building constructed in 1575 for a Jesuit library. It now contains 40,000 volumes on artillery and engineer subjects and 150 periodicals are received. There are also many old and valuable manuscripts and books, including works of Galileo Galilei, Napoleon and Moltke.

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The article by General Carlo Ferrario on warfare in the Alpine sector of Pasubio is concluded in this number with a description of the organization of this rock and snow area as regards tunnels, mines, hoists, mule paths, water and electric systems and other engineer activities.

Under "Miscellaneous" the annual report of the Chief of Field Artillery, U. S. Army, is given considerable attention by the editor of the *Rivista*, who says in way of introduction: "We call attention to this important document as it is of interest because the artillery problems and research in America are in many ways similar to our own."

### **"Rivista di Artiglieria e Genio," June, 1924**

This number starts out with a proposition made by Senator Giacomo Boni, that some of the bronze from captured Austrian cannon be used to remodel a set of bells or chimes to be placed near the tomb of the Italian Unknown Soldier. The Austrian armies around Pola, Trieste and in Dalmatia carried off large numbers of historical church bells, many of which were of great antiquity and artistic value. Most of them were made by the Venetians when their city reigned supreme in the Adriatic. Almost all the bronze from these bells was used by the Austrian artillery.

The organization of divisions and larger units, especially as regards proportion of infantry and artillery, is the subject of a study by Major Fernando Gelich, Artillery, whose article will be continued in later numbers of the *Rivista*. The author favors organization of the division into three infantry regiments as now in use or under trial in the Italian, French, German, Belgian, Polish, Russian and Jugo-Slav armies, rather than the four-regiment organization adopted by the United States and Checo-Slovak armies. He considers that the best organization of a division is into three regiments of infantry under an infantry commander, a brigadier-general, with two regiments of artillery under an artillery brigadier-general. The division commander would generally hold one of the infantry regiments in reserve under his own orders. The Italian division consisting of nine infantry battalions and five groups of artillery, totalling 16,000 men, and the corps with 62,000 men, is considered as large as practicable in view of the fact that it is probable that in the future wars divisions and even corps will have to advance and operate over not more than one road. This is because there are only six roads which cross the frontier between Italy and France, nine into Switzerland, four into Russia and eight into Jugo-Slavia. The

## THE FIELD ARTILLERY JOURNAL

discussion shows a careful study of the writings of Ludendorff and Von Bernardi as well as of recent French and Italian literature on the subject of organizing divisions so as to give the infantry adequate artillery support.

The question of artillery ammunition supply in mountain warfare is one of the most serious problems of the Italian Army. During the war great use was made of inclined cable hoists of lengths varying from a few hundred metres to two or three kilometres. The usual arrangement was to stretch one or more, often a pair, of cables from a lower to an upper station through the air. The load is suspended from small wheels or rollers which run along the top of the cable. Another cable or rope is attached at one end of the load and at the other end to an engine which hauls the load up the inclined cables to the upper station. Portable types which could be installed quickly were developed and over one thousand of these were in use along the Italian front. Lieutenant-Colonel Arturo Bellusci describes the various types already used and points out the lines along which development may be expected in his article entitled: "Portable Field Teleferics."

He claims that there should be only three portable types in the army, a light, a heavy and an intermediate type. The heavy types now in use have cables of normal length of 2000 metres, can be used on slopes even greater than 60 degrees, carry a useful load of 300-350 kilograms, use a 25-35 horse-power motor and can carry from 8000 to 10,000 kilograms of cargo per hour, as several loads can be carried simultaneously on the same cables. Of course the "teleferics" can be used in series to span greater distances or to turn corners, by establishing intermediate stations with special arrangements for transferring the loads. The "teleferics" not only made it possible and often easy to supply units over mountainous terrain when there were no roads, but they were greatly used even where good roads existed in order to avoid traffic congestion. The three-cable system is most used, two cables 20 mm. in diameter to bear the load and one cable 12 mm. in diameter to pull the load. The total weight of the heavy portable "teleferic," including cables, anchoring devices, station equipment, etc., is about 31,000 kilograms, which of course can be divided in several loads. Colonel Bellusci also discusses methods of obtaining an adequate supply of "teleferics" for mobilization. A large war reserve of them would not only be too costly, but the cables deteriorate when left long periods on drums.

The subject of field artillery events in the annual Italian military horse show is the subject of a letter from Colonel Amedeo Guillet,

## FOREIGN MILITARY JOURNALS—A CURRENT RÉSUMÉ

Field Artillery, to the editor of the *Rivista*. In the last military championships there was an event in which artillery pieces marched 30 kilometres at 10 kilometres per hour, followed by 4 kilometres across country, and another event consisting of driving the pieces over a cross-country course with various obstacles. The Colonel argues in favor of putting the march event in the night, not only because artillery usually marches at night, but also because in the last championship those pieces which had to march in the heat of the day had a harder time than those which marched in the cooler hours.

An interesting lecture on Italy's use of inland waterways for military supply during the World War, which was delivered by Captain Quirino d'Amico to the officers on the garrison of Venice, is published in the Historical Section of this month's *Rivista*.

Theoretical considerations on the wear of the artillery, trench mortar and small arms bores, and the influence of wear on the trajectory, is the subject of a very technical study, for which the *Rivista* acquired the exclusive rights for Italy from Captain Justrow of the German Inspectorate of Armaments. This translation will be continued in later numbers.

In the section devoted to military events there is a notice from the *Militär-Wochenblatt* in which it is stated that France recently conducted a test attack near Chalons where four brigades of tanks (120 tanks), including a new type weighing 70 tons, attacked a three-line, defensive position four kilometres deep. Numerous airplanes assisted, as did also a battery of 22-cm. guns, which fired with a range of 18-kilometres, using air observation.

Under Book Reviews there is a résumé of General Assum's work entitled "The First Defense of Grappa." It will be remembered that Mount Grappa bore somewhat the same relation to the Italian front as Verdun did to the French front. General Assum argues against Ludendorff's assertions that the successful defense of this area in October, 1917, was due to floods, climatic and other considerations, and quotes Hindenburg to prove that stubborn defensive action was the leading factor in the Italian success.

Professor H. Bouasse's book on *Gyroscopes et Projectiles* is also reviewed and is said to contain important studies on exterior ballistics, especially as regards the relation between velocity of projectile and air resistance, rotation, wind effects and the trajectory in calm or thin air.

## THE FIELD ARTILLERY JOURNAL

### FRANCE

#### **"Revue Militaire Générale," June and July, 1924**

Leading the earlier issue is Commandant Biswang's serial entitled "Accompanying Weapons of France and Other Countries." This is a detailed study of the 37-mm. gun and the light Stokes Mortar. The necessity of such weapons is pointed out; and the principle is advanced that, because of the difficulty of ammunition supply, their vulnerability, and small number, these pieces should be used only when the supporting artillery, for one reason or another, cannot take care of the objective in view. The various characteristics of each of these weapons are enumerated and the consequences thereof. Because of the flat trajectory of the one, and the lack of precision of the other, their employment presents difficulties. Being of limited range, they must fire from positions, if not right in the first line, at least well forward; and the process of installing them in position is somewhat slow. The methods of ammunition supply are primitive and insufficient; and these weapons are not powerful enough for the objectives encountered in present-day warfare. The author concludes that these two arms are "far from giving satisfaction" and should be replaced in the near future; but that properly employed tactically, they are much more valuable than many believe. A concise statement of the present French doctrine of the tactical employment of these pieces is then given; and the organization for their employment.

Two other complementary and eventual means of giving the infantry these indispensable accompanying fires are by the use of tanks—which will be exceptional—and accompanying artillery which would only be employed when supporting artillery, for some reason, is ineffective—as, for instance, in the second phase of an attack after a considerable advance by the infantry. Obviously, the 75 does not make an ideal accompanying weapon; and, as it is not organically assigned to the infantry, it is not, properly speaking, an accompanying weapon. However, its power is sufficient which is not the case with the 37 and the mortar. A discussion of accompanying weapons from the Japanese and British points of view is then given.

General Boelle is the author of the leading article in the July number—the first instalment of "The Fourth Corps on the Ourcq." As the commander of this unit, his account is of particular interest. Withdrawn from the vicinity of Romagne-sous-Montfaucon, August 31st, where it had made a slight advance after the long retreat from Virton and Ette beginning August 22nd, this command was ordered to the vicinity of Paris, where one of its two divisions was taken

## FOREIGN MILITARY JOURNALS—A CURRENT RÉSUMÉ

from it. The remainder of the Corps, including the 7th Division, was assigned to Manoury's 6th Army. On September 6th, Joffre's famous order to end the retreat and attack was issued. The evening of the 7th, General Boelle received the order to go into the line the next morning at Nanteuil, advancing on Betz "in order to complete the envelopment of the German right wing." One brigade of infantry made the move in requisitioned Paris taxis; the remainder of the infantry, including two non-divisional reserve regiments, by railroad; and the mounted troops, by marching. The 61st Reserve Division which was being driven back in this sector was assigned to the 4th Corps. It is of interest to note that the corps artillery consisted only of four groups of 75's with no heavy artillery to reply to the hostile 105's and 150's.

### "THE AUTUMN MANŒUVRES IN THE RHONE VALLEY"

BY CAPTAIN RÉNÉ ANDRIOT

In September, 1914, Joffre gained sufficient time (scarcely two days) to reorganize his forces for the counter-attack by the rapidity of his retreat; but due to the immense increase in fire power since then, in the French manœuvres of 1923, the blue force was to gain the time (seven days) necessary to its own reorganization—after a defeat—and the organization of a defensive position, by the operations of delaying forces. A blue division was to take up two delaying positions in the valley of the Rhone to give the imaginary main force the opportunity to organize its position. Thus, the principal object of the manœuvres was the gaining and breaking off of contact.

One interesting observation of the author concerns the preponderance noted of matériel over personnel; but victory comes from manœuvring, which can be applied only by personnel aided and protected, it is true, by powerful matériel; but, in turn, the personnel must be sufficiently numerous to protect the matériel from hostile attack and to hold the terrain conquered with its support. In other words, there must be a logical proportion between the man and the machine. One may then question the value of the machine-gun battalions which were employed. But they have their use in defensive sectors where it is certain that the enemy will not attack in force, insufficient infantry units being available to defend the entire line.

An interesting unit employed for the first time was the "reconnaissance group" which replaces the old divisional squadron of cavalry. This group consists of cavalry, mounted machine-gun units, a cyclist company with its machine-gun group, and machine guns carried on automobiles. Its missions are close-in reconnaissance and security; consider also its value in a delaying action or in

## THE FIELD ARTILLERY JOURNAL

seizing and holding an important point until the arrival of the remainder of the division.

The last two instalments of Commandant A. Grasset's "The War with Spain" gave an account of the taking of Valladolid and Santander by Napoleon's troops, the untrained Spanish peasants attempting to fight in open country being defeated with the utmost ease in every engagement. Another French force was equally successful in similar skirmishes on its march to Saragossa. But here the Spanish garrisoned suitable buildings on the outskirts of the city; and due to the invader's failure to first reduce these structures with artillery, their attempt to storm the place was repulsed. Similar checks were received at Audujar and Valencia, primarily due to the weak, scattered imperial forces; while, aided by the English, Spain was arming everywhere and great armies were being organized in Galicia and Andalusia.

In "The Importance of Coal in Peace and War," Pierre Bruneau recognizes that this product wields a power of the first magnitude both in peace and war. Before 1914 in Europe, England and Germany were predominant in this resource, and evidence to show that their commercial primacy was largely due to this fact is presented. During the war, the power of coal is shown in many and devious ways. Since then, coal has lost none of its importance and many of the moves on the European chessboard are traced to its influence.



## The Guidon Bearer

YOUNG JIM—he packed the red guidon  
In the pipin' times o' peace.  
Say, the kid could ride when he changed  
the guide,  
Like a streak o' lightnin' grease!  
With the batt'ry rumblin' on behind,  
Up the B. C.'s arm ud go.—  
Jim's sorrel mare you can bet knew where  
T' dust when the bugle blow.  
She cut across the batt'ry front,  
Teams gallopin' like ez not,  
An' Jim sits tight an' the guide is right,  
In the crack uv a pistol shot.

Proud! Say, that boy was prouder than  
A rookie had oughter be.  
But I liked the kid an' the stuff he did  
Got by. Yeh, with evun me.  
At the picket line, he'd say, "Aw, Top,  
Jes' wait till war busts for fair,  
An' I'll buy you boots like a shavetail  
loot's,  
If my guidon an' me ain't *there!*"  
"You may git there," I laughs him down,  
"Before the damn war gits through,  
But yer guidon's place is inside a case,  
An' mebbe yours will be, too."

Jim? He laughs back. But he does git  
there.  
When we hid in a woods one day,  
We was sewed up tight. Roads t' left or  
right  
Draws a nice Boche shrapnel spray.  
Then a doughboy runner staggers up  
An' he gasps t' the ol' B. C.,  
"Ammunition's short an' we need support.  
Fer Gawd's sake, be quick!" sez he.  
Th' B. C. mounts us up but waits,  
'Cause he knows, an' he knows damn well  
That a batt'ry seen is lost—lost clean,  
Ez sure ez there's steam in hell.

Jim's sick an' tired uv the combat train,  
So he speaks to his sorrel soft.  
Then the case is gone from the red guidon  
An' she waves from the staff aloft.  
Jim rides hellbent out one open road;  
While he draws Boche round on round,  
The batt'ry's out by the other route  
An' in action, safe an' sound.  
We found Jim dyin', guidon gripped.  
He sez, "Sure, I got mine square"—  
(The Sergeant's rough voice became less  
gruff)  
"But 'was hard on my little mare."

By FAIRFAX DOWNEY.

# REGIMENTAL NOTES

FIRST FIELD ARTILLERY

FORT SILL, OKLAHOMA

Colonel Charles D. Herron, *Commanding*

## *Roster of Officers*

Lieutenant-Colonel Edward T. Donnelly  
Major Leonard C. Sparks  
Major John E. Lewis

Elmer H. Almquist  
Donald S. McConaughy  
Frederick H. Gaston  
James P. Boland  
Thomas R. Willson  
William H. Jaeger  
Henry C. Floyd

### CAPTAINS

Guy H. Doshier  
William J. Schaal, Jr.  
Samuel Marshall  
Norris P. Walsh  
Roy C. Moore  
Edward J. Maloy  
Harry B. Berry  
John C. Butner, Jr.  
Alston P. Rhett  
Chauncey A. Bennett  
Harry B. Allen  
Marion L. Young  
Victor L. Oleson  
Armond S. Miller

### SECOND LIEUTENANTS

Thomas E. Moore  
Lee Roy Woods, Jr.  
Rox H. Donaldson  
William E. Waters  
William L. Carr  
George A. A. Jones  
Du Pre R. Dance  
Mark McClure  
Robert S. McClenaghan  
Harold T. Molloy  
John La V. Graves  
William E. Watters  
John M. Whistler  
James H. Lensley

### FIRST LIEUTENANTS

Henry C. Harrison, Jr.  
Hugh J. Gaffey  
Richard C. Mallonee

THE First Field Artillery arrived at Fort Sill in December, 1917, to perform the duties of firing for the Field Artillery School during the War Course for artillery officers. In 1922, the regiment was reorganized from a 3-inch, horse-drawn regiment into a special school regiment of both horse-drawn and motorized light artillery, and two batteries of motorized heavy artillery. As no increased personnel was authorized, the regiment was confronted with the problem of supplying the man power for the two batteries of heavy guns and at the same time of functioning as a regiment of light artillery. The matériel assigned to the regiment consisted of the following: three batteries American 75's, motor-drawn; three batteries French 75's, horse-drawn; one battery 155-mm. G.P.F.'s, motor-drawn; one battery 4.7", motor-drawn; two batteries 155-mm. howitzers, motor-drawn, and one platoon 9.2" howitzers, motor-drawn.

At the time the regiment was reorganized, the regimental commander was permitted to distribute the personnel throughout the regiment in any manner he saw fit so long as the total authorized strength was not exceeded. Under this authority, the regiment was

## REGIMENTAL NOTES

organized in the following manner: The Headquarters, Headquarters Detachment and Combat Train, 1st Battalion, was organized (without increasing its personnel) into a heavy motorized battery, with the following matériel: one battery 155-mm. howitzers; one battery 155-mm. G.P.F.'s and one 9.2" howitzer. The Headquarters, Headquarters Detachment and Combat Train, 2nd Battalion, was organized (without increasing its personnel) into a heavy motorized battery, with the following matériel: one battery 155-mm. howitzers, one battery 4.7", and one 9.2" howitzer.

Batteries "A," "B" and "C" were organized into a battalion of American 75's, motor-drawn. Each battery was reduced in strength to 104 men. Batteries "D," "E" and "F" were organized as a battalion of French 75's, horse-drawn, without changing any personnel.

The Service Battery was organized into two parts, half being horse-drawn and half motor-drawn. The Headquarters Battery was increased to 85 men, using the personnel taken from the First Battalion. One regimental detail and one battalion detail each is furnished by this battery. These details are trained in both motor- and horse-drawn duties.

The regiment fires annually nearly 40,000 rounds of ammunition for the Field Artillery School. Battery "A" has twice won the Knox Trophy, awarded by the Society of the Sons of the Revolution of the Commonwealth of Massachusetts, for proficiency in firing in the Regular Field Artillery and has again been selected to represent the regiment in the competition.

In addition to maintaining a high standard of service for the Field Artillery School, the regiment is prominent in sports, having won numerous cups and ribbons during the past two years for polo, baseball, basketball, football, track meets and transportation shows.

### SECOND FIELD ARTILLERY

### FORT BRAGG, NORTH CAROLINA

Major John C. Wyeth, *Commanding*

#### *Roster of Officers*

##### CAPTAINS

Frank E. Royce  
John S. Winslow  
Claude G. Benham  
Charles R. Lehner  
Calvin S. Richards  
William McB. Garrison

##### FIRST LIEUTENANTS

Edwin S. Brewster, Jr.  
Walter A. Metts, Jr.  
Royal L. Gervais  
John W. Beck  
Herschel D. Baker

##### SECOND LIEUTENANTS

Joseph P. Wardlaw  
Ulysses J. L. Peoples, Jr.  
Paschal H. Ringsdorf  
Stuart L. Cowles  
Briscoe A. Trousdale, Jr.  
George F. Williams  
Raymond T. Beurket  
George W. Vaughn  
James W. Clyburn  
Charles L. Booth  
Andral Bratton  
James Regan, Jr.

## THE FIELD ARTILLERY JOURNAL

The regiment (of which only the first battalion is now active) was organized in 1907 as mountain artillery. Two batteries which date from 1901 took part in Moro campaigns in Mindanao and Jolo, 1903 and 1905. During the World War the regiment was in the Eighth Division, arriving in France just before the Armistice.

The battalion has been stationed at Fort Bragg, North Carolina, since June, 1922. It forms part of the 8th Infantry Brigade (reinforced), commanded by Brigadier-General E. B. Winans, with headquarters at Fort McPherson, Georgia. Major Mert Proctor commanded the battalion when first re-constituted in 1922. He was relieved in August of that year by Major Phillip W. Booker, who remained in command until September 1st, this year, when he was succeeded by Major John C. Wyeth. Major Booker is now a member of the Field Artillery Board.

The members of the Second believe that it is one of the busiest organizations in the Army. The buildings and stables here are all of temporary war construction and are necessarily hard to maintain. Every one is anxious to see appropriations for permanent construction enacted by Congress. One hundred thousand dollars was recommended for this purpose last year, but failed to pass the House.

Summer training seems to be with us nearly all the year. It usually starts early in June with the R.O.T.C. from Alabama Polytechnic Institute from Auburn, Alabama (about 100 men), which runs for six weeks. Then the C.M.T.C. arrives for a month with about six hundred candidates. This last summer we used the method of "associate organizations" in which the regular battery commander receives about one hundred C.M.T.C. candidates as additional members of his battery, who are trained together with his regulars. They are messed and quartered separately, however.

The national guard field artillery from the states of Virginia, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, and Louisiana is sent here for summer training, usually during August. Naturally this means lending horses, matériel and assistance of every sort. There is little time left for polo during this period, but due to the delightfully mild climate here we can play all during the winter months.

As soon as our matériel and organizations are straightened out following the summer training season, there are tests and experiments to be made for the Field Artillery Board which is stationed at this post. This work is interesting and valuable, as it gives our officers and men a chance to know and follow the trend of progress in field artillery as new methods and improved equipment are placed in service and reported upon. Rain-proof clothing, caissons, machine-gun tripods, 105-mm. German howitzers, and aiming lights are a few of the items tested.

## REGIMENTAL NOTES

We get a little diversion from the usual grind when platoons and batteries are sent out "barnstorming" to get recruits or to sell the Army. Last spring two of our batteries made campaigns of over four hundred miles. Naturally they just had to strike some "*bons secteurs*."

THIRD FIELD ARTILLERY

FORT BENJAMIN HARRISON, INDIANA

Lieutenant-Colonel Morris E. Locke, *Commanding*

### *Roster of Officers*

#### CAPTAINS

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

Robert P. Hollis  
Harold D. Kehm  
Einar B. Gjelsteen  
Joseph L. Hardin  
Amel T. Leonard  
Lester M. Rouch  
Lester Vocke

#### FIRST LIEUTENANTS

Horace Harding  
John L. Shea  
Harvey J. Thornton  
Marcus H. Meeks

James H. Workman  
George L. Holsinger  
Leonard M. Johnson  
Henry K. Vreeland  
Harold M. Manderbach

#### SECOND LIEUTENANTS

Hugh F. Conrey  
Raymond E. Culbertson

George A. Zellar

Upon our return from summer training activities at Camp Knox one year ago, the prospects for the Battalion were not the brightest. While we came to a beautiful, well-wooded barracks area, the barracks and mess halls themselves were temporary wooden structures, with two exceptions, built in 1922. The two exceptions were of the vintage of 1917.

The stable area was in general not to grade, had no permanent water supply, no lighting, no roads, and no blacksmith or saddler shops. The stables were new brick buildings but built to cavalry specifications, with single harness pegs, no drainage, no water connected up, and no grain bins. The corrals were provided with fences only, being unditched, ungraded and with no picket lines. The gun sheds were of modern construction.

The fatigue necessary under the above conditions was not conducive to high morale. Our 76 per cent. enlisted strength in September, 1923, fell steadily to 22 per cent. on December 30th, the end of the year. Recruits, mostly secured by organizational effort at first, began to flow in in steadily increasing increments with the first of this year, and authorized strength was exceeded in June. Since April, lack of men has ceased to be a morale depressing factor.

During the winter, garrison school for officers and noncommissioned officers, and specialist schools were held. Equitation, dismounted drill, pistol instruction and guard mount came in for

## THE FIELD ARTILLERY JOURNAL

attention, but most stress was laid on improving stables, corrals and the stable area generally. A great deal of essential work was done, but the Battalion lived in mud all winter. In March, General Snow and Major Brabson inspected the command, when it was up to the hocks in mud at stables.

During the winter season, basketball was popular among the enlisted men, each organization on the post having a team and fighting it out in the post league. Battery B's team emerged victorious as the post championship five. During the latter part of April the second Annual Army Horse Show was conducted as a post activity, at the Coliseum, State Fair Grounds, Indianapolis, with Major Helmick in charge. Eight cups were won by the Battalion, and nine blue, twelve red, ten white and eight yellow ribbons were garnered.

By April 15th, outdoor training was in full swing; firing batteries were being given consolidated training in preparation for the summer; recruits were being trained in large batches; horses and mules were receiving their conditioning and preparations were being made for the annual hike to and from Camp Knox.

From May 1st to 9th, the 160-mile march to Knox was made. A march seems always a morale raiser, and with keen relish on May 12th, the service practice season was entered. A total of 1782 rounds of shrapnel and 1235 shells were fired by eighteen officers, each officer averaging six problems.

Then followed the annual inspection of the Tenth Infantry Brigade (reinforced) by Brigadier-General D. E. Aultman, commanding the 5th Corps Area, on June 5th, and the subsequent manœuvres on June 6th–7th, consisting of an advance, crossing of Salt River by night, and attack on an imaginary enemy at dawn. The battalion in support of the attacking infantry, put down a wartime, fifteen minute, standing barrage during the night, and assisted with successive concentrations and interdiction fire during the attack proper. Twenty-three-hundred-and-eighty rounds of shrapnel were fired by the Battalion.

The R.O.T.C. camp opened on June 12th, followed by the C.M.T.C. and various O.R.C. encampments. Coöperating with these, and in addition furnishing about 150 men on special duty in connection with Camp Knox activities, the battalion furnished an average of 250 animals per day for mounted work of the F.A.–O.R.C., F.A.–C.M.T.C. and Cav.–C.M.T.C. units. Invariably all the work of saddling and harnessing and the reverse was done by battalion personnel. Three 3-inch firing batteries were daily on the range working with O.R.C. encampment students at service practice.

A 5th Corps Championship Polo Tourney was conducted during July, with Senior and Junior teams entered by the 11th Infantry, the

## REGIMENTAL NOTES

10th Infantry, and the Third Field Artillery. Our Senior Team finished last, due chiefly to lack of experienced players, but the Junior team, meeting others of similar experience, triumphed.

On August 3rd the command left Knox for its permanent station to allow the national guard full opportunity for its training. The march back to Fort Harrison was marked by a spell of extremely hot weather, very exhausting to the animals, and causing an unplanned stop-over for one day at Seymour, Indiana. Our Odometers clicked their 1582nd mile of actual marching, since 1919, upon arrival home.

Work was immediately started on preparation for and conducting of our first gunners' examination, worthy of the name, since 1919, and resulted in the qualification of 72 expert, 20 first-class and 12 second-class gunners. Thirteen officers qualified as experts and three officers (of less than one month's service) as first-class gunners.

To date much progress has been made on rocking corrals, picket lines and roads. The battalion is even now on the pistol range holding record firing. Morale is, from fundamental changes in the matter of personnel and working conditions, much improved. One of the most important factors in this has been the shortening of the summer season at Camp Knox, by one month, thereby giving the Battalion an additional month of good weather for its own training.

### FOURTH FIELD ARTILLERY

FORT SAM HOUSTON, TEXAS

Colonel Pierce A. Murphy, *Commanding*

#### *Roster of Officers*

Major Fred H. Gallup

#### CAPTAINS

John C. Adams

John H. Keatinge

Howard E. Camp

Charles W. Mays

Emile G. DeCoen

John R. Young

#### FIRST LIEUTENANTS

Stuart W. Zimmerman

Versalious L. Knadler

Marion M. Pharr

Phil Cass

Harry W. Bauer

Ernest A. Elwood

Augustine F. Shea

#### SECOND LIEUTENANTS

Roy D. Reynolds

David G. Erskine

Albert N. Stubblebine, Jr.

William T. Sexton

Carroll R. Griffin

Charles E. Hart

The following units of the 4th Field Artillery, *i.e.*, Regimental Headquarters, Headquarters Battery, Headquarters Detachment and Combat Train, 2nd Battalion, Batteries "D," "E," and "F," are stationed at Fort Sam Houston, Texas. The personnel of this command includes twenty officers and three-hundred-and-forty enlisted men.

At the end of last April we left for Camp Stanley, Texas, for service practice. During this period the work of the batteries and details progressed rapidly until by the end a fair degree of attainment had been reached. All the officers of the regiment and some

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noncommissioned officers fired at least six problems. On May 17th we returned to Fort Sam Houston and were inspected by the Corps Area Commander. A few days later we returned to Camp Stanley for the spring manœuvres, in conjunction with the Second Division. The movements to positions, etc., were performed at night in a pouring rain—but at four in the morning with the tempest still raging our guns began to bark.

Toward the end of May, Lieutenant-Colonel Eben Swift, Jr., who had commanded the 4th Field Artillery before Colonel Murphy joined, received orders assigning him to the Organized Reserves. Colonel Swift had been with the 4th Field Artillery for a long time, and he left with the fond remembrance and good wishes of the whole command.

Pistol record firing came next on our schedule. The whole regiment completed the course in eighteen days. At present we are busy with gunners' examination. Every man in the regiment (including those on special duty) is required to take this test. Our aim is to qualify as nearly 100 per cent. as possible; to the present every battery except one has a perfect score in qualification.

The following named officers have recently left the 4th Field Artillery; Captains Ott, Belcher, Goessling, Park, to Fort Sill, Oklahoma; Captain Gosnell to Hawaii; Lieutenants Phelps and Hedekin to West Point. These officers were a credit to this organization and by their example, initiative and pep, helped to maintain our reputation as a good fighting unit. They put new force into the machine. Every one in the regiment wishes them success at their new station. The new assignments to the 4th Field Artillery include the following: Major Gallup, Captains DeCoen, Adams, Keatinge, Young; 1st Lieutenant Knadler and 2nd Lieutenants Reynolds, Erskine, Stubblebine, Sexton, Griffin and Hart.

### FIRST BATTALION, FOURTH FIELD ARTILLERY

GATUN, CANAL ZONE

#### Major William A. Pendleton, *Commanding*

##### *Roster of Officers*

CAPTAINS	
Clifford H. Tate	Paul G. Bell
Myron J. Rockwell	Henry E. Sowell
William S. Evans	Clinton S. Berrien
Harold W. Blakeley	William D. McNair
	Hugh G. Elliott, Jr.
FIRST LIEUTENANTS	
Chalmers Dale	
John M. Reynolds	Lawrence W. Kinney
Daniel B. Floyd	Francis W. Crary
	James B. Clearwater
SECOND LIEUTENANTS	

Field training in Panama takes place during the dry season from about the first of January to the middle of May. During the last



## REGIMENTAL NOTES

dry season, the First Battalion of the Fourth participated in both the Joint Army and Navy manœuvres on the Atlantic side in January, and the Pacific sub-sector manœuvres in April. While on the Pacific side, the battalion participated in field exercises and manœuvres in both the Southwest and Southeast Areas, gave a demonstration of reconnaissance and occupation of position and of firing for the 20th Infantry Brigade, and was reviewed with other troops at Fort Clayton, by Major General Wm. Lassiter, commanding the Panama Canal Division.

The battalion was also reviewed with the 19th Infantry Brigade under command of Brigadier-General John McA. Palmer at Fort Davis, on June 16th, by Major-General S. D. Sturgis, commanding the Panama Canal Department.

The battalion is now seventy-five men overstrength, but is short on animals.

On September 9th, the battalion completed three years on the Isthmus and the sailing of the September 15th transport saw the departure of a large number of noncommissioned officers by reason of the expiration of their terms of foreign service. Among those leaving were Master Sergeant Breen, First Sergeants LaMar, Flaherty, and Butler; Staff Sergeants Nugent, Armstrong, and Jacobson, and Sergeants Spence and McGraw. Some of these men went to the Second Battalion of the Fourth Field Artillery, at Fort Sam Houston, Texas, so their long experience as mountain artillerymen is not entirely lost to the regiment.

### FIFTH FIELD ARTILLERY

### FORT BRAGG, NORTH CAROLINA

Colonel Henry W. Butner, *Commanding*

#### *Roster of Officers*

Lieutenant-Colonel Geo. P. Hawes, Jr.  
Major Claude K. Rhinehardt

#### CAPTAINS

Joseph A. Sheridan  
Charles A. Wickliffe  
Schaumburg Mc Gehee  
James G. Coxetter

Warren D. Davis  
Alfred M. Goldman  
William F. Kernan  
Clifford B. Cole  
Howard C. Brenizer

#### FIRST LIEUTENANTS

Charles E. Hixon  
George B. Barth  
Willis S. Bryant  
John B. Lord  
Harold T. Chittum

John H. Wise  
Joseph A. Shea  
Charles K. McAllister  
Paul Matson  
James Y. Le Gette  
Otto Ellis

#### SECOND LIEUTENANTS

John Gross  
Edward C. Englehardt  
Louis L. Lesser  
George B. Burritt  
David Larr  
Stuart L. Cowles  
Lester L. Hittle  
William D. Paschall  
Leonard J. Greeley  
George P. Privett  
Gerson K. Heiss

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The fall training season for the Fifth Field Artillery found most of the officers relieved from their summer special duties and as a consequence a full complement of officers have been present for duty.

August 6th was declared a regimental holiday to fittingly celebrate the 148th anniversary of the Battle of White Plains when Alexander Hamilton's Battery so notably distinguished itself. Battery "D" of this Regiment is its military descendant. The celebration consisted of a formal parade and review and a reading of the history of the Regiment. In the evening a hop was given at the Service Club for the men and at the Officers' Club for the officers and their guests.

Defense Day (September 12th) was the occasion for 155-mm. G.P.F. platoons being sent to various cities and towns to aid in ceremonies.

During September, the Regiment held its annual tactical inspection and manœuvres. The condition and functioning of the matériel and motor transportation was especially noteworthy as maximum efficiency was displayed. On September 22nd and 23rd was the annual tactical inspection of the 13th Field Artillery Brigade, of which this Regiment is a part. This inspection and manœuvre was held by Brigadier-General Bowley.

In athletics, the Regimental Baseball Team was runner-up for the post championship. Although motorized, the Regiment is in the fore in polo, having on its roster the Post polo representative and six accredited players on the four teams—regimental polo teams are not maintained at this Post. For the enlisted personnel, a new 9-hole golf course has been completed, thus giving the Post two excellent golf courses.

The regimental strength (two battalions) is now 663, having been supplemented by nearly 100 recruits as a result of our summer recruiting campaign.

At last, the Regimental Crest has been approved by the War Department and its formal reception is daily expected. The Regimental Insignia, being a part of the Hamilton family crest, has been adopted and is now being worn.

Recent changes in commissioned personnel are the losses of Major J. A. Hoag and Lieutenants Knapp and Leitch; the gains are Colonel H. W. Butner, Lieutenant-Colonel G. P. Hawes, Jr., Captains Kernan and Brenizer, and Lieutenant Privett.

These notes would not be complete to the "old-timers" without mention of the retirement of Master Sergeant "Jimmie" Jamieson on September 17th, on which date the Regiment passed before him at his last active review. Upon completion of the ceremonies he was presented by the Regimental Commander, with a beautiful watch, as a gift from the enlisted men of the Regiment.

The exceptionally advantageous climatic, soil and terrain conditions

## REGIMENTAL NOTES

at Fort Bragg will permit us, as in previous years, to utilize the entire winter for out-of-doors training in the field and thus dedicate the summer to coöperating in the training of the other components of the Army.

SIXTH FIELD ARTILLERY

FORT HOYLE, MARYLAND

Colonel Alfred A. Starbird, *Commanding*

*Roster of Officers*

Lieutenant-Colonel Thomas P. Bernard	Frederick W. Watrous
MAJORS	Daniel P. Poteet
Robert C. F. Goetz	Paul L. Martin
Newton N. Polk	William H. Drummond
CAPTAINS	Carter B. Magruder
Vernon E. Prichard	Stuart A. Beckley
William R. Woodward	Herbert B. Enderton
Charles Porterfield, Jr.	John B. Horton
William J. Jones	Patrick W. Timberlake
Theodore W. Wrenn	Charles W. Cowles
Ray H. Lewis	Philip H. Enslow
Richard T. Guthrie	Robert C. Oliver
James B. Golden	Bruce R. King
Herman Feldman	Francis T. Dodd
William Michener	Victor P. Noyes
Francis S. Conaty	Oren W. Rynearson
John W. Faulconer, Jr.	Raymond H. Cooms
William R. Philp	Wellington A. Samouce
George H. Stuts	Leslie S. Fletcher
Richard B. Willis	Thomas E. Binford
FIRST LIEUTENANTS	Marcus B. Stokes, Jr.
Hanford N. Lockwood, Jr.	Bernard F. Luebbermann
Lawrence McC. Jones	Russell L. Mabie
Francis A. March	Venna F. Burger
Murray C. Wilson	Edward L. Andrews
Joseph A. Sullivan	Oliver M. Barton
Hugh Cort	Charles P. Summerall, Jr.
Edward Herendeen	Howard J. John
SECOND LIEUTENANTS	Henry F. Garcia
Hobert H. James	Winfield W. Scott
George E. Mitchell, Jr.	Arthur Willink
James H. Dickie	Lloyd C. Devenbeck

Fort Hoyle, Maryland, the permanent station of the Sixth Field Artillery, is located on the Gunpowder River near its mouth on Chesapeake Bay. Baltimore is twenty-five miles south and Philadelphia is one hundred miles north of Edgewood, which is the railroad station for Fort Hoyle. With its well-graded lawns and fine quarters Fort Hoyle is now one of the prettiest posts in the Army. Fourteen new sets of officers' quarters have recently been completed. These are equipped with hardwood floors and electric stoves. The officers' club is a spacious building well adapted for its purpose. It

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has been very comfortably fitted out by the Sixth Field Artillery and all post entertainments are held there. There are two excellent tennis courts immediately in front of the Officers' Club and the polo field, which is in fair condition, lies between the club and the barracks. Excellent bathing from the pier in front of the club is enjoyed for four months of the year. There is also an excellent beach for beginners and children at which to bathe.

The Regiment has made a number of marches this year, which has been a fine thing to break in the recruits which comprise nearly seventy per cent. of the personnel. The first was a march to Aberdeen Proving Grounds in April, a distance of twenty-two miles, taken as a practice march preparatory to leaving for Camp Meade for the summer training camps. Three days were taken for this trip, one day on the road each way and one day in camp. Close supervision and careful instruction was given in making and breaking camp, in care of animals and harness in the field and the packing of saddles, especially the making of rolls. The No. 177 Radio Set was put up with a loud speaker and the whole regiment enjoyed a concert given in Philadelphia.

On June 12th the Regiment left for Camp Meade, Maryland, a distance of fifty miles, which was made in two days. The Regiment was commended very highly for the character of its services in connection with the big summer training camps by the Commanding General, Camp Meade. Two of the regiments of reserve officers who served with the Regiment for a period of two weeks each, gave tangible evidence of their appreciation of the manner in which the Sixth Field Artillery coöperated in their training. The officers of the 310th Field Artillery, 79th Division, commanded by Lieutenant-Colonel J. W. Keller, presented the Regiment with a handsome cup to be awarded to the champion battalion baseball team. This competition was won by the Second Battalion. The officers of the 313th Field Artillery, 99th Division, Commanded by Colonel Leroy W. Herron, gave the officers of the Sixth Field Artillery a very nice dinner at the completion of their two weeks' duty, as a mark of their appreciation for the manner in which the Sixth Field Artillery had coöperated in their instruction.

Polo has made great progress in the Regiment this summer. Due to the active coöperation of Lieutenant-Colonel Upton Birnie, Jr., regimental commander during the summer, and Lieutenants Herendeen and Cort. The polo ponies of the Regiment were gotten together in one stable and cared for by a permanent detail on special duty for this purpose. Experience proves conclusively that this is the only way polo can be successfully carried on in a regiment.

The team consisting of Captain W. R. Philp, No. 1; First Lieutenant Hugh Cort, No. 2; First Lieutenant Edward Herendeen, No.

## REGIMENTAL NOTES

3 (Captain); and Major Robert C. F. Goetz and Major N. N. Polk at No. 4, defeated the Maryland Polo Club team in the two games played this summer. The team is entered in the War Department Polo Tournament this fall, and although badly handicapped by lack of suitable ponies, will endeavor to give a good account of itself. On September 12th, Lieutenant-Colonel Upton Birnie, Jr., who has commanded the Regiment since July 1, 1924, returns to his duties as instructor in the War College. Lieutenant-Colonel Thomas P. Bernard resumes command of the Sixth Field Artillery on that date, pending the return of Colonel Starbird.

### SEVENTH FIELD ARTILLERY

FORT ETHAN ALLEN, VERMONT

Lieutenant-Colonel T. Worthington Hollyday, *Commanding*

#### *Roster of Officers*

Major Harold E. Marr

#### SECOND LIEUTENANTS

#### CAPTAINS

Douglas J. Page  
Wesley C. Brigham  
Richard C. Dupuy  
Henry B. Dawson  
Charles W. Glover  
William R. Frost

William C. Price, Jr.  
Joseph L. Langevin  
William J. D'Espinosa  
Allen K. Keys  
Kenneth S. Sweany  
Bernard A. Tormey  
Valentine A. Smith  
Paul D. Michelet  
John F. Williams  
Robert C. Lawes  
James T. Loome  
Charles L. Dasher, Jr.  
Eleazar Parnly, 3rd  
William R. Forbes  
Conrad G. Follansbee  
Randall J. Hogan

#### FIRST LIEUTENANTS

Frank Camm  
John H. Corridon  
Chester E. Sargent  
Milo C. Calhoun  
Edward H. Metzger  
Philip W. Allison  
Albert C. Donovan

When the First Battalion, Seventh Field Artillery, Major Harold E. Marr, commanding, rolled out of Fort Ethan Allen, Vermont, early in last spring on its way to summer work at Camp Devens, Massachusetts, the Post was just budding out into its most pleasant season. It seemed a shame to leave the rolling Vermont hills and the comfortable barracks, for the ramshackle buildings and dusty discomforts of Devens. As the battalion pursued its way down through New England, with Devens looming some twenty miles nearer each day, the heavy clothing and extra blankets began to feel less comfortable than they had when rolling through the Champlain Valley, and when the weather-beaten shacks at last came into sight the hot Massachusetts summer was in full swing.

Arrived in camp the usual business of making habitable the wartime cantonment buildings—more flimsy and dilapidated each year—began, while training programs and firing schedules came piling down

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in waves. It was the regular hasty pudding of summer camp—National Guard, Reserve Officers, R.O.T.C., C.M.T.C., and all the rest of it, with tactical inspections for seasoning; and through it all—a day here and a day there, a half day now and another day then—the raisins of our own service practice were hurriedly snatched whenever we could emulate little Jack Horner and put in our thumb.

Of sport we had some; there was a baseball league and a polo league and a horse show, the last named being postponed again and again until it seemed that it would never come. In baseball the Seventh started out to give a good account of itself despite the fact that its only practice was when actually playing a league game. We ended up by tying the fighting Fifth Infantry for first place and then playing them a six-inning ding-dong game that furnished some thrills, only to be washed into nothingness by a young typhoon, and then—in the final game we went up for altitude and never came down until the doughboys had our scalps and the silver cup.

In polo the Seventh cleaned up. The league started with five teams—First Squadron, Third Cavalry, Fifth and Thirteenth Infantry, the Freebooters of the staff corps and ourselves. The doughboys were badly handicapped by lack of mounts and soon dropped out. We ran away with the cavalry and the staff in the first series, and then dropped one game, our only defeat, to the cavalry. But they had already been defeated once by the staff and so our final victory over the staff team earned us one leg on the big challenge cup and the ownership of the smaller annual cup, both of which are now reposing at Ethan Allen.

The horse show brought out three of the prettiest gun teams that ever delighted a field artilleryman or puzzled a judge. Battery "A" was awarded first, having a shade on the others in its driving. The rest of the show took place on a later date, which was a holiday for the entire camp, except for the Seventh, the powers that be having decided that the time for artillery firing was so short that we would have to work all that day for the Organized Reserves. So we went to the show piecemeal, and did pretty well with what we could muster. The thing that really hurt, though, was when the doughboys took the cotton wool off their show wagons and brought them proudly out, only to be eclipsed by the Service Battery's escort wagon and six spanking mules.

The battalion left Devens September 4th, and marched to Rutland, arriving there the 11th. That afternoon and the next morning we cleaned the stains of travel off and led the parade of Defense Day, moving out in the early dawn of the 13th on the last leg of our hike, to arrive home shortly before noon September 15th—eleven days on the road, seven of which were rainy.

## REGIMENTAL NOTES

SECOND BATTALION, SEVENTH FIELD ARTILLERY

MADISON BARRACKS, NEW YORK

Major John M. Greely, *Commanding*

### *Roster of Officers*

#### CAPTAINS

James A. Pickering  
James M. Crane  
Victor A. Dash, Jr.  
Rex B. Shaw  
Arthur M. Sheets

#### FIRST LIEUTENANTS

Clarence D. Lavell  
Winfield S. Roberson  
Lee V. Harris  
Alexander T. McCone  
George McK. Williamson, Jr.  
George B. Conrad

#### SECOND LIEUTENANTS

Warren C. Stout  
Paul R. Covey  
George S. Smith  
Harvey K. Palmer, Jr.  
John G. Wilson  
Paul P. Hanson  
George A. Duerr  
Glenn B. McConnell  
Lindsay P. Caywood  
Francis A. Kreidel  
Edward O. McConahay  
Walter D. Marinelli  
Joris B. Rosbach

The life of the Second Battalion, Seventh Field Artillery, from the breaking up of winter to the end of September can be summed up in one word—Training. This is the only field artillery unit in the Second Corps Area and its responsibilities in the training of citizens components have been correspondingly heavy.

In March the Battalion Commander, Major T. J. J. Christian, was invalidated to Walter Reed Hospital. In April the Regimental Commander Colonel William W. Hartz, reported for temporary duty at Madison Barracks to conduct all summer training at that post and at Pine Plains Training Camp, the artillery range, twenty-five miles away.

In the latter part of May the Battalion was at Pine Plains, to conduct service practice and finish off its own training program. On May 26th there was one-fourth inch of ice on the springs on this reservation.

In June, the tactical inspection by the First Division and the Second Corps Area was followed by an R.O.T.C. camp for the Princeton and Cornell field artillery units. This continued into July when the R.O.T.C. left Madison Barracks for service practice at Pine Plains. In July also the first regiments of the New York National Guard Field Artillery, under Brigadier-General Richardson, arrived at Pine Plains Training Camp. This reservation had not been used by national guard units for several years, and some doubt existed as to its suitability. A considerable sum was made available to construct the national guard camp, but its preparation in a limited time was a severe strain on the Second Battalion, Seventh Field Artillery, and other personnel at Madison Barracks. The national guard camp has

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been completed successfully and is believed to be established here for all time.

On August 1st, a fine lot of C.M.T.C. candidates reported at Madison Barracks. There they were moulded into an efficient battalion, which marched out to Pine Plains August twentieth to participate in service practice in conjunction with the 391st Field Artillery (O.R.), Colonel Shepherd, commanding. This practice was successfully conducted by the 391st Field Artillery, in spite of the inevitable rustiness of its officers. Major A. L. P. Sands, Executive Officer of this Regiment, accompanied it into camp, and filled up spare moments with the organization of a polo team and the conduct of a class in equitation. The cliffs of the Black River are scarred with the slides this class made.

The Battalion has also had some opportunity for play. A horse show was staged in May. Through Sunday games played throughout the summer a creditable battalion polo team was developed which won the tournament at the State Fair at Syracuse early in September. The Battalion also did well at the State Fair Horse Show, Captain J. M. Crane, on a battery mount, winning the officer's charger cup over a field of very high class and expensive horses.

Following Test Mobilization Day the Battalion returned to Pine Plains under its new commander, Major J. N. Greely, for battalion work and to complete service practice.

### EIGHTH FIELD ARTILLERY

### SCHOFIELD BARRACKS, HAWAII

#### Colonel Henry L. Newbold, *Commanding*

##### *Roster of Officers*

	MAJORS	Seward L. Mains, Jr. Michael V. Gannon Nicoll F. Galbraith
John E. McMahon Edward C. Hanford		Ernest A. Bixby Maurice P. Chadwick
	CAPTAINS	Leslie E. Jacoby John B. Murphy Michael G. Smith
Daniel A. Connor Preston T. Vance John G. Cook Marion I. Voorhes John McDowall Maurice V. Patton Lester L. Boggs		SECOND LIEUTENANTS Godfrey D. Adamson Tyree R. Horn Carl E. Berg Cornelius Garrison Edward C. Gillette Freeman G. Cross Donald R. Van Sickler Mortimer F. Wakefield James P. Barney, Jr. William H. Obenour
	FIRST LIEUTENANTS	
Donald B. Rogers Clarence P. Townsley, Jr. William W. Dixon Edward F. James Ralph D. Sproull Thomas S. Gunby Alexander S. Reynolds		



## REGIMENTAL NOTES

NINTH FIELD ARTILLERY

FORT DES MOINES, IOWA

Major William H. Shepherd, *Commanding*

### *Roster of Officers*

#### CAPTAINS

John D. White  
Dana C. Schmahl  
Amos E. Carmichael  
Duncan T. Boisseau

Paul A. Reichle  
William N. White  
James H. McWilliams  
Hyman J. Crigger

#### SECOND LIEUTENANTS

#### FIRST LIEUTENANTS

Frederic A. Metcalf  
Paul C. Boylan

Harry C. Dayton  
Hugh P. Adams  
Walter J. Klepinger

The Ninth Field Artillery welcomes this opportunity for what might be termed a "conference," which brings us together for consultation in matters of success and difficulties. In view of our youth we feel that a short sketch of the Regimental History may not be amiss.

This Regiment bears the distinction of being the only unit of the United States Army born on other than its native soil. Organized from the First Field Artillery in Hawaii in 1916 it was the first completely motorized regiment of field artillery in the world. Its motto "Kulia-i-kanuu," Hawaiian, meaning "Upward ever Higher, Win the Day, Gain the Victory," was given by Queen Lilioukalani, the last reigning monarch of Hawaii.

During the strenuous days of preparation and conflict covering the last war it served as a training regiment at Fort Sill. In 1921 it became inactive, but was rehabilitated in September, 1922, and formed two separate battalions, horse-drawn, 75 mm. The First Battalion took station at Fort Des Moines, Iowa; the second Battalion at Fort Sill. The following January the Second Battalion became inactive and its personnel was transferred to the rehabilitated 18th Field Artillery Battalion.

At present, Headquarters, Headquarters Detachment and Combat Train, Battalion Section Service Battery and Battery "B" are stationed at Fort Des Moines. Battery "A" is on duty at Fort Riley, for demonstration purposes with the Cavalry School. Battery "C" is at Fort Snelling, Minn.

Recruiting difficulties have been experienced but by strenuous drives and with the aid of our many friends the organization reached 100 per cent. strength in July, 1924; this in face of having furnished 100 men to Fort Sill, and many specialists to duty with schools.

Our station is one of the best and most modern in the Army today. Quarters and stables are brick, and the site is well chosen. Our shortages in this line are the lack of gun sheds, and available ground for service practice. For the latter purpose the units here march to Fort Riley each year, a round trip of 710 miles.

## THE FIELD ARTILLERY JOURNAL

We are just now reorganizing after two months of R.O.T.C. and C.M.T.C. summer camp work, and preparing for the march to Omaha for participation in the "AK-SAR-BEN" annual carnival. Battery "B" has worked up a riding hall drill equal in dash, speed and spectacular effect to any in the Service. This was based upon the old Fort Myer drill of Battery "D," 3rd Field Artillery, in which organization several of our officers and men served. We feel that a few changes have improved this drill—chief among which is the stake-driving with drivers standing in their saddles. The first exhibition was given by a composite team of four guns, grays from Battery "B" and blacks from Battery "A", on February 17, 1923, just five months after organizing. This was repeated on request of the Post Commander for Miss Elsie Ferguson and her company, among which were several officers of the British Army and Miss Marshall of Australia.

The Battalion has been unusually successful in competitions with the other troops of the post. Every "Transportation Contest" has been won by our Service Section, and General Pershing on his last visit here stated that "in all his experience he had never seen a better looking outfit." He similarly remarked as to the appearance and condition of the other units of the Battalion. General Gouraud of France reviewed the troops of the garrison in July, 1923, and in his address particularly praised the "excellent appearance of the Ninth Field Artillery."

Our first tactical inspection was made by Lieutenant-Colonel McIntyre in April, 1923. He was met at the train by motor and conveyed to the reservation gates where the Regimental Carriage—a rubber-tired barrouche—drawn by six grays, and properly protected by flank out-riders, was then used to transport him, the Battalion Commander and Adjutant to the quarters prepared for his reception. His inspection included a field problem and upon his departure he directed the commanding officer to notify the other officers and men that our showing was "exceedingly satisfactory."

Space does not permit the detailing of the numerous events which have brought complimentary citation on the Organization, but in the language of one—"Such successful results could only have been accomplished by men whose pride and love of their organization stands paramount in their hearts to all else— of such is our American manhood!"—we feel the whole has been covered.

# **CURRENT FIELD ARTILLERY NOTES**

## **Changes in R.O.T.C. Units**

PROVISIONS have been made and approved for the withdrawal of infantry R.O.T.C. units from Alabama Polytechnic Institute, Iowa State Agricultural and Mechanical College and the University of Oklahoma. The withdrawal from Iowa State will be completed this year. The infantry units in the other two colleges will be withdrawn in the course of four more years.

These changes will make room for the growth of the field artillery units at the respective institutions. The purpose intended is to make the proportions of field artillery and infantry reserve officers produced, more nearly approximate the respective proportions of field artillery and infantry officers needed in an emergency. In an emergency, under present war plans, twenty-five per cent. of all officers would be field artillerymen, and thirty-two per cent. infantrymen. Heretofore, twelve per cent. of all students enrolled in the R.O.T.C. have been in field artillery units and sixty-five per cent. have been enrolled in infantry units.

Present appropriation laws do not provide for new units in new colleges, nor is this sought by the Chief of Field Artillery. It is believed that providing adequate instructor personnel and removing limitations on enrolment in the field artillery units now established will ultimately solve the problem. This present change has been made with the concurrence and coöperation of the Infantry and is a step in the improvement of the situation.

## **New Regulations for Reserve Officers**

The Revised Regulations for the Officers' Reserve Corps have been completed by the War Department. The copy is now being sent to the Public Printer and the pamphlets will probably be available for distribution before the first of the year. It has not yet been determined what the distribution of the copies will be. The War Department is desirous of sending one copy to each reserve officer. Shortage of available funds may prevent this.

## **Active Duty with Regular Units for Reserve Officers**

Present appropriations provide for active duty details for a limited number of reserve officers. These details are for fifteen days and the duty is normally with regular units. As officers so detailed are ordered individually to different units, no dates are set; the time can be suited to the officer's convenience, provided it falls in

## THE FIELD ARTILLERY JOURNAL

a period when the activity of the regular unit concerned will present profitable instruction. The only exception to individual assignments mentioned above, is in the case where several officers in one locality desire training at the same time. This latter event presents the possibility of training small groups, resembling summer camp instruction.

The respective corps area commanders have been allotted funds to provide for these details for officers of the Territorial Assignment Group. Officers of this Group desiring a detail should make their application to their corps area commander accordingly. The Chief of Field Artillery makes these details direct for reserve officers of the Branch Assignment Group, and applications for such a detail by officers in this Group should be made directly to the Chief of Field Artillery. These details, like the details to the Field Artillery School and summer camps, carry with them the usual pay and allowances for active duty.

### **Correspondence Courses**

A board of six officers at the Field Artillery School at Fort Sill are at work on a revision of the field artillery correspondence courses. The revised courses will go into effect in September, 1925. Meantime, for this year the old correspondence courses are being conducted. Anyone interested can procure information about them by writing to their corps area commander.

The War Department does not pretend that soldiers and officers can be made by correspondence study alone. Neither does it intend that the correspondence courses shall teach a student officer all he needs to know when in active service; it does expect the course to familiarize the student with the theory of his branch and to give him much information that can be given without access to complicated matériel and without practice in the actual handling of men. It expects the courses to make much more rapid and effective the training given at summer camps. They are intended to supplement, not to take the place of, outdoor training and of personal instruction given by conferences and winter Plattsburgs.

Nor are the correspondence courses intended to make unnecessary the M-day instruction contemplated by mobilization plans. These plans provide for practically all reserve officers, a period of thirty days' training. The correspondence courses are intended to help to make this training more rapidly profitable. They are intended to prepare for federal service. Special requirements of state national guard service are not provided for, although modification of the courses by national guard authorities is authorized to meet such special conditions of national guard training as may exist.

## CURRENT FIELD ARTILLERY NOTES

For the officer who wishes interesting material for study, who wishes to prepare himself for promotion, or who wishes to better prepare himself for duty to his country, these courses will be valuable.

Course A, in the present schedule, is the basic course covering elementary tactics and technique of field artillery and such basic subjects as are included in the unit schools of the Regular Army. Course B deals with tactics and technique, covering subjects embraced in the Battery Officers' Course in the Field Artillery School at Fort Sill. Course D is the Command and General Staff Course treating of the combined employment of all arms and branches. Beginning next fall we will have a Course C which covers the subjects of the Advanced Course at the Field Artillery School.

Enrolment in these courses is voluntary. The following are eligible for enrolment in courses A and B:

Personnel of the Officers and Enlisted Reserve Corps.

Personnel of the National Guard who may individually volunteer to take these courses in addition to their required national guard duty.

Qualified civilians, if facilities for instruction are available.

Course D is open to the following:

Officers who have completed Course C.

Officers of the initial general staff eligible list.

In the discretion of the corps area commanders, officers of the National Guard and Reserve Corps above the grade of major, and civilians who served in the World War as commissioned officers in grades above that of major.

### **Courses for National Guard and Reserve Officers at the Field Artillery School**

The battery officers' course for the national guard and reserve field artillery officers began at Fort Sill on September fifteenth. This is a three months' course and will be repeated next spring, beginning March fifteenth. A new course for field officers of the national guard field artillery is being instituted at Fort Sill this year. It begins November first and lasts six weeks. This course will not be repeated this fiscal year. The communications' course for enlisted men of the National Guard begins February ninth and continues to June thirteenth.

Reserve officers of the Territorial Assignment Group are detailed to appropriate courses at the Field Artillery School by their respective corps area commanders; those in the Branch Assignment Group are detailed by the Chief of Field Artillery. Members of the National Guard are selected by their state adjutants general, pursuant to allotments

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made by the Militia Bureau. These latter allotments to the national guard of the various states are shown below:

	Battery Officers Course		Field Officers Course	Communications Course
	Sept. 15	March 15	Sept. 15	Feb. 9
Alabama.....		1		
California.....	1			1
Colorado.....				1
Connecticut.....	1			1
Florida.....	1	1		
Georgia.....				1
Idaho.....	1	1		
Illinois.....		1	1	
Indiana.....	1			
Iowa.....	1			1
Kansas.....			1	
Kentucky.....	1			1
Louisiana.....			1	1
Maine.....	1			
Maryland.....	1			
Massachusetts.....		1	1	
Michigan.....	1			1
Minnesota.....	1	1		
Mississippi.....		1		
Missouri.....	1	1		
New Jersey.....	1			1
New York.....	2	1	1	1
North Carolina.....		1		
Ohio.....		1	1	
Oklahoma.....		1	1	1
Pennsylvania.....	1		1	1
Rhode Island.....				1
South Dakota.....	1			1
Tennessee.....	1	1		
Texas.....		1	1	
Utah.....	1			
Virginia.....				1
Washington.....				1
Wisconsin.....		1		

### "National Guard Register"

The new *National Guard Register* for 1924 has been issued. The volume contains the organization of the Militia Bureau with an explanation of the duties of each section; a list of all regular army instructors; a list of all sergeant instructors; a list of army and corps areas; a station list of all national guard units down to companies and batteries; an alphabetical list of all national guard officers by states; and an index of all personnel listed in the book.

The list of national guard officers gives with each officer's name, a statement of his service. This data will henceforth be used in computing longevity pay. Extra copies of the *Register* may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at seventy-five cents per copy.

## CURRENT FIELD ARTILLERY NOTES

### **Zinc Collar Pads for Breast Collar Harness**

As all officers who have served with horsed artillery since the war know, the neck strap of the present breast collar has been a bountiful source of sore necks on our team horses. In 1921 the Field Artillery Board began the study of measures for relieving this trouble. At that time a zinc pad resembling the one used by the British was put to test. The first reports were not favorable, but changes and further tests were deemed advisable. Since that date tests have gone forward continuously under the supervision of the Field Artillery Board, and in a number of regiments. Many improvements have resulted. In general, opinion now seems to favor the zinc pad over any other type and a suitable type seems to have been developed.

During the last month the manufacture of 1300 of the latest type of zinc pad has been completed. These are being distributed to eight regular regiments for a final service test. It is probable that a suitable collar pad has been developed.

The unit commanders to whom these last pads have been sent, have been instructed to observe the following points:

Method of attachment of harness

Whether present pad pinches or cuts the neck

The size of the pads

The efficiency of this pad in relation to any other method that may have been tried in the organization to relieve the pressure of the neck and yoke straps.

Possible changes that would increase the efficiency of the pad.

### **Type Horses for the Field Artillery**

The photograph of a good type of field artillery horse, which appears with these Notes, is a picture of a horse in one of the batteries of the Sixteenth Field Artillery. The picture was taken for the Remount Service and was sent out for the guidance of buyers of artillery horses. This is what the Chief of Field Artillery considers to be the proper type for the Field Artillery. As stated on the photograph, as near this type as is obtainable should be used throughout the team. It is recognized that a consignment of horses having been received, it will be expedient to arrange them as lead, swing and wheel; but it should be distinctly understood that there should be no effort on the part of buyers to procure horses differentiated as lead, swing and wheel. All should be of as nearly this type as are procurable. Any arrangements as to where the horses should work is made by the battery commander.

The adoption of the modern breast collar has widened the field of selection. It was often found that horses with very thick necks were difficult to fit with the ordinary harness collar or the now obsolete

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steel collar. This difficulty is not encountered with our present breast harness, and buyers have been informed of this change. The country abounds with the type shown herewith. Such horses have short legs, short back, are quite handy, keep well and exhibit great staying qualities. Commonly their breeding shows a considerable amount of Percheron blood.

### Branch Assignment Group Camps

The first instruction camps specifically for reserve officers of the Branch Assignment Group were held this summer at Camp Meade, Maryland. To allow the officers attending some latitude in the choice of dates, two camps were arranged; the first was from September first to fifteenth, and the second from September sixteenth to thirtieth.

The programs for the two camps were practically identical. Colonel McCormack's article in the body of this JOURNAL, tells of the experience in the first camp. The Battalion of the Sixteenth at Fort Myer went out to Meade and furnished matériel and instructors. Major Hoyle, commanding the Battalion, had charge of both camps.

To conserve mileage, only officers east of the Mississippi were ordered to Meade. The decided success of this camp gives excellent promise that the proposed camps west of the Mississippi next year and west of the Rocky Mountains in 1926 will be held.

The officers attending the camps were as follows:

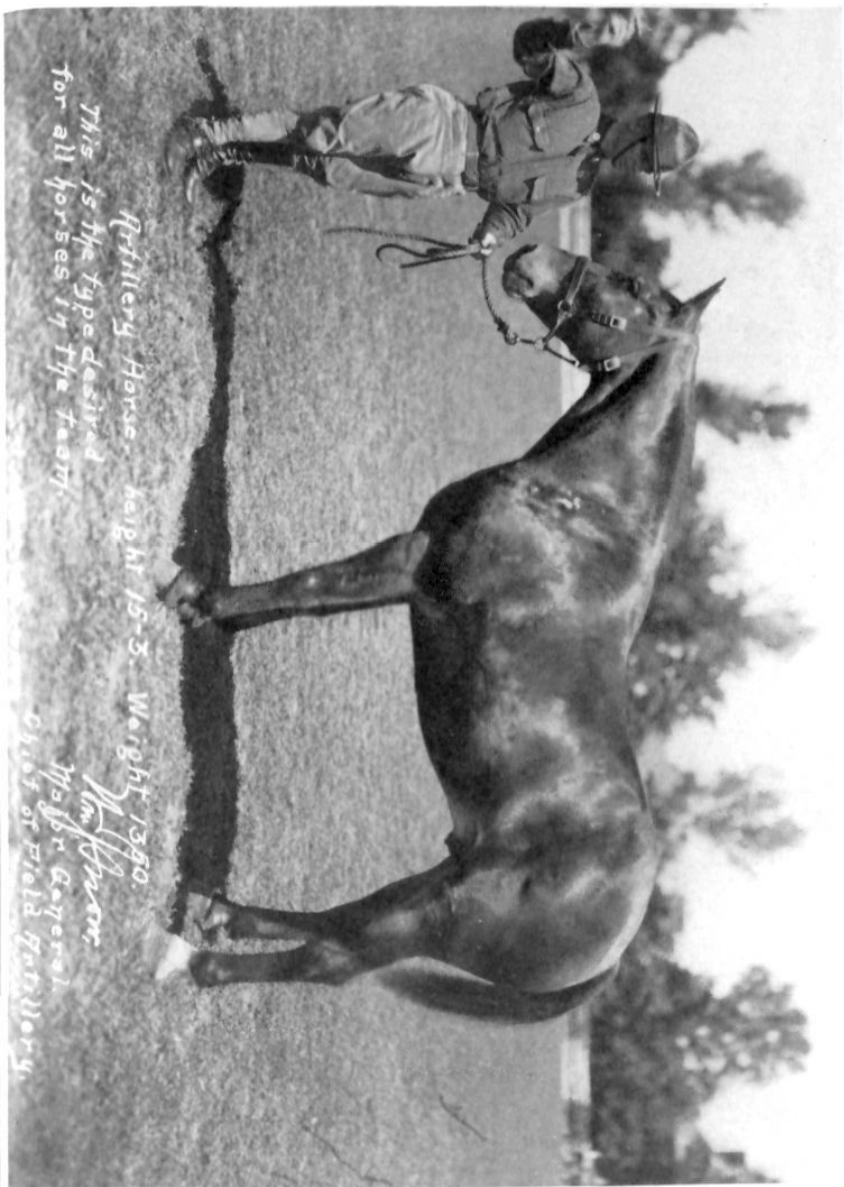
#### SEPTEMBER FIRST

Colonel Edward J. McCormack  
Lieutenant-Colonel Henry C. Jackson  
Major George L. Miller  
Major Winston R. Withers  
Captain Posey B. Dénning  
Captain Charles Fairman  
Captain Archibald Gann  
Captain Robert H. McCagne  
Captain Charles McKnight, Jr.  
Captain Cecil C. Smith  
Captain Daniel K. Wallingford  
Captain Howard B. Treat  
1st Lieutenant Arthur R. Albert  
1st Lieutenant Howard H. Harris  
1st Lieutenant Thomas J. Kavanaugh  
1st Lieutenant Lawrence P. Pennell  
1st Lieutenant William J. Smith  
1st Lieutenant Phillip C. Walsh, 3rd  
1st Lieutenant Floyd B. Whitebread  
1st Lieutenant Stanford E. Owen  
2nd Lieutenant William R. Christgau

#### SEPTEMBER SIXTEENTH

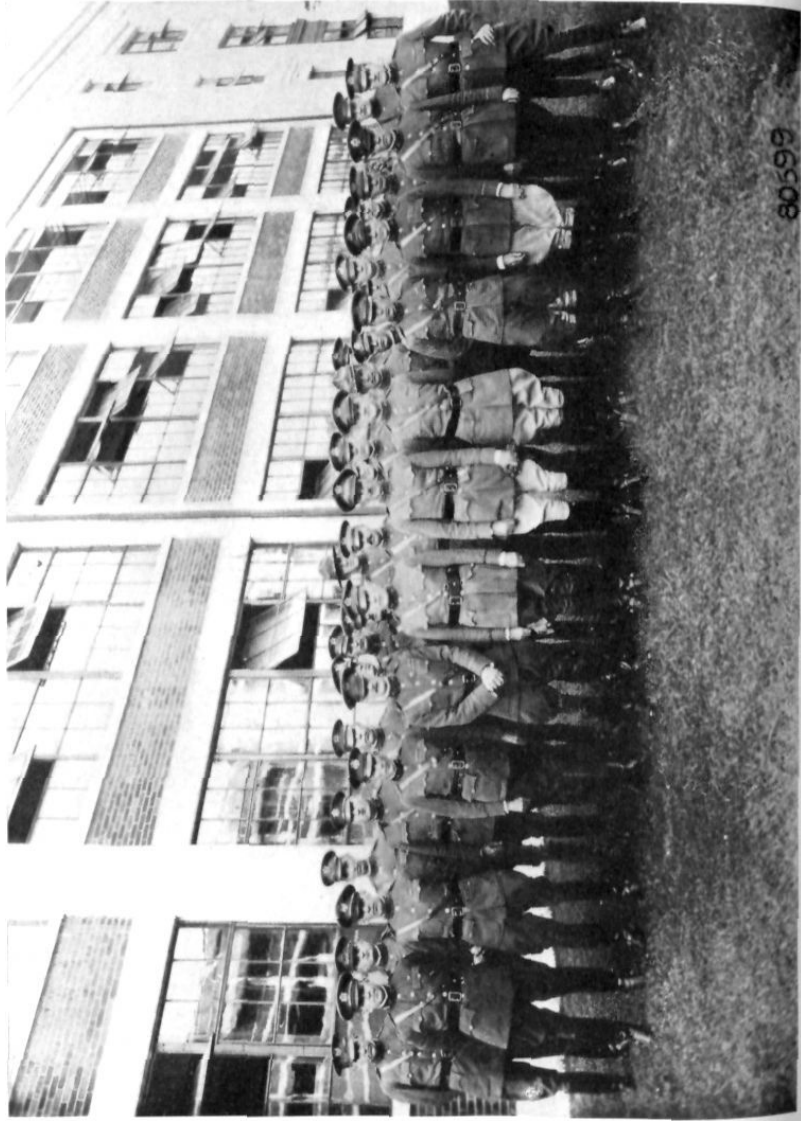
Colonel Dallas Townsend  
Lieutenant-Colonel Lewis H. Harper  
Lieutenant-Colonel Robert McC. Marsh  
Major Harvey C. Beeson  
Captain Wilbur C. Bechtold  
Captain Lowell F. Bowers  
Captain Julius W. Headington  
Captain Earl S. Jackson  
Captain Claude M. Linsley  
Captain George D. Moore  
1st Lieutenant Horace B. Baker  
1st Lieutenant Lorenzo Hamilton  
1st Lieutenant Edward G. Ludtke  
1st Lieutenant Stephen C. Noland  
1st Lieutenant Willie C. White  
2nd Lieutenant Herbert J. Drew  
2nd Lieutenant Grasson W. Kaul





*This is the type desired  
for all horses in the team.*

*Height 15-3. Weight 1390.  
Major General  
Chief of Field Artillery.*



**OFFICERS OF THE BRANCH ASSIGNMENT GROUP**

This section attended Camp September first to fifteenth. The picture includes officers from the Chiefs office.

## CURRENT FIELD ARTILLERY NOTES

### **Road Space and Mobility of Our Present Division**

A board in the General Staff of the War Department is considering possible reductions in transportation, forage, fuel, etc., at present authorized in an infantry division. A great number of considerations are of course involved. Among the improvements sought is a reduction in the road space occupied by the division in the column of march, and greater mobility and manœuvring power.

The present infantry division occupies about twenty-seven miles road space. Since the division field artillery brigade occupies over seven miles of this space, any study on this subject intimately concerns our arm. To accomplish its mission the board must first discover any articles now carried that may be dispensed with and any vehicles that can be dropped. This is being done.

The question of reducing the number of vehicles raises a question as to our present method of supply. Is it necessary to furnish vehicles to carry all the impedimenta of a division? Cannot the corps and army pools carry all above one day's supply, except that with the branches, and dump it in rear of the division? The board is considering the possibility of further reductions also by working on the premise that all trucks for carrying artillery ammunition, supplies for the medical regiment, engineer supplies, and signal supplies, be of a common type and be included in a division pool.

### **Foreign Service of Noncommissioned Officers**

At present all our noncommissioned officers above the grade of corporal who are on foreign service, are being replaced upon expiration of their foreign service tour by noncommissioned officers of the same grade from units in the States. This is evidently not proving satisfactory, judging from local reports. Due to transportation costs, Hawaiian replacements come from the Ninth Corps Area and Panama replacements come from the First, Second, Third and Fourth Corps Areas—the Atlantic seaboard. This requires two regiments, the Tenth and Seventy-sixth, to furnish all the replacements for three regiments in Hawaii. The resultant regimental disruption is keenly felt. The condition on the Atlantic seaboard is not so bad, as there are several regiments to draw from. In any case, however, the foreign regiments are experiencing a constant turnover. Furthermore, motor sergeants and packmasters are, in effect, being replaced by stable sergeants, who often do not know what a carburetor or an aparejo are for. The situation is often quite as incongruous when the motor sergeants and packmasters arrive in horsed artillery regiments.

The War Department is studying the problem now with a view to its solution. Various alternatives are suggested both for the

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benefit of the enlisted men concerned and the regiments. Among these suggestions is the sending of whole regiments for foreign service tours. Another is to stop replacements, letting the foreign service regiments develop their own noncommissioned officers with the privilege of reënlistment if the men want to stay. Another is to restore foreign service pay and double time for retirement for the benefit of men ordered from their parent unit. All the alternatives have their objections as well as the present scheme and it looks like no perfect plan can be evolved.

### **The Endurance Rides**

The annual Colorado Endurance Ride was held August fourth to eighth inclusive. As most of our readers probably know, this is a test to discover and emphasize the importance of breeding, conformation, training, etc. The course is 300 miles long, ridden in five consecutive days at 60 miles a day. This year for the first time no competitor was allowed to complete the course. There were seventeen entries, one went out the first day; ten the second day; two the third day and four the fourth day. Competent horsemen attribute the failures primarily to lack of proper preparation and conditioning of the entries; though no entry finished, the ride served one important purpose in this fact alone by emphasizing the importance of condition.

The Eastern Endurance Ride is being held at Warrenton, Virginia, as this JOURNAL goes to press. The distance and rules are the same as for the Colorado Ride. It also happens that there are the same number of entries—seventeen. Among the breeds entered are four grade Morgans, two thoroughbreds, eight grade thoroughbreds, one Anglo Arab and two standard bred.

### **Polo**

#### *Camp Lewis Team Wins International Trophy*

By a score of 7-4, the Camp Lewis team won for the second time the Thaddeus S. Lane International Polo Trophy from the Vancouver, B. C., team on August thirteenth. This trophy was presented in 1913 by Thaddeus S. Lane of Spokane, Washington. The Camp Lewis team was composed of Captain Alexander, No. 1; Lieutenant Guernsey, No. 2; Captain Green, No. 3; Lieutenant Williams, No. 4. On the Vancouver team were Wilmot, No. 1; Sweeney, No. 2; Fordham, No. 3; and Fell, No. 4.

#### *Onondaga Championship Won by Second Battalion of the Seventh*

The Second Battalion of the Seventh Field Artillery won the New York State Fair Cup for the Onondaga Championship in two

## CURRENT FIELD ARTILLERY NOTES

games from the Genesee Polo and Riding Club. The scores were 16-5 and 7-6 for the two games. The Seventh played Lieutenant Blakeney, No. 1; Lieutenant Smith, No. 2; Lieutenant Roberson, No. 3; Lieutenant Conrad, No. 4, in the first game. In the second game Major Greely went in at No. 1, Lieutenant Covey, No. 2, and Captain Sheets, No. 4. Brown, Jones Osler, Foote and Helmar represented the Genesee Club.

### *Fort Sheridan Wins Midwest Tourney*

On September 21st, the Fort Sheridan team won the Midwestern Polo Championship by defeating the Buffalo Country Club 11-2. Chagrin Valley Club of Cleveland won the consolation tournament by defeating North Shore of Chicago 5-0. Smith, No. 1; Corpening, No 2; Rodes, No. 3; and Baker, No. 4, represented Sheridan against Taylor, Knox, Bickford and Schoellkopf in the corresponding positions for Buffalo.

### *War Department Polo Club's Fall Tournament*

The following shows the results of the fall Tournaments of the War Department Club held in Washington between September 25th and October 8th:

#### HIGH GOAL TOURNAMENT

		By Handicap			
Third Cav. ....	10	Ft. Humphreys .....	4		0
Sixteenth F.A. ....	8	War Dept. 1st .....	9	Sixteenth F. A. ....	5
War Dept. 2nd .....	8	Sixth F.A. ....	7	Sixth F.A. ....	1
Third Cav. ....	10	War Dept. 1st .....	8	Third Cav. ....	7
Third Cav. ....	9	War Dept. 2nd .....	7	Third Cav. ....	2

#### LOW GOAL TOURNAMENT

		(4 goals and under)		By Handicap	
Sixteenth F. A. ....	7	Ft. Humphreys .....	2	Humphreys .....	2
Sixteenth F. A. ....	8	Sixth F. A. ....	2		0
Third Cav. ....	10	War Dept. 3rd .....	8	Third Cav. ....	1
Sixteenth F.A. ....	8	Third Cav. ....	6	Third Cav. ....	1

### *Notes on Polo*

The following notes were written by Colonel T. P. Melville of the British Army, the player on the British International Team. They were distributed among the American Forces in Germany, where some of our readers may have read them.

No combined play is possible unless every player is good with his stick.

#### *Duties of No. 1*

1. To prevent the opposite back getting the ball.
2. To assist his own No. 2 to reach it.
3. To score goals.

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Remain close to your back, keeping one-half length to the good. Ride off and hook his stick. Remember it is just as important to stop him hitting the ball as it is to hit it yourself.

Prevent the ball reaching the back by blocking it and passing to your No. 2.

Never hit a backhander towards the opposite goal unless you are near enough to score, or you can be certain of your No. 2 reaching the ball before one of the other side, otherwise you are deliberately giving the back the ball instead of preventing him from getting it. Watch your man rather than the ball and when he is riding for a backhander, force him to go at his fastest pace, at which a ball is often missed or bungled. If you find you cannot prevent the stroke, it is better to check just before the stroke and endeavor to meet the ball, placing your pony where you expect the ball to go. It will very often hit your pony, and if near the goal it puts a back in a helpless position. Always be prepared to change places with your No. 2.

### *Duties of No. 2*

If you have a player who can:

1. Pick up a ball passed back before any of the opposite side can reach it,
2. Take a ball down the ground at the fastest pace, making half strokes when necessary to prevent the opposite back getting it,
3. Pass a ball to another of his side,
4. Take the place of No. 1 when he finds himself in front,
5. Be a deadly shot at goal,

You have the makings of a first-class No. 2.

Play as much as possible in the centre of the ground, but when you find yourself in outside quarters pass to your No. 3 and automatically assume his position.

Having obtained possession of the ball, you must decide at a glance whether to drive forward, keep the ball with half strokes, or to pass. If the No. 1 is well into the back you should certainly drive, being careful to place the ball on the No. 1's side of the back.

If the No. 1 is not into the back, try to give him time to get there by making a half stroke, but remember that the half strokes take a fraction of a second longer and the opposing No. 3 may hook your stick and so prevent a second stroke.

If you find the back between yourself and the goal without your No. 1 to assist you, you can either keep the ball with short strokes, or leave it to your No. 1, who when he sees his chance should shout "Leave it." You will then assume the duties of No. 1.

When to pass is a difficult problem. Much depends on mutual

## CURRENT FIELD ARTILLERY NOTES

understanding and confidence, and the less calling to each other the better.

Two good forwards riding level with, and passing across to each other down the ground, render a back quite powerless. In defense don't let your opposing No. 3 ride loose, but do it in such a way that you will be the first to pick up a backhander from your own side and convert defense into attack.

Remember your play should be defensive within 80 feet of your own goal and the general tendency must be towards the centre in the enemy's half of the ground and away from the centre when the ball is within shooting distance of your own goal.

Your success will depend much on the opposition of the No. 3 opposed to you, but if you are quick at picking up the ball and always looking out for the opportunity of passing to your No. 1 or No. 3, you will be of much assistance to your side.

### *Duties of No. 3*

This place should, if possible, be filled by the captain of the team. From here he can assert himself much more than from any other place. For No. 1 to act as captain is fatal. The duties of No. 3, or half back, are:

1. Feed his forwards by boldly following close behind them, placing the ball in such position that they can take it on before the other side can reach it.
2. Galloping back to assist his No. 4, who is in difficulties with two or more of the enemy.

To carry those out he must be well mounted, when he will be the most valuable member of the team.

Back and half back must be interchangeable. Nothing upsets an attentive No. 1 more than finding himself riding the wrong man, and the back turning for No. 3's backhander has, at times, almost the effect of adding a fifth man to the team for the time being.

### *Duties of No. 4*

1. To defend his goal.
2. To feed his forwards.

A back has more time to act deliberately than any other player and pulling ponies which would be impossible in any other place, can then be ridden with safety. Try by a glance to place the ball for your forwards. If you see the chance of a rush by yourself, shout "Ride off" and take the ball, all three other players riding the man who happens to be nearest them. Chanda Singh, the Patiala back, was wonderful at this, and many a goal have I seen him hit when playing back.

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Never meet the ball, unless your place can be taken if you miss, or when you are between your own flags defending the goal, when you must meet fearlessly, and a man with a good eye can often make marvellous "saves." Always go fast at your ball, even when not interfered with. To go slow may make your stroke more certain, but the ball will have travelled 25 yards further, and this distance must be added to the length of your strokes before it is of the same value to your side.

The success of teams may appear due to the fine forward play, but such is not possible unless the backs are reliable and they may always congratulate themselves whenever a match is won.

