

ARMS AND THE MAN



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APRIL 29, 1909.

**THE NATIONAL
MILITARY AND SHOOTING WEEKLY**

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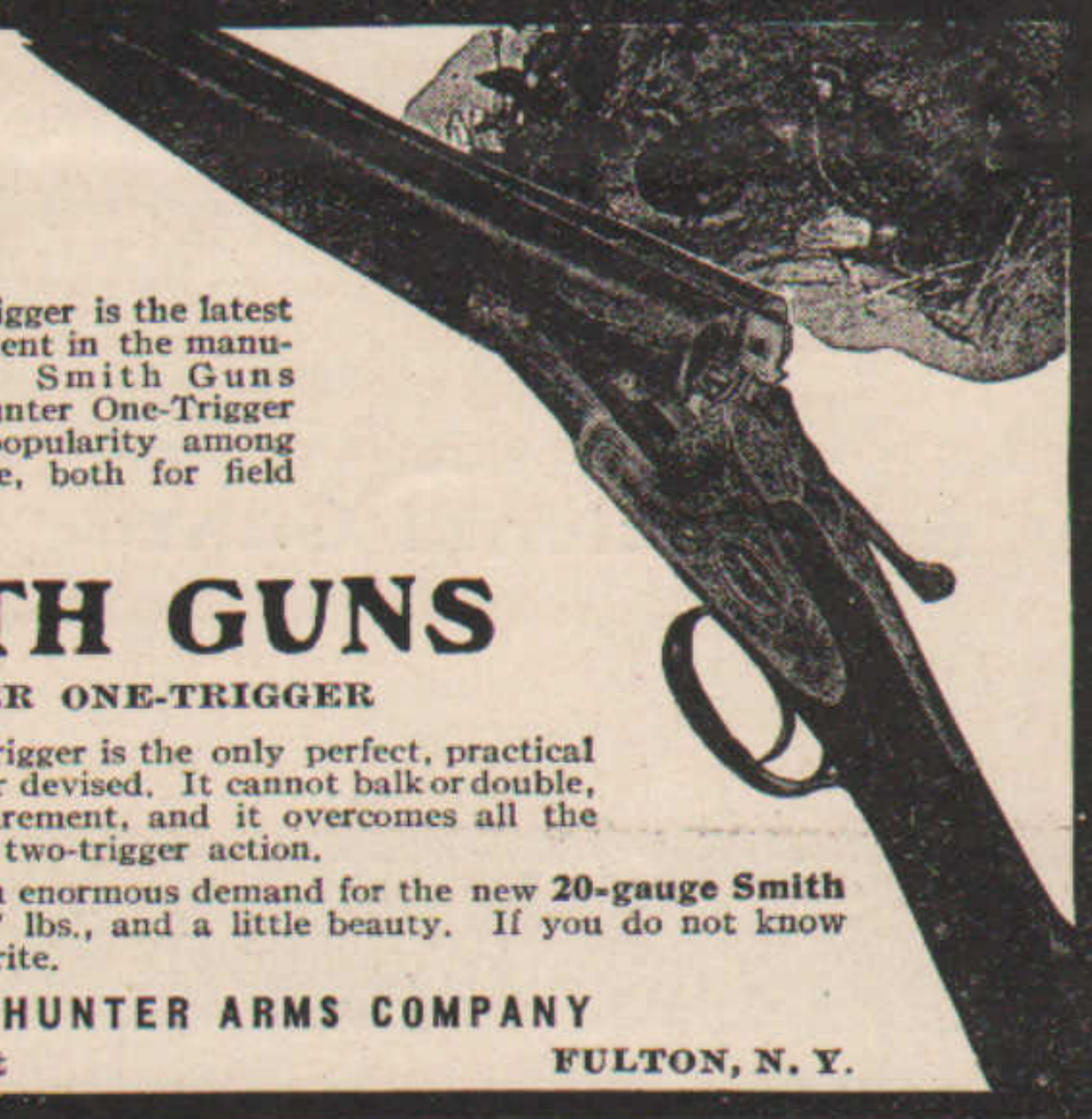
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ARMS AND THE MAN

FORMERLY
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INFANTRY FIRE IN BATTLE.

A LECTURE BY LIEUT. COL. R. K. EVANS, *General Staff*, AT THE ARMY WAR COLLEGE, FEBRUARY 17, 1909.

This article was originally delivered in the form of a lecture at the War College by Lieutenant Colonel Evans. The editor of ARMS AND THE MAN was present upon that occasion and immediately after the speaker had concluded made application for the manuscript. He realized that while the lecture did not contain a great many new things to those who are familiar with the subject, yet what had been said had been so well put and the whole subject covered with so much force and breadth of treatment that the lecture was just what the readers of ARMS AND THE MAN would like. However, as it was delivered under official circumstances, it could not be given out for publication until it had passed to the Chief of Staff and to the Assistant Secretary of War. When it reached General Robert Shaw Oliver, the Assistant Secretary of War, he was so much impressed with its value that he desired to obtain for it the widest possible publicity. He directed that it be given out to such Service publications as cared to use it upon terms which would give it a wide circulation. In this manner it came to ARMS AND THE MAN with permission to make publication of it in our issue of April 29. It is an enlightening production. Because of its great value we depart from our usual rule of running long articles in one number. We recommend it as worth reading in its entirety.

FIRE action is the controlling factor in deciding battles. Over 80 per cent of the men that fall in battle go down under Infantry fire. Hence the training of our Infantry in good shooting is the most important feature in preparing for war.

The rifle with which our Army is now armed is probably the best in the world. It should be, as we are the last great nation to adopt a new arm. But the more perfect the instrument the more skilled must be the operator who is to use it. Hence to live up to the excellence of our rifle we must now redouble our efforts in the instruction and training of our Infantry in order to secure the best results in battle.

In all the domain of human endeavor, the actual, practical results of fire action in battle present the most pitiful failure. The fault does not lie with the gun, but is entirely due to the lack of proper training and handling of the man behind the gun.

In the last few years the most exhaustive experiments have been conducted in Europe, involving the expenditure of millions of cartridges, in order to determine the relations existing between three kinds of fire: first, over ordinary ranges at known, measured distances; second, over field ranges at unknown distances and at moving and disappearing targets; third, actual battle results have been carefully studied from the reports of special observers sent to accompany opposing armies in war, and from the most reliable statistics available.

From these experiments and observations, it is now generally accepted that to obtain the probable results to be expected from a given number of men firing for a given time in field firing at unknown distances and at disappearing or moving targets, we must divide the number of hits made by this number of men firing for this time on the ordinary target range at known distances by 20, and to obtain the probable number of hits for the same number of men and time in actual battle, we must again divide by 20. For example, one hundred men firing at 600 yards for two minutes on an ordinary range at known and measured distances, make 800 hits. To obtain the probable number of hits at field firing, with the same number of men for the same time over unknown distances at disappearing or moving targets, we must divide by 20, giving 40 hits. To find the probabilities in actual battle, we again divide by 20, giving 2 hits. Such figures warrant the assertion that the battle results of Infantry fire are pitiful in comparison with what might be obtained if we can improve the work of the man behind the gun.

The following examples, taken from a recent lecture by a French officer on this subject, are of interest.

In the French campaigns of 1805-1806, it required 3,000 bullets to make one hit; in those of 1813-1814, 10,000 bullets to make one hit. This difference is mainly due to the fact that in the latter campaigns the French

army was largely composed of raw, undisciplined and uninstructed recruits.

At the combat of Estcourt against the Boers, the English, although protected by the plates of an armored train, fired their shots 20 or 25 feet above the heads of the Boers, who were between 100 and 200 yards away—and the English have the reputation of being calm and cool.

The same occurred at Spion Kopje.

General Lichtenstein, a captain in 1870, relates that in the battle of Beaugency his small company was lying flat on the ground at 100 paces from a French battalion, which nearly enveloped it. For half an hour this battalion poured a terrible fire on the Germans, but all the balls passed over their heads. Only one officer of the company was hit.

In 1881, at the combat of Chellala, the French fired 33,370 bullets and 41 artillery projectiles to kill 70 Arabs; the enemy had to traverse the French column.

Colonel Welford relates that in the war against the Kafirs the English burned 80,000 cartridges to put 25 of their adversaries out of action. This result was obtained when the English army was operating under excellent conditions, as they were opposed to a poorly armed and undisciplined enemy. A feeling of superiority must have influenced favorably the morale of the English soldiers.

At the combat of Zaribrod, November 24, 1885, the Servians consumed 200,000 bullets to hit 58 Bulgarians—3,400 shots to make a hit.

General Kuropatkin said of the Japanese that the effect of their fire was relatively small, even with the greatest consumption of ammunition.

In January, 1907, a detachment of Moroccan troops attacked the bandit Raisouli with 65 men in his party, in an entrenched position. The troops fired 80,000 cartridges, 800 Maxim projectiles, and 120 shell, without hitting a single man.



Lieut. Col. R. K. EVANS, *General Staff*, U. S. A.

At Colenso, the Boers, whose reputation as marksmen is universally admitted, fired 600 cartridges for every Englishman put out of action. This is the best battle shooting on record—600 shots to one hit. This result was obtained by extraordinary marksmen, descended from the most phlegmatic race, most difficult to excite or unnerve. The Boer united in the highest degree all the characteristics of the ideal marksman. He was undoubtedly the best battle-shot who has appeared in action since the invention of gunpowder. But he was wanting in organization and discipline, and in that all-important team work which is the direct product of both these factors. It is to this team work that I especially desire to invite your attention in this talk.

These examples are corroborative of the old saying that it takes a man's weight in powder and lead to kill him in war.

The fault must be either with the tool or the operator who uses it.

Which? Our rifle is a great weapon and a credit to the head and hand that produced it—our Ordnance Department. It has a range of more than three miles and its accuracy up to the practical limit of human vision leaves little to be desired.

Poor work in battle must then be charged to the man. Fault-finding and criticism are always easy, but if they do not pave the way to improvement they are merely vicious and pernicious irritants.

It is the object of this lecture to point out some practicable steps by which we can improve the efficiency of our soldiers in battle.

To accomplish great results, we must have cooperation. We might define a soldier to be a man who works in cooperation with his comrades for the attainment of one great end and object—victory. To attain victory we must have discipline in our ranks. The universally accepted way to attain discipline is through drill. Drill in itself is nothing. It is only as a means to an end—discipline—that it is invaluable. It is only through strict, vigorous, rigorous drill that the officer gets the habit of command and the soldier the habit of prompt, unhesitating obedience.

To arrive at a fair idea of what we have actually and practically done to get the best results out of our soldiers in battle, this talk will be divided into two parts: first, what we have done and are doing; second, what we should still further do—our works of commission and omission.

Under commission we have, first, close order drill. The Drill Regulations of all civilized nations are very much the same, and our book is about as good, in most respects, as any. As to our parade ground drill, I will say that in my opinion we do not insist enough on accuracy, precision and snap of execution. Recognizing that drill is only practiced to create and develop discipline, while we are at it, let us do it well and hard and strenuously. I believe that the tendency toward laxness and slovenliness in drill has grown considerably since our late little wars. This is mainly a habit and a custom, and can only be corrected by developing a sentiment against it among our officers.

Second, extended order. In extended order I think we tend to the opposite extreme; that we frequently practice it with too much formalism and do not give enough latitude. After the soldier is instructed in the elementary forms of deployment on the parade, the rest of his extended order drill should be on uneven, broken ground, in woods and brush, and always with a tactical war situation in view.

These remarks are not intended as an unqualified approval of our drill regulations as a whole. In one respect they are believed to be radically wrong in theory and to inculcate erroneous ideas on the important subject of the Infantry attack, which may lead to useless loss of life and disaster in battle.

In the schools of the squad, company and battalion, we have a number of paragraphs under the heading Normal Attack, which undertake to teach standard, stereotyped, fixed formations, and methods for making the Infantry attack. These paragraphs treat the attack very much as if it were a parade ground evolution, specifying the formations to be taken at fixed distances, the number of halts to be made in the advance, and the number of rounds to be fired at each halt.

The drill regulations of all other nations clearly recognize such teaching to be wrong in principle and vicious and dangerous in theory and generally positively forbid any attempt to reduce the attack to fixed forms. They all lay great stress on the careful teaching of general principles and theories governing the attack, leaving the individual officer and soldier free to apply them in action according to the ever changing and never exactly recurring conditions of battle.

There is no such thing as a normal attack formation and procedure. It is therefore wrong, if not criminal, to attempt to teach it to men who will probably not discover the mistake until they learn it through unnecessary loss of life in their first battle.

As an illustration of how this question of teaching a normal attack formation is regarded by other nations, the following quotation from the English manual, *Infantry Training*, 1905, is given:

"124. General Principles. It is impossible to lay down a fixed and unvarying system for attack or defense. Although such system might appear capable of modification to meet different conditions, yet constant practice in a stereotyped formation inevitably leads to want of elasticity, accustoms all ranks to work by rule rather than by the exercise of their wits, and cramps both initiative and intelligence. In peace exercises, where blank cartridges take the place of bullets, the inherent and paralyzing defects of a normal system may easily escape notice; in war they betray themselves in waste of life and failure.

It is therefore strictly forbidden either to formulate or to practice a normal form of either attack or defense. To the training of the troops in movements before the enemy, general principles and broad rules alone are applicable; and the practical knowledge of these principles and rules can only be instilled by intelligent instruction and constantly diversified exercises on broken ground."

This question is treated in the same manner in the drill regulations of Germany, France and Japan.

The teaching of a normal attack is a direct violation of the spirit of the applicatory system of instruction in peace and procedure in war. We flatter ourselves that we have risen to an appreciation of this system in some theoretical directions. We are teaching it in the Army War College, on paper and graphophones. Let us make an effort to rise to it practically, at the high water mark of all military instruction and endeavor—the Infantry attack—by abolishing misleading forms and replacing them by teaching broad, general principles, and stimulating intelligent initiative. On this foundation only rests the reasonable prospect of success and victory in war.

Third, range firing. Our system for this kind of firing is certainly good. In proof of this assertion we need only revert to the fact that in 1907 an American team won the Palma Trophy in Canada against the best teams from England and her colonies. Again, in 1908, an American team won first place at Bisley, England, in the International Match, in competition with the riflemen of the world.

Nevertheless, even this system, which has brought us some splendid victories on foreign soil, is open to criticism in minor particulars. In general it is believed that in the fierce competition for figures of merit and extra pay for higher classifications for individuals, we frequently lose sight of the fact that the real object of target practice is to fit the soldier for doing good shooting in battle. Strings of bullseyes are not the objects of this training; they are merely a means to an end—efficient shooting in battle.

There is too much coaching on our ranges. In the hope of making high scores, officers and noncommissioned officers often do everything for the man at the firing point except to pull the trigger for him. Every soldier should be carefully instructed in sighting, aiming, holding, and pulling, and in his first season he should be coached on the range to a limited extent. After that no coaching should be allowed. Certainly nobody will coach him in a fight, and the sooner he begins to work out his own salvation, the better.

The most striking difference between our system of range firing and that of other nations is the importance and prominence which we give to firing at the longer ranges—from 500 to 1,000 yards. No other nation advocates or practices instruction fire at such ranges. The Germans have no regular target practice beyond 400 meters—437 yards, and the Japanese beyond 600 yards.

There are several reasons for this. First, if a man misses the target at the short ranges it is his own fault. Either he did not aim or pull properly, and his instructor can discover and correct the fault. Second, at the longer ranges the rifle is seldom, if ever, aimed directly at the bullseye. Allowances must be made for a number of causes of error, besides the personal faults of the marksman. Among these are wind, light, mirage, temperature, and density of air. In battle it will be impossible for the soldier to take account of these influences. The Germans do not think it pays to spend ammunition, work and time at these ranges. Third, it is unprofitable to practice on the range at those ranges where the probable error in estimating distances is equal to or greater than the error in marksmanship. For the longer and extreme ranges, no one expects individual fire to compensate in any degree for the attendant waste of ammunition; it is discouraged or forbidden by the firing regulations of all nations, including ourselves. At these ranges we must use the shotgun or shrapnel principle by sweeping areas or zones with combined, collective, concentrated fire of tactical units—squads, platoons or companies.

To sum up what we have already accomplished:

We have had, first, close order drill; second, extended order, and third, firing on the standard range at rectangular and silhouette targets at known, measured distances. In these three features of instruction and training our methods are good enough, and compare not unfavorably with those of our neighbors, the great powers of the world. Still there is much to be done to keep abreast of the ever-moving procession of progress.

Let us now see what we have omitted to do in order to put our soldiers on an equal footing with any possible antagonist.

In general, we have had no instruction or training either for individuals or tactical units, in firing or working under approximately battle conditions. The most prominent of these omissions are:

First, instruction and training of the individual in firing under battle conditions. So far we have only practiced on the target range with all conditions artificial and impossible for actual service. For example, there is nothing more unlike a man in battle than a bullseye target. Even the black and immovable silhouette does not represent him very accurately.

The ground on the range is generally a horizontal plain, which seldom occurs on a battlefield and if one were encountered no sensible man would attack over it if he could possibly avoid it. The ranges are all measured and marked, which cannot be expected in war, certainly not for the attack. A French officer in writing on this subject calls this kind of practice, or this step in instruction, *Parlor Shooting* (*Tir a Salon*). Do not misunderstand me as meaning to say anything tending in the slightest degree to detract from the importance of this target practice on the range. It

is an absolutely necessary step, but it is a step and not the end. We must go further, if we will give our men, in peace, the best preparation to do the best work in battle.

This brings us to the subject of Field Firing on Field Ranges, called by the Germans Galende Schessen (Terrain Shooting); and by the French Tir de Combat (Combat Fire). It is an ancient and wise adage that practice makes perfect. Field firing is a simple application of this adage.

In this we try to use targets that look and act as nearly like men in battle as possible. Khaki-colored silhouettes, appearing, disappearing, and moving over rough, uneven, wooded ground, always at unknown and constantly changing ranges.

Every Infantryman who has attained the classification of marksman should be put on a field range and given a thorough course in individual field firing. If an Infantryman is not a marksman at the end of his second year, he should be transferred to some other branch of the Service where his inability to shoot will not so vitally militate against the efficiency of his arm.

Second. The squad should next be trained in field firing and in working over all kinds of ground under the immediate direction of its corporal. The corporal should fully understand that he is the instructor and leader of his squad, and that he is responsible that the men do not fire without his orders or those of higher authority; that they do not waste their ammunition (in battle every cartridge should be treated as it were a hundred dollar bill, for which full value must be demanded); that the men always fire with the proper sight; that they get over the ground in any formation that will accomplish the advance with the least loss.

From this it is evident that the corporal will have enough to do in supervising and controlling his seven privates without firing himself in the early stages of the fight. Therefore our regulations should forbid him to fire as long as the sights have to be set, that is, until the battle-sight comes into use, at 530 yards from the enemy. Even then, if he can still continue to control his squad as a unit, he should not fire, for he can do more effective work by directing his men, and he will have all his ammunition to use at the decisive stage of the fight at close range. Lord Roberts said after the war in Africa that the most important stage of the fire fight is within 200 yards of the enemy's trench. At this stage our men must be able to do good snap shooting at disappearing targets, in order to prevent the enemy from rising in his trench and firing on them while they are exposed in making the final advance.

The proper training of squads in this team-work under the corporals, in handling and controlling fire, is the foundation and most important feature in the instruction and practical training of Infantry for battle, and should be practiced as much and as frequently as possible.

Third. The next step is the training in team work of the section of three or four squads under a sergeant; then of the platoon under a lieutenant, and finally, of the entire company under its captain. The company is the highest unit that it is practicable to work in battle under the immediate personal control of an officer. The companies work together in support of each other in battalions, regiments and brigades. The larger the organizations we can work together in practicing attacks under varying conditions, in peace, the greater will be our reasonable prospects for success in war.

No nation now contemplates the Infantry attack without preparing it and supporting it as long as possible by the fire of Artillery and machine guns. For us to fail to have a sufficient number of the best Artillery and machine guns to support our Infantry in war, would be to voluntarily abdicate the advantages of our great wealth and intelligence as a nation. At present we are pitifully deficient in these important accessories to the Infantry attack. We can only look to Congress and hope and pray that these necessities may be provided before we are again ordered to deploy for battle.

The great battle-team of modern war is the Infantry working in cooperation with Artillery and machine guns.

Of late there has been a decided tendency to increase the number of cannons and machine guns with field armies. We have theoretically decided that we will have 3.75 field guns to the thousand rifles, and we hope for a machine gun company of 6 guns for each regiment of Infantry and Cavalry.

The leading military nations of the world have added heavy field guns and howitzers to the equipment of their mobile armies. These additional guns are already organized into battalions and worked in maneuvers. It is probable that the German army will mobilize for the next war with from six to eight guns per 1,000 rifles. We have advanced in this direction so far as to decide on a type, 4.7 caliber, for both the heavy field gun and howitzer. But as our laws do not permit of the organization of brigades and divisions in peace, and as Artillery is not an integral part of smaller organizations than divisions, all our theories on this important question of the support of Infantry fire by Artillery are still in the pipe dream period of realization.

THE GREAT TEAM WORK OF BATTLE.

For the sake of illustration, let us assume that we have a few fully organized and equipped Infantry divisions. There is nothing chimerical about this assumption—all our neighbors, the great powers, have them. The following figures are believed to be reliable:

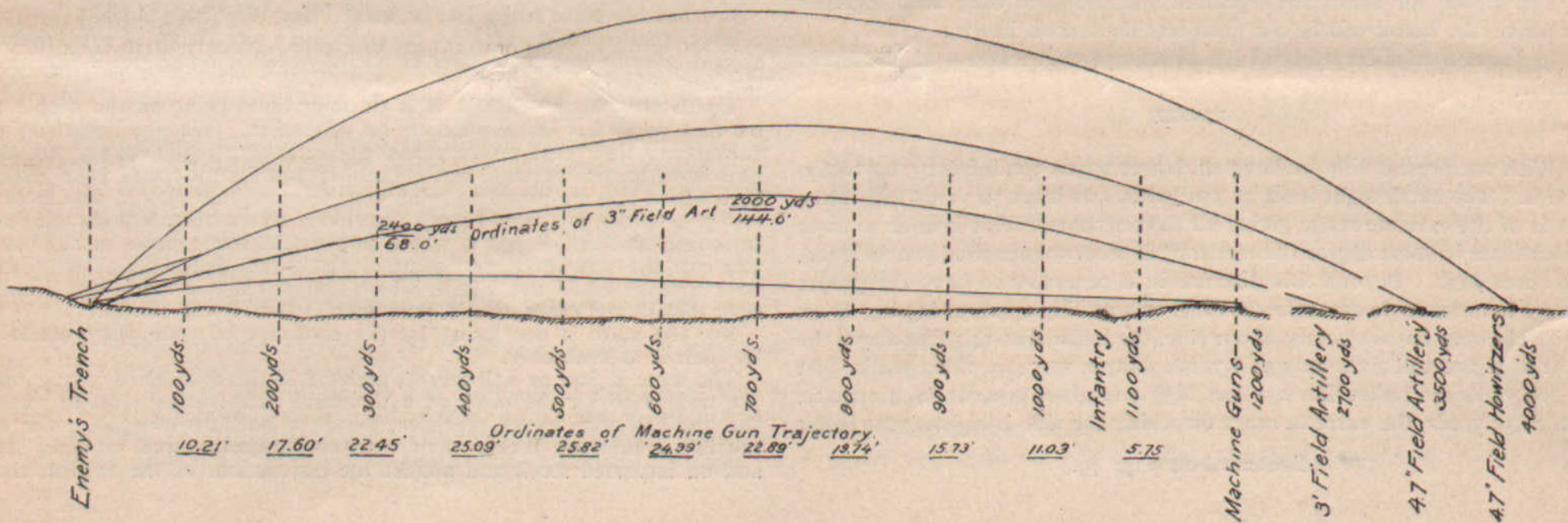
Infantry Divisions Organized in Peace.

France:	
Active	42
Reserve	46
Total	88
Germany:	
Active	46
Reserve	23
Total	69
Russia:	
In Europe	42
In the Caucasus	7
In Siberia	6
Total	55
Turkey:	
Active	20
Reserve	24
Total	44
Austria	30
Japan	20
Roumania	8
China	7 (9)
England	6
United States	0

In 1908 China had seven Infantry divisions organized and equipped with modern arms and guns, and the government was considering measures for the organization of 29 additional divisions—36 in all—two for each province. This statement is taken from the Japan Weekly Mail of February 8, 1908.

The accompanying diagram will show how it is perfectly practicable and now expected for the Infantry attack to be supported by the fire of Artillery and machine guns.

Fig. 1.



In this diagram the enemy has taken up a strong position, for the ground in front of his trench is almost a glacia surface, giving an uninterrupted field of fire for over a thousand yards. It was over such ground as this that the Prussian Guard Corps delivered its attack against the French at St. Privat, which was brought to a standstill and practically destroyed at 600 yards from the French position. On this occasion the Prussian Artillery prepared the attack according to the battle theory of that day, but when the Infantry advanced they ceased firing.

A little over 1,000 yards from the enemy's trench a line of Infantry is deployed, but concealed from sight by a slight depression in the ground. At 1,200 yards, hidden behind another depression, and possibly further protected in pits, is a line of machine guns. At 2,700 yards is a line of 3-inch field guns in battery behind a slope, arranged for flash defilade or indirect laying. At 3,500 is a line of heavy field guns, 4.7 inches. At 4,000 yards is a line of field howitzers, also 4.7 inches.

If we look over this field from the trench, not a man or a gun should be in sight if the features of the terrain have been properly utilized by the attack. The landscape appears an empty and uninhabited plain, but it is in fact a slumbering volcano. It is perfectly practicable for the attack, after driving in the outposts and pickets of the defense, to occupy this position at night without betraying the movement to the enemy.

Let us assume that this is a sector of a line of battle on which it has been decided to deliver an attack. Lines of battle are now many miles in extent. At Mukden the Russian line was 60 miles long. This gives the offensive a wide field of choice in selecting a point of attack. The officer in immediate command of this attack, probably a brigade commander, opens the fight with a sudden burst of Artillery and machine gun fire. Under its protection the Infantry advances.

A glance at the figure shows that the fire of the enemy's trench should be smothered by the fire of four lines of machine fire, that is, fire not delivered by hand weapons, which is almost independent of inaccuracies due to personal and physical shortcomings of individual men. This assumes that the Artillery of the defense is neutralized or silenced before the Infantry attack is launched. This can only be accomplished by mobilizing your army with more guns per 1,000 rifles than your enemy. This artillery must be created and trained in peace.

The theory of supporting the Infantry attack during its progress by firing shrapnel over their heads, is believed to have originated with the Germans after their cruel losses in attacks in the Franco-Prussian War. They certainly preach it as a principle and practice it at maneuvers and in field firing. Their theory is that the Artillery should keep up its fire over the Infantry until they have gotten within 300 yards of the enemy's trench. They say that it is practicable, even when the action takes place on a horizontal plain, without the guns having any elevation over the line of the Infantry advance. Theoretically, Artillery should be able to fire over Infantry up to 150 yards of the enemy's trench without losing men.

The Japanese adopted the German theory and consistently applied it during the war in Manchuria. So far from objecting to this method of attack, the Japanese Infantry greatly preferred it to attacking without Artillery support.

This is simply a proposition to economize human life; with it the losses from the enemy's Infantry fire will be much less and the prospects of victory much greater.

Figure 1 shows the ordinates of the trajectories of the machine gun and 3 inch rifle at the principal ranges. At 300 yards from the trench the machine gun trajectory is approximately 23 feet, and of the 3 inch rifle, approximately 68 feet above the feet of the attacking Infantry. The trajectories of the heavy field guns are assumed, but they would be very much like those shown.

The object in giving this figure and discussion is to show the very intimate relations that will exist between the Infantry and the Artillery in the attack. They must work together as the fingers of the hand. This is the highest exemplification of the team-work of battle.

The sooner our teams are organized and the more they work together in peace, the better will be our prospects for success in war.

Let us now consider a few of the most important features of rifle fire in battle.

RANGE.

With our present rifle we have all danger space, for Infantry, up to 600 yards. The battle sight is set at 530 yards. It is set 70 yards within the limit of the extreme range giving all danger space. This is done so as to counteract in some degree the tendency of men, when excited and fatigued, to shoot high. Beyond this distance it is necessary to have the proper range in order to do accurate shooting, or anything approaching it. Even with the very flat trajectory of our rifle, the bullet flies 14.5 feet above the line of sight, and gives only 39.6 yards danger space at 1,000 yards. At 2,000 yards the bullet flies 131 feet high and gives 8 yards danger space. At 2,850 yards, the extreme range for which the rifle is sighted, the bullet

(Continued on page 79.)

WORDS OF WISDOM.

MR. Herbert S. Griggs, of Tacoma, in addressing, on Washington's Birthday, a joint meeting of Troop B Cavalry, National Guard of Washington, and the Alexander Chapter of the Sons of the American Revolution, gave utterance to so many wise observations patriotically expressed that we have secured permission to print a portion of what he said on that occasion.

It must be noted that Mr. Griggs is not in the military service, that he has not been a military man, and what he says can, therefore, be received as an encouraging sign that our public spirited citizens of worth are beginning to appreciate the National Guard and to acknowledge the necessity for military preparation.

Speaking with particular reference to the magnificent new armory recently completed in Tacoma, he spoke of the spirit exhibited by the citizens of that city which, as he said, and truly said, had been responsible for the accomplishment of their desire. He spoke of the intelligent cooperation, self-sacrifice, and loyal support of those who had been striving to secure the armory. From this on we shall make a direct quotation from him.

"A lot of kickers and knockers lost courage and said we couldn't get it—the funds couldn't be raised, the people wouldn't stand for it, times were still stringent, we hadn't enough ready money—etc., ad infinitum ad nauseam. Those were the camp-followers, the hangers-on, that accompany all military movements and from a safe distance in the rear make discouraging and inappropriate criticisms, and are always ready to run or surrender at the slightest provocation. But you men, and those of Tacoma whose support is worth while, did not give up. You got after it only so much the harder, and you got what you went after—a place where you can study and practice the military technique of the past and of today, where you can train your bodies and your minds to solve the problems of war and the troubles that may be forced upon us either at home or abroad.

I am not inclined to yellow journalism. I deprecate anything sensational. The sensational item or thought gets away from us, and usually bears evil fruit and adds to its crop every time it is rehandled. It spreads like a miasma, breeds like a pestilence—like slander, it creates the very foods it feeds upon.

So anything that savors of sensationalism is bad.

But it is a good old adage, 'In time of peace prepare for war.'

I believe that these United States should keep themselves like the trained athlete, who may have to meet competition the next day or the next hour—always in the pink of condition. That was Washington's advice; that has been the advice of our wisest statesmen and safest leaders.

Is it any loss to the state to have a goodly number of trained Militia who are equal at any time to the hardships and problems of a hard, long, gruelling campaign? Or, as Washington put it, when advocating a military academy: "However pacific the general policy of a nation may be, it ought never to be without an adequate stock of military knowledge for emergencies."

Not that we should withdraw from the active and profitable agricultural, commercial and professional pursuits the flower of our youth and devote them to such purposes, either for life or any particular portion of their life, as they are perhaps compelled to do in Germany, Russia and France. But youth, here as everywhere, must have its recreations, its physical training, its escapes from the confinements of office and the cares of business.

Why not let our young men find this outlet in these military schools, and thus acquire a stock of military knowledge for emergencies?

Is it time wasted?

Set aside the possibility even of any practical use for the professional skill you acquire here. Let us admit that your ability to shoot straight, your facility in military evolutions and maneuvers will never be tested in actual warfare, would you count your time wasted, or could the state figure that it had suffered any loss?

And we will also remember that Militia costs money.

You cannot have fine armories and generous equipment and supplies, and long hikes and sham warfare, without someone to foot the bills.

What it all costs you and us, your fathers and our fathers, your children and our children, must pay in good hard coin of the realm.

But has the state really lost or wasted any of its substance?

Why, gentlemen, if you have never to fire a single shot at some enemy abroad or some foreign invader or misled rioter at home, yet is the state the real gainer.

Youth must have—that is, it is an obligation resting on the people to see that youth has its recreation, its relaxation. We are beginning to understand now that public parks, public baths, public resorts, are the best investments the state can make. If you do not spend your leisure here where you are proud to bring your friends, your sisters, sweethearts and your wives, you would more than likely be spending it, many of you, in foolish and selfish sport, where you would waste more money than you cost the state here, and some of you would drift into places where your families could not follow; where you would lose more, much more than dollars and cents, to-wit, your manhood and your senses.

No; the state is not losing by the exchange of your playgrounds if we view it as such only.

The state is just as well served, perhaps, if the eyes of its young men are trained to hit the mark, at a thousand paces rather than to smack the golf-ball with exact precision, to ride a bucking broncho under all possible conditions, rather than to acquit themselves well in fancy togs and on imported stock and amidst the distractions of the English trot,

to acquire familiarity with camp life rather than the pleasures of the summer resorts, to learn the game of bluff with men rather than cards.

But it is not as playground or a recreation stunt that you or we, the public, view this military life of yours. True, it has its charms and its fun. You can get closer to each other here than you would in a life-time elsewhere. For your military training brings out the individualities. That is the necessary result of any life that leads you up against obstacles and problems and trials of strength, whether bodily or mental, that you must meet in competition with others.

You and your officers particularly, perhaps, soon learn who is conscientious, methodical, neat, progressive—who can be depended upon in emergencies.

But your life here has its serious side. It is serious business, because it is the state's business.

And that thought brings me to the topic I am really supposed to be talking about—to George Washington, the citizen soldier and pre-eminently the serious, stately and even majestic figure of the Revolution.

As Thomas Jefferson said, "a wise, good and great man,"—the man whose birthday we have just celebrated. So that this a sort of overflow of those memorial meetings.

To try to set forth in orderly detail the story of his birth, his childhood, his education, the progressive steps of his career, etc., would be quite out of place here.

I wish only to allude to some of his characteristics which seem to be in touch with present day affairs.

We are quite a little stirred now about the questionable right of our citizens and newspapers to abuse our Chief Executive and our Government. We are continually pointed at by our British cousins as characteristically rude and disloyal toward our chief officers. And I must say the loyalty of the Englishman for his living King, his willingness to fight or die for him and to resent with his fortune, or his life if needs be, any insult to the King, has something in it that strikes an answering chord in our hearts, and a wish that we had not followed so far afield the red cap and the tri-color of France.

Not a one of our Presidents but has been made to pay the penalty of vilification and humiliation, and Washington was the preeminently shining mark.

Here are some of the things that were said and published of him when president: That he was a provincial soldier, not an intellectual statesman; and when a soldier, that he was lucky, not proficient; that by nature he was a fool, and that although he had always been honored with positions of preferment, it was because he kept his own counsel and knew better than to attempt to reason; that he was a bigoted, selfish aristocrat, a tyrant and an unscrupulous politician who had debauched the public innocence and trust; that he was in truth seeking a crown and the absolute right of oppression; that he was worse than Louis XVI, the selfish profligate of France; that he was a thief and his public accounts were wrong; that he was avaricious, vain, harsh and cold.

All this, remember, was said, and said repeatedly and persistently in slanderous papers and scurrilous pamphlets—about the one man above all others whom history says was most deserving of the love and admiration of the people—the man who would accept no pay for his services as commanding officer; who gave generously; whose home was always a splendid example of the abundant Southern hospitality that is proverbial; whose reasoning and judgment were by general admission accorded the wisest and safest of the many brilliant minds prominent in America in his time—Hamilton, Franklin, Adams, Jefferson, Patrick Henry, etc.; who inaugurated many of the policies of state that we preserve and jealously guard today as our safest and wisest, and which placed America, raw and new as she was, in the front rank of civilized nations, such as noninterference in European strifes; a widely extended commerce but no political affiliations with our European brethren; a sound currency; a central government with sufficient independence and strength to stand as a nation in the parliament of nations. He stood for public improvements—public schools and colleges: "In proportion as the structure of a government gives force to public opinion, it is essential that public opinion should be enlightened.

That was his thought, and it has become our educational text book. He favored a progressive expansion. For him public office was a public trust. 'I only wish,' he said, 'to know the will of my masters.'

And yet every thoughtful or gracious act of this generous soul was wilfully and maliciously misconstrued. His refusal of pay was merely an 'eccentricity' or a 'prideful display of his own wealth.'

His refusal to be embroiled with France as against England was 'due to his aristocratic leanings, his love of power and a crown, and his contempt for the common people.'

The republicans in Congress deliberately ignored his fete-days and receptions, and often publicly humiliated him.

And, finally, his conscientious refusal of a third term was said to be due to his positive knowledge that the people had found him out and he could never be elected again.

It is a pleasure to turn from this picture of ingratitude and viciousness to the general love and esteem that the real American people had for him.

What a scene was that when he bade good-bye to his officers at New York!

After a farewell dinner at the famous Fraunces Tavern, the officers came up slowly to clasp his hand and say God-speed to the great General. They were met to do him honor, but the occasion was one of great sorrow also, to part from him to whom they all gladly accorded the praise for the final success—who had shared all their sufferings, and endeared himself to them and to the country by his courage, his patience, his ability and his strength.

As he passed on down through the crowded streets he was indeed the great and illustrious Washington, respected by his enemies, beloved by his countrymen.

The bells did not cease ringing nor the cheering cease until he was across the water and out of sight on the Jersey shore.

And then on through New Jersey and Maryland to Annapolis—and in every village a similar reception and popular tribute was given him—the poorest, the most insignificant joining with the greatest in doing him honor.

Not only to him as the successful general who had really fathered his

country, but because of his more endearing traits—his magnificent personal heroism; his absolutely unselfish devotion to his soldiers and to his country.

And so the bootmaker, the cooper, the driver, the butcher vied with doctor and dominie and statesman and lady, in expressing their admiration and their love."

Mr. Griggs continued and paid a very high tribute to General Washington whose character and motives he analyzes in a masterly manner. We have not space to reproduce this portion of his address, although we wish we could do so. Taken altogether, it has been long since we have been privileged to read more able presentation of pertinent facts.

THE PALMA TROPHY.

I NOTICE in the published conditions governing this year's contest for the Palma Trophy that the military arm of each country must be used by the representative team, and that the sights must be the same as issued with the rifle.

My object in writing to you is to suggest that some alteration must be made in regard to this question of sights if we are to have a successful competition as far as a Canadian team is concerned. I think I am safe in saying that it is admitted on all sides that your new rifle with the U. S. Cartridge Co's ammunition is points better than the Lee-Enfield with the best ammunition that has yet been made in England.

I understand you get a muzzle velocity of 2700 feet against about 2300 feet with the Lee-Enfield. Such being the case, and there being no way to even up on that, would it not be possible to at least get nearer to each other on the question of sights. Under the present conditions the Canadian team would have to shoot the plain stationary bar or the Sutherland sight. The latter is provided with an aperture, but being fixed to the same sight bed as the old sight the aperture is too far away from the eye and practically useless. It is, I think, four inches farther from the eye than the sight on your rifle.

This defect in regard to the position of the aperture has been recognized by the National Rifle Association of Great Britain and an extension to the sight bed, bringing the sight about three inches nearer the eye, was officially sanctioned at Bisley last year. In addition to this extension other sights were allowed, and no doubt the Dominion Rifle Association at Ottawa will allow these sights at the Dominion rifle matches in August.

I have heard it stated that the wearing of an orthoptic takes the place of the peep sight. This is entirely erroneous, as the orthoptic is not attached to the rifle. The orthoptic merely enables the competitor to get a definition of his two open sights, the human eye not being constructed to plainly see three objects at once.

My suggestion is that the regulations governing the Palma Trophy contest be altered, so that any sight officially sanctioned by the D. R. A. or N. R. A. of Great Britain for use with the Ross or Lee-Enfield rifles be allowed. The wearing of an orthoptic should then only be permitted where a competitor shoots with an open sight.

The Council of the D. R. A. will alone decide whether a Canadian team will be sent to shoot for the Palma Trophy, and I have no idea what the feeling is about the matter, but I know that as far as the riflemen are concerned there will not be much pressure brought to bear on the Council to act if the question of sights is left as it is at present.

Editor's Note.

Captain McHarg, whose letter is reproduced above, has had an extended military and shooting experience and we welcome an expression of opinion from him upon this important subject. The rules for the Palma Matches are practically made by the competitors.

We are of the opinion that American riflemen would not be inclined to object to any sight which had been admitted by the National Rifle Association of Great Britain or the Dominion Rifle Association of Canada for use on the military rifle. We are sure the National Rifle Association of America would not do so.

HOW TO USE A REVOLVER.

BY BERNARD GLASER.

DETAILED information in the hands of police officers and others who use a revolver for duty or pleasure relative to its choice, care and use, is so conspicuous by its absence that we gladly publish the following contribution upon the subject furnished by Bernard Glaser.

CHOOSING.

The policeman, in choosing a weapon, must always look for safety for himself and others. In choosing an arm, he should avoid one that is not made for smokeless powder and guaranteed for same, and automatic or self-loading pistols, as the latter are no good except when constantly cleaned and cared for. In choosing, therefore, get a good, reliable, double

action revolver of .38 caliber, with a barrel of $3\frac{1}{2}$ or 4 inches in length, and with a grip of wood if possible, as same prevents the revolver from slipping in the hand when shooting. It should also have a rebounding hammer, so that the firing pin never rests on the cartridge, and that, no matter how hard a blow it gets, it cannot set the cartridge off. The only safe hammer is the one that has solid metal between itself and the cartridge, or where the hammer rests on the frame till fired. He should also get a revolver with a simple action, with as few springs as possible. Blue or nickel is more of a matter of a man's taste, though for police work I think nickel is better, as usually a police revolver is used more at night, and then the glint of it is sometimes enough to stop a burglar, etc.

CARE.

A revolver, to give satisfaction, must be taken care of, just like any other piece of machinery. Most revolvers of better make come in a good, strong cardboard box that contains a bristle brush and a small bottle of "Three in One" oil. It is not put there to look at; it is made to use, therefore use it, and use it often. It is also advisable to get a cleaning rod made of either brass or wood. Those who do not care to go to too much expense can whittle one out of any piece of hard wood, about the thickness of a pencil, leaving a small knob on one end, so that the rag used when cleaning will not slip off. Always see that the revolver is free from rust and works freely and is kept in a dry place when not in use. The barrel should not be filled with oil or grease, as same collects dust and dirt, and if shot without first cleaning it out it might spoil the barrel for accurate shooting by causing it to bulge or swell and therefore ruining the revolver.

SHOOTING IT.

Shooting a revolver is not learned in a day; it must be taken up in a sensible way. Many men get disgusted with revolver shooting because they find out that they cannot hit the target in their first lesson. Take it easy and don't hurry and above all don't get disheartened.

First learn how to hold the pistol. Be careful not to hold too tight, as that makes the hand tremble, and don't hold too loose, but hold so that you have a firm grip and full control of your revolver. Then see that you do not cant or tilt your weapon to one side or other, as that will throw your shot either right or left. See that your sights are always the same. Don't take a coarse and then a fine sight, as that makes your shooting irregular. Handle your weapon empty, so that you get very familiar with it, but even when empty never point it at any one, because in your absence some one might have loaded it. This is the cause of most accidents, and after it happens nobody wants to admit that he loaded it. So always be careful in handling firearms.

Get a box of good ammunition, smokeless powder preferred, of some reliable make, then go to some safe place to shoot. Remember a .38 will kill easily at over 200 yards.

Begin shooting first at about five yards at a target with a four inch bull. When you can hit this every time, go back to ten yards; then decrease the size of your bullseye to about two one-half inches, and then when you find that you can hit same regularly go back to twenty yards. For police work a longer range than 100 feet is not necessary, but he should learn to shoot quick, as most of his shooting will be that way. Five shots in thirty seconds is good practice.

Practice makes perfect, therefore paste on the wall of your room a piece of black paper the size of a silver dollar, stand off about thirty feet and practice aiming and pulling the trigger with your gun empty, of course. Five minutes of such practice every morning and evening will do wonders for you, as you will get your muscles used to handling a revolver. Get one revolver and stick to it. Changing from one weapon to another only harms your shooting. By careful training most men can be made fairly good shots in a short time. When the crooks know that the policeman can shoot, they will stop when told to and think twice before shooting at a policeman.

A Real "Musicer."

"My wife took me to the orchestra concert last night, and I think they played Wagner."

"What makes you think so?"

"Why a big bunch of plaster fell from the ceiling into the middle aisle during the concert, and a man who was sleeping near me woke up and said 'Wagner!'—*Cleveland Plain Dealer.*

NATIONAL MATCH INFORMATION.

AFTER many delays the order covering the rules for the National Matches of this year is finally out. As all its provisions have been covered in ARMS AND THE MAN it will not be reprinted or further commented upon at this time.

In view of the fact that the rifle now being turned out at Springfield is probably superior to any weapon which the Ordnance Department has ever made, the editor of ARMS AND THE MAN would recommend team captains to have immediate requisition made for 30, 40 or 50, or whatever number of rifles seems necessary to carry his team through the season. If these requisitions are plainly marked "Rifles to be used for National Match Team" and if the face of the requisition bears the words "To be carefully star gauged," it is thought that an invoice of rifles will come which will meet the most critical requirements. Of course such issues of rifles will have to be charged against the allotment of a state.

At the moment this article is being written, none of the ammunition ordered for trial has been received at Frankford. Probably it will all arrive within the next three or four days. It is hoped that it will all be ready for the inspection and test of the ammunition board not later than May 6. The ammunition manufactured by the Ordnance Department at Frankford both for the rifle and the revolver has been in readiness since before April 15.

OFFICERS ABOVE CAPTAIN CAN COMPETE.

It appears probable that one Adjutant General in the United States either does not read ARMS AND THE MAN or else he is ill advised enough to be ignorant of the fact that what it prints in relation to laws or regulations affecting the National Guard or the Services is printed with the full knowledge of the subject. Announcement has been made in the columns of this paper not once but twice that officers above the grade of captain could compete in the National Matches this year, and yet some Adjutant General has just asked the question of the Militia Division.

THE SCHOEBOE SELF-LOADING RIFLE.

THIS rifle, an illustration of which appears herewith, is one of the weapons of this type which has been tried out by our Ordnance Department.

The object of the inventor was to produce a rifle of ordinary form filling all the requirements of a Service magazine rifle, which should at the same time be capable of being used according to circumstances as a self-loading magazine rifle or as an ordinary bolt magazine rifle loaded by hand. The action of the arm is much like that of the Remington auto-loading shot gun. When it is fired the following general movements occur:

When the trigger is pulled the firing pin moves forward under the action of the mainspring and fires the cartridge. Upon the ignition of the powder gases and owing to the pressure thus produced, the barrel, receiver and breech block are forced backward, thus compressing the mainspring and extending the recoil spring. At the end of the recoil the breech block is momentarily held, allowing the barrel and receiver to move forward under the action of the spring which acts immediately below the barrel and in front of the magazine.

The forward movement of the barrel and receiver, while the breech block mechanism remains stationary, opens the chamber and ejects the empty shell. As soon as the barrel and receiver are in the firing position, the mainspring pushes the breech block forward, this action combined with the action of the magazine spring inserts a fresh cartridge, closes and locks the breech, leaving the piece cocked and ready for firing.

The rifle was subjected to tests substantially as outlined in a recent number of ARMS AND THE MAN. The result was that while it was found to possess many good qualities, it did not appear to be entirely satisfactory in the form then presented.

The rifle has a good appearance; it is not of great weight and it is a possible candidate for adoption. It is the invention of Lieut. Jens Schoeboe and it is made by the Dansk Rekyll Refiel Syndicat, whatever that may mean.



ARMS AND THE MAN

1502 H Street N. W., Washington, D. C.

Every Thursday

James A. Drain, Editor

Communications.—The Editor will be pleased to receive communications on timely topics from any authentic source. The correspondent's name and address must in all cases be given as an evidence of good faith, but will not be published if specially requested. Address all communications to ARMS AND THE MAN. Manuscript must be fully prepaid, and will not be returned unless accompanied by sufficient postage.

Entered as second class matter, April 1, 1908, at the post-office at Washington D. C., under the Act of Congress of March 3, 1879.

That a man shall serve his country in time of war is noble, brave, and patriotic, but that a man shall properly prepare himself in time of peace to serve in war is all of these things and more. It is noble with a nobility which is real, not ideal. It is brave with a bravery which assumes in time of unemotional peace many burdens, among them that of bearing the lack of appreciation of those who do not consider military preparation or training necessary.

NOTHING NEW.

It was Solomon who said "there is nothing new under the sun" and when we dipped today into the last number of the *United Service Magazine*, London, we were again convinced of the truth of Solomon's saying. In it we found an article entitled "How the Coasts of Your Majesty's Kingdom may be defended against any enemy, if in case your royal Navy should be otherwise employed or impeached," written by the Lord Viscount Wimbledon, in 1628.

You who have read our editorials and know how diligently we have driven home our arguments for a safe and sane military policy, you who have listened while we plead for a greater efficiency of the Organized Militia, you who have indorsed our urgent demands that more officers be given to the Army that the National Guard may get them for instructors, listen to this which Lord Wimbledon wrote to his king 281 years ago:

"Yet if we have none but trained men (Militia) to trust to, what shall be done? All that I can say is, there must be the more art used, good officers procured, and the exercising the trained men (Militia) oftener practiced. But what will the gentlemen of the country say to this? That it will be a great charge to the country. I would fain know whether it would not be a greater charge to lose the country."

At the moment when some misguided members of Congress are raising their voices in protest against what they pronounce the enormous military expenditures of the nation, we may well and pertinently ask the question which Wimbledon asked nearly 300 years ago, "Whether it would not be a greater charge to lose the country?" Our readers will understand that the text of the old document is followed exactly but the spelling has been revised. Again let us quote:

"But the danger of all is that a people not used to a war believeth that no enemy dare venture upon them, which may make them neglect it the more, for that their ignorance doth blind them, as they did in the Palatinate when Spinola did prepare an army to invade them. Which maketh me to remember to the same purpose the speech of that brave and valiant gentleman, General Norris, that in '88 said that he wondered he could see no man in the kingdom afear'd but himself. For there is no difference between those that are soldiers and those that are not, but that the one prepare aforehand, the other too late."

Here he begins by saying "But the danger of all is that a people not used to a war believeth that no enemy dare venture upon them, which may make them neglect it the more, for that their ignorance doth blind them." These words seem the more significant and apropos at this time because we have been recently favored with a copy of a publication by the American Association for International Conciliation, within which is contained a pamphlet with this title: "The Delusion of Militarism," by Charles E. Jefferson, D. D. The reverend doctor writes with great cleverness and he puts his sophistries so well that we shall need to take notice of them to refute them, but not now.

We only refer to what he has written for the purpose of saying that here again history repeats itself. The remark of Wimbledon applies with full force to Dr. Jefferson and other ignorant but well meaning men.

Mark you well the concluding words of the paragraph which we have last quoted from the old adviser of the king. He says "For there is no difference between those that are soldiers and those that are not, but that the one prepare aforehand, the other too late."

How often have we in these columns expressed this same thought in a variety of ways, and how many times in the future we shall again and again say it? Preparation must begin before war, or the time when it can be most satisfactorily done is past.

INFANTRY FIRE IN BATTLE.

The leading article in ARMS AND THE MAN of this week appears under the title which stands at the beginning of this editorial. In our introduction to the able lecture of Colonel Evans, we have told something of its history; how that it was a lecture delivered at the War College and other details. We speak of it here for the purpose of directing the attention of everyone to it.

The subject has never been better covered by any writer. All the best knowledge and thought upon this important question has been brought up to date, set forth succinctly and commented upon intelligently.

The article is broader than its title. It treats not only of Infantry fire in battle but other battle fire as well and of a variety of related subjects.

Lieut. Col. R. K. Evans, General Staff, U. S. A., who has been the Executive Officer of the National Matches for two years and who is to be the Executive Officer for this year, is, or should be, well known to everyone who reads ARMS AND THE MAN. He need not therefore be introduced.

Perhaps we shall not go far wrong if we say that an opinion from him upon a military subject is worthy of serious consideration always and that this is especially true when the subject itself is one of a practical nature. We beg our readers to be not afraid to commence "Infantry Fire in Battle" because it seems so long, and we promise that if they do begin it they will find it interesting enough to hold them to the end.

APPROPRIATIONS NOT TOO LARGE.

Every thoughtful citizen who studies the appropriations made by his government for military purpose must be impressed by their immensity. With the United States the sums are constantly increasing but we never have spent nor are we spending anywhere near as much on this account as other countries. In computations to determine what our military expenditures really are, it is the custom of some gentlemen in Congress, as well as many outside, to include in the sum total the immense amount which we annually expend for pensions. The last Congress appropriated almost \$161,000,000 for pensions. It is neither right, nor fair, to charge this to military expenses. If we had had a proper military policy in 1861 and if we had been in possession at that time of a suitable Army, the pension list today would be so small that it would not be worth noticing, so that instead of adding the pension list to our military expenses we should, if we did the right thing—the proper and equitable thing—subtract it from our military expenditures.

Even so, with an appropriation of \$101,000,000 for the Army and \$137,000,000 for the Navy, the appropriations compared with those of many other countries are comparatively small. England spends more for her Army and considerably more for her Army and Navy than we, and yet England has 42,000,000 people to our 90,000,000, and she is not so rich as we.

As was so sensibly pointed out in the Hobson address before Congress, which we published in ARMS AND THE MAN, war comes not because nations are armed, but because they are not armed, or are insufficiently armed. Given a situation where the enlightened and peace-loving nations hold the balance of power because they are fit to fight, peace can always be preserved, but without power the purpose for peace is of no

avail. The illustration which Hobson uses of the difference between the treatment which we accord the Japanese and the Chinese is most enlightening. He points out the fact, which is a fact, that we exclude the Chinese as we choose and allow them to howl as they may, but with the Japanese we are so sensitive upon the point of keeping on friendly terms with them that we actually allow our President to interfere in the affairs of a state, contrary to the fundamental principles which underlie our form of Government.

Why do we find it easy to keep out the Chinese and rather hard to do what we wish about the Japanese? Because China is unprepared and Japan is prepared. If there is any difference in the amount of favor which we should show to either race on account of their virtues or the reverse, we should favor the Chinese over the Japanese, and not as now put the second named in the preferred class.

Any individual who shoots and does not show a pride in the performances of his favorite firearm equal to that exhibited by the fond father concerning the cute sayings of his first born boy had better abandon shooting and take up crochet work.

WORDS WHICH PLEASE.

ANYONE who gets letters must have some which please and others with a contrary effect. Here are a few which came in today's mail that belong to the first class. They pleased us and to you, our friends, they will also be pleasing:

"Find enclosed money order for \$3, subscription for the ensuing year. When the subscription price was raised to \$3 I thought I could get along without your paper, but I cannot. Anyway, I thought I should do this much as an expression of my appreciation of the work you are doing in the interests of the National Guard."

"I enclose herewith \$3, by postoffice money order, for one year's subscription to ARMS AND THE MAN. I most heartily indorse your policies and I greatly appreciate your paper.

Wishing your great success, I am,"

"I hand you with this letter \$6, to pay subscription to ARMS AND THE MAN two years in advance. I do not know whether you are commercially successful in the publication of your paper or not, but I do know that you ought to be. There never has been a paper published in the United States which was so calculated to do real good for the country as ARMS AND THE MAN. As a man interested in shooting I feel that I could not get along without it."

THE SIGNAL CORPS IN WAR.

BY MAJOR C. MCK. SALTZMAN.

(Continued from last week.)

TO provide efficient lines of information for these 150,000 Regular troops in war, the Signal Corps of the Army must have organized, drilled and ready to take the field, fifteen battalions of signal troops, each consisting of two companies. Twelve of these battalions must consist of field companies and will be assigned to divisions, while the remaining three battalions will each consist of one wireless and one aeronautical company for assignment to army headquarters.

During peace times, the companies of these battalions may be maintained at an enlisted strength of about 100 men, but in war or at the discretion of the President, the strength of companies should be increased to 150.

The 300,000 troops of the Organized Militia will require exactly double this number of signal troops, that is, thirty battalions of two companies, each of which twenty-four battalions will be composed of field companies for assignment to divisions and six battalions each composed of one wireless and one aeronautical company for assignment to army headquarters.

The Militia act of 1908 specifies that by January 21, 1910, the units of the Organized Militia shall be organized and equipped as are the same units of the Regular Army.

Statistics show that there are today twenty-five states and territories of the Union that have no Militia signal organizations, while those existing in the remaining states and territories comprise thirty organizations aggregating but seventy-six officers and 1,035 enlisted men.

Statistics further show that scarcely two of these thirty bodies of signal troops have similar organization, strength or equipment. The reason for this lack of uniformity can be found in an article which appeared in the January number of the National Guard, a magazine which contained the following statement:

"The signal companies of the Organized Militia of the country vary in

size and equipment due largely to the fact that the Regular Army has not today Regular signal troops for field service with a prescribed organization. The technical work of the Signal Corps cannot be learned in a day. The signal companies of the National Guard contain hundreds of technical men capable of rendering valuable service in war, but full efficiency cannot be obtained if these companies are not organized and equipped in conformity to standards which should be raised by the Regular Army."

For a number of years almost the entire personnel of the Regular Signal Corps of our Army which is available for duty, has been engaged in telegraph or cable work in Alaska, Cuba and the Philippines, or in the installation of fire control material in connection with our sea coast defenses. These duties devolve upon the Signal Corps by law and left practically none of its force available for its most important duty, that of serving the mobile Army. The Signal Corps exists by law as a Corps and has no statutory company formation.

However, by dint of reducing the working forces at various points, not without considerable hardship to the personnel, and by removing every possible detached man from posts in the United States, the Signal Corps has recently assembled a few men into small field companies for the purpose of forming models upon which to build up additional companies when men are available and to establish standards for the Organized Militia. The details of this field work have been worked out, special wire and instruments have been designed, special wire carts have been devised and built, and the requisite number of field wireless and aeronautical companies can be produced whenever the necessary officers and men are provided.

To meet these demands, the War Department last year asked Congress to provide the necessary men and to authorize a statutory organization into prescribed units.

Realizing the dependence which must be placed on the Organized Militia for signal troops in war, the Signal Corps has recently initiated steps through the Division of Militia Affairs for the purpose of stimulating interest in the use of tactical lines of information and the development of uniform field companies in the Organized Militia. This interest is being developed and only during this current month requisitions have been received from two states, Pennsylvania and Missouri, for wire carts, wire, buzzers, and the other equipment of a field company. The Signal Companies of our Organized Militia contain many men of unusual technical ability and professional attainments. There is no doubt in the world but that after the Regular Army and several states of the Organized Militia have placed on exhibition uniformly organized field companies, the intense interest which is always developed in all who have engaged in this class of work will insure the formation of other organizations.

The growing interest in aerial navigation and the formation of aero clubs throughout our country in the next five years will be remarkable. Just so soon as the Regular Signal Corps can obtain sufficient men to form one of two aeronautical companies to serve as models, these aero clubs will seek a similar organization in the Organized Militia of the various states. It is believed that the Organized Militia can produce the necessary field and aeronautical companies. The main burden of providing wireless companies will probably fall upon the Regular Army.

The plan for providing signal troops for an Army in our next war against a first class power may be briefly summed up as follows:

The Signal Corps of the Regular Army must provide fifteen battalions of organized trained signal troops to provide tactical lines for the Regular Army. The Organized Militia must produce twice that number of organized trained signal troops for use in providing tactical lines. These signal troops require special military drill and team work in addition to technical qualifications and must be organized before the outbreak of war.

The "base" signal companies which are to construct, maintain and operate our camp telephone systems and our strategical lines, and which do not require special drill for military team work, will come from the reserve Militia, better known as the volunteers.

In connection with the brief outline of the plan for supplying signal troops for war, it might not be amiss here to mention their use; maneuvers which are, when properly conducted, the great training school for war.

The first field company of the Signal Corps was organized at Fort Leavenworth in connection with the Army Signal School, and it was in the field exercises and small maneuvers of the Service Schools at that post that the details of the work of field companies were worked out in 1906, 1907 and 1908.

Probably the best and most scientific use ever made of signal troops in our maneuvers was made in the Iowa maneuvers in 1907, when one small company from Fort Leavenworth was used to serve two brigades composed of all arms of the service, Militia and Regulars. At these maneuvers the central station system of umpiring was used through the agency of the Signal Corps field lines laid as the action progressed. In these maneuvers the signal company was limited to less than fifty men because the Signal Corps had no more men in the United States to spare and this small body had to be subdivided into two smaller companies in order to serve both sides. The duty of installing and operating these field lines for small commands is as difficult and requires as much personnel as when the distances are greater and the commands larger. In fact, the greater the

distances, the greater the saving of time when field lines are used. In fact, a larger percentage of signal troops is required for maneuvers than in actual war because of the tendency of commanders and umpires to send many long telegrams all marked urgent on very unimportant subjects. Notwithstanding the disparity of numbers, the chief umpire in his official report stated: "* * * these lines were used in transmitting intelligence to and from the chief umpire. In this manner, the chief umpire is really able to discharge the important duties pertaining to his office which, under the old system, he was unable to do. We all remember how the chief umpire used to charge around the field on horseback or in an automobile followed by his flag, and looked to be a very important personage though he really exercised about as much control over the development of the maneuver as a weather vane over the wind in a hurricane. This one feature of umpiring serves to call attention to the growing importance of signal troops. Officers have scarcely begun to realize the methods of handling troops in the field have changed, due to the new agency. Under old conditions, battles of any magnitude once begun, were fought out by individual impulses here and there, the will of the commander exercising no great influence on the result. Now his orders can be quickly transmitted to all parts of his command and the whole made responsive to his single will."

In his report of the Fort Riley maneuvers of last summer, the chief umpire reported: "The work of the Signal Corps on both sides was of a high order, and, in fact, it may be said that the arrival of this company has made a marked improvement in carrying out the prescribed maneuvers."

In closing, I wish to reiterate that the control of troops on the future battlefield will depend largely upon field lines of information. In the preparation which our country must make for that war, great responsibilities fall to the officers of our organized militia.

Our Regular Army is small and the great burden of that war will fall upon you. Should our country engage in war in the near future, it is safe to say that there are officers in this audience who would be commanding brigades, division, and perhaps larger units.

This subject of field lines is therefore important to you, and I wish to repeat once more a statement which the next war will prove—that with the extended battle line of the future, the problem which will be of the greatest concern to the supreme commander on the field, will not be one of transportation, subsistence, nor the supply of ammunition. It will be that of keeping in constant communication with the larger units of that long fighting line. The day of the mounted orderly is past and one of the most important enlisted men in the fifty mile battle line of the future, will be the man behind the buzzer.

INFANTRY FIRE IN BATTLE.

(Continued from page 74.)

flies 390 feet high and gives a danger space of only 3 yards. Hence the proper range is still a very important factor in accurate shooting.

No satisfactory range-finder in the way of an instrument to be carried on the field or in battle has yet been devised for the Infantry. Most of them require a considerable base line and several men to operate them. Sometimes Infantry can get ranges from the Artillery, but as Infantry is generally changing its position and meeting bodies of the enemy in motion these ranges are of little value.

The Infantry is forced to place their main reliance on estimation of ranges by the eye. Estimation is a rather dignified and misleading term in this connection; guessing distance is a more accurate expression.

The average errors of trained men in peace, unexcited and not under fire, have been found to be: At 300 yards, $\frac{1}{10}$; at 600 yards, $\frac{1}{5}$; at 1,200 yards, $\frac{1}{2}$.

These are not very hopeful figures, but they are the best we can do. Every Infantry company should be carefully trained and practiced in guessing distances. This is mainly a gift, but one which can be greatly improved by attention and practice. The captain should distinguish in every proper way the most expert men in the company in guessing distances. The Germans have five or six of the best men in a company guess the distance, and then take a mean of the guesses.

After all, the exact distance in yards is not really what we want. We want to know where to set the rear sight in order to hit the target. The number of yards is merely a suggestion, and the principal factor in the problem. We have yet to settle with wind, temperature, moisture and light. Our rifle is sighted for firing on the horizontal with a definite thermometer and barometer reading and no wind. As soon as any of these conditions are disturbed the sighting is wrong and must be corrected.

A gun is the best possible range finder, for when the projectile strikes it has fully and practically solved the problem of rear-sight adjustment with all its varying conditions considered. To use a gun as a range finder we must be able to see where the projectile strikes. With our small, light rifle bullets this is generally impossible. But if we have a gun throwing a projectile large enough to carry a bursting charge and a smoke-producing compound and which is sighted so as to give the same results with the

same elevations as the Infantry rifle, then we have the best possible range finder for Infantry.

When we consider the great importance of knowing the range, and reflect that an Infantry regiment will probably take more than 1,500 rifles into battle, it would seem that it will be a paying investment to spend a few hundred dollars for a light gun and a few pack mules in order to give our Infantry the best possible range finder. Conditions are constantly occurring in war in which to know the range is an immense saving of life and ammunition.

Our Ordnance Department has already made a light seven pounder gun, which with some modifications might suit this purpose. A lighter gun of smaller caliber would answer the purpose, so long as it throws a projectile the strike of which is plainly visible at the firing point.

AT WHAT RANGE SHALL INFANTRY OPEN FIRE?

Infantry should open fire whenever it has a paying target and can afford the ammunition. Both these conditions are indeterminate and must be left to the discretion of the officer locally directing the fire. Still all Infantry officers should have clear and well defined ideas and principles on this important point. Our Drill Regulations should give well digested, general instructions on this subject, which at present they do not.

The following principles are believed to be sound and generally applicable.

In the attack, Infantry should defer the moment of opening fire as long as possible. If they can hold their fire up to 600 yards of the enemy's trench they will begin the fire fight with great advantages on their side. They can then set the sights at the battle range of 530 yards, thus avoiding a fruitful cause of bad shooting due to too high elevations. They will have in their belts the ammunition they would have expended at longer ranges. If Infantry can be supported in anything like the manner shown in Figure 1, they should be able to advance to within 600 yards, or even nearer, to the enemy's trench without firing. When fire is opened at the longer ranges it is generally a waste of ammunition, the men get out of hand and beyond the control of their officers sooner, it shows nervousness, poor discipline and bad judgment, and correspondingly encourages the enemy by the exhibition of such qualities.

The great range of the modern rifle is a by-product in the struggle for a flat trajectory, and is a positively objectionable feature if the timid and nervous are to be allowed to try to shoot up their courage by opening fire at ranges where they do the enemy no damage in proportion to the waste of invaluable ammunition.

Every practicable encouragement and reward should be given troops to advance as near the enemy as possible without opening fire. This is certainly a severe test of both discipline and courage, and should be properly recognized.

Our Drill Regulations, paragraph 237, teach that fire should be opened at 1,000 yards with apparent disregard as to whether the enemy has opened fire or not, or whether visible or not. This is astonishing advice for an authoritative service manual to offer and might be followed by those coming into battle for the first time if not counteracted by sane council. The situation is simply this: It is a principle of human nature about as universal of application as gravity in physics, that a blow calls a blow and a shot directed at a man with a gun in his hand will be answered by a return bullet. You are advancing in the open on a man lying down in a trench, who has cover, protection, a rest to shoot from and presumably plenty of ammunition. He has every advantage over you in the coming duel. It would seem to be to your advantage to come as near as possible before the first shot is fired. The nearer you can get, the less serious is the question of unknown ranges and sights, and the more ammunition you will have for close quarters when you are more nearly on an equality with him. Nevertheless, when you have arrived at the fateful distance of 1,000 yards, you fire a shot at him. You stir up the hornets' nest, with all the advantage on the side of the hornets—not that there is any sense or reason whatsoever in this procedure, but just because the Drill Regulations so ordain.

On the defense, the question is quite different. Fire should be opened on the attacking troops whenever they present a paying target. This will be largely a question of the terrain over which the attack is made. Generally the defense should not delay opening fire after the attack has reached the 1,000 yard range.

WITH WHAT KIND OF FIRE SHALL THE ATTACK OPEN THE FIGHT?

This is an important question, which is fully answered by the Drill Regulations. Again in paragraph 237 we find the following instruction under Normal Attack:

"At 1,200 yards he (the captain) deploys the squads of skirmishers. He makes the first halt at 1,000 yards and then every 50 yards until arriving at 200 yards.

* * * * *

"At the first four halts one squad in each platoon fires one round; during the next four, two squads in each platoon fire two rounds; during

the next four, one platoon fires at will; during the next four, the entire company fires at will. At the 200 yard halt rapid fire is delivered as in School of the Squad."

These criticisms are not a gratuitous harrying of the Infantry Drill Regulations, but are most pertinent to the subject of this lecture. The questions of fire and tactics are now so intimately connected as to be one and inseparable. It is impossible to have good fire in battle if we teach erroneous and pernicious tactics.

The most conspicuous and important lesson to be drawn from the study of battles since the adoption of the magazine rifle, is that the only hope for success for the attack lies in his obtaining the preponderance of fire over the defense as soon as possible and maintaining it up to the moment of the bayonet fight if the defense remains in his trench so long.

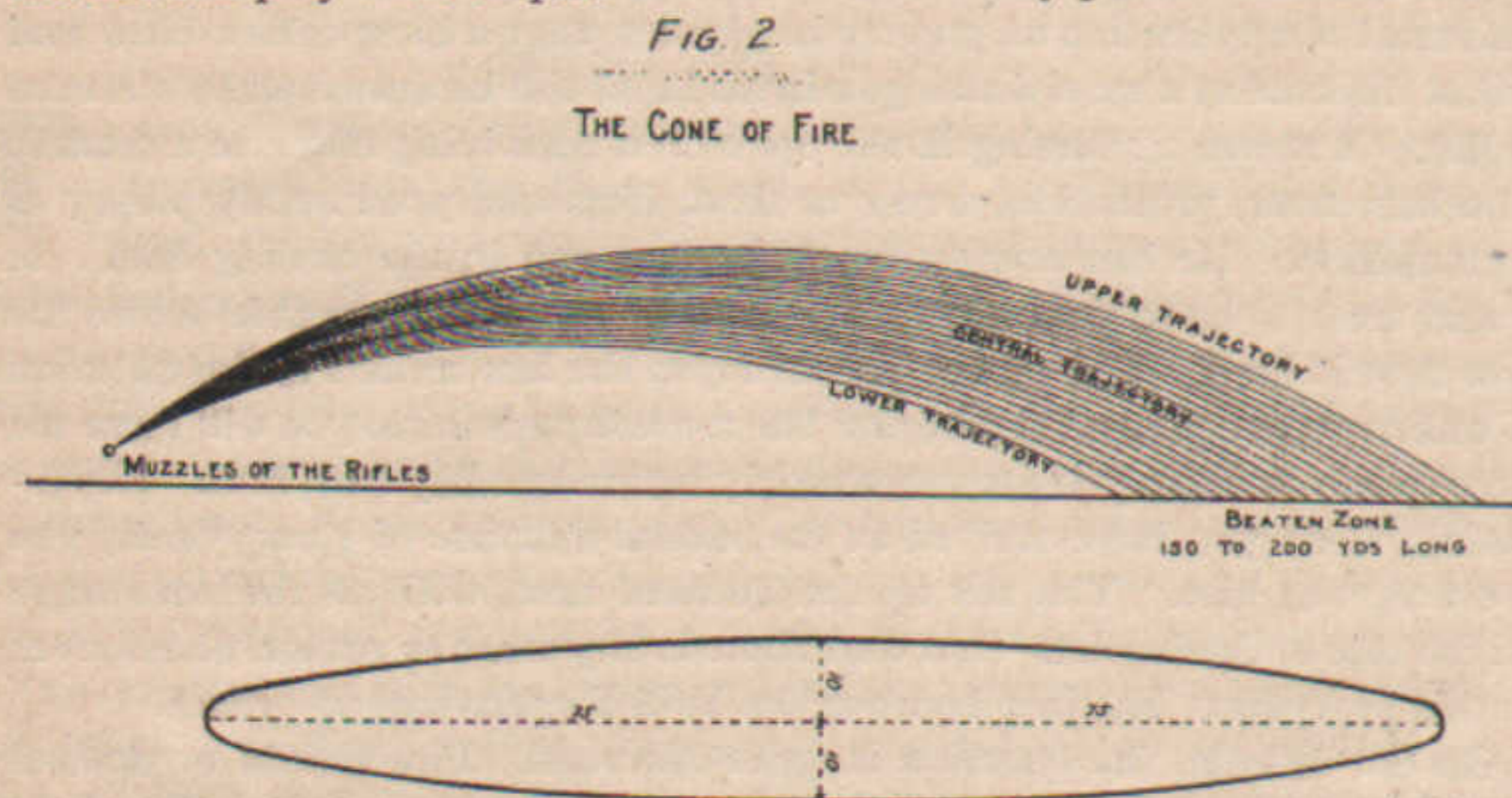
In absolute violation of and in opposition to this principle, our regulations teach us to open the fire with $\frac{1}{4}$ of our force—"One squad in each platoon fires one round at 1,000 yards." Just enough to stir up the hornets' nest with no prospect of doing any serious harm. Instead of using every means in our power to obtain the Preponderance of Fire from the very start, to smother the fire of the enemy's trench as much and as soon as possible, in the successful accomplishment of which lies the only hope not only of success but even of existence for the attack, we content ourselves with opening up a gentle drivel of fire, just enough to attract his attention and call upon our heads his return fire, which will probably come in the shape of concentrated, controlled fire delivered from cover and with a rest.

Again, our regulations apparently contemplate the existence of a "Last firing place" at 200 yards from the enemy's trench, a point at which the last cartridge is fired and after which the attack proceeds to the bayonet encounter without firing. This was a favorite hallucination with the generation of theorists and military composition vendors who had their day before the invention of the magazine rifle. It is now generally accepted that the attack cannot afford to cease its fire on the enemy's trench for one moment until he can be reached with the bayonet without risking destruction.

Therefore we should teach that Infantry should open the fight with a fire sufficiently heavy to smother that of the enemy and should maintain it up to the moment of the bayonet encounter.

THE CONE OF FIRE AND BEATEN ZONES AND AREAS.

Every soldier should be carefully instructed in the theory of the cone of fire and beaten zones and areas. It is through the application of this theory that officers and noncommissioned officers by using concentrated, collective, controlled fire have it in their power to render certain areas either dangerous or impossible of occupation to the enemy. Figure 2 shows a cone of fire with its beaten zone. In theory the officer directing the fire can play his bullets on any desired area as a fireman throws a stream of water from a hose. The central trajectory represents the good shots, the upper and lower the worst ones in a vertical plane. The cone will strike the ground in the shape of an ellipse, which roughly, for practical purposes, may be assumed to be from 150 to 200 yards long, and twice as many yards broad, as there are hundreds of yards in the range. The officers directing the fire can play their ellipses of destruction on any part of the field within



rifle range. This figure shows that second and third rate shots have their uses on the battlefield at long ranges. If all the men in a squad or platoon were perfect marksmen, we would have no beaten zones, as all the bullets would strike the same spot. In fact the Germans seem to fear that their men will shoot too closely at the longer ranges—for they prescribe that two sights will be used whenever the range is greater than 1,000 yards.

The soldier should be taught that the effect of concentrated, controlled fire is immeasurably greater than that of uncontrolled, individual fire, so that he will always try to combine his fire with that of his comrades, even after his squad or platoon has been broken up in the advance.

THE FIRE FIGHT.

The discussion of the fire fight naturally divides itself into three heads—Execution, Control and Direction.

Execution covers the manner in which the men deliver their fire. This

is taught on the target range at bullseye and field firing targets. If the execution is poor, the results in battle will be correspondingly ineffective.

Fire control is the work of the lieutenants and noncommissioned officers. It consists in transmitting to the men the instructions and orders of the fire directors, and in seeing that they are implicitly obeyed, and especially in seeing that the ammunition is not wasted and that the proper sight is always used in firing on the designated target. On the thoroughness and efficiency with which they perform this important duty will depend whether we have controlled, concentrated fire or mob fire in battle.

Fire-direction is generally the duty of company commanders. They receive instructions from the next higher commander as to the direction and character of the fight, and the part their companies are to take in it. The regulations of other countries give great latitude to company commanders in carrying out these instructions. In this respect, the French are in advance, as they positively forbid any detailed orders to be given captains as to the manner in which they will carry out their instructions.

The duties of fire directors cover:

Allot to each platoon a certain portion of the enemy's position at which to fire, so as to distribute the fire of the company over the whole target.

Ascertain the ranges.

Decide when to open fire.

Control the tactical movements of his company.

Watch the movements of the enemy.

Watch the effect of his company's fire.

See that the ammunition sent forward by the battalion commander is properly distributed.

This is team work. Like all other team work it is necessary to success to get the team together, and have as much practice as possible before the game is called. In war, it has been our custom to call the game and then begin to look up the team.

Our regulations are silent on the important questions of who is responsible for fire control and fire direction, and who will decide the moment for opening fire and what kind of fire to use.

The ideal fire for battle is collective, concentrated, controlled fire, absolutely under the will of the commander. If we have not this, then we have the soldier battle from the start, and have abdicated all the advantages of organization and cooperation so far as fire action is concerned.

Other nations teach the principles of the fire fight on field ranges, frequently combining the fire of large bodies of Infantry with that of Field Artillery in support. With us, this is still a speculative, theoretical question of the future, and must remain so until we are provided with possible field ranges and proper regulations for field firing.

Just here it is important to note the striking differences that exist between Infantry and Artillery fire in regard to the governing features that determine efficiency in battle, namely, Accuracy, Control, and Direction.

Let us discuss the fire of a division.

Its Artillery consists of 1 brigade, 2 regiments, 4 battalions, 12 batteries, 48 guns. The accuracy of the fire is dependent on the gunners, No. 1 who handles the quadrant, and No. 3 who sets the fuse—in all 144 men. The control is in the hands of the 12 battery commanders. The direction, in the extreme case, might be attended to by the general commanding the two regiments. This is perfectly practicable with the complete system of telephones which will connect up the entire Artillery system of the division. Hence, to deliver the fire of the Artillery of a division in battle there are only 155 individuals whose duties require much special training or technical knowledge.

In regard to the Infantry, assuming that the division brings 12,000 rifles into action, for the all-important feature of accuracy of fire we are dependent on the individual work of 12,000 Infantrymen. For control we must look to the 1,500 squad leaders and the 500 section leaders, and for direction to the 225 platoon chiefs and the 112 company commanders. Hence, to insure a superior Infantry fire, which is the only hope for victory, we must get superior work from every individual in the fight, from privates—first and most important of all—up through the captains commanding companies.

In view of these conditions of modern battle, can any sane and sober man say that good Infantry can be made in a shorter time and with less excellent material than correspondingly good Artillery?

WHAT ARE THE NEIGHBORS DOING?

This is always an important question for the next war—hence Military Information Divisions in the capitals of all great nations.

More than twenty years ago it occurred to several of the leading military nations of Europe that it was practicable to give to their Infantry, in peace, a course of instruction and training in battle fire under Service conditions, greatly in advance of the musketry instruction then imparted on ordinary ranges with figure targets at known, measured distances. Since then each has been steadily engaged in developing the best methods of using Infantry fire and of supporting it by artillery. This development has been attained by systematic, progressive courses of instruction and practice in field firing, and by exhaustive experiments in musketry schools.

The limits of this lecture will only admit of a brief mention of what has been accomplished in this line by a few of the most important armies.

England.—Lord Roberts is the leader in the movement in favor of Field Fire in the British Army. In 1886 he issued his first instructions on this subject, and in 1888 the system was well under way in the Indian Army. General Sir Ian Hamilton was Inspector of Musketry of the Indian Army, under Lord Roberts. His reports on field firing for 1891 and 1892 are both interesting and instructive. Since this, practice in field firing has been considered the most important part of the practical instruction of the British infantry. They have ranges in India where they fire brigades with Artillery in support, and ranges in England where regiments can fire at one time.

Germany.—The German Army has long practiced *Gelande Schessen* (Terrain Firing) and consider it the most important part of their Infantry training. This kind of fire is taught at the Infantry Shooting School at Spandau, and practiced on their great ranges, called *Truppenübungsplatz* (Troop-exercise places). They have seventeen of these ranges. It is the intention to eventually have one for each army corps. At present they are several short of that number. In theory, both dimensions of these ranges should be greater than the extreme range of the rifle. There are two of them in the immediate vicinity of Berlin, one at Dobritz for the Guard Corps, whose dimensions are 4.3 miles—16 square miles; the other at Juterbog for the Third Corps, 5.5 by 2.5—11 square miles. This is also a Field Artillery range.

Each of these ranges has a commanding officer with the necessary staff and permanent party to care for the property and handle the targets. They can represent a considerable force of the three arms with moving and disappearing silhouettes. There are sufficient barracks to accommodate the number of troops usually expected on the range; if more come they have to bivouac.

Since 1883, the German Government has spent more than 30,000,000 dollars in purchasing ground in and in equipping these ranges.

The most important inspection in the German Army is what is called *Proof Shooting*. Every Infantry company is inspected once a year in this kind of shooting in the presence of the division commander. This inspection is really a field exercise with ball cartridges against an enemy represented by moving and disappearing silhouettes. The two companies making the best records in this inspection are rewarded by giving the captain the Order of the Red Eagle with Crown, and every officer and man wears a silver laurel wreath on his sleeve for one year.

France.—France is neck and neck with Germany in the fierce struggle for the attainment of superior Infantry fire in battle. It is an interesting fact that both nations have the same number of field ranges, viz., seventeen, where Infantry and Artillery are practiced together in field firing. France intends eventually to have a range for each army corps. In addition to those at home, she also has one in Algeria. The French theory as to size is that ranges for Artillery should be from 6 to 7 miles long.

The greatest field range of which we have any record is at Chalons. On this range a brigade of Artillery—two regiments—over 100 guns, can fire at once. It is also an Infantry range and is the site of the Normal School of Fire, the great French School of Musketry.

Japan.—The Japanese firing regulations are similar to the German, and include a thorough system of field firing. They have ranges, number unknown, on which their Infantry and Artillery practice together at silhouette targets.

SCHOOLS OF MUSKETRY.

All nations who regard the practical training of their Infantry for battle at all as a serious matter, maintain schools of musketry.

The English have two, one at home and one in India.

The Germans have their Infantry Shooting School at Spandau. At this school is maintained the only war strength company in peace in the Army—250 men. In 1895 our military attaché was permitted to inspect this institution. This permission was regarded as an unusual concession and was the first time that a military attaché has been admitted to it.

The most important function of schools of musketry is to develop the theory and practice as far as possible of just how Infantry fire will be used in battle. The course in instruction at this school covers a period of six weeks. Each class contains one or more officers from every regiment. The rank of the officers is from lieutenant-colonel to lieutenant.

The French have the most extensive institution of this character at the great camp at Chalons, under the name of "The Normal School of Fire." In order to form a clear idea of the scope and objects of this institution, the following extract from a report of our military attaché in Paris is given;

"The object of the school is:

1. To form a body of technical specialists for the school itself, for the military schools of Saint Cyr and Saint Maixent, and for the technical section of Infantry at the ministry of war.

2. To form for each Infantry regiment a number of target practice instructors (*capitaines de tir*) having a thorough knowledge of everything concerning target practice and small arms.

3. To determine upon models of arms and ammunitions intended for the Infantry; to test all modifications proposed; to seek modifications or improvements by research and experiment; to examine all matters submitted to it by the minister of war concerning the rifle, ammunition, or target practice; to experiment with, and test all rifles used in foreign Services.

4. To test all rifles coming from the government factories (tri-monthly) and all ammunition being issued (monthly).

5. To lay down the rules for Infantry fire; to indicate modifications of the drill book made necessary by changes in the arm or ammunition; to propose means for keeping the army informed of all foreign progress in rifles or target practice.

The instructors of the school consist of 15 Infantry officers; there is a polygon or range reserved solely for the use of the school, a complete workshop of arms and ammunition, 78 enlisted men and 7 civilian employees.

The students are all captains of Infantry who have been recommended by their superiors; each regiment or battalion of chasseurs sends an officer every other year to follow either course No. 1 or No. 2; this makes the number of student officers in all about 140."

From these examples, it is evident that a properly organized school of musketry plays an important part in both the theoretical and practical development of the infantry battle-fire of an army.

So far in our history we have never had a national or army school of musketry. In April, 1907, the Commanding General, Pacific Division, instituted a School of Musketry at Monterey, California. The object of this school is shown in the following extract from the order pursuant to which it was established:

"The fundamental purpose of the school is to give selected officers and enlisted men a higher degree of practical and theoretical instruction in the use of small arms than is practicable to obtain at posts, with a view to making them better instructors and thereby increasing the fire efficiency of the organizations to which they belong. In the evolution of the school the scope of the work may take a wider range and include all subjects connected with small arms, ammunition and tactics. Experiments in such matters as refer to the development of all material pertaining to small arms firing, and the proper course of instruction in the same, may be, in the discretion of the proper authority, referred to the school for investigation and report."

Though this school is as yet only a Department of California Institution, it has already done important and excellent work, especially so when we consider the brief period of its existence and the meager means which it has commanded.

It has submitted a new Small Arms Firing Regulations, said to contain a complete system of instruction for field firing. It has also experimented with and recommended an organization for machine gun companies, besides other important work.

The organization of this school is the most hopeful sign of a practical awakening that we have given in years.

Finally, to sum up our works of omission, we have no accepted theories, instructions or regulations on the subject of concentrated, combined, controlled fire; when, how and by whom it is to be used in battle. We have no system of instruction or practice in field firing. Even if we had the system, we have no ranges on which we could apply and practice it, and we have no national or army school of musketry.

We ought to look at facts squarely in the face. "Know thyself" was the Greek estimation of the summit of wisdom. It is wrong to deceive others; to deceive ourselves concerning matters of vital importance is both stupid and criminal. Here we are—we are prepared to, and probably can shoot the best match in the world, in school or parlor shooting at bullseye targets and known distances, but in everything that concerns the practical instruction and training of our Infantry for shooting under Service (battle) conditions, we have been asleep on the trail of military progress for twenty years, while our neighbors have been as busy as hunting dogs on the first day of the open season.

In the early part of this lecture the promise was made that this should not be exclusively a fault-finding essay, without suggesting some practical remedies. To this end the following recommendations are proposed:

1. That we acquire the necessary land and equip at least six field ranges, viz., three on the Atlantic, two on the Pacific, and one in the Middle West.

The Government already has several military reservations of sufficient extent to accommodate field ranges—Assinniboine, Riley and Sill. In purchasing land for these ranges the question of density of population should be considered so as to permit a great number of the Organized Militia to use them. They should be at least 13,000 acres in extent, 4 by 5 miles—20 square miles—so as to allow Artillery to maneuver while having its target practice.

One of these ranges should be established in the vicinity of Washington especially equipped to accommodate the National Match. In addition, it should be a first class, up-to-date field range in every respect.

In the matter of practicable target ranges and maneuver grounds, we are

the most conspicuously deficient nation in the world. Of late years there has been great difficulty in acquiring sites for ranges. It is believed that the subject might be approached in a more practical way. Generally the news is bruited abroad that the Government wants a range in a certain locality. Then a number of hopeful sharks come forward with the offer of impossible sites at prohibitive prices and thus the proposition is strangled. It would seem to be perfectly practicable for the Government to buy land as it does fuel, forage, clothing, and other supplies, by specifying the extent, character, and general location of the land desired, inviting proposals, and purchasing from the lowest bidder.

This method will have two strong points in its favor. First, it will bring all available sites in competition with each other. Second, it might unite in temporary partnership and cooperation all parties interested in the purchase.

Let us take, for example, the purchase of the proposed range in the vicinity of Washington. The same principles apply equally in all parts of the country. The Government invites proposals for 15,000 acres of land situated within 50 miles of Washington, describing in the specifications the character of site, viz., salubrious locality, pure water, sandy or gravelly soil, diversified terrain, accessibility, etc. The Government binds itself to nothing so far; it only invites offers, reserving the right to reject any and all bids. How would this transaction probably work out?

First. Individuals and firms having available sites would offer them, and, knowing that they were in competition with others, they would offer them at approximately reasonable figures.

Second. What parties interested in the purchase can be brought together in cooperation, and how? One, the Government is interested in the purchase because it is its manifest and bounden duty to furnish ranges and maneuver grounds for the Army and the National Guard; two, any state within whose borders the range might be located would have a decided interest in the transaction as it will be available for its Militia at small or no cost for transportation. Also state pride and interest might have an appreciable influence. Three, the railroads will have a great pecuniary interest in the matter, which they will promptly recognize and act upon, if properly approached.

Finally, several sites in several states and on several railroads are offered the Government. Each state is then asked to bid a percentage of the cost of the range as a consideration for establishing it in its territory, and each railroad is asked for a similar bid in consideration for locating it on its line. A consideration of this range purchase proposition is especially invited. It is believed to be practicable, and sound from the standpoint of business, morals and politics. It is simply a suggestion to bring together the interested parties and let them cooperate in proportion to their interests involved and as voluntarily assessed by themselves.

The contribution of a part of the cost of the site by railroads and states is a secondary consideration—the most important and practical feature of the suggestion is the fact that it insures the active interest and cooperation of a number of speaking, talking, voting citizens, so that Congress will hear and act more quickly than if the proposition came to them as a disembodied abstraction on the vague and general subject of national defense.

The question of these combined field ranges and maneuver grounds is a most important one. If we ever advance so far as to organize divisions in peace, each division should have such a range as its initial assembly point, and as the location of its depots of supplies of all kinds, and also where its reserves and recruits could be assembled, equipped and drilled before being forwarded to it in the field. Both Germany and France have each seventeen such ranges; the territory of neither of these countries is as large as that of our one state of Texas.

If we select and establish such ranges in peace, we will have time to thoroughly consider the vital questions of camp sanitation and may avoid the useless waste of life and cruel experiences which characterized the concentration of large bodies of raw troops at such places as Chickamauga and Camp Alger.

2. That we establish a national School of Musketry on the general lines of the French School at Chalons, and that this school be located at Fort Sill, which has the largest and best adapted reservation for the purpose. Also, Fort Sill is the headquarters of a Field Artillery regiment. One of the principal practical objects of the school should be to promote more intimate relations between Infantry and Artillery, especially in field firing.

All the proposed field ranges should be to a certain extent practical schools of musketry, but for the more technical and experimental features of the work we would require but one national or general school, complete in all branches.

3. That we give the classifications of Expert Rifleman and Sharpshooter, carrying extra pay of five and three dollars per month, respectively, only for excellence in field firing.

4. That the new Small Arms Firing Regulations prepared by a board of officers at the School of Musketry at Monterey, and which contain a complete scheme for field firing, be approved and issued to the Army as soon as possible. The approval of these regulations will of itself stimulate the creation of field ranges by calling attention officially to their universal deficiency in our country.

5. That the paragraphs of the Infantry Drill Regulations which teach a so-called Normal Attack be revoked by orders, and that in their stead a chapter be substituted teaching the principles of, and giving general instructions for combat in accordance with the most conspicuous and indisputable experiences of modern war. The publication in a Service manual of such erroneous, misleading, and false theories and principles of combat is discreditable to us as an intelligent, progressive people, recognizing and appreciating the seriousness of war.

At present we present the anomaly of having the newest and best Infantry rifle while teaching its use in battle by the most antiquated and obsolete drill regulations. The experiences of wars whose histories have been written since the approval of these regulations, make these changes imperative.

When these recommendations are carried out, then and not before, will we have the means at our disposal to begin the instruction and training of our Infantry in battle fire under approximately Service conditions. The armies of our neighbors have been provided with these indispensable appliances in developing Infantry fire and have been diligently profiting by them for years.

We have now given some consideration to the question of Infantry fire in battle. Let us not forget that superior Infantry fire is not spontaneous or automatic; it does not shoot itself. To warrant reasonable prospect for victory it must be delivered on the firing line by an Infantry superior to that of the enemy.

The Germans, the most practical, common-sense, business-like makers of war in Europe, who have to their credit 200 years of victories won by their Infantry (with the exception of the brief period in which they collided with the wonder of war, Napoleon at his best), leave no stone unturned to perfect, to exalt and to dignify their Infantry. In the German Army the Infantry is called the "Queen of Battles." It takes precedence at all formations and ceremonies. It comes first in the army register, and every prince of Prussia is formally mustered into the army on his tenth birthday as a lieutenant of Infantry.

The recent war in Manchuria is a striking reiteration of the already established and universally accepted fact, by all who know history and war, that a superior Infantry is the one absolutely indispensable condition for victory. In that war the Japanese had 7,000 poorly mounted Cavalry against 20,000 Russians, and their Artillery was inferior in material and horses to that of their enemy. Yet, due to the superior quality of their Infantry, they were victorious in every battle.

The ordeal laid on Infantry, since the invention of the magazine rifle, is greater than anything ever exacted from soldiers in history of war. It is difficult to imagine a more severe, nerve-racking strain—morally, mentally and physically—for both the individual and the organization, than that which Infantry must endure when it becomes their duty to attack an entrenched position in the open. To make the superior Infantry which can be relied on to do this successfully requires time, money and intelligent work to give them the necessary instruction, training and discipline.

We sometimes hear it said that it requires less time to make an Infantryman than a Cavalryman, or an Artilleryman. This is a dangerous doctrine to preach. We can give a citizen a uniform and a rifle in a few moments, but by this transfer of property he no more becomes an Infantryman who can be relied on to successfully carry out an attack in the open, than did the ass become a real lion by masquerading in the skin of the king of beasts.

This theory that Infantry of any value in battle can be made in a short time has cost us some bitter experiences. On the edge of this District, on August 24, 1814, we had a brigade of short-time-made Infantry who stampeded and ran away from the field of Bladensburg after the British fired two rockets over their heads without hitting a man. As a direct result of this, the Capitol and the White House were captured and burned. To act on the theory of Infantry made in a short time is to invite a repetition of the Bladensburg incident.

Perfect Infantry is out of the question, but we must have a superior Infantry on every field when we sanely expect victory. War is uncertain at best. Therefore we should do everything to insure the greatest number of chances in our favor. We do not know just what quality of Infantry the enemy will put into the field. But we can form an approximate estimate from the consideration of two factors—first, the personal characteristics of the nation in question; second, the amount of money, work and time which this nation has expended on its Infantry. If our Infantry is inferior and can, hence, only deliver an inferior Infantry fire, we are whipped before the first shot is fired.

We may win battles and even wars with second rate Artillery and Cavalry, but if our Infantry is at all inferior, that means certain defeat with all that it involves for the Army and the Nation.

Without superior Infantry, it will avail us nothing, in battle, to have a perfect staff and supply departments and excellent auxiliary troops, for we cannot reasonably expect victory on any field. A decided tactical success, which can only be won by superior Infantry, condones and atones for all strategic errors.

Any proposition which makes subordinate to any other consideration, the numbers, instruction, training and discipline of our Infantry, is giving, in advance, aid and comfort to the next enemy we will meet in battle.

This is no special plea in the interest of the Infantry as a corps or an organization or an institution, but it is a plain, unvarnished statement of a condition of vital importance to the Army in particular and to the nation in general.

It May Not Be All for England.

England has been startled to find out that Germany was rapidly overtaking her in naval construction. A German Naval Expert is quoted as saying that it will take some time to overtake England, but not very long to equal or surpass the United States. There is food for thought in this remark.

He Was "Proning."

It happened during the recent indoor rifle tournament of the Washington schoolboys. The name of a boy had been called by the range officer to fire his score in the standing position. The boy not responding to his name the range officer directed inquiry to one of the competing youngsters who stood near, asking the whereabouts of the boy, and the somewhat startling reply was: He is Proning.

Perhaps it is hardly necessary to say that shooting from the prone position was referred to. Here is a new word for addition to the shooting vocabulary.

HERE AND THERE.

Handicap the Expert Shots.

The Fort Pitt Rifle Club, that excellent civilian rifle club, which has done so much work during the past three years, has recently published an excellent booklet for the use of its members. The book will be valuable also as recruiting literature. We note a rule in it for handicapping in restricted matches which strikes us as of enough possible interest and use to deserve reproduction. It is as follows:

First.—The three highest men in any match this year will be handicapped respectively, three, two and one points in any later restricted match at the same range.

Second.—For each first prize won by any man, he will be handicapped one point in any later restricted match at any other range.

Third.—Winners of last year's open matches, including cup matches, will be handicapped one point on all restricted matches this year.

Good News for Military Colleges.

The Chief of Ordnance has advised one of the military colleges of the country in response to a request for information that twelve model 1903 rifles will be issued to such institutions for the purpose of instruction. The regular issue rifle to military colleges is the model 1898, or Krag. But to give every necessary opportunity of becoming familiar with the exact behavior of the model 1903 upon target ranges the issue of twelve rifles as before mentioned will be made.

A reasonable amount of model 1906 ammunition for these rifles can be obtained by the military colleges after July 1, the beginning of the new fiscal year.

The issue of field guns to schools of this class is limited by law to the three 2-10 inch B. L. rifle.

Inter-Scholastic Indoor Match.

Reports are coming in slowly from the forty-two different schools scattered all over the United States which had teams competing for the Indoor School boy Championship of the United States. The result cannot be announced until next week. It can be said now that the scores are very good.

International Shooting Matches.

The President of the National Rifle Association has received from the State Department a communication which extends an invitation to American rifle and pistol shots to attend the International Shooting Match which will be held at Hamburg in connection with the 16th German Federal Shooting Match, July 4 to 18, this year, the International Rifle Match being held on July 7, 8 and 9 and the International Pistol and Revolver Match on July 10. These events are held under the auspices of the International Shooting Union, of which the National Rifle Association of America is a member. The purpose of the Union is to propagate the ideals of international friendship and peace among the marksmen of all nations.

Death of William Maynard.

A report has been received from Pittsburg of the death there a few days since of William Maynard, an old expert gun man, who began his connection with the business with the well known firm of William Read & Sons, of Boston, afterwards serving with the J. P. Lovell Arms Company of that place. He was at one time, many years ago, an associate editor of *Shooting and Fishing*, the predecessor of ARMS AND THE MAN. Later on he was with the Winchester Repeating Arms Co. and for the past six years with W. S. Brown, of Pittsburg. His many friends in the gun and rifle trade will regret very much to hear of his death which came after an illness of about twelve weeks.

International Indoor Cable Match.

The men who have been shooting on the team of fifty against England and Australia for the International Indoor Championship of 1909, are

so widely separated that their scores have but now all reached the office of the N. R. A. They should be in hand in a day or two after this paper has gone to press, and the next issue of ARMS AND THE MAN will contain a full report of this contest as well as of the schoolboy championship.

A cable from England reports their score as 14,583, while the first rough computation of our scores gives a total of 14,168. This will doubtless be changed a trifle on revision, but there is no doubt that we are beaten and well beaten at that. All scores and a complete account will be given next week.

They Daughter Know Better.

The Daughters of the American Revolution conducted another successful revolution in the City of Washington last week—some called it an annual convention—in the internecine conflict which they waged within the confines of their own society.

However, when the smoke of verbal battle had cleared away, and the dust of the powder had settled approximately back to where it belonged, the Daughters kissed and made up and went home good friends with each other—on the surface. We shall look forward as usual with fond anticipation to the next annual conflict between them. If anything were needed to prove that they are the true daughters of their sanguinary sires, the dreadful strife which rages among them when they come together seems to fulfil all requirements.

New National Rifle Association Director.

Under the change made in the by-laws of the National Rifle Association at its last annual meeting there were added to the number of directors in addition to all of the Adjutants General of the states, three officers of the Army, one of the Navy and one of the Marine Corps. The secretary of the Navy, when requested to do so, designated Lieut. Commander George B. Bradshaw as the Navy member of the board. In view of the subsequent assignment of Commander Bradshaw to sea duty it became necessary for Secretary Meyer to make another detail. He has therefore presented the name of Lieut. Commander Leigh C. Palmer, and thus Commander Palmer becomes the new Navy member of the Board.

Washington Police Ought to Practice.

We reported recently how Major Sylvester had ordered all District policemen armed with a revolver to shoot at a target. They shot, and out of 100 men who participated in practice, only 39 were able to make 12 or better out of a possible 50 at a range of 35 feet. If it were considered necessary to produce proof of the incapacity of the average policemen to properly use a revolver this would seem reasonably sufficient.

The policemen of Washington are rather above the general average in intelligence and general worth. We note with great pleasure that those who do not make the required 12 points are to attend practice for sixty days when, if they continue to fail, they will be reported as inefficient.

We Can Count on England's Aid.

The trouble which lately began to brew in Turkey involved some American citizens by the simple fact that they were in the locality. No American war ships were near to offer protection, but assurances have come through the American Ambassador at London that the British Government will use its ships in Turkish waters—and they are adequate in number and strength—to protect the lives and property of British and Americans alike. This is not the first time that England has shown her willingness to be of service to the United States.

The Society of International Law.

At the annual meeting of this society in Washington, April 22, 23 and 24, a distinguished company of gentlemen was in attendance. The members called upon President Taft on Saturday afternoon and proffered to him the honorary presidency of the Association. He has for some years been vice-president of it. General Horace Porter, Vice-President, spoke for the President of the Society, the Honorable Elihu Root, and after his presentation address Mr. Taft replied in a short but forceful speech. He undertook to say that he hoped the Society of International Law would be able to accomplish some of the purposes for which it was created, and that it might in time be able to formulate and secure the adoption of a code of international laws which could be enforced.

The meeting concluded with a banquet at the New Willard on Saturday evening. Mr. Root presided as toastmaster in his inimitable manner, and Hon. George W. Wickersham, the Attorney General of the United States, Dr. Lyman Abbott, who was facetiously introduced as the man whose partner was in Africa hunting lions, Gen. Horace Porter and others spoke, but not at great length. The addresses of Dr. Abbott and General Porter were particularly striking. In the case of the former the discourse was a beautiful presentation of the pressing necessity for a code of international law which could be enforced either by an international constabulary or by the force of international opinion exercised to excommunicate any nation which proved recalcitrant.

An important action taken by the Society during the meeting of this year, and one which may have an important bearing upon future international relations, was that of the appointment of a committee to draft a tentative code of international law for submission to the society at its next annual meeting.

The Society of International Law is a peace society, but its members are not seeking that consummation so devoutly to be hoped for by the laying on of hands or expressions of disapprobation of warlike things, but rather through an armed peace which shall help us to finally consummate such an understanding between the nations of the world as shall produce lasting and unbreakable peace.

ARMY AND NAVY.

Spotter for the Infantry Team.

Second Lieut. Ambrose R. Emery, 27th Infantry, has been detailed as spotter for the Infantry Team. In the order of designating him for this duty he has been directed to report in person to the captain of the team at Fort Sheridan, June 1.

American Officers for Cuba.

Capt. P. S. Golderman, Coast Artillery Corps, Capt. George G. Gatley, Field Artillery, and Capt. Frank Parker, 11th Cavalry, have, upon the request of President Gomez, been loaned to Cuba for the purpose of instructing the army of that country. It is the intention of the present government in Cuba to maintain a force of from five to ten thousand men and it wishes the best instruction which can be secured. It seems probable that for the Cuban army the Krag may be used as the agents of Cuba have opened negotiations with the War Department with a view to the purchase of 10,000 of these rifles.

Titus to be a Chaplain.

2nd Lieut. Calvin P. Titus, 14th Infantry, whose resignation was recently accepted in War Department orders, has made a request that that action be revoked as he desires to obtain a commission as Chaplain. It will be remembered that he was a trumpeter with the column which went into Peking. He was the first man over the walls of the ancient city, and was awarded the Medal of Honor. Subsequently the President gave him an appointment to West Point where he was graduated and appointed 2nd Lieutenant of the 14th Infantry in June, 1905. Titus in the ranks, the academy and as an officer, has always been of a deeply religious turn. It is thought that he ought to make a very good Chaplain. It only remains for him to secure ordination by some authorized church so that his appointment may be made in regular order.

A Board on Target Material.

The commanding officer of Rock Island Arsenal has been directed to convene a board of officers for the purpose of investigating the entire subject of ranges, both indoors and out, including accessories, such as targets, carriers, safety devices, etc. The Chief of Ordnance in his orders to the board gives the following instructions:

"The board will, in its report, outline a general scheme for the construction of ranges, both indoors and out, but in presenting such a general scheme, the fact will be borne in mind that the connection of the Ordnance Department with the construction of ranges is merely one for the supplying of targets, carriers, safety devices, pasters, etc.

It will be necessary to present a general scheme for the construction of ranges, both indoors and out, in order to clearly understand the requirements which the Ordnance Department must meet in the production of targets, carriers, safety devices, etc.

In considering this question the board will take into consideration such important ranges as those already constructed, for instance, at Sea Girt, N. J., Camp Perry, Ohio, etc., and will endeavor to utilize the features shown at these ranges where practicable. Radical departures should only be proposed in cases where the accruing benefits are apparent.

The board is directed in this matter to consider not only targets, carriers, safety devices, and the like, which have heretofore been provided by the Ordnance Department, but also any model or design, either of American or of foreign manufacture, which presents features that are desirable for incorporation in the designs to be prepared by the Ordnance Department. It should be noted that the indoor and outdoor ranges are for the caliber .30 rifle, gallery practice rifle and the pistol. General drawings or pencil sketches, where necessary, should be submitted.

THE NATIONAL GUARD.

FROM AN INSPECTOR'S NOTE BOOK.

We propose, without disclosing the identity of either the inspecting officer or the state, to print in ARMS AND THE MAN, commencing with extract Number 1 in the issue of February 18, and in successive numbers thereafter until the supply is exhausted, short extracts from the report of an officer of the Army on State Inspection duty. This officer remarks so sensibly upon what he found, thought and did during this tour, that we of any of the Services may gain much advantage from reading what he has written.

It may be remarked that the state concerned was one of the older of the states, one of medium size and with a National Guard of average efficiency. In short a fairly average if not typical National Guard situation presented itself to this officer.

Best Officers None Too Good. No. 10.

Officers of some education more liberal than the mere military will be more successful. An officer who is acceptable to all the state authorities, professional men and leading citizens, because he knows something outside of his profession, will create a sentiment friendly and valuable to the Army and the National Guard, which will ultimately render his efforts more effective.

So pleasant, as a rule, are the militia officers and so zealous are they to extend every social courtesy that there is danger that the Regular officer will be drawn away from his primary purpose—to make the guard military.

An officer on this duty must, however, be a tactful man. I do not mean a compromising man or one who is necessarily always pleasant while overlooking grievous faults, so much as I mean one who is faultlessly courteous, who appreciates the disadvantages under which guardsmen labor, and who is thoroughly earnest in his desire to help them. The personality of this officer will count for much and he should at all times be careful to set a military example.

Having observed the ill effect of tactlessness on the part of one or two officers, which tactlessness was due to lack of thoughtfulness, I am con-

vinced that it would be well for the military authorities to call the attention of officers who are about to be ordered to military duty, in a precautionary way, to the injury that may result from slight heedlessness. This was done summer before last by the present Superintendent of the Academy in the cases of all officers who went from there on military duty; and from every quarter I have heard nothing but praise from the militiamen for the considerateness which marked the conduct of these officers in their relation to the Guard.

MILITIA DIVISION NEWS.

Snaffle Bits are Better.

The question having been raised in relation to the form of bit best adopted for use of the artillery of the National Guard the General Staff of the army has recommended the substitution of a stong snaffle bit for the curb now supplied with Field Artillery harness, and that the batteries be required to turn in to designated arsenals all curb bits except a sufficient number to equip the quota of riding animals in each battery. The recommendation was approved by the Assistant Secretary of War and orders have been issued accordingly.

Intrenching Tools as Part of Equipment.

In responding to the inquiries of Adjutants General of states, the Militia Division has ruled in relation to intrenching tools as part of equipment, that while intrenching tools are issued as a part of the field equipment to the Regular troops and it is desirable that the Organized Militia should have intrenching tools to a sufficient amount to constitute proper equipment, yet the absence of such tools will not be held to constitute a lack of equipment with respect to determining the general condition in connection with appropriations.

Garbage Incinerators May be Issued.

That garbage incinerators may be issued and that the latrine and garbage incinerator made by the Conley Manufacturing Company of Oklahoma City, Okla., is an article of issue.

Medical Officers Promotions Not Obligatory.

That with reference to the obligation resting upon a state to promote a first lieutenant of the medical department to be a captain after three years' service in accordance with the regulations governing similar cases in the Army, it was held that no such obligation exists and that a state can promote or not promote such an officer as it pleases; this action being one governed by state law.

Coast Artillery Equipment and Instruction.

That the Department has formulated a progressive scheme for the equipment and instruction of Coast Artillery Organizations, which, while largely contained in Circular No. 21, W. D., series of 1908, will be further disclosed and described upon application.

Freight—A State Charge.

An Adjutant General has been advised that freight upon target carriers, range supplies, and ammunition from the state arsenal to different rifle ranges cannot be paid from the Federal allotment.

Telescopic Sights not Ready for Issue.

In response to a query the Militia Division has advised that the price of the new Service telescopic sight is \$41.50. Owing to the fact that the limited number of sights manufactured have been issued to the Regular Service for trial and that the sight is in the experimental stage, no issue or sale to the Organized Militia can take place at this time.

An Adjutant General of a territory has been advised that office desks and furniture may not be purchased from funds appropriated by the Federal Government for the support of the Militia.

New Hampshire Coast Artillery Extended.

Information has been received by the Militia Division that the strength of the four companies of Coast Artillery, New Hampshire National Guard, which will take part in the exercises to be carried on during the summer near Portsmouth, is 12 officers and 250 enlisted men.

Connecticut's Governor Dead.

Governor George L. Lilley, of the State of Connecticut, died at his home in Hartford, April 21. The sad event is announced in orders to the Connecticut National Guard, which, by the terms of that communication, will display the usual signs of mourning.

Ohio Medical Officer Honored.

The members of the Medical Corps of the Ohio National Guard have adopted resolutions of appreciation of Maj. A. V. Smith, retired, upon the occasion of his death. His fine and loyal service was praised, and the sympathy of the Corps, as represented by a Committee consisting of Maj. James W. McMurray, Maj. William P. Love and Major Bertolette, was extended to his widow.

Virginia Searching for Ranges.

Gen. Charles J. Anderson, Adjutant General of Virginia, recently asked the War Department for the detail of an officer to assist him in locating a rifle range for the use of the Virginia State Troops. Lieut. Col. R. K. Evans, General Staff, was ordered to report to the Governor of Virginia for this purpose. It is understood that a number of desirable sites were found and that it is the purpose of the Governor of Virginia to consummate the purchase of one or more of them at an early date.

General Anderson desires to construct modern ranges and bring the officers and men of Virginia to the position which they should occupy in comparison with the men of the National Guard organizations of the other states in rifle shooting. This has heretofore been impossible on account of the lack of ranges.

Good Work by Second New York.

The 2nd Infantry, N. G., N. Y., who finished their outdoor rifle practice season last fall with practically the top record in the state and many state records to their credit, have kept up their efficiency in rifle practice during the indoor season just closed. During March every one of the twelve companies in the regiment and also headquarters hung up the remarkable record of 100 per cent, which means that every officer and enlisted man in the entire regiment was present and qualified as marksman in March—a record never before achieved in the state of New York. In the Annual Third Brigade Match held in the state armory at Troy, the 2nd Regiment captured the trophy for the third consecutive year, putting up a total of 835, the 10th Infantry being second with the total of 807. The match was shot with the Service rifle and reloaded ammunition and the scores of the team were as follows:

Yards.....	2ND INFANTRY TEAM.			Total.
	Standing.	Kneeling.	Prone.	
	200	200	200	
Priv. John Orr, Company F.....	22	24	25	71
Priv. John O. Fernandez, Company G.....	21	23	24	68
Priv. A. V. Hancock, Company F.....	22	22	25	69
Priv. Ralph Pollock, Company F.....	21	25	24	70
Q. M. Sergt. G. A. Putnam, Company L.....	21	23	25	69
Sergt. W. M. Finkle, Company G.....	21	24	22	67
Sergt. H. W. Handy, Company A.....	24	22	23	69
First Sergt. R. B. Trumble, Company G.....	22	24	23	69
Priv. N. M. Beede, Company F.....	24	24	24	72
Corp. C. J. Case, Company M.....	22	24	24	70
Q. M. Sergt. G. S. Underhill, Company F.....	22	24	24	70
Priv. C. W. Jacobie, Company K.....	23	24	24	71

Ohio Correspondence School.

Col. Chas. X. Zimmerman, Commander 5th Ohio Infantry, has recently put into effect a correspondence school for his officers. The course seems well conceived, and if it is carried out as directed by Col. Zimmerman it should prove of much educational value.

Pennsylvania Provides for Shoes.

Sore feet of men attending camp, resulting from a lack of attention to the manner in which the men are shod, has discouraged many a good man who would otherwise have remained an enthusiastic National Guardsman. A full and complete issue of shoes is a matter of difficult accomplishment in view of the changing personnel and the consequent excessive cost.

The State of Pennsylvania prepares to meet this condition by publishing an order in which instructions are given for the purchase of the government issue shoes from the contractor who makes them.

To meet the cost, one half of the price of shoes is to be deducted from camp pay of enlisted men, the men to retain the shoes after camp, and one-half is provided to be paid from the annual allowance moneys. Shoes will only be provided in this manner for such enlisted men as are at present in camp. While shoes are not furnished officers, they may purchase shoes at the prices of \$2.90 and \$2.65 each for their own use.

New Adjutant General for Colorado.

Gen. John Chase, formerly Brigade Commander of the Colorado National Guard, has been appointed Adjutant General of the state, succeeding Gen. C. A. Kelley. General Kelley has temporarily accepted the position of Assistant Adjutant General.

Summer Activity for the Naval Militia.

It is possible that Commander Charles C. March will be sent to the Great Lakes to take command of a squadron composed of those vessels now in use by the states of Illinois, Michigan, Ohio and Minnesota. In this case the gunboat *Nashville* will be the flagship. She has just been assigned to the Illinois Naval Militia. Capt. W. F. Purdy of that force, with a crew of men from the state, will leave Boston April 30 in the course of taking the *Nashville* from the Boston Navy Yard, where she has been under repairs, to Chicago.

If the summer cruise on the lakes takes place it will probably be participated in by the *Nashville* and *Dorothea* assigned to Illinois, the *Yantic*, *Wolverine*, and *Don Juan de Austria*, assigned to Michigan, the *Hawk* and *Essex* assigned to Ohio, and the *Gopher* in the possession of Minnesota.

The Naval Militia of the southern states will have its sea service either in the *Panther* or the *Prairie*. The East Coast men will go aboard vessels of battleship fleet, probably during summer target practice off Cape Cod during August. The last official report of the total strength of the Naval Militia figures at 6,292 officers and men. The vessels now with the Naval Reserve comprise 25 ships, mostly, of course, of an obsolete type.

New Jersey Law Upheld.

The Supreme Court of the State of New Jersey has declared the law recently passed by the Legislature under which officers were retired, to be constitutional. The specific case passed upon by the court was one growing out of an action on certiorari brought by General Campbell, formerly Commander of the First Brigade.

Connecticut Notes.

The annual rifle and pistol competition of the Connecticut National Guard will be held at the state range, East Haven, June 25 and 26. The program is a varied one, including team matches, both for eight-men teams, along the lines of the National Team Match, and company team matches. A state team will be chosen, consisting of 35, being those whose aggregate scores are the highest in the competitions held during the state match or immediately thereafter. From this number the twelve highest competitors will form the state team proper. This last selection will be made in a competition held during the month of July at some place to be announced later.

The monthly drill report showing the figure of merit of each organization of the Connecticut National Guard for the month of March shows that the

Second Infantry has a figure of merit of 96.82 for the period. Company C with five drills and an average membership of 68 has a figure of merit of 99.02. Nine of the twelve companies had five drills and three of them four drills. The lowest average membership was 60 and the average membership of each company for the regiment 65½. This is a truly remarkable record and we doubt if any regiment in the National Guard of any state ever excelled it. If cases of the kind are known we shall be glad to have them reported to us.

A great many company commanders in the National Guard over the country would do well to seriously consider whether a more careful attention to getting the men out at every drill would not insure an astonishing increase in efficiency and a directly relative lessening of the burden of labor imposed upon the company commander and his subordinates. The publication of the drill reports of each organization, placing them in such a way that they can be compared furnishes a strong incentive for every unit to do its best to be high.

**ARMS AND AMMUNITION.
METAL FOULING.**

BY CHARLES NEWTON.

One season's use of the New Springfield rifle as a target weapon has demonstrated thoroughly that the Ordnance Department has before it the most difficult proposition it has as yet encountered in the development of the high power smokeless rifle, namely, the question of metal fouling.

Naturally the encountering of this trouble led to a great many experiments, both in and out of the Department, looking toward its elimination, most of which have taken the form of preparations for removing the fouling; many are the preparations recommended for this purpose, most of them being very efficient in their action, dissolving the accumulated metal very readily, and furnishing to the target rifleman a welcome relief from a great deal of his trouble in this direction.

However, the rifle was primarily made for Service, not for target work, and, while the different solutions in use are very efficacious in cleaning the bore after the fouling has accumulated, both during and after the match, yet the fact that were our troops to go into battle with the present rifle and ammunition there would not be time for the chemical treatment to be utilized as often as needed, the condition of the rifles after five minutes of battle firing would be disastrous, if not even dangerous to the firers and their companions (since if the rifles were used too long without removing the accumulated jacket metal from the bore the result might be a burst barrel), indicates that the remedy, to be really efficient, should be one which would prevent the fouling, not merely remove it after it has accumulated.

To accomplish this end many remedies have been tried, mostly in the using of some form of lubricant, and I understand some are working in the direction of improving the metal from which the bullet casing is made but I am not aware, as yet, of any radical improvement in the latter metal having been made.

It is well known that there is a remarkably strong chemical affinity between nickel and steel and it occurred to me that this affinity might lead to the nickel in the cupro-nickel jackets at present in use adhering to the steel of the barrel when forced against it at the high temperatures and under the great pressures found in the present Service rifle, and that such adhesion might not take place were a metal not having such affinity used, even though the latter had a much lower fusing point. Any one having had any experience in soldering will at once appreciate the difference between metals as to the solder sticking and this is due merely to the same chemical affinity, or lack of it between the metals.

If the affinity of the nickel in the jackets for the steel of the barrel is the cause of the metal fouling found in the Service rifle, then bullets with a pure copper patch should be free from this trouble, therefore since the 6 mm. Lee-Navy cartridge used a bullet with a pure copper jacket, I looked up its history a little to ascertain if any such trouble had been encountered in its use, and was unable to find any record of its having occurred, although the high velocity, small bore and quick twist of this rifle should, in my estimation, have given just as much metal fouling as that developed in the New Springfield.

It would have been easy to test the copper patch in the New Springfield and settle the question by using sporting bullets, which have copper jackets but for the fact that these bullets are all made too small for a gas tight fit, therefore the conditions of Service use could not be duplicated with them unless they were swedged up to full size, and I had no swedge.

Therefore, for a testing piece I had made a single shot rifle for the .25-20 cartridge, the barrel being made of Remington Ordnance steel and having a twist of one turn in 12 inches. This I rechambered to take the 6 mm. Lee-Navy shell with the neck expanded to take the .25 caliber bullet. Then taking the 86 grain soft nosed .25-20 bullet I swedged it into the form of a spitzer and loaded it in the shell with 37 grains Dupont 1908 Military powder. This charge gave very high pressures and a muzzle velocity of 2,776 feet per second and constituted, in my opinion, as severe a test of the bullet jackets as does the New Springfield 1906 cartridge.

As to results, I have fired 81 rounds of this ammunition without cleaning, the firing covering a period of about two hours and at the close the rifle was absolutely free from metal fouling of any description and, upon having a rag saturated with nitro solvent passed through the barrel, cleaned as easily and thoroughly as a black powder rifle.

Likewise I have fired 60 rounds without cleaning from a .22 high power rifle using a 63 grain bullet and 19 grains Lightning powder, and giving, as nearly as I can estimate (not having had the velocity taken instrumentally as yet) about 2,500 feet per second velocity, and the barrel showed no traces of metal fouling and cleaned as easily as the other. This barrel was of nickel steel, had a 12-inch twist and the bullet used had a jacket made from a .22 short cartridge shell, being of practically pure copper without tinning, plating or polishing other than it received in being forced from the die wherein it was formed.

I had expected to encounter trouble with both these rifles because of metal fouling but was happily disappointed and came to the conclusion that the reason was the use of the pure copper jackets instead of cupro-nickel.

As compared with the results with these rifles, I have a single shot Winchester with nickel steel barrel, taking the New Springfield 1906 cartridge and cut with a 16-inch twist.

With this rifle, using the Government ammunition, the metal fouling begins to show on the tops of the lands after about 25 shots and continues to increase until I stop firing and dissolve it out with ammonia preparations, and it is impossible to get the bore clean without the use of ammonia.

Therefore I conclude that the difference in results between the copper and the cupro-nickel bullets is not due to the slow twist or to the steel of which the barrel is made but is found in the difference in the metal from which the jackets are made.

I am aware that there have been many cases of metal fouling in sporting rifles using copper patched bullets, and one of the worst cases of metal fouling which I ever saw was of this description, but the fouling found in these rifles is deposited in the corners of the grooves and results from gas cutting, caused by the bullets being too small, while in the Service rifle the fouling is found upon the tops of the lands, thus showing that it comes as a result of the operation of different causes.

Therefore I would like to see thorough tests of the copper patched bullets made, and believe that, in case they will stand the tests in other respects, their adoption would remove the cause of the present difficulty in the use of the Service rifle and give us an arm which would not under battle conditions be seriously impaired if not rendered worthless before the first bandoleer of cartridges could be fired from it.

Automatic Pistol Tests Still Going On.

Reports of the result of the tests of Colts automatic pistols which were issued last year to three troops of Cavalry are commencing to be filed. As reported in ARMS AND THE MAN at the time, the board to try out revolvers and pistols recommended the purchase of an equal number of Colts and Savage automatics and the issue of each kind of them to three troops of Cavalry. The Savage people have just recently completed their deliveries to the government and the report of these tests cannot be expected for some time. The question then of what is to be the Regulation hand arm of our military establishment is still undetermined. There are many questions involved in the decision between the automatic pistol and the revolver. There is a great difference of opinion upon the subject and only practical tests of each arm will afford a satisfactory determination of it.

Cooling Paint.

An inventor has lately submitted to the Ordnance Department a small quantity of a paint which when applied to a rifle barrel causes a reduction in temperature of from 20 to 50 per cent as the barrel becomes heated by firing. At any rate that is what the inventor claims.

The tests made of it indicate that it has some virtue in the direction of the reduction of temperature, but whether it will actually accomplish the almost marvelous results claimed for it can only be determined by more thorough trials. Such trials the Ordnance Department will carry on as soon as the inventor supplies the material.

WITH RIFLE AND REVOLVER.

- May 26 to June 14—France. 9th Annual International Shooting Festival. \$35,000 prizes. Write for program, invitation card, etc., to the Secretariat Général, 7 Bd René Levasseur, Le Mans (Sarthe).
- July 26 to 31—Fifth annual tournament of the New England Military Rifle Association at Wakefield, Mass., Maj. John M. Portal, Woburn, Mass., secretary.
- Aug. 9 to 19—Ohio State Rifle Association Matches at Camp Perry, Ohio.
- Aug. 20 to 26—National Team and Individual Rifle Matches and National Individual Pistol Match, at Camp Perry, Ohio.
- Aug. 26 to Sept. 2—National Rifle Association Matches at Camp Perry, Ohio.
- Sept. 3-11—Nineteenth Annual Sea Girt Tournament at Sea Girt, N. J., includes the matches of the New Jersey State Rifle Association, New York State Rifle Association and Pennsylvania State Rifle Association.

NATIONAL CAPITAL RIFLE AND REVOLVER CLUB WINS CHAMPIONSHIP.

The series of matches with the Baltimore Revolver Club for the Inter-city Championship of Washington and Baltimore has been completed. The first match was shot on November 30 and was won by the Washington club. The score was:

Washington..... 1530 Baltimore..... 1454

The second match was fired on December 21 and resulted in a victory for the Baltimore club. The score was:

Baltimore..... 1549 Washington..... 1546

The third match was shot on January 25 and the Baltimore club again won, the score this time being:

Baltimore..... 1531 Washington..... 1518

The fourth match was shot on February 22, and to celebrate the occasion the Washington club won the match with the highest score made up to that time:

Washington..... 1587 Baltimore..... 1519

High individual score was made by M. B. Atkinson, who made the fine 20 shot total of 178, which is almost an average of 9's. The Washington club fired their scores for the fifth and final match on March 22, and made the fine score of 1618. The high individual score was made by Sheridan Ferree, 177. The highest individual score made by anyone on either team during the series was that made by M. B. Atkinson, of the Washington Club, 178. The Baltimore club shot their scores on Monday night, April 26, and recorded a total of 1539. The championship therefore goes to the National Capital Rifle and Revolver Club, they having won 3 of the 5 matches shot.

It must be said in connection with the high score of the Washington team, 1618, that it would be interesting to know what is the highest score ever made by a 10 man team in a match, allusing .38 regulation revolvers, with service sights. We are inclined to believe that under these conditions the above score is the highest ever recorded. The scores:

Washington.		
L. Reichelderfer.....	77	84-161
C. U. Edwards.....	75	79-154
F. Holt.....	76	80-156
L. Clausel.....	73	77-150
J. C. Bunn.....	87	88-175
W. J. Macdonnall.....	74	74-148
Sheridan Ferree.....	91	86-177
J. W. McCormick.....	71	86-157
M. Appleby.....	84	87-171
M. B. Atkinson.....	81	88-169
Total.....		1618

Baltimore.		
S. J. Fort.....	66	74-140
W. A. Renchan.....	87	80-167
J. S. Reese.....	90	70-160
J. W. Shirley.....	77	78-155
Edwin Cugle.....	79	78-157
L. M. Rawlins.....	71	73-144
W. D. Barnes.....	75	79-154
Dr. Wilbur S. Fubbs.....	83	73-156
Captain Meyers.....	77	71-148
Dr. E. A. Smith.....	77	81-158
Total.....		1539

CONTINUATION OF WASHINGTON SCHOOL BOY SHOOT.

The colored high school boys of the Separate Battalion Washington High School Cadet Regiment occupied the range of the National Capital Rifle and Revolver Club, in the Winter Armory, from April 21 to 24, inclusive.

The shooting was under the auspices of the above club, with practically the same officials in charge. Capt. Herbert W. McBride and Capt. Stuart W. Wise remained over to assist in running off the shoot, and rendered good service. Col. E. J. Dimmick was chief range officer and Capt. Sheridan Ferree executive officer.

The first day was devoted to practice, the officers and noncoms only shooting. There was a good attendance of these officers, in fact, there seemed to be as many in attendance on this one day as there was of the cadets on any other day. The scores made were uniformly good. The second day was for practice only for the M Street High School, and the third day was given over to the Armstrong High School.

The fourth and last day was for the team matches, the Company team match starting at 4.30 with five entries, Companies A, B, C, D and E. The match was open to teams of four from any company of the Separate Battalion. Ten shots standing and ten prone, on the N. R. A. target at 50 feet, using the U. S. Springfield Gallery Practice rifle, .22 caliber. Company C was the winner with a score of 333, Company D, second with 323. The scores:

Company C.....	333	Company D.....	323
Company B.....	317	Company A.....	316
Company E.....	316		

The Inter-School Team Match followed the Company Team Match and was open to teams of twelve from the M Street High School and the Armstrong Manual Training. The conditions were the same as in the Company Team Match. The prize was a silver cup presented by the teachers of the Armstrong school and a medal to each member of the winning team. The Armstrong Manual Training School won with a score of 846 to 820 for the M Street School. The scores:

Armstrong Manual Training.....	846
M Street High School.....	820

The Officers' Match was open to any commissioned officer of the battalion, the conditions being the same as in the Company Team Match. The first prize was a gold and bronze medal; second prize, a bronze medal. The winner was C. McDuffie with a score of 92. H. L. Stevens was second with 87 and R. Brooks, third with 81. In the Sub-Target Match, 5 shots standing, three best tickets to count, L. Blount was high with 87, R. Taylor, second with 83.

The winner of the Individual Match was R. Brooks, with a score of 276. M. Rives being second with the same score. High aggregate was won by M. Rives with 456, R. Brooks second, 455.

CYPRESS HILLS RIFLE AND REVOLVER ASSOCIATION, BROOKLYN, N. Y.

At last the military rifle team of this association has found a victim. Four unfortunate young men, students at one of the great educational institutions of the city, shooting under the colors of the Oquossoc Club, came to the range on April 18 and after the smoke had blown away, to our great surprise we were declared the victors. Jubilation? No. Satisfaction? Well, some. Astonishment? Yes, great and profound.

The aforesaid young men made a creditable showing; unfamiliarity with outdoor conditions contributed largely to their defeat. Otto was high man in the match. Shedd's 48 was high score for the day. The match called for 30 shots per man at 200 yards, offhand, Creedmoor target; four men to a team. Scores follow:

Oquossoc Club.		
Hanke.....	42	40-82
Wickenden.....	41	34-75
Agramonte.....	44	39-83
Baker.....	22	29-51
Total.....		291

Cypress Hills.		
Otto.....	44	44-88
Sanborn.....	43	44-87
Christensen.....	42	44-86
Hassall.....	41	44-85
Total.....		346

Other scores shot.		
Shedd.....	48	45 43
Lahm.....	44	44 41 45
Squibb.....	43	42 42
Christensen.....	44	46

Fifty Yard Revolver.		
Kulloch.....	87	80 80 83 86 78 81 79

MATCH BETWEEN MANHATTAN RIFLE AND REVOLVER ASSOCIATION, NEW YORK, AND ST. LOUIS REVOLVER CLUB.

25 shots at 20 yards.		
Manhattan.		
T. Anderton.....	39	43 43 44 40-209
R. H. Sayre.....	31	40 47 45 43-216
J. A. Dietz.....	40	41 40 42 40-203
A. L. A. Himmelyright.....	47	43 48 39 44-221
J. E. Silliman.....	42	42 39 41 48-212
Total.....		1061
St. Louis.		
S. E. Sears.....	42	44 45 42 48-221
R. M. Moore.....	39	44 42 44 44-213
Chas. Dominic.....	41	43 41 45 43-213
C. C. Crossman.....	41	38 42 41 44-206
R. M. Barcur.....	42	38 30 42 43-204
Total.....		1057

COLONIAL REVOLVER CLUB, ST. LOUIS, MO.

Scores with revolver at 50 yards.		
Members' Trophy, 20 Shots.		
Chas. Dominic.....	93	87-180
L. A. Fassett.....	89	84-173



Three possible targets, made by W. A. Cleaver at 75 feet with a Stevens rifle and telescope, using U. M. C. .22 caliber short black cartridges.



WINCHESTER

.22 CALIBER AUTOMATIC RIFLE.

This handsome, handy little take-down rifle, like history, repeats itself. As a means of pleasure and sport it is as far ahead of any other .22 caliber as an automobile is ahead of the historic one horse shay. True lovers of sport find great fun with it shooting moving small game where shotguns have heretofore generally been used. After loading this rifle, all that it is necessary to do to shoot it ten times is to pull the trigger for each shot. Although automatic in action, it is simple in construction and not apt to get out of order. For city, country or camp it is the gun of the day. To get the best results always use Winchester make of cartridges in this rifle.

Ask your dealer to show you one.

WINCHESTER REPEATING ARMS CO. - - NEW HAVEN, CONN.

NINETEENTH ANNUAL SEA GIRT TOURNAMENT

SEA GIRT, N. J.
SEPTEMBER 3d to 11th

Includes the matches of

NEW JERSEY STATE RIFLE ASSOCIATION
NEW YORK STATE RIFLE ASSOCIATION AND
PENNSYLVANIA STATE RIFLE ASSOCIATION

For program address Post Adjutant, Sea Girt, N. J.

C. C. Crossman	85	87	172
W. L. Schrader	87	85	172
Dr. Moore	82	84	166
W. H. Spencer	78	81	159
G. C. Olcott	82	76	158
W. C. Gray	68	80	148

In a special team race Crossman, Fassett, Schrader and Spencer defeated Moore, Dominic, Olcott and Gray 676 to 652.

LOS ANGELES, CALIF., REVOLVER CLUB.

A telegraph match between the Smith & Wesson Pistol and Revolver Club of Springfield, Mass., and the Los Angeles Revolver Club took place Saturday, April 17, the Smith & Wesson Club winning by 57 points. The conditions were 10 men on a side, 30 shots per man, at 20 yards indoors, light artificial. U. S. R. A. rules governing. Following are the scores of the Los Angeles team:

A. B. Douglas	90	87	90	267
J. E. Holcomb	83	84	90	257
C. W. Linder	88	86	79	253
A. M. Smith	88	80	85	253
H. D. Thaxter	89	78	81	248
I. C. Douglas	80	82	83	245
W. E. Potter	81	81	76	238
W. E. Smith	83	75	77	235
J. B. Fox	65	84	79	228
Will A. Wright	83	62	79	224

Total..... 2448
Smith & Wesson Pistol and Revolver Club..... 2505
Smith & Wesson Club won by 57 points.

The regular monthly medal shoot for the gold, silver and bronze medals took place April 18. A. B. Douglas won the gold medal with a score of 260 out of a possible 300. H. D. Thaxter won the silver medal with a score of 259. As Douglas and Thaxter had won these trophies twice previously and this being the third consecutive time that these two shooters won these medals they became the property of the winners.

Will A. Wright, using his .22 caliber hand-made revolver, won the third trophy, the bronze medal. The conditions were 30 shots per man at 50 yards on the Standard American target. Following are the scores.

Revolver Medal Shoot.

A. B. Douglas	82	91	87	260
H. D. Thaxter	85	87	87	259
Will A. Wright	83	85	86	254
Dr. L. M. Packard	87	78	88	253
I. C. Douglas	87	90	74	251
C. W. Linder	84	89	76	249
J. E. Holcomb	76	88	84	248
H. G. Martin	82	69	71	222

A MILITARY PRIMER: The beginner's introduction to the military profession, and instructor in the services of security and information.

Speaking of A MILITARY PRIMER, Captain Frank E. Locke, 5th Infantry, O. N. G., says:

"The information obtained from the larger and more elaborate text books by even the most careful reading is comparatively small to the average layman, but your work puts the subject matter in so concise and understandable form that it is quickly grasped and readily understood by any student. I feel that we of the Guard owe you everlasting gratitude."

The Primer may be purchased from ARMS AND THE MAN, or from Captain F. C. Marshall, Fort Sheridan, Ill. Price, \$2.25 per copy, by mail prepaid.

The following practice scores were also made the same day:

50 Yard Revolver.	
A. B. Douglas	87 92 91
Dr. L. M. Packard	87 89
50 Yard Pistol.	
C. W. Linder	90 87 86 92 87
H. D. Thaxter	90 86 87
A. B. Douglas	93 86
I. C. Douglas	91 86

SQUADRON A, CAVALRY, N. G. N. Y.

The annual match for the Major's Revolver cup took place on April 17, resulting in a victory for Troop 1. The teams and scores were as follows:

Troop 1.		Troop 2, 2nd.	
2nd Lt. Cowperthwait	67	Priv. Brown	76
Corp. LeBoutillier, 2d	78	Sergt. Edwards	52
Corp. Wurster, Jr.	76	Priv. Bartholomew	84
Priv. Roelker, Jr.	57	1st Sergt. Cram	57
Sergt. Macnaughtan	109	2nd Lieut. Putnam	95
Total	387	Total	364
Troop 4, 3rd.		Troop 2, 2nd Team, 4th.	
Corp. Smith	54	Sergt. Powers	76
Sergt. Smith	96	Priv. Learned	84
Corp. Pratt	54	Priv. Crane	58
Priv. Boulton	72	Corp. Saltus	63
Sergt. LeBoutillier	86	Priv. Lee	62
Total	362	Total	343
Troop 3, Team A, 5th.		Troop 3, Team B, 6th.	
Priv. Bolling	88	Sergt. Henderson	13
Priv. James	64	Priv. McClure	14
Priv. Leake	56	Priv. Oakman	69
Priv. Nicholas	47	Priv. Carpenter	65
Priv. Dana	50	Sergt. Sheldon	48
Total	305	Total	209

LOS ANGELES RIFLE AND REVOLVER CLUB.

A small crowd of the faithful put in an appearance, Sunday, April 11, for a little practice before the shoot for the Offhand Trophy to come off April 18. The tricky Schuetzen Park range kept up its reputation for unexpected gusts of wind that the flags blandly overlooked.

J. M. Gore, a bear chaser of Seattle, and an out of town member of the club, put in an appearance with a new Mannlicher rifle. He demonstrated that shooting a bear in the eye and a bull in the same place was much

the same sort of work in spite of his lack of practice at the targets. 41 with a rifle which he had never seen before was a good run with the Springfield and a 38 with the Mannlicher and plain sights showed what would happen to the unlucky Bruin that crossed his path later in the spring. He and Crossman have a bear hunt framed up in the northern part of the state and Crossman is taking celery compound for his nerves and wearing electrodes for the icicles on his pedal extremities, after listening to Gore's account of the narrow escapes he has had.

C. F. Nichols proven his rapid pick up of the game by boring out a 42 at 500 for a starter, while old Sergeant Miles landed high place at 200 although this was the first string since the preceding September. Crossman got ten straight bulls at 500 yards, the 50 score being high for the Schuetzen Park range at this distance. A 45 at 300 yards and 41 at 200 gave him first place out of the large crowd of half a dozen.

Revolver scores were low, the lack of practice and the preceding pounding of the mule-like Springfields not being conducive toward making Gorman turn green with jealousy. 84 was "high" if such a name can be applied to a score like this one.

The conditions for the shoot for the "Offhand Trophy" call for 15 shots at 200 yards, with two sighters, winner to take medal three times before retaining permanent possession. The proviso allowing the use of any rifle is expected to bring out a miscellaneous collection of shootin' irons and a field of dark horses. Bisbee will be taken on in the early part of May. The scores:

Yards	200	300	500	Tl.
E. C. Crossman	41	45	50	136
C. F. Nichols	38	35	42	115
J. M. Gore	41	35	40	116
H. C. Miles	42	34	A. R. Rose	38
Revolver, 50 Yards.				
E. C. Crossman	84	80	79	
F. W. Huddleston	80	76	70	
C. F. Nichols	74	70	68	
A. R. Rose	69	65	60	

COLUMBIA UNIVERSITY RIFLE CLUB.

A match between the Naval Reserves and Columbia University Rifle Team was shot on April 21 at the range on board the U. S. S. Granite State with .22 caliber Winchester muskets. The match was rather close with four points in favor of Columbia, whose total was 526 as against 522 for the Naval Reserve Team (2nd division, 1st Battalion).

MILLS STANDARD EQUIPMENTS



MILLS WOVEN TROUSERS BELT,
U. S. MARINE CORPS MODEL.

In Cotton, Khaki or Olive Drab, 35 cents, postpaid.
In Silk, Black or Olive Drab, gold mountings,
\$2.50, postpaid.

You know that we make the best Military Cartridge Belt in the world because you have seen it in service.

Has any one ever told you that we also manufacture Haversacks, Holsters, Packs, Rifle Slings, Revolver Belts, and Holsters of perfect form and fabric, or that our Woven Waist Belts are incomparable?

We tell you now, and it is true. Send for our catalog, it contains much that you ought to know.

MILLS WOVEN CARTRIDGE BELT COMPANY

54 UNION ST.
WORCESTER, MASS.

PETERS CARTRIDGES

— WIN —

U. S. PISTOL CHAMPIONSHIP

In competition with the best Pistol shots of the country, 1st, 2nd, 3rd and 5th places in the U. S. Revolver Association Indoor Pistol Championship Match, were won with

PETERS SEMI-SMOKELESS CARTRIDGES

1st.	Frank Fromm,	- - -	score, 456 out of 500
2nd.	Lieut. R. H. Sayre,	- - -	" 455 " " "
3rd.	J. E. Gorman,	- - -	" 454 " " "
5th.	H. N. Hoyt,	- - -	" 442 " " "

All the above used either .22 Stevens-Pope Armory or .22 Long Rifle Cartridges loaded with semi-smokeless powder. An unanswerable argument as to the superiority of this ammunition is found in the fact that both the Rifle Championship (12 successive years) and the Pistol Championship are now held by shooters using Peters Semi-Smokeless Cartridges.

The Peters Cartridge Company, Cincinnati, Ohio

NEW YORK: 98 CHAMBERS ST. T. H. KELLER, MGR.

SAN FRANCISCO: 608-612 HOWARD ST. J. S. FRENCH, MGR.

NEW ORLEANS: 321 MAGAZINE ST. J. W. OSBORNE, MGR.

Regulation 200 yards reduced Creedmoor and 300 yards Creedmoor targets were used.

P. H. Agramonte was high with 93, while R. W. Briggs and A. G. Hanke had 90 respectively, all three of the Columbia team. Jennys, of the Naval Reserve, was high on that team with a 90.

Columbia University Rifle Club.

Yards	Stdg. 200	Pr. 300	Tl.
A. A. Leach	40	40	83
J. D. Marden	44	42	86
R. W. Briggs	43	47	90
A. G. Hanke (Capt.)	42	48	90
J. R. Guiteras	41	43	84
P. H. Agramonte	45	48	93
Totals	255	268	526
2nd Division, 1st Battalion, N. R.			
De Kay (Capt.)	45	43	88
Stebbins	42	46	88
Alexander	39	44	83
Dam	44	42	86
Ketcham	43	44	87
Jennys	45	45	90
Totals	258	264	522

WAUSAU, Wis., SCHUETZEN-VEREIN, Sunday, April 4.

	King	Union	Total		
Gus Naffz	221	22	20	23	65
Otto Miller	220	23	19	21	63
Otto Mathie	214	21	21	20	62
F. Ritter	174	21	23	21	65
J. Werle	193	10	16	22	48
G. Miller	190	17	17	11	45
W. Lohmar	186	22	23	24	69
W. Neuling	163	15	19	23	57

HANDICAPPED

Every rifleman who does not use

ACHESON-GRAPHITE, GRADE "1340,"
FIREARMS LUBRICANT,

will be under a disadvantage in competitions this year.

CLEAN GUNS WILL WIN

Acheson-Graphite prevents metal fouling and prolongs the life of the barrel.

Price 40 cents per pound, or 60 cents express paid. Send for Folder 286H.

Riflemen need Folder 286H.

INTERNATIONAL ACHESON-GRAPHITE COMPANY
NIAGARA FALLS, N. Y.

We Are the Only Makers of Graphite in the World

LOS ANGELES, CAL., REVOLVER CLUB.

The regular monthly medal shoot for the pistol and Hoegge handicap revolver medal took place April 11. Will A. Wright, using a .22 caliber revolver, won the Hoegge medal.

A. B. Douglas was high man in the pistol medal contest. Wright and W. E. Smith used .22 caliber revolvers which were made by Los Angeles gunsmiths.

Conditions of both matches were 30 shots per man at 50 yards on the Standard American target.

Following are the scores:

Handicap Revolver Medal Shoot.						
	Score	Hcp.	Tl.			
Will A. Wright	83	89	86	250	27	277
J. E. Holcomb	85	80	79	244	33	277
Dr. L. M. Packard	81	81	85	247	27	274
C. W. Linder	88	90	75	253	18	271
W. E. Smith	85	78	79	242	21	263
A. B. Douglas	85	89	88	262	Ser.	262
J. B. Fox	73	81	82	236	21	257
A. M. Smith	80	77	75	232	24	256

Pistol Medal Shoot.					
	Score	Hcp.	Tl.		
A. B. Douglas	84	90	96	—	270
I. C. Douglas	86	87	91	—	264
Oscar Lillemo	89	83	80	—	252
C. W. Linder	85	80	80	—	245
Dr. L. M. Packard	79	80	84	—	243
J. E. Holcomb	80	79	80	—	238
J. B. Fox	76	70	64	—	210

AN IDEAL INDOOR RANGE.

Charles Lewis, Editor of the Gun Gossip Department of *The Pioneer Press* of St. Paul, Minn., writes in that department of a visit to the state University of Minnesota. "Perfection is the word to describe the indoor miniature rifle range at the state university which it has been the writer's privilege to visit in company with Secretary D. W. Van Vleck of the Rifle and Pistol Club and under the guidance of its creator, Capt. Edward Sigerfoos, U. S. A., commandant of cadets at the university.

This range is located in the basement of the armory, the place which used to be given over to a dusty running track and a raffle of broken and dejected looking class room furniture. The range proper is a fully enclosed room exactly fifty feet from front to back. Four windows face the same number of targets and the marksmen stand on the outside and shoot in.

The back wall of the range room is made of two double thicknesses of pine, about eight inches apart. The intervening space is filled with sand, making a thoroughly bullet proof backing. In addition, each target is backed by a sheet of boiler iron about one-half inch thick and set leaning forward at an angle of approximately thirty-five degrees to deflect the lead spatter downwards. The electric lights, which are set one above each target, are also protected by iron shields.

The real ingenuity of this range, however, is found in two things, the mounting of the targets and the automatic closing of the firing ports when the door into the range is opened. The targets are suspended in ordinary paper clips from an iron frame work traveling on an overhead wire trolley. These target-carrying frame are moved by a crank placed to the right of each firing port, and so geared that a few turns suffice to haul a

target to the window for the shooter's inspection or return it to the end of the range.

This does entirely away with both the risk and the delay incident to employing markers.

A platform on casters standing level with the lower ledges of the firing ports is kept where it can be rolled into place when it is desired to shoot from the prone position. Excellent lighting arrangements and stout iron grills with locked doors to keep spectators from crowding to the firing point are among the things which make this range a perfect thing of its kind.

Though Captain Sigerfoos modestly refused to claim any credit for the degree of perfection obtained in these arrangements, yet it is obvious to any one at all familiar with the standard plans for such ranges that he has gone far in advance of the other range builders in convenience of arrangement, stability of construction and attention to detail."

LYONS, IOWA, SCHUETZEN-VEREIN.

The first rifle shooting of the season was held by the Lyons Schuetzen Verein at their range according to program on April 19, seven Davenport marksmen attending and getting the biggest share of the prizes. The heavy rain interfered somewhat with shooting. The scores:

Offhand Honor Target, 200 Yards, One Entry.			
C. Jansen	71	J. A. Conger	64
C. F. Denkman	68	E. Berg	62
W. A. Wilke	67	J. B. Hayungs	57
Dr. F. H. Dueser	65	A. C. Bielenberg	57
J. F. Nabstedt	65	H. E. Jameyson	56

10-Shot Target, One Entry.			
Nabstedt	221	Bielenberg	200
Jansen	217	Conger	193
Berg	205	Hayungs	191
Denkman	203		

Ring Target, Unlimited.			
Berg	71	Jansen	68
Conger	71	Hayungs	67
Denkman	69	Scotfield	67
Nabstedt	68	Wilke	66

Man Target, Unlimited.			
Scotfield	58	Denkman	54
Nabstedt	57	Berg	54
Conger	55	Dueser	52
Jansen	54	Hayungs	51



Target Pasters

EXTRA QUALITY

Size 1, (7-8 in.) 30c. per M.
" 2, (1 1-16 in.) 40c. per M.
" 3, (1 5-16 in.) 50c. per M.

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The New Marlin Trap Gun

At Larned, Kansas, April 14, 15 and 16, Mr. O. N. Ford, shooting his new Marlin trap gun, took the one great prize—high amateur average—with the remarkable score of

627 out of 660—95%

As this was the only Marlin gun on the grounds, its superiority over all others is unquestioned. Mr. Ford has been shooting the Marlin less than two months, and states that he has fired about 2000 shots with a general average of over 95%. He says: "This is the best trap gun I ever shot."

The new Marlin trap gun is built expressly for trap work. It has special trap-shooting features not found in other makes, and is sold at a price every real trap-shooter can afford. Write us today for catalog and our special circular giving a large, handsome illustration and detailed description of the superb new Marlin trap gun.

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B. Sanders, Albany, N. Y., and Geo. C. Rousseau, of Lancaster, Mass., was awarded a briar pipe for being low gun of program. The tournament was a registered one, being run under the rules and regulations as laid out by the Interstate Association for the season of 1909. Shooters were present from Pittsfield, New Haven, Unionville, Conn., Holyoke, Boston, Manchester, N. H., Troy, Albany, New York City, Northampton, Lenox, Lancaster, Mass., Dalton, Palmer, Leominster, Suffield, Conn., Enosburg Falls, Vt., and in fact from all over the New England states.

Scores by events follow, all shooting from 16 yards rise:

	Shot at.	Bk.
*H. H. Stevens	185	169
*W. B. Darton	185	169
*H. S. Welles	185	169
*J. A. R. Elliott	185	166
*Jack Fanning	185	164
Dr. C. C. Smith	185	163
*Sim Glover	185	162
J. J. Farrell	185	162

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J. B. Sanders	185	161
B. F. Smith	185	157
J. F. Conlin	185	156
A. J. Crowley	185	155
E. M. Hurd	185	155
J. B. Robertson	185	154
*T. H. Keller, Jr.	185	151
A. M. Arnold	185	150
Dr. Beaudreau	185	147
W. H. Snow	185	146
Frank Twiss	185	145
M. H. Boland	185	141
Paul Lathrop	185	138
*G. M. Wheeler	185	137
C. N. Foote	185	137
Ernest Sawin	185	135
John D. Jordan	185	134
Geo. B. Alderman	185	134
Alex. Kirkpatrick	185	133
J. M. Gates	185	131
D. C. Downing	185	118
A. Smith	185	116
Geo. C. Rousseau	185	114
O. E. Morton	170	138
Dr. L. A. Newton	170	137
Samuel Frothingham	170	133
D. A. Dix	170	126
R. H. Smith	170	115
C. S. Crafts	170	114
G. F. Emmons	170	102
G. S. Lewis	150	124
W. W. Rice	150	107
Frank Sherman	150	105
E. H. Lathrop	150	102
E. H. Primey	150	99
Albert Keyes	150	96
F. S. Delafield	150	81
E. Kelly	130	98
H. E. Henry	125	92
W. K. Henry	125	67
G. B. Cragg	105	67
Dr. E. W. Dann	90	64
C. S. Dennis	90	29
Joseph Wallace	60	37
D. N. Coats	60	36
W. C. Flansburg	40	26
Robert Aschenbuch	40	15
Louis Mysterly	20	14
H. B. Cleveland	15	8

*Professionals.

TRADE NOTES.

DEAD SHOT HIGH.

At Springfield, Mass., April 19, H. S. Welles tied for high general average, 169-185. J. B. Saunders tied for second amateur, 161-185. Mr. Saunders also made the long run of the tournament with 39, winning prize for same. Dead Shot Smokeless Powder was used in doing the above.

At the Kansas State Sportsmen's Association tournament held at Larned, Kansas, April 14, 15 and 16; O'Brien was second professional, 625-660; O. N. Ford, high amateur, 627-660. E. W. Arnold, second amateur, 626-660. E. W. Arnold also won the Kansas State Championship with 50 straight. F. C. Whitney won the Ithaca gun event with 50 straight. Thus remarkably good shooting was done with Dead Shot Smokeless.

THE U. M. C. STEEL LINED WIN.

Out of a field of 43 at Blue Mound, Ill., on April 15, A. P. Smith, Goodwine, Ill., won high general average, scoring 374 out of 400 targets, shooting Steel Lined Nitro Club shells.

Atlantic City, on April 12, E. L. Wilson, of Frenchtown, N. J., led the field with the Steel Lined Nitro Club shell, breaking 183 out of 200 at 18 yards. W. B. Severn, of Philadelphia, with the same handicap, breaking 182 out of 200, shooting Steel Lined Arrow.

At the Reading, Pa., tournament, April 16-17, Lester S. German won high professional average, 392 out of 400, using Arrow Steel Lined shells. W. W. Miller won high amateur average, 376 out of 400, with a Remington Pump Gun and Steel Lined Nitro Club shells.

At the tournament of the Mohawk Gun Club, Schenectady, N. Y., on April 15, J. B. Sanders, Albany, N. Y., won high amateur average in a field of 30 shooters, 168 out of 175, with U. M. C. steel lined shells.

No. 308241



62 CONSECUTIVE BULLSEYES were made in the Ideal Short Range Military Rifle Match by Capt. C. B. Chisholm of Co. C, 5th Ohio Infantry, with Ideal bullet 308241 and 10½ grains of DuPont New Schuetzen powder. Distance 50 yards. Bullseye 2 inches, Rifle .30 U. S. Model 1903.

58 CONSECUTIVE BULLSEYES were made in the same match by P. J. O'Hare, Co. L, 1st New Jersey Infantry, with bullet 308241 and 10 grains Marksman powder. Distance 100 yds. Bullseye 4 inches, Rifle .30 U. S. Model 1903.

Bullet 308241 is fine for all .30-30 and .303 caliber rifles for all ranges up to 300 yards.

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ARMS AND THE MAN

WASHINGTON, D. C.

The score of N. C. Turner, Lapel, Ind., was again highly demonstrated at the shoot held there on April 14, Mr. Turner using Steel Lined Nitro Club shells in his Remington pump gun, and won high amateur average out of a field of 30 shooters.

At the close of the two-day tournament at Ashley, Ohio, on April 20-21, Fred Shattuck led the amateur field with a score of 325 out of 360, shooting Steel Lined U. M. C. shells. Here is another instance where skill and quality make a winning combination.

As evidence of what the Kansas spring sunshine will do, Billy Heer at Larned, Kan., on April 13, broke 99 out of 100 and in 25 doubles broke 44. He used U. M. C. Steel Lined Arrow shells and a Remington gun.

It is a pleasure for ARMS AND THE MAN to state that several states have become interested in Acheson-Graphite, Grade "1340," for distribution to the members of their National Guard. In states that make an appropriation for this purpose the Guard is certainly fortunate in having placed in their hands a Firearms Lubricant of so much merit. In states that do not make an appropriation, thus tying the hands of the Adjutant General, it is necessary for the various companies to purchase a supply. We are informed many of the companies are purchasing such supply, thus giving general recognition to the merits of Acheson-Graphite, Grade "1340."

THE RED W COMBINATION.

Very nearly a clean sweep for Winchester Red W shells was made at the big Kansas shoot, April 14, 15, 16, they winning all amateur averages, and first and second professional averages, as well as every special event including the Kansas State Championship. E. W. Arnold, who was second high amateur, with 626 out of 660 targets, won the State Championship with a score of 50 straight, shooting Leader shells. Fremont Huston was third high amateur with a score of 619. By far

the majority of shooters competing used Winchester shells and the winnings made with them more than justified their choice.

At Lawrence, Mass., April 19, H. C. Kirkwood made the highest score, breaking 138 out of 150 and winning first amateur average. He shot Repeater shells. At Sedalia, Mo., April 20, Fred Gilbert broke 197 out of 200, and J. S. Thomas broke 196 out of 200, both shooting Winchester shells. At Bradford, Pa., April 17, Frank Korner broke 93 and F. J. Conneely 89 out of 100, both shooting Winchester shells and winning respectively first and second amateur averages.

The extremely high scores made above with Winchester shells show their accurate and hard shooting qualities. They are the 96.77 per cent shells.

PETERS SEMI-SMOKELESS CARTRIDGES AHEAD.

Three teams of eight men each, representing the rifle clubs of Johnstown, Alexandria and Granville, Ohio, shot a race at Alexandria, April 15, in which Johnstown came out ahead, with a score of 823 against 796 for Alexandria, and 787 for Granville. A majority of the shooters used Peters Semi-Smokeless cartridges, including the entire Johnstown team.

In the Inter-Collegiate Championship Rifle Match for 1909, the Columbia University Team, New York City, was second with a score of 923. A. A. Leech, Jr., of this team made the highest record in the match, scoring 49 standing and 49 prone, a total of 98 out of 100. This entire team, including Mr. Leech, used Peters Semi-Smokeless .22 caliber cartridges.

Mr. C. A. Young, shooting at the Cincinnati Gun Club, April 17, won high average with a score of 195 out of 200. On the following day at Dayton, Ky., he was again high with 97 out of 100, shooting Peters shells on both occasions.

Mr. Lester German, shooting Peters shells, won high professional average at Phillipsburg, N. J., April 15, score, 185 out of 200. Mr. Sim Glover was second,

with 176; Mr. Neaf Apgar third, 174. Among the amateurs Messrs. Allen Hiel and J. L. Englett, both of Allentown, Pa., tied for first, each breaking 182. All the above gentlemen used Peters factory loads.

At Smithville, Tex., April 15, high amateur average was won by Capt. G. W. Oliver, who scored 93 out of 100. P. P. Brown was high professional with 92 out of 100. Both used Peters factory loaded shells.

Mr. W. A. Tewes, winner of the 1909 Indoor Rifle Championship (.22 caliber), and also holder of the world's record—2481 out of 2500—has set a new mark this past winter for accurate and consistent shooting. In thirteen practice matches at the Zettler Rifle Club, New York, during the season of 1908-1909, he averaged 2465.46 out of a possible 2500, his low score being 2452 and his high score 2478. No such score was ever made at the Zettler gallery, and it is doubtful if it has ever been equalled on any other range. Mr. Tewes' success would of course be impossible without exceptionally fine holding, neither could it be accomplished with ordinary ammunition. The fact that he used Peters .22 caliber Semi-Smokeless cartridges exclusively enabled him to place every shot exactly where he held.

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One half inch or less, 50 cents an insertion, 10 cents for each additional line. Cash must accompany copy or advertisement will not be inserted. Stamps of larger denomination than 1 and 2 cents will not be accepted.

FOR SALE.—.38 Caliber Schuetzen rifle, fancy stock, Swiss butt plate, Remington Hepburn action, hair trigger, 6 power telescope and globe-peep sight, weight 15 pounds, 30 inch barrel, extra 500 yards barrel, complete loading outfit including latest combination powder measure. Cost \$150, sell for \$50. Good as new. Address

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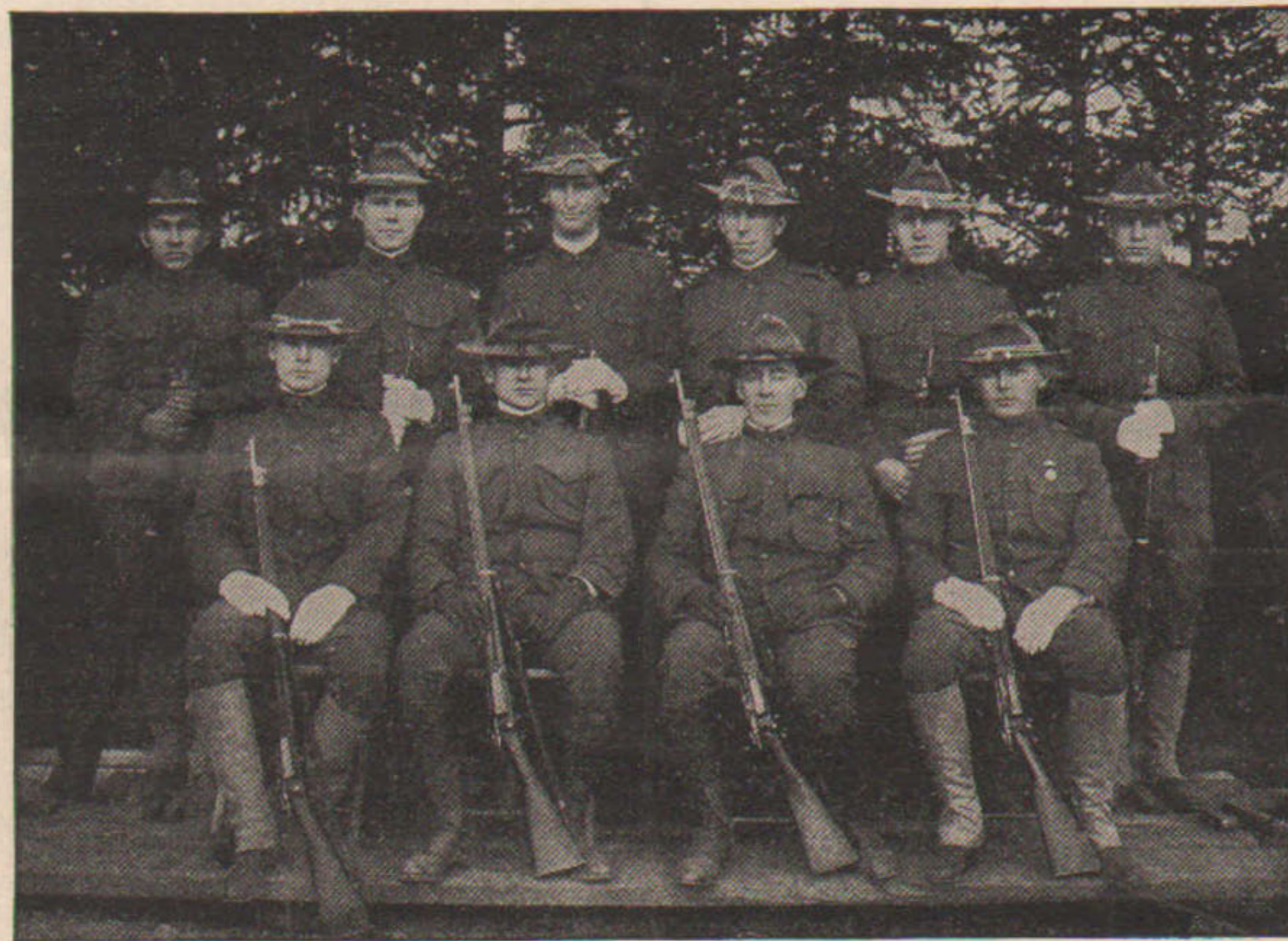
YOU SAW **US** ammunition round off the year by smashing at Sea Girt every long distance accuracy record ever made.

No subsidized shots, no free ammunition, but every one used it who could because it was the best. It is always the best.

THIS YEAR

Will be but a repetition of last. See how we have begun.

You have been told on this page in previous issues about the two teams of five high school cadets each which came from Portland to Boston, where they won first and second places in the High School Indoor Championship of New England.



Now we are able to tell you of and to produce for your inspection a picture of, the team of the Washington State College, which, in the face of tremendous obstacles, won the Indoor Inter-Collegiate Championship of the United States against sixteen other colleges.

RIFLE TEAM OF THE WASHINGTON STATE COLLEGE.

	Standing.	Prone.	Total.		Standing.	Prone.	Total.
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J. J. Kimm	41	48	89	E. C. Stewart	46	49	95
O. E. Leiser	45	48	93	E. F. Emmicks	46	50	96
J. B. Wiley	49	48	97	G. C. Armstrong	46	48	94
J. A. McGillicuddy	46	50	96				
A. J. Morgan	47	50	97	Totals	459	490	949

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