

RIFLE
AND
ASSOCIATION
OF AMERICA

ARMS AND THE MAN

SOMETHING ABOUT THE UNITED STATES
ENFIELD

ANOTHER REDUCED CHARGE FOR THE
SPRINGFIELD

THIRTY YEARS AGO WITH THE HAND GUN
The early records of Walter Winans

N. R. A. CONSIDERS PISTOL COURSES

ARMY WILL DEVELOP FIGHTING AEROS

EDITORIALS AND
LATEST NEWS OF RIFLE, REVOLVER AND
SHOTGUN, THE ARMY, THE NAVY AND
THE NATIONAL GUARD

VOL. LXII, NO. 16



JULY 14, 1917

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of the National Rifle Association, by users of

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HIGHEST INDIVIDUAL RECORD	-	Made by T. K. Lee, of Birmingham Athletic Club Team, 1,999 out of a possible 2,000
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ARMS AND



THE MAN

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Something About the U. S. Enfield

By STEPHEN TRASK



Enfield rifle showing conformation of bolt and receiver, with magazine "safety"; there is no "cut-off"

REAMS of misinformation, hazards and guesses have been printed during the past two months concerning the United States Enfield. Some of these inaccuracies are of no very great importance. A few of them, however, might be regarded as possible of far-reaching and pernicious results.

Among the statements which should be emphatically denied at the start, and which unfortunately have received wide publicity, is that Springfield ammunition with a chamber pressure varying from 50,000 to 52,000 pounds per square inch will be supplied for use in the Enfield which was designed to resist a pressure of only 42,000 pounds, and that the bolt of the Enfield is weaker than that of the Springfield.

The truth of the matter is that Springfield ammunition will be used in the Enfield, and that the Enfield ammunition exerts only 42,000 pounds per square inch as against the 50,000 or more pounds which the service shell produces. This, however, does not mean that the limit of safety in the Enfield is 42,000 pounds, or that to issue rechambered Enfields to the men who are destined to carry the flag of this Government on French soil will be to place them under the added handicap of a poor, untrustworthy weapon, likely to do as much damage from the breech as from the muzzle.

Unfortunately, authentic information concerning the British Enfield of 1914 is hard to obtain. There was never a manual for this arm. It was a product of the early necessities of the great war, and men have been too busy using it on the field of battle to stop and write about it.

Concerning the United States Enfield, even less can be told with final authority. It is still in the formative period, and when these rifles are issued they may—or may not—conform exactly to the specifications as planned at present.

There are a few facts which can and should be stated at this time positively and with authority. They are:

That whatever form the United States Enfield may take, its fundamentals will be right.

That the Enfield will not supercede the Springfield as the United States service rifle.

But that when it is placed in the hands of United States soldiers it will be a thoroughly trustworthy weapon, safe to operate and ballistically accurate.

As yet the Government is not ready to make any official statements concerning the United States Enfield. This is chiefly because many alterations and modifications were necessary, in the opinion of ordnance experts, to make the weapon a satisfactory substitute for the Springfield in case of a shortage of service rifles.

It can, however, be stated on high authority that the United States Enfield will be chambered to take Springfield ammunition; that its ballistics will be relatively the same as those of the Springfield, with the likelihood of a slightly increased muzzle velocity; and that the sights will be the same as those on the British model, retabled to compensate for the difference in ammunition.

To understand just what has been done and what is likely to be done in the development of the United States Enfield, it is well to consider what was accomplished in bringing out the British Enfield of 1914, and the reasons for adopting a modified, rechambered form of this arm as the emergency weapon of the United States.

When the Springfield rifle superceded the Krag, the death-knell of so-called "rim cartridges" was sounded, as far as the United States War Department ordnance experts were concerned.

Not so, however, in England, for the British small-arms designers still held to the rim cartridge at the time the latest models of the Lee-Enfield were produced.

A few years thereafter, however, the British began experimenting upon the rifle which is now known as the Enfield 1914. These experiments had, at the time the European war broke out, reached the point where the protruding magazine of the

Lee-Enfield had been discarded, the barrel—shortened in the so-called "Short Enfield"—restored to its present length, and where a .276 rimless cartridge, carrying a cordite charge, had been designed.

This rifle, it is said, produced wonderful results with a 165-grain bullet. The approximate muzzle velocity gained with this charge, it is said, was 3,000 foot-seconds and the muzzle energy 3,300 foot-pounds. Upon such a showing, Great Britain determined to equip both her army and her navy with this new rifle.

But the declaration of war cut short these plans. All of England's factories at home were equipped to manufacture the old Lee-Enfield. To have changed them would have meant untold delay. Therefore it was determined to manu-



Auxiliary sight for long-range shooting as it appears on the Enfield of 1914, rear peep rising at rear of receiver, front sight just behind forward sling swivel. This will be omitted from the United States Enfield.

the commercial plants which were already equipped to manufacture military small arms.

The fact that many of these plants could undertake Government contracts immediately, thus insuring quick deliver-

It is pointed out that unless rim cartridges are of the finest workmanship, and unless they are fed through the magazine uniformly with the rim of the top cartridge ahead of the rim of the one immediately below it, jams are likely to

COMPARATIVE FIGURES ON THE U. S. ENFIELD, SPRINGFIELD AND ENFIELD OF 1914.

NOTE.—The statistics on the U. S. Enfield are necessarily unofficial, and are merely approximate estimates based on present plans.

	U. S. ENFIELD	U. S. SPRINGFIELD	ENFIELD OF 1914
Length of rifle over all.....	46.3 inches	43 inches	46.3 inches
Weight of rifle:			
Without bayonet.....	9 lbs., 6 oz.	9¾ lbs.	9 lbs., 6 oz.
With bayonet.....	10 lbs., 8 oz.	8¾ lbs.	10 lbs., 8 oz.
Calibre.....	.30	.30	.303
Length of barrel, (chamber and bore)...	26 inches	23.79 inches	26 inches
Number of grooves.....	5	4	5
Twist.....	1 turn in 10 inches, left hand	1 turn in 10 inches, right hand	1 turn in 10 inches, left hand
Width of lands.....	No definite data	.0589	.0936
Width of grooves.....	No definite data	.1716	.0936
Depth of grooves.....	Probably from .005 to .008	.004	.0045 to .008
Distance between sights.....	31.76 inches	22.12 inches	31.76 inches
Trigger pull.....		3 to 4½ lbs.	
Powder pressure in chamber.....	50,000 to 52,000 lbs. per sq. inch.	50,000 to 52,000 lbs. per sq. inch	42,000 lbs. per sq. inch
Muzzle velocity.....	2,700 ft. per second or slightly better	2,700 feet per second	2,380 feet per second
Maximum range.....	About 4,900 yards	4,891 yards	Extreme sighting range 2,600 yards
Weight of bullet.....	150 grains	150 grains	144 grains
Weight of powder charge.....	50 grains	50 grains	39 grains of cordite

facture the Lee-Enfield exclusively in Great Britain and to let contracts for the manufacture of the Enfield of 1914 in the United States.

Accordingly, some of the .276 models were sent to this country and their manufacture—rechambered to take the .303 cartridge—began.

Within a surprisingly short time plants capable in the aggregate of producing more than 10,000 rifles a day had been perfected. In these plants there were more than 17,000 gauges, an equipment which it has been estimated would require the services of thousands of tool-makers many months to produce.

When faced with the necessity of providing an immense reserve of rifles, without an adequate supply of Springfield gauges and jigs, the War Department experts immediately looked over

ies, and that to supply all rifles and cartridges this Government will need will not exhaust all the facilities of these factories, were the prime arguments in favor of adopting modified Enfields, although the Ordnance Department *does not now and never has regarded the British rifle as superior to the Springfield*. Yet they realized that the Enfield is a high-class weapon and that it can be produced in great quantities.

In spite of these advantages, the Enfield of 1914 failed absolutely in one respect to meet the approval of the ordnance experts, and the feature upon which the army officers gaged was the rim cartridge. This, incidentally, may serve to throw some little light upon why the Government did not begin again to manufacture Krag's to be the emergency weapon.

occur, and have occurred frequently with the Lee-Enfield, the Enfield of 1914, and the Ross military rifle.

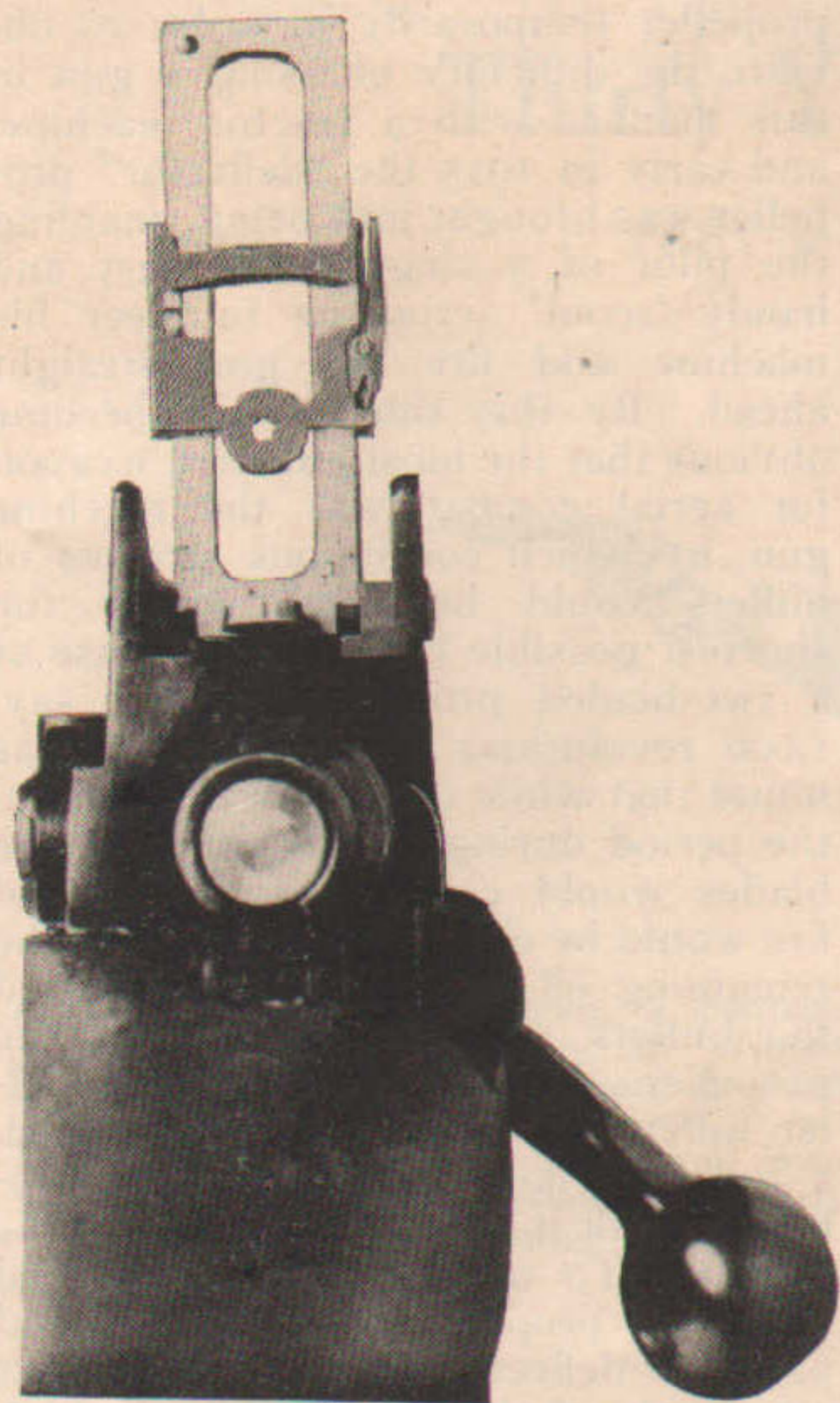
It was, therefore, "thumbs down" on the rim cartridge and, although the value of ammunition interchangeable between the United States and the English forces was urged, the service cartridge with the so-called "shoulder lodgment" was selected as the ammunition for the United States Enfield.

From present indications, the United States Enfield will, in general outline, be the same as the Enfield of 1914, notwithstanding the fact that many ordnance officers insist that the design does not appeal to them as much as does that of the Springfield.

Now as to the detailed specifications, so far as is known at present, of the United States Enfield—



The United States Enfield will, in general outline be the same as the Enfield 1914.



The receiver sight of the U. S. Enfield, with leaf raised showing the peep sight in the slide. The leaf is 2½ inches high.

SIGHTS

The United States Enfield will be provided with front and rear sights almost identical with those of the Enfield of 1914, except that the graduations will be altered to compensate for the velocity of the Springfield ammunition.

The front sight consists of an adjustable knife-blade, not greatly different from, although slightly smaller than, that of the Springfield, keyed into a front-sight stud. The sight is protected by a heavy wing on either side, forming a "U," with the blade in the center.

The rear sight is a receiver sight. On the Enfield of 1914 it was graduated to 1,600 yards at 100-yard intervals. It is provided with an excellent battle-sight peep close to the eye, for use when the leaf sight is prone. The slide on the leaf is equipped with a second aperture sight.

On the Enfield of 1914 is mounted an auxiliary sight for shooting at distances greater than the 1,600 yards provided on the rear leaf, and up to 2,600 yards. This sight consists of a third aperture to the left and rear of the receiver and is used independently of the blade front sight, a rather novel front sight being provided for this auxiliary rear sight just back of the forward sling swivel. This front sight consists of a bar with a button on the forward end and an indicator on the rear end. The indicator works upon a graduated scale of elevation, running from 1,600 yards to 2,600 yards. In adjusting the auxiliary sight, the indicator is moved to the desired elevation, and the sight taken

upon the button through the rear aperture. This sight, however, is not regarded as being either practical or necessary and will be omitted from the United States Enfield.

As in the rear sight of the Enfield of 1914, the rear sight on the United States Enfield will not be provided to compensate for windage.

BOLT, CHAMBER AND MAGAZINE

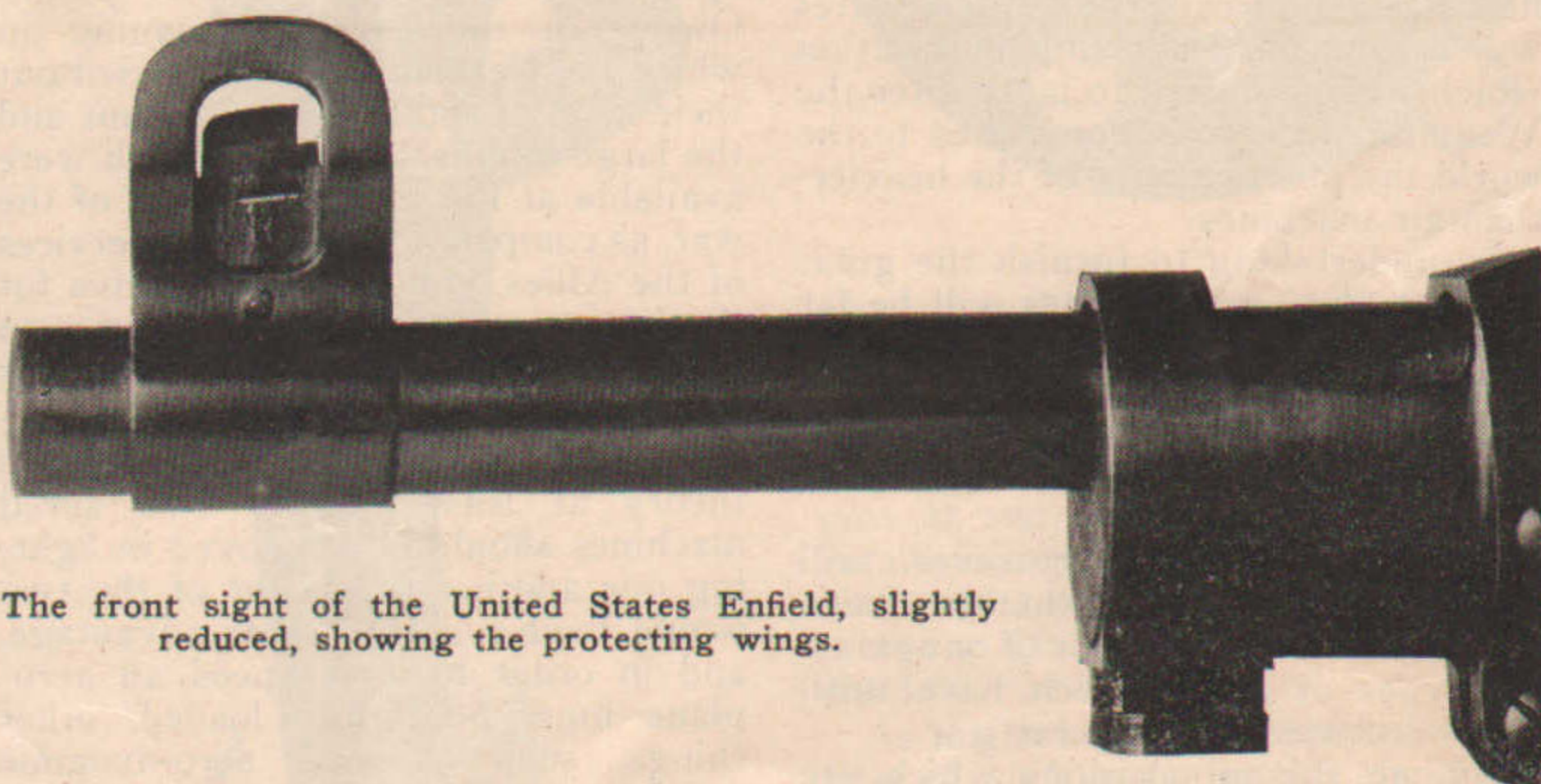
The bolt on the United States Enfield will be the same as that of the Enfield of 1914, with a modification of the ejector to handle rimless cartridges. The statement has been made that the Enfield bolt is not as strong as that of the

those not willing to accept the high resistance of the original receiver as a fact, the reinforcement of receiver and barrel was ordered.

The magazine feed in the British Enfield in principle is not greatly different from the Springfield, and the magazine feed of the United States Enfield will follow that of the British arm, with a modified magazine follower to feed the rimless .30-calibre ammunition. The magazine, while provided with safety lock, has no cut-off.

RIFLING

The rifling in the United States Enfield will be quite different from that of the Springfield. In the Springfield there
(Concluded on page 312)



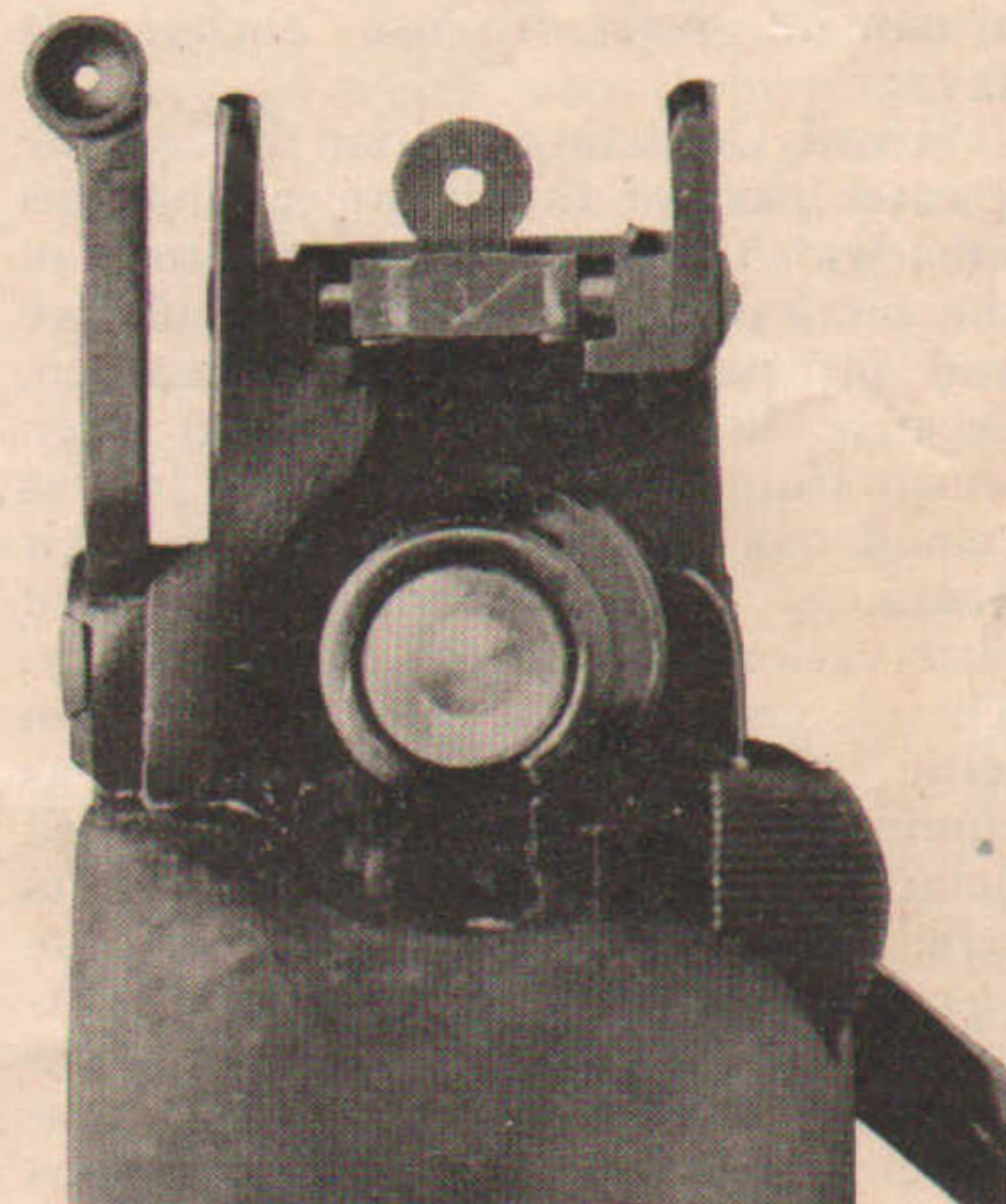
The front sight of the United States Enfield, slightly reduced, showing the protecting wings.

Springfield. As a matter of fact, many experts regard the Enfield bolt as being stronger, since it has practically the same dimensions as the Springfield, has two safety lugs, and is made of nickel steel. Both the Springfield and the Enfield are modified Mausers, but in the United States Enfield the bolt action will be slightly different from that of the Springfield.

In the Springfield the piece is cocked when the bolt is drawn back, the mainspring being entirely compressed by this action. In the United States Enfield, the compression of the mainspring is only begun when the bolt is drawn back; final compression results when the bolt is closing again and the cocking-piece engages with its sear.

The chamber of the United States Enfield will, of course, be bored for the .30-calibre service ammunition. In addition it will be reinforced so that there will be no possible danger from the greater pressure that the Springfield cartridge exerts. It is pointed out that the receiver, as designed for the Enfield of 1914, was only required to resist a pressure of 42,000 pounds, yet, in fact, is strong enough, being also made of nickel steel, to resist the pressure of the Springfield ammunition. To make assurance doubly sure, however, and to forestall any criticism on the part of

The excellent battle sight of the United States Enfield, placed on the receiver, close to the eye, for use when the leaf is prone. To the left is a rear view of the auxiliary, long range sight. Reproduction approximately same size.



WILL DEVELOP NEW FIGHTING AEROS

AEROPLANES armed with broad-side guns, possibly of the same general type as the naval one-pounders may result from the entrance of the United States into the world war.

But whether air-craft of this type figure in the sky battles of the coming years, the United States is expected to furnish an aero fleet of new design which will blind the enemy's heavy artillery, and sow terror, devastation and death in von Hindenburg's lines.

It is toward this end that the \$600,000,000 appropriation now pending in Congress will be devoted, and the allied nations confidently expect that in providing the immense air fleet needed abroad, the United States will resume its leadership in aviation which was permitted to lapse after the Wrights had first demonstrated to the world the practicability of the heavier-than-air machines.

In undertaking to furnish the great air fleet, the United States will be far better equipped in the beginning than were the nations of Europe who in August, 1914 had purely speculative information upon the value of the aeroplane in war.

The United States, however, will have the benefit of all that has been established either in favor of or against the types of aeros which have until now been used in the great war.

Among the propositions which are receiving consideration is the belief, well-founded in certain quarters, that heavier and less speedy aeroplanes can render signal service through the possibility of heavier armament than service calibre machine guns, and that by virtue of their heavier guns they can stand off attacks by speedier small craft.

In recently discussing the evolution of the fighting aeroplane the British Army and Navy Gazette contributes some interesting information on the armament now in use abroad. It says:

"Until German ambition forced the greater part of the European nations into war the question of fighting in the air had had a purely speculative and prospective interest for airmen, because little or nothing had been learnt from actual experience. It was considered that the work of the Air Services was reconnaissance and observation in aid of the artillery. Their employment in connection with siege operations, such as communicating between a besieged detachment and the force moving to its relief, had been considered, but the possibility of interminable trench fighting taking the place of mobile operations for months and years had presumably not entered the calculations

of even the German General Staff, any more than the absolute necessity which now exists for fighting for every scrap of information which is obtained by overhead scouting when opposed to a well organised force with aircraft of its own. With their initial superiority in the number and weight of their artillery the Germans realised from the first the importance of the aeroplane as a platform for observers and the difficulty which the enemy would have in dealing with them by anti-aircraft fire. The success of their airmen in performing the part of eyes to their heavy artillery was the primary, though not the only, factor which brought about in course of time the present persistent and intensive aerial fighting on the Western Front. Owing to the excellent manner in which the German aviators carried out their work of spotting for the guns and the large numbers of them which were available at the commencement of the war, as compared with the Air Services of the Allies, it became imperative for the latter to attack the enemy airmen on every possible occasion regardless of inferiority in numbers.

"It had always been realised—in theory at least—that if two aerial machines should be employed in fighting one another the faster of the two would have a considerable advantage, and in order to have speed an aeroplane must be lightly loaded, other things, such as size, aero-dynamic qualities and suitability of design, being equal; or it must have superior engine-power to drive it through the air.

"The Germans had gone into the question of aerial fighting in heavier-than-air machines before the war, it is true, but they had come to the conclusion that very little good work could be done with a gun from an aeroplane, and their machines were well adapted for scouting, but not for firing from. The greater number were tractor monoplanes and biplanes. The passenger in a two-seater generally sat in front of the pilot and had a good view ahead, but the propeller prevented him from firing in that direction. In the case of single-seater machines the pilot, if attacked, could temporarily abandon the controls and use a rifle or revolver, as they were mostly possessed of considerable automatic stability by virtue of their design. An exception to the usual types of machine in regard to facilities for self-defense was the D.F.W., wherein the pilot had the front seat and his observer or other passenger had a reasonably good field of fire on either side.

"Much ingenuity was exercised, amongst other devices being a synchronising device which stopped the

propeller temporarily in order to obviate the difficulty of using a gun in this manner with a tractor machine, and early in 1915 the "deflector" propeller was brought into being, enabling the pilot of a single-seater fast and handy 'scout' aeroplane to steer his machine and fire his gun straight ahead. By this time it had become obvious that the most effective weapon for aerial combat was the machine gun, by which continuous streams of bullets could be fired within the shortest possible time. In the case of a two-bladed propeller making, say, 1,000 revolutions per minute, it was found that while the gun was in action the period during which either of the blades would come into the line of fire would be only 2 per cent. For the remaining 98 per cent. of the period the bullets would pass clear of the propeller. With an ordinary propeller, unless it were temporarily stopped, a bullet striking a blade would probably break it and inflict injury on the airman. To obviate this the special 'deflector' propeller has a small metal plate or deflector fitted at the point where the bullet will strike, which turns it off at an angle clear of the machine and there is no need to stop the propeller even temporarily. Although 2 per cent. of the bullets are thus wasted as regards the mark aimed at by the pilot, there is no appreciable jarring of the engine. Of course, the gun is in a fixed position behind the propeller, and the pilot has to keep it on the mark by steering and must steer straight for his enemy in order to fire, while the latter, knowing this, will endeavor by skilful manœuvring to keep out of the line of fire.

"The Germans were quick to perceive that their early machines were no match for the faster and handier aeroplanes of the Allies, and introduced the Fokker monoplane. This machine, very like the French Morane as regards design, very lightly loaded, with a rotary engine like the Gnome of 100-h.p., called the 'Ueberursel,' carrying only a two hours' supply of fuel and capable of doing 100 miles an hour, was sent against Allied machines with engines of 70 to 80-h.p., and capable only of doing 70 to 90 miles per hour. Owing to the nature of their duties, such as long distance reconnaissance and artillery observation, the pilots often took observers with them and had to load up with several hours' supply of fuel and wireless instruments, in addition to machine-gun and ammunition, and they travelled frequently considerable distances behind the enemy lines, whereas the Fokker, sent out exclusively for fighting purposes, carried only the minimum of fuel, machine-gun and am-

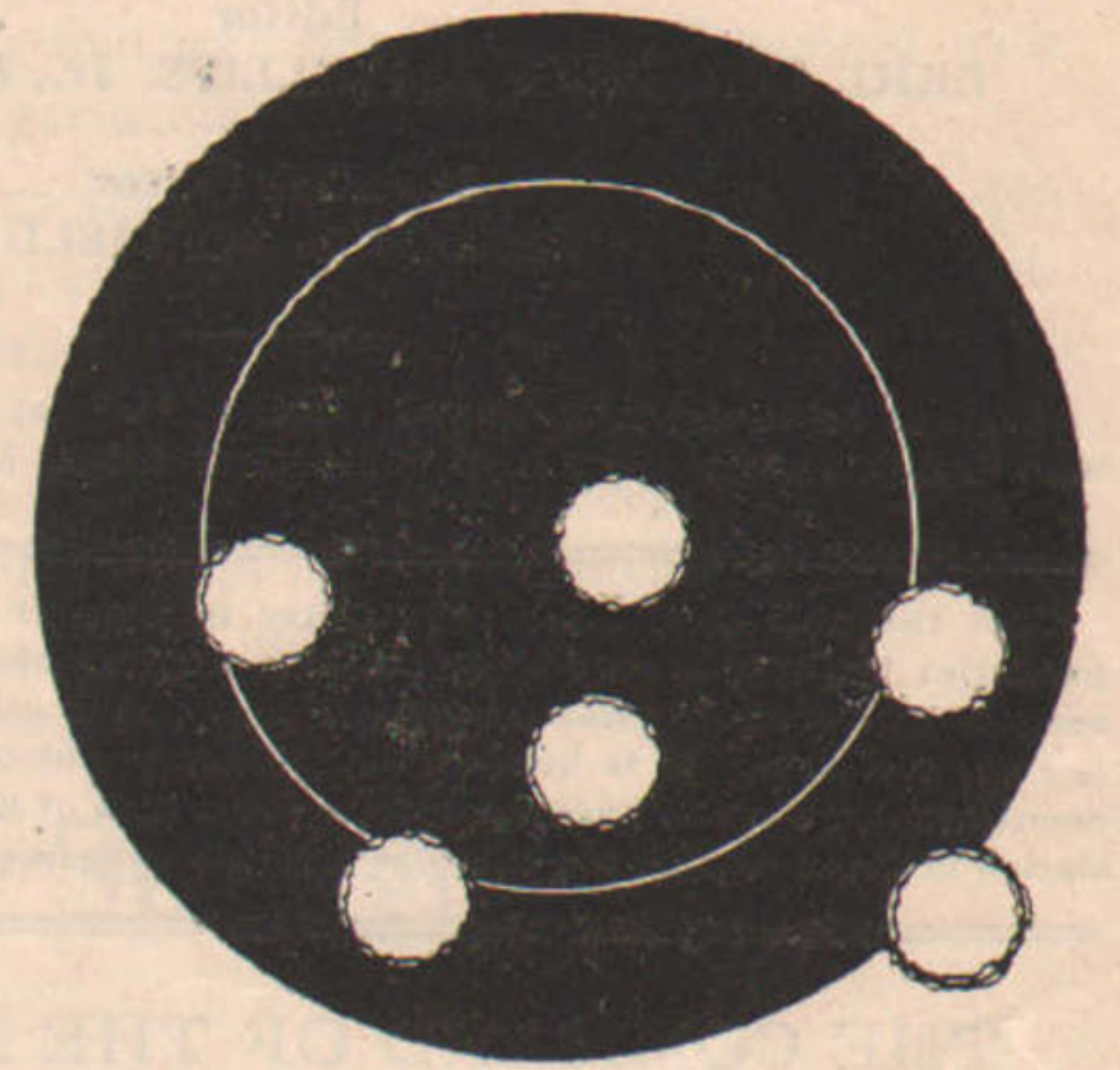
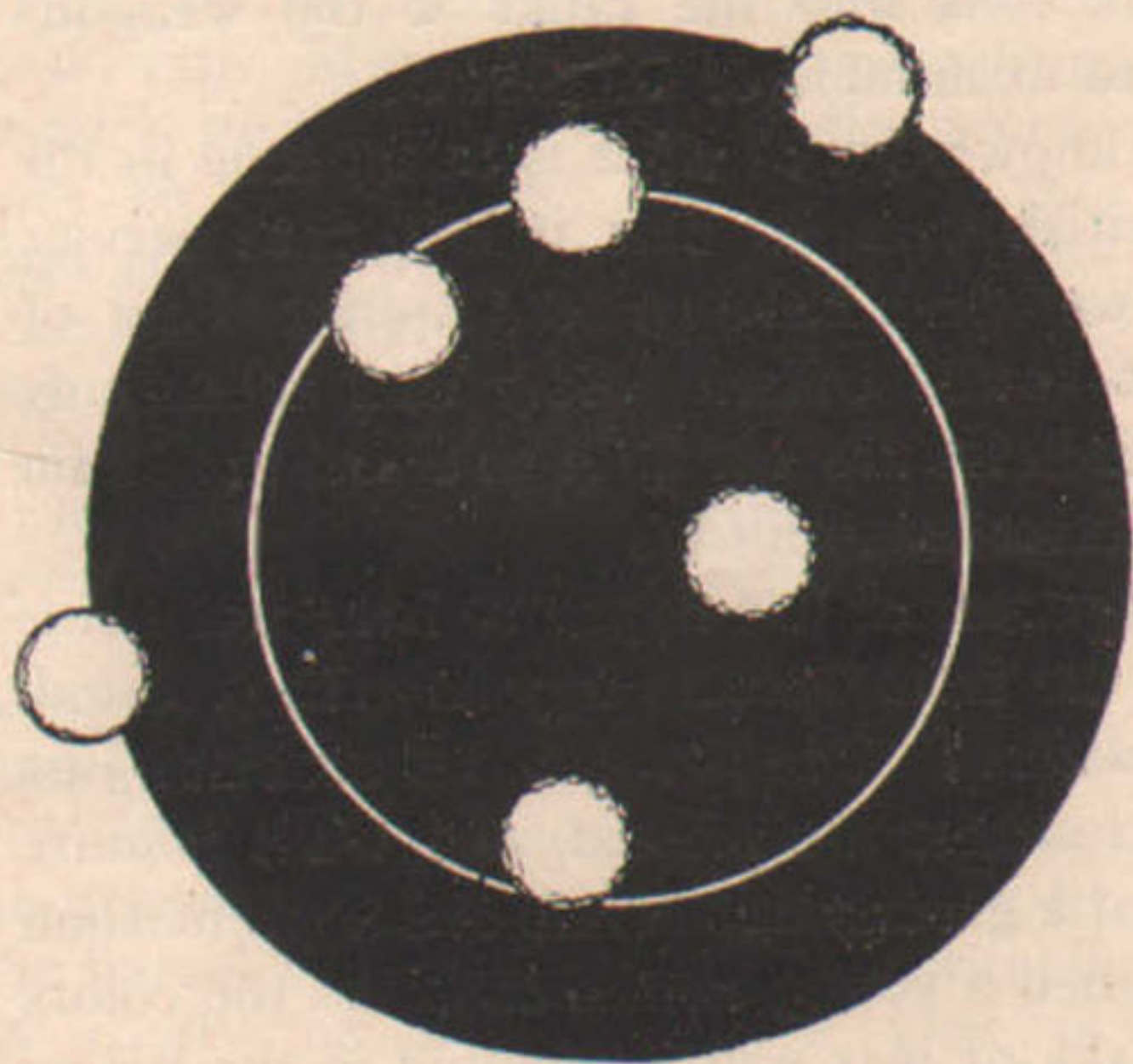
(Concluded on page 312.)

Thirty Years Ago With the Hand Gun

PART 6—THE EARLY RECORDS OF WALTER WINANS



Center, Walter Winans from a contemporary cut; left, target shot by Mr. Winans with Colts revolver, Wimbledon, England, during the meeting of 1889; right, target shot by Mr. Winans with Smith and Wesson, Russian model, at Wimbledon, England, during the meeting of 1889.



deer upon the immense game preserves in Scotland which his wealth enabled him to lease. Early accounts of Winans' skill credit him with twelve stags in a single afternoon, and his stalking between August 22 and October 13, 1883, at Glen Strath-Farrey, resulted in 102 stags, 16 hinds and 3 roe deer, a total of 121. At that time this was the record for a single shooting season in Scotland.

As might have been expected from a man of such wide hunting experience, when Walter Winans finally took to target shooting he almost instantly ranked with the finest shots of the world, and he probably fell into gallery shooting by dropping into shooting pavillions as he traveled over continental Europe, where there was little or no chance for big-game hunting.

It is related that in 1880 he won the silver medal at the shooting gallery at Mount Dore, France, with a clean score of 10 shots at 25 metres, using a Frank Wesson .22-calibre rifle, and also a handsome trophy for breaking 19 out of 20 eggs which were thrown into the air by the jet of water from a fountain. That year he also won third prize in the running-deer target at Wimbledon, a victory which fore-ran many and more brilliant triumphs on the same course in later years.

When in 1886 revolver shooting was started at the South London Rifle Club, Winans won 23 out of the 26 revolver events in which he entered.

The year following the revolver competitions at Wimbledon, previously limited to officers of the British army, were thrown open to any member of the British National Rifle Association. There were three competitions, two of which were open to any .45-calibre revolver.

(Concluded on page 312)

WALTER WINANS, whose name is more than likely to crop up in any conversation having to do either with British rifle and pistol records or big-game hunters, yet who is an American, is said to have been the only man up to 1888, aside from C. Frederick Lowe, who succeeded in recording in England a perfect score with the revolver on a 3-inch bull's-eye at 20 yards.

Most men who have followed the shooting game through the past quarter of a century are more or less familiar with Walter Winans' ability. But many of his early records have become obscured either by time or the brilliancy of later feats which eclipsed previous triumphs. Yet some of his records, which were contemporaneous with those of Paine and the Bennett brothers on the revolver range and with the successes of the straight-shooting brotherhood of Walnut Hill, may bear review.

Walter Winans was born near St. Petersburg, Russia, in 1852. He was the

son of William L. Winans, of Baltimore, who was in the fifties engaged in constructing railroads for the Russian Government, a highly lucrative connection which in later years enabled the younger Winans to indulge to the full his love of marksmanship.

He began his shooting at living targets when little more than a boy. He never attempted target shooting until well along in his twenties, for he was firmly convinced that to shoot at a stationary target would be to impair his skill as a snap-shot. Consequently what little practice he indulged in was directed at glass balls thrown in the air or at swinging bottles. This, and the fact that he possessed an unequalled stag record, might account for his later successes at the "Running Deer" and "Running Man" targets at Wimbledon.

Something of Winans' early skill as a hunter is not amiss in any discussion of his earlier victories, he having spent most of his time from 1870 to 1885 shooting

ARMS AND THE MAN

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Editor

BRIG. GEN. FRED H. PHILLIPS, Jr., Secretary N. R. A.

Associate Editor

KENDRICK SCOFIELD

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 the 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.

THE COMMAND OF THE NATIONAL GUARD

ANNOUNCEMENT has been made by the War Department that no officer of the regular army can be commissioned to command any regimental National Guard unit drafted into the National Army. This means that while regular army officers will be in command of the regiments of the regular army and of the "selected conscripts," the National Guardsmen are to be turned loose to take care of themselves, to stand on their own legs, and—presumably—to succeed or fail, according to their own abilities.

It is conceivable that many National Guard officers who have had the training incident to the Mexican border mobilization are quite as well equipped not only to command a regiment, but, what is more, to conserve the well-being of its men, as many untried officers of the regular army. On the other hand, new National Guard units have been extensively organized, and the most enthusiastic supporters of the National Guard idea would not argue that these men are necessarily qualified either to lead or to take care of a regiment in the field.

The proposal to prevent regular army officers from accepting National Guard details is, in itself, an unheard-of procedure. Does it mean that the army is at last willing to admit that there is some fighting virtue among the civilian soldiers? Or does it mean that while many seasoned National Guard units are being turned loose to shift for themselves, other untried units are going to pay the penalty of lack of experience? Whichever happens to be the case, such a course is likely to cause unnecessary hardship and sacrifice of life.

Especially is this true of units embracing cavalry and field-artillery contingents, since few if any officers in the National Guard have had much or any experience with the work or needs of these branches of the service.

The fighting forces of the United States in the present war have been designated "The National Army." "The National Army" it should be in fact as well as name. No unit, regardless of its origin—whether made up of selected conscripts, regular army or National Guard—should be officered by in-

competents. *The best man possible for the place* should be the motto in the commissioning of all officers.

The personnel of the commanding officers of the first expeditionary force has been a source of national pride. The country feels that no mistake was made and there is every reason for believing that this confidence will be justified. Therefore, there is all the more reason for the War Department to exercise scrupulous care in the selection of officers for the National Army, in order to insure the right man for the right place, whether he be Regular officer, Reserve officer, National Guardsman or civilian.

Upon the application of the Governor of any State, the War Department should assign a competent man to the command of any Guard unit whose officers have not had the field experience necessary to insure, as far as possible, the well-being of the men and the success of the war.

THE U. S. ENFIELD

EVERYTHING possible should be done to counteract the false impression that the Enfield rifles with which at least a part of the United States forces in France will be armed are in the least unsafe.

War carries with it enough hazards, even under the best conditions, and mothers and fathers could be forgiven if they hesitated to send their sons into the ranks if the weapons provided for them were unsuitable or dangerous.

Lacking a thorough knowledge of what is being done in the remodeling of the British arm, so that it will take service ammunition, many newspapers have printed stories some of which merely suggest—while others baldly and mistakenly assert—that the new Enfields are not built to stand the strain of the heavy United States ammunition.

Already the War Department has begun to hear from citizens protests which, if the facts were as they have been stated, would be thoroughly justified. The protests will continue just as long as the incorrect stories are printed, and, what is more to the point, the seeds of a greater uneasiness and apprehension than normally comes when a young man is called to the colors to take the ordinary risks of war will be planted in the hearts of parents throughout the land.

Therefore, once and for all, it should be thoroughly understood that the British Enfield is being scientifically reinforced to stand the greater pressure of the new ammunition, and that there is no disposition on the part of the Government to let a single arm be issued which does not conform to scientific standards.

PROTECTIVE COLORATION FOR THE "SAMMIES"

ALMOST since the beginnings of modern warfare—the climax, although not necessarily the ultimate, of which has been reached in the present world war—nations have sought to protect their soldiers by uniforms which blend into surrounding scenery.

So thoroughly has the theory of protective coloration in uniforms become established that brilliant reds, blues and yellows have been discarded and the drab, indefinite tones have become more and more apparent in service clothes.

As early as during the war between the States, the misty gray and the nondescript "butternut" of the Confederate forces

demonstrated the value of uniforms which would merge with instead of standing out against natural backgrounds.

Both the army of the United States and that of Great Britain sought protective coloration in the adoption of khaki uniforms. The word "khaki" literally means "dust." And in garbing their fighters in brown and later in olive drab which copied the tones of the ground, both nations took a long step forward in the science of warfare.

When the German armies appeared in the lands of France, they came garbed in uniforms which seemed to dissolve against either the dun-colored earth, the green of the trees, the haze of a skyline, or the curtains of mist, for the color of their uniforms seemed to be a blend of all of the tones of nature. And it has been evident for a long time that the color of the German field uniform was the result of no haphazard chance, but that it resulted from a close study of the

atmospheric conditions of the country in which the fighting was to be done.

In spite of the fact that the benefit of such a uniform is self-evident, providing but an indistinct, misty target for enemy riflemen, England apparently has made no attempt to adopt a uniform more suitable for use in the trenches than is khaki, which stands out clear and well defined when compared with the German soldier's garments.

The United States should not make this same mistake. No chance to protect American soldiers through "fade away" uniforms should be overlooked. Clothing which is in itself a protection is just as vital to winning the war as are proper weapons. Before the United States has been in the war a year, her forces should be, and in all likelihood will be, completely outfitted with suitable uniforms.

Another Reduced Charge for the Springfield

By W. CARY NICHOLAS

MANY and varied are the special loads for the service rifle which have been suggested to N. R. A. members through ARMS AND THE MAN and other sporting papers, so that it seems hardly necessary to try and add anything to the sum total of information on this subject, especially since the load I am going to describe is neither new nor of my own concoction. It is, however, as I have found through personal experience, a thoroughly reliable practice load for the Springfield rifle "as issued." Therefore it may stand further discussion.

With it, thousands of rounds may be fired without the slightest injury to the barrel and the rifle may be cleaned as easily as a .22 calibre arm is "doped," with no resultant trouble from metal fouling, as is sometimes the case when the full service charge and metal-cased bullet is used. It is furthermore, extremely pleasant to shoot, as the recoil is reduced to a minimum—a consideration which is well worth while since, as every rifleman knows, even the "old timer" gets from the full service charge an occasional jab that shakes him up a bit; also, while "an occasional jab" means nothing to the seasoned shot, it is likely to induce that propensity so fatal to good shooting—flinching—in the raw recruit.

It is fairly astonishing how many N. R. A. riflemen have never tried reduced charge shooting, especially in the face of the present prohibitive cost of full charge cartridges, and when the only answer possible to the question "How can a man continue shooting?" is: "Use reduced charges and load your own."

It is really a case of load your own or go without. Personally I have had

the most gratifying results and at the same time found a great deal of pleasure in preparing my own ammunition both in the reduced loads and the full charges. If you are to prepare your own ammunition it will require, of course, a set of good tools. As my experience has been confined to one make for a period of years I mention them: the Ideal tools made by the Ideal Mfg. Co. of New Haven, Conn. I know, of course, that there are other makers of reloading tools that will answer just as well but as I have not used them I am not qualified to speak, and as this is an effort to put before the members of the N. R. A. a concrete example of personal experience I will confine myself entirely to just what I know to be good and to make no comparisons in any way.

As the reloading of different bullets require slightly different tools we will consider only those necessary for the reloading the reduced charge of 25½ grams of Dupont No. 21 with Bullet No. 308,334, leaving the loading of the full charge to a later date, the tools needed in addition to the reduced charge outfit being few and inexpensive.

Tools required for reloading reduced charge are:

One Ideal No. 5 universal powder measure with short drop tube.

One Ideal Bullet mould for bullet No. 308,334.

One Ideal melting pot.

One Ideal dipper.

One Ideal No. 10 special tool with single adjustable chamber .30 Cal.

One Ideal muzzle resizer for shell.

One Ideal Kake cutter.

One Ideal bullet sizer chamber to size bullet No. 308,334 down to .311", the bullet as it comes from the mould measuring approximately .314" on the

first band and .313" on the second (measured from the point). As the greatest diameter of the rifle is .308", the bullet must be sized down to .311", this extra size permitting the bullet to fit snugly in the rifling and preventing any possible escape of gas ahead of the bullet which will streak it and possibly cause erosion. The entire cost of the above tools will not exceed ten dollars and from this a liberal discount is allowed by the makers to N. R. A. members.

A pound of Dupont powder No. 21 costs in the open market \$1.25 and to load 1,000 shells with 25½ grains, 3 3/5 pounds will be required.

Ideal Bullet metal No. 2 costs, or did a short time ago 18 cents per pound. This metal is composed of 90 parts of lead, 5 parts tin and 5 parts antimony. It will require about 28 pounds to make 1,000 Bullets No. 308,334.

Gas check cups (these are little copper cups which are fitted onto the base of the bullet to prevent the hot gases from melting the metal) can be tapped on with a few sharp blows, but a machine which will do this work can be purchased at small cost. They will cost about \$1.00 per thousand.

Lubrication can be accomplished with a number of materials. I have always made my own out of yellow beeswax and cylinder oil, a combination which works very well.

If this mixture be used, heat it to the right consistency and dip the bullet base downward into it up to and including the first ring. The lubricant must be thick enough to stay in the ring without running off. After dipping set the bullets aside and they will dry in a few minutes. They can then be run through the kake cutter.

You can lubricate enough bullets in

a couple of hours to last you all season, although it is rather sticky work and you may have to re-heat your material once or twice to keep it at the right thickness. Do not lubricate the second ring on the bullet and you will have a cleaner job, it is not necessary and you can use this ring as a guide when seating the bullet in the shell, adjusting the single adjustable chamber in such a manner that the mouth of the shell will come just to the upper edge of the second ring.

Any non-mercuric primer will answer that is adapted to the service shell; as a matter of fact the U. S. No. 8 does my work very nicely. They will cost around \$3.25 per M.

From the above it will appear that the reloading of 1,000 shells with 25½ grains of No. 21 Dupont powder and bullet No. 308,334 will cost as follows:

Cost of Powder, 3 3/5 lbs. at	
\$1.25 per lb.....	\$4.50
“ “ Bullets, 28 lbs. of metal	
at .18 per lb.....	5.04
“ “ Primers at \$3.25 per M.	3.25
Total.....	\$12.79

I am not considering the cost of the lubricant as it is practically nothing, nor am I considering the original cost of the tools as they will last a life time with a little care and attention and save their cost many times over in the first few hundred shells reloaded.

Neither are the shells themselves considered as with the reduced load I have reloaded some of mine as high as twenty times and still have them in very good condition.

With the full service charge, of course, shells will not last as long although I have some that have been reloaded ten times and they show no signs of deterioration as yet.

The chief place to look for trouble is in splitting of the necks and enlarged primer seats when using full charges.

As soon as possible after using your shells decap the empties. The tool for this job comes with tool No. 10. Then throw shells into warm water and wash with common soap; this will prolong the life of the shells considerably. After washing put away to dry. The sun light is the best but on no account put them in an oven in order to hasten the drying process. If there is no sun and you must not put them in an oven, why you should worry; the shells will dry all right.

When dry recap and size the necks with the muzzle resizer. The shell should be sized for a distance of about 1/8" from end; if you do not do this the bullet will drop down into the shell.

Shells always have to be resized after firing because the explosion of the powder swells the necks and in fact sometimes the entire shell. You

will not have much trouble with swelling, however, if you do not overload.

To load the powder, set the slide D at 30, using both D and E slides; slide F should be pushed all the way home. This setting will give you 25½ Gr. of No. 21 powder or near enough to it for all practical uses. Then place the neck of the shell under the short drop tube and work the handle of the powder measure; this will transfer 25½ Gr. of powder from the powder reservoir into the shell.

When the shells have been charged (being careful not to get two charges in one shell), take the No. 10 tool and the single adjustable chamber which comes with the tool and adjust the chamber in the screw socket in such a manner that when the cartridge has been placed in the tool and the handle completely closed it will bring the neck of the shell up to the edge of the second ring on the bullet No. 308,334.

You will have to do this very carefully as all shells are not the same length and one bullet may be seated too deep and another not deep enough.

You will understand the thing with a little practice. Remove the cartridge from time to time, applying a little more pressure each time until the bullet appears to be seated properly. When it appears that the chamber has been set just the right distance you can then use the locknut on the chamber and set it just as you wish. Even then you must watch carefully for any variation in lengths. The variations are never such as you can see but practice will tell you best how to get each bullet seated just right.

Moulding the bullet is a hot job, but once you get the knack of it you will make progress rapidly. The main thing is to keep the metal at the right heat. The bullet mould itself is a contrary cuss and will refuse to work properly until heated up to just the right degree. Do not attempt to gain time, however, by hastening its heating in any other way than just pouring the lead into it.

After a dozen casts or so have been made the mould will be heated sufficiently and you will begin to get perfect bullets. Once you have the mould heated and the metal working right, you will be astonished to see what perfect bullets you can cast.

Do not be discouraged if at first you don't get it just right and the bullets look crimped and creased—you can remelt the poor ones, so don't keep any but perfect bullets; chuck the deformed ones back in the melting pot.

When the metal gets too hot the bullets will appear gray and sort of granulated; when they appear so let the metal cool off a bit.

When using this ammunition it will be necessary to set the sight at 750

yards when actually shooting but 200 yards using the 8" bull's-eye. When shooting at 300 yards set the sight at 925 yards when shooting at an actual 300 yards.

While shooting at 500 yards it is necessary to set the sight at 1150 yards, using the 20" bull's-eye.

The fact of the additional allowance of sighting need not bother anyone in the least, in fact it will be rather good practice for shooting the longer ranges but 500 yards is as far as it is practical to use this reduced load, yet up to and including this range you will find that you can get possibles with this combination, provided, of course, that the firer holds properly. However, if he can do it with any load he can do it with this, with the proper sight setting as described above.

Personally I am very much in favor of practice with the reduced load as it will induce many to shoot who otherwise could not afford it, and as a matter of practice it is my conviction that a man who can prove himself proficient with the reduced loads at the various distances from 200 yards to 500 yards will require but very little if any practice with the service charge in order to hold up his end.

In addition to that he will have had the same practice as if he had actually shot at 750, 925 and 1150 yards, due to the necessity of fixing his elevation to allow for the reduced load at actual 200- 300- and 500-yard ranges.

If you are considering the reloading of your own ammunition, by all means secure an Ideal handbook No. 26 from the makers of these tools. In it you will find in a clear and concise manner described all the points, etc., that it will be necessary to know in reloading any shell. Follow directions implicitly until you find you can improve upon them.

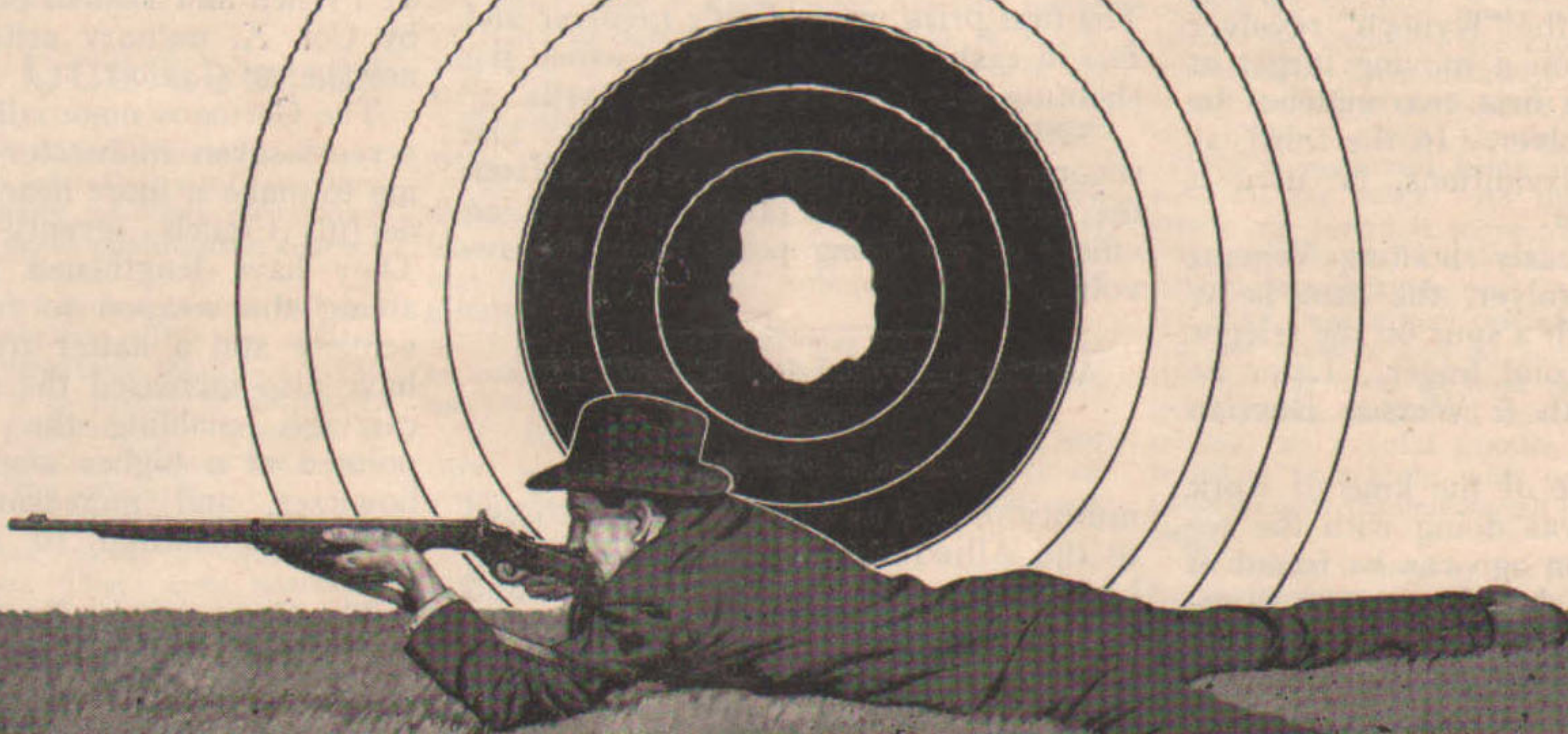
Moreover if you find marked upon the powder can so many grains of powder for this or that load do not let your powder measure slip a grain or two over or under as a grain more or less one way or the other may some time astonish you. Set the measure at the proper mark and verify the weight by some reliable scale.

Never attempt to cast bullets of pure lead; the metal must be hardened and properly fluxed. The best way is to buy your metal already prepared.

If you are in any doubt as to powder, etc., ask any of the standard powder makers and they will send you reams of literature free of charge. Tell them, however, just what you want and for what load; don't leave anything to guesswork.

With a little care and interest in preparing the ammunition you will never regret having taking up loading your own.

500 Out of a Possible 500



He Did It With a Stevens

Once again a Stevens Rifle in the hands of T. K. Lee has "come through."

The composite target above shows the extreme outline of the fifty shots with which Mr. Lee tied for winner in the N. R. A. Individual Championship Match on May 19th—fifty shots all possible, perfect shooting. When he had made his perfect score, he continued shooting for record, running 48 additional bulls-eyes before scoring a nine.

Mr. Lee used a Stevens No. 414 Armory Model Rifle and a Stevens "338" telescope.

This record follows closely upon the recent N. R. A. competitions in which the winning club—the Peters Rifle & Revolver Club of King's Mill, Ohio—used Stevens Rifles. So did the winners

of the military, college, and high school matches.

And in eight of ten matches in that competition, Mr. Lee used a Stevens making a perfect score in each match.

The Stevens No. 414 Armory Rifle is the standard equipment of scores of Rifle Clubs, college and high school teams. It is an ideal arm for military training and target practice.

To members of the N. R. A. it's price is \$13.50, and the price of the 338 telescope is \$14.40. Other Stevens Telescope sights range in price from \$12 to \$20.

If your dealer can't supply you, write us.

J. STEVENS ARMS COMPANY
Chicopee Falls, Mass.

Stevens

Rifles - Shotguns - Pistols

THE RECORDS OF WALTER WINANS

(Concluded from page 307)

He entered the first and second matches, at moving targets, and divided "first prize" in each, having made clean scores in both, and then on a total of 23 out of 24 points won the "Kynoch" revolver competition shot on a moving target at 20 yards. In the first two matches he used a Colt's revolver. In the third, as required in the conditions, he used a "Kynoch" revolver.

In most of his early shooting, Winans used a Colt's revolver, the arm being specially fitted with a spur on the trigger guard for his second finger. Later he took up the Smith & Wesson Russian model revolver.

A good example of the kind of work Walter Winans was doing with the revolver a generation ago can be found in the record of his shooting at one Wimbledon meeting—that of 1889. An account of the meeting published at the time says:

"There was great interest taken at this year's Wimbledon meeting, and the new orders and 'condition of things' brought in to surprise the unwary competitors are most wonderful.

"It will be remembered that the rules of last year allowed the use of any ammunition, and the victory of Mr. Walter Winans with an American revolver was sneered at by the English revolver shots as of no account, although many of them used ammunition of private make and not the regular cartridges as furnished by the Government.

"This season the conditions called for Government ammunition when Government revolvers were used, but added, 'Competitors using their own revolvers may use their own ammunition, which must not weigh less than the lightest authorized pattern issued by the Government.'

"This was quite an arbitrary rule and when the American Winans presented himself for competition, samples of his cartridges were opened and carefully weighed in comparison with the usual Government issue, but no fault could be found, and after an examination of the revolver he was allowed to proceed, much to the delight of certain local shots, who were very sure from the American's physique he could not hold the heavy cartridges with accuracy.

"Delight was soon changed to chagrin, for Mr. Winans with easy nonchalance put five out of six bullets into the carton of the appearing and disappearing target, the sixth bullet being in the bull and less than half an inch from the carton line, the score being 41, within one point of the highest possible. The target consists of a circular pasteboard 12 inches in diameter, bull's-eye 3 inches in diameter, counting 6 points, with a central carton 2 inches in diameter, counting 7 points. The remainder of the target is divided

into four rings, counting respectively 5, 4, 3 and 2 points. Entrance fee, 2 shillings, sixpence, for the series of shots.

"This target disappearing and reappearing at intervals of three seconds, the ordinary observer would say that there was hardly time for an accurate aim. The first prize was a Colt's revolver and £10 in cash. The distance at which the shooting was done is about 20 yards.

"Other conditions of the match: The shooter must not raise the revolver from the table until the target appears; an officer at the firing point loads the revolver."

WILL DEVELOP FIGHTING AEROS

(Concluded from page 306)

munition, and moreover rarely crossed to the Allied side of the battle fronts, but lay in wait for their machines and did all his fighting over ground where he had the support of his own anti-aircraft artillery.

"In due course the Fokker menace was met and faithfully dealt with by small fast fighting biplanes specially built on the lines of the 'scouts' and the fast French machines or *aeroplanes de chasse*, and towards the end of 1916 the Germans in their turn introduced such machines as the Albatross, Roland, Halberstadt, Ago and the new Fokker, their prominent feature being their ability to climb quickly. They are biplanes with high-powered fixed cylinder engines on the lines of those used for motor cars, and have a reduced spread of wing surface."

THE U. S. ENFIELD

(Concluded from page 305)

are four grooves, one turn in 10 inches, right hand. The United States Enfield will have an equal number of grooves and lands—five each. The rifling will be one turn in 10 inches, left hand. The diameter of the bore will, of course, be .30.

WAR DEPARTMENT ISSUES MANUAL

The War Department has issued the manual for non-commissioned officers and privates of Infantry of the Army of the United States, which will also be used by Engineer companies dismounted, and by Coast Artillery companies, for Infantry instruction and training.

The publication is known as War Department Document 574, Office of the Adjutant General, and copies may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., for forty-five cents a copy. The manual, bound in cloth, is of the regulation pocket size, and contains 350 pages with an index.

GERMANS COPY FRENCH "75."

How the Germans, whose Krupp productions have been heretofore regarded as the last word in ordnance, have modified and changed their artillery since the appearance in the field of the late models of French and British guns is explained by Col. X, military critic of the Paris newspaper *Gaulois*.

The Germans materially changed their seventy-seven millimeter field gun, trying to make it more nearly like the wonderful French seventy-five, he says. They have lengthened the barrel, enabling the weapon to fire with higher velocity and a flatter trajectory. They have also increased the size of the gun carriage, enabling the weapon to be pointed at a higher angle, like a small howitzer, and increasing range from sixty-five hundred to eight thousand meters.

The Germans also improved the bursting qualities of shells, so that they explode the instant they touch the ground, scattering fragments everywhere. The Germans also increased the range of their heavier guns from twenty to twenty-five kilometers.

INVENTS RADIO SIGHTS FOR NIGHT SHOOTING

Rifle sights consisting of small chambers filled with radio-active material have been patented in the United States by Soloro del Borgo of Paris. The sights are designed for night shooting and the glow from them makes possible their alignment in the darkness.

The chambers holding the radio-active substance are provided with lenses to protect their contents. These special night sights are arranged on a rifle in the usual manner—back-sights and fore sights—and the marksman simply lines up the faint spots of light with the target. Two chambers or lights are provided for the fore-sights and two for the back-sights.

At a soldier's hospital in France one of the wounded Tommies sought permission of the matron to visit the village near by. The matron did not think it wise to let him go, so she asked him what he wanted to do in the village.

"I want to get something from a shop there," he said.

"Well," she returned, "I am going to the village myself this morning and may as well get it for you."

"Very well, ma'am," agreed Tommy, "please bring me a haircut and a shave."—*Boston Transcript*.

First Regular—"That young college student is some puffed up over joinin' the army."

Second Regular—"Aw, he thinks the army joined him."—*Puck*.

Off Hand From the Clubs

N. R. A. Considers Hand Gun Courses

NATIONAL Rifle Association officials are considering the advisability of acceding to the requests of many members of civilian rifle clubs who want pistol qualification courses included in N. R. A. work.

The final adoption of such a course will depend largely upon whether, after the matter has been sufficiently discussed, there is a great enough demand for it to justify its inclusion in the Association program and whether a course can be found which will meet the peculiar requirements of the situation.

There has been considerable interest in pistol shooting apparent among rifle-club members for a long time. These men, however, cannot be placed in the same class as revolver enthusiasts of long experience, and any course adopted must not be so difficult as to discourage beginners.

If a course is finally adopted, it is quite likely that decorations similar to those issued for proficiency with the rifle will be distributed to club members making satisfactory scores.

In order to give those interested in the adoption of such a course a basis on which to work, a tentative course has been suggested. It is desired that those interested express opinions either favorable or unfavorable, or make new suggestions.

The work as outlined includes courses with the .22-calibre pistol, the army automatic, and the .38-calibre military revolver, and is intended to call for about the average of civilian proficiency.

.22-Calibre Course: Single-shot target pistol, 10 shots timed fire at 50 yards, Standard American Target. Time, 10 minutes. Possible, 100. Marksman, a total of 78 or better; Sharpshooter, 86 or better; Expert, 92 or better.

Colt Automatic, .45 calibre: 10 shots, 50 yards, Standard American Target, timed fire (10 minutes), and 10 shots rapid fire (30 seconds); possible, 200. Marksman, 75 or better timed fire and 60 or better rapid fire; Sharpshooter, 85 or better and 70 or better; Expert, 90 or better and 80 or better.

.38 Military Revolver, full charge: 10 shots, 50 yards, Standard American Target, timed fire (10 minutes) and 2 strings, 5 shots each, 20 seconds per string; possible, 200. Marksman, timed fire, 70 or better, and rapid fire, 60 or better; Sharpshooter, timed fire, 80 or better, and rapid fire, 70 or better; Expert, timed fire, 85 or better, and rapid fire, 80 or better.

As an added attraction it is suggested that the time in this course might be speeded up and an additional rapid-fire feature added at half the distance—for instance: 10 shots at 25 yards, Standard American Target, in 2 strings, allowing 12 seconds per string. If this were added, a marksman qualification would call for 60 or better in this rapid-fire event, a Sharpshooter qualification 70 or better, and an Expert qualification 80 or better.

New Civilian Practice Scheduled

By order of the Adjutant General of New Jersey, the practice of civilian rifle clubs on the Sea Girt, N. J., range will take place between July 6th and July 21st. All clubs must arrange in advance with Brig. Gen. Bird W. Spencer, Inspector General of Rifle Practice.

General Spencer has published this information for the guidance of rifle clubs in making application for dates:

"Members of rifle clubs desiring to accept the opportunity to shoot on the Sea Girt range, pursuant to Special Orders No. 214, A. G. O., July 2, 1917 (copy attached), will observe the following rules:

"1. When making application for assignment, state:

"(a) The character of shooting desired, whether club competition (stating the number who will attend), N. R. A. qualification course, individual practice, or course for organized militia.

"(b) Whether the services of range officers or instructors, or the services of scorers and markers, are desired.

"2. Request must be made in advance and dates assigned. Preference of dates will be given consideration in the order requests are received.

"3. The pay of one scorer and one marker is \$1.50 each per day, or \$3 per day. If scorers and markers are required for less than a day, the cost will be 20 cents an hour each.

"4. All firing will be at 200 yards, N. R. A. Marksman course, except that special arrangements may be made for shooting the Organized Militia course if desired.

"5. There is no restriction as to the amount of firing, except if the attendance is large each shooter will be limited to firing 40 shots at 200 yards.

"6. Upon arrival at Sea Girt, report to the officer in charge at the office on the range, where arrangements will be made for the character of firing desired. Members of rifle clubs must bring rifles and ammunition. None will be furnished at the range.

"7. When assigned to a firing point, see that the name is correctly stated on the score card and on the blackboard. The initials must be stated on the score card, but not necessarily on the blackboard.

"8. Marksman course—200 yards. No rests. Slow fire—5 shots prone, 5 kneeling, 5 squatting, 5 standing. Total, 20 shots.

Magazine fire—5 shots prone, 5 kneeling, 5 squatting, 5 standing. Total, 20 shots.

Necessary to qualify—150 at both ranges, or a total score in magazine fire of 75.

In magazine fire the target is exposed 30 seconds. Five shots are fired during the exposure. If there are more than 5 hits on the target, the score is not recorded and another string is fired.

"9. Those desiring to remain at Sea Girt over night will find moderate-priced hotels and boarding houses in the immediate vicinity. A limited number can be accommodated with sleeping quarters at the club house (rooms, \$1 per night). There is no general restaurant at the club house. Members are served with meals at the proportionate cost of each meal, but only if arrangements are made twenty-four hours in advance.

"10. No shooting will be allowed on Sunday.

"11. Qualifying scores (for which a qualification button will be issued) will be filed with the National Board for the Protection of Rifle Practice, War Department, Washington, D. C."

Something About Ridgewood

I have noticed that you frequently print brief accounts about the progress and attainments of the various rifle clubs throughout the country, and thought the following might be of interest to some of your readers as an example of what is being done by the Ridgewood Rifle Club and encourage them to do likewise.

The Ridgewood Rifle Club has recently opened an outdoor range at Ramapo, N. Y., where the members are rapidly qualifying as marksmen. Unfortunately, they were unable to get the 500-yard distance in, 400 yards being the longest range compatible with perfect safety, a mountain being on one end and a lake on the other. As the ground is very stony, we found it more practicable and less expensive to build a stone pit above ground rather than excavate one. At the present time we have two targets operated on sash in the regular manner and as soon as there is the demand for them we hope to erect some more, there being unlimited space. The backstop consists of a solid granite mountain several hundred feet high, with no roads or paths upon it, thus eliminating all danger from stray bullets.

The range is used by the Home Guard under the instruction of rifle club members, as well as by the members themselves. We have already qualified several members as marksmen, with the prospects bright for a good-sized aggregation before we are forced indoors for the winter. We have doubled the size of the gallery, to provide against this emergency. Just now we are trying to devise some way in which we can lengthen the range by 100 yards, so that we can call some of the rifles our own.

Distance has no terrors for us, for in spite of the twelve-mile ride there and back, there is nearly always somebody using the range. If there is no automobile available there is the train, which is just as quick and convenient. We believe we have the ideal small range, beautifully situated, perfectly safe, being surrounded by mountains that also stop the noise. All this for about \$200. If any club thinks that an outdoor range is out of the question, they will probably find their mistake upon a little investigation. It is possible but not probable that they will find a range as nice as ours; at any rate, we hope they do.

J. E. SOWTER, *Secretary.*

Sighting Shots

Pennsylvania has fallen in line with other States who seek the creation of State Superintendents of Rifle Practice. A bill was recently introduced in the Pennsylvania Legislature authorizing the appointment of such an official for the purpose of promoting efficiency in the use of military rifles. The Pennsylvania bill calls for the appointment of a man experienced in rifle practice and range operation, who, in addition to other duties, "shall visit each civilian rifle club at least once during each year and shall give individual instruction to the members thereof." The Superintendent of Rifle Practice, according to the terms of the bill, will have charge of the expenditure of all monies appropriated by the State for the encouragement of rifle practice, and shall make a report annually of the activities of his department.

The effort of one of the civilian rifle clubs at Nogales, Ariz., to have certain public lands set aside for the use of the club as a rifle range has met with an adverse recommendation from the Secretary of War.

The club made its request to the Secretary

THE NATIONAL RIFLE ASSOCIATION HAS GIVEN AN ORDER FOR FIFTY SERVICE TARGETS

To insure immediate deliveries to Rifle Clubs desiring to install outdoor ranges. These targets are of steel construction, strong and durable. They are light running and make pit service a pleasure instead of work.

The targets operate as single sash, speed up the firing line, avoid confusion in scoring and reduce target pasting and changing to a minimum.

Service Targets Complete, \$50.00 Standards, \$1.50
Interior Frames: 4x6, \$1.10 6x6, \$1.20 6x10, \$1.70

of the Interior, whose office referred the matter to the Secretary of War, asking for an opinion as to the advisability of withdrawing the lands in question for military purposes for the use of the organization.

After considering the request, the Secretary of War expressed as his opinion that the authority vested in the President to withdraw public lands for public use would not be appropriately exercised in complying with the request of the Nogales club.

The Nutley, New Jersey, Rifle Club has increased its membership from 20 to 160 within two weeks as the result of a membership drive. The majority of the new members are enrolled in the Home Protective League. The club is equipping an indoor range in an old bowling alley which is centrally located.

Sergeant Albin Krebs, well known as a rifle shot of Pennsylvania, who distinguished himself in regimental, brigade and State matches, is now actively engaged in drilling recruits of the Ninth Regiment Engineer Reserves. Sergeant Krebs has had a remarkable experience as a non-commissioned officer in the United States Engineer Corps, having spent forty-two years in active service. His many friends will be glad to know that he is again displaying his old activities.

R. W. Whaley has been appointed range officer for the Philadelphia Boy Scouts.

Boy Scout marksmanship tests in Knoxville, Tenn., will be under the supervision of T. J. Wyrick during the coming season.

The Libby, Montana, Rifle Club has taken up military training.

Three hundred men have been enrolled in the Home Guard of Hastings-on-the-Hudson, New York.

New pits and new butts have been constructed on the range of the Greentown, Indiana, Rifle Club. Firing points and targets are connected by telephone, and practice is being held every first and third Saturday of the month.

The Maccabees' Rifle Clubs which are scattered throughout the country have adopted resolutions offering their services to the mayors of the cities wherein the different Maccabee camps are located. This organization is a uniformed and armed body. The Ninth Maccabee Rifle Club of Plattsburg, N. Y., has been on duty guarding the water supply of that city.

Members of the Brookfield, Massachusetts, Rifle Club were on duty at registration headquarters June 5. The rifle club members worked in pairs and did duty in two-hour shifts.

The Porto Rico Rifle Club has been conducting a propaganda for National Guard recruits. In addition to obtaining a list of eligible men who are willing to enter the service eight of the club members have enlisted and have been appointed instructors of rifle practice.

A new range for the Amityville, New Jersey, Rifle Club is being constructed at a cost of \$2100, exclusive of the land, which was donated.

The Alamo Rifle Club of San Antonio has not permitted the suspension of the free issue to interfere with its activities. The club has purchased a reloading machine and is turning out its own ammunition.

INQUIRIES OF GENERAL INTEREST

In this column will appear excerpts from requests for information and for official interpretations, made to the National Rifle Association, the replies to which may be of a generally informative nature.

Q. Is it permissible to use body rest in off-hand shooting, as, for example, elbow resting against body?

A. In the standing position for shooting, the left arm should rest close against the body giving the so-called "hip rest".

Q. Is it permissible to use hand reloaded ammunition for the Springfield in qualification shoots; also in State and other matches?

A. There is no objection to the use of reloaded ammunition in qualification shooting. Whether ammunition of this character may be used in match shooting would depend entirely upon the conditions of the match.

Q. What is the difference between the Springfield 1903 and 1906?

A. The only model of the Springfield rifle is that of 1903, while the ammunition used in this rifle is Model 1906. There is no model 1903 ammunition or model 1906 U. S. rifle.

Q. As a life member of the N. R. A. and, as such, owner of a Springfield rifle, would I

be permitted to dispose of this arm to a member of an N. R. A. club? If so, at a later date may I purchase another rifle?

A. There is no objection to a life member disposing of his rifle to a club member who has qualified either as a sharpshooter or an expert rifleman. Life members are eligible to purchase additional rifles of the same model as those previously purchased every four years.

Q. When arsenal-loaded ammunition is not available, is it permissible to shoot the annual Members' Match with reloaded shells?

A. Yes.

Q. What effect does the way the rifling twists—that is, whether right or left—have on the bullet? Which is the most accurate?

A. The direction of the twist of the rifling in a rifle barrel has absolutely no effect whatever upon the accuracy, but it does affect the drift. It has been found that a rifle bullet drifts off to one side of the line of fire. This is due to the rotation of the bullet and the effect of this rotation on the air.

Q. What is the difference between a high-velocity cartridge and a high-power cartridge?

A. The distinction is largely an artificial one. It arises from the fact that a number of the old black-powder cartridges, when loaded with powerful charges of smokeless powder and metal-cased bullets, gave widely varying results in accuracy as compared with the low-power loading. Those that gained power at the expense of accuracy were called high-velocity cartridges, and the ones that held their accuracy in spite of the higher speed at which the bullet is driven were called high-power cartridges. You can see, therefore, that the difference is not really a true scientific one, but is more in the nature of a trade usage of words.

Q. What is the best way to black the sights on a rifle or revolver?

A. There are a number of ways of blacking the sights on a revolver or rifle. A solution is sold for this purpose, consisting essentially of gasoline and japan black. It is not as good, however, as the smoke from burning camphor or even a burning candle. Burning camphor gives a very good black, even better than that produced by a burning candle, but it is not as convenient to use. If you haven't a candle handy, ordinary paper matches which are soaked in paraffin will do. Wooden matches are not advisable, for the smoke from them

(Concluded on page 318)

ALONG THE FIRING LINE

The Hopkins, Minnesota, Rifle Club defeated the Lake City Club by a total of 645 against 574 in a match shot June 17th. The scores were:

	300 yds.	500	600	
<i>Hopkins</i>				
A. L. Hamilton.....	41	47	48	136
A. G. Hamilton.....	40	43	47	130
P. Sundquist.....	42	45	40	127
C. C. Snavely.....	45	40	42	127
E. L. Redeen.....	41	48	36	125
				645
<i>Lake City</i>				
G. Peterson.....	40	45	40	125
J. P. Bremer.....	42	32	45	119
C. Bremer.....	31	38	46	115
C. Metcalf.....	36	38	36	110
O. Francesci.....	31	34	40	105
				574

The first drill and rifle practice of the newly formed business men's corps of the East Saginaw, Michigan, Rifle Club was held recently in the new quarters of the club. It was the first weekly shoot of the club in its new range as well and the enthusiasm of the members was very marked.

The "pep" and "ginger" shown by the two squads under the direction of Clement P. Quinn and Wallis Craig Smith clearly indicate that the present small organization will within a short time expand into a large and enthusiastic body, which will tax the capacity of the drill hall. Next Monday evening the men will be measured for the uniforms which are very shortly to be provided for them. There were a number of visitors present and all of them expressed themselves as very much pleased with the manner in which the drill and shoot were conducted. Eleven applications for membership were handed to the executive board.

The new ranges proved excellently adapted to the needs of the club. There is capacity for many more shooters than at the armory and the largest attendance which the club has ever turned out. The following scores—possible, 180—were made:

O'Brien, Geo., 168; St. John, Harry, 167; Fraser, G. M., 166; St. John, C. M., 165; Koehler, C. J., 162; Krause, P., Jr., 162; Bell, Wallace A., 162; Curtice, H. L., 159; Carman, A. R., 156; Herzberg, Frank, 156; Davis, H. H., 154; Hess, Kent, 153; Schroeder, F., 153;

Wood, Fiske, 147; Cresswell, H. A., 145; McKinley, F. G., 143; Stenglein, Walter, 141; MacConnel, M. A., 139; Francke, Arthur, 138; Schmeck, Wm. A., 137; Smith, Wallis Craig, 136; Marble, Roy, 133; Quinn, Clement, 130; McCormick, Jas. L., 130; Phillips, Henry, 126; Beckrow, Blythe, 119; Keeler, J. A., 117; Jackson, Allen, 96; Wells, L. W., 86; Franke, Lenord, 85; Skimin, Gilbert, 75; Reed, Marshall, 74; Harvey, A. S., 72; Nauer, C. J., 49.

The Boston Telephone Rifle Club, of Wakefield, Mass., has reported eight qualifications under the old course. They are:

Expert—Warren H. Reid, 219.
 Sharpshooters—G. M. Barbour, 193; C. F. Follansbee, 192; Wm. C. Jordan, 203.
 Marksmen—W. H. Brown, 161; W. R. Long, 167; J. Edw. Nicholl, 179; G. W. Lovejoy, 189.

Eleven qualifications have been reported by the Andover, Massachusetts, Rifle Club under the old course. They are:

Experts—M. E. Peck, 222; F. Briggs, 220; W. P. Graves, 219; G. Fullerton, 219; H. Kirkham, 213; E. C. Scheide, 212; M. C. Cheney, 211; J. G. Bennett, 210; C. MacMillian, 212.
 Sharpshooters—J. R. Hart, 202; E. A. Beer, 200.

Seven qualifications have been reported by the Pacific Coast, California, Rifle Club under the old course. They are:

Experts—C. M. T. Lesslie, 218; L. J. Rottgers, 210.
 Sharpshooters—Edward M. Boggs, 206; S. S. Boggs, 204.
 Marksmen—A. E. Graupner, 173; W. H. Bragg, 171; W. G. Smith, 165.

Five Marksmen qualifications have been reported by the Denton, Montana, Rifle Club under the new course. They are:

Lewis Benton, 174; Edw. Reneshek, 162; Carl Aamold, 160; Roy Johnson, 167; Perry Swanzy, 155.

Three qualifications have been reported by the Adrian, Michigan, Rifle Club under the new course. They are:

Sharpshooter—J. N. Podrasnik, 177.
 Experts—John S. Bodner, 156; Herman D. Meyer, 167.

Twelve qualifications have been reported by the Denver City, Colorado, Rifle Club, eight under the old course and four under the new course. Those qualifying under the old course are:

Experts—R. E. Ladwig, 215; D. C. McConaughy, 224; C. L. Butler, 229.

Sharpshooters—A. L. Williams, 202; L. G. Pridy, 192; Z. T. Sprigg, 193; E. E. Blakley, 197; E. F. Redding, 192.

Those qualifying under the new course are:
 Expert—S. G. Carlson, 150.

Sharpshooters—L. S. Ickis, 161; T. H. Smith, 168; E. Wangnild, 158.

Six qualifications have been reported by the Salmon, Idaho, Rifle Club under the old course. They are:

Experts—H. W. Bradley, 220; Ralph Irvin, 216; D. W. Chard, 213; J. T. Watkins, 218.

Sharpshooters—W. C. Doebler, 192; W. D. Chard, 190.

The Springs, Montana, Rifle Club has reported seven qualifications under the old course. They are:

Expert—A. T. Gilhus, 217.
 Sharpshooters—H. L. Mayn, 195; J. S. Smith, 192.

Marksmen—J. L. Johnston, 166; E. F. Auzeil, 184; Theo. Winters, 178; Ernest Meyer, 176.

Six qualifications have been reported by the New London, Iowa, Rifle Club under the new course. They are:

Sharpshooters—V. Z. Breneman, 170; Willis Holland, 160; E. J. Lessenger, 170; Fred I. Ward, 155.

Marksmen—G. J. Andrews, 163; C. S. Anderson, 154.

Five qualifications have been reported by the Fort Wayne, Indiana, Rifle Club under the old course. They are:

Experts—F. Houck, 235; G. R. Gawehn, 235.
 Sharpshooters—X. J. Divens, 200; R. M. Kunse, 198.
 Marksman—Roy Young, 186.

The White Salmon, Washington, Rifle Club has reported fourteen qualifications under the new course. They are:

Sharpshooters: V. Jensvold, 158; R. C. Newly, 152; J. M. Strong, 162; and O. H. Long with a rapid fire score of 78; total, 139.

Marksmen: H. D. Sorter, 183; M. Jensvold, 165; W. M. Moore, 163; H. L. Shoemaker, 177; W. M. Manley, 174; C. A. Pearce, 167; H. T. Negaard, 167; G. Reed, 172; Walter Wilkee, 162; S. Miller, 169.

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The Ottumwa, Iowa, Rifle Club has reported the qualifications of John Hulsebus as a sharpshooter with a score of 170, and W. E. Thomas as a marksman with a score of 81 rapid fire, and a total of 146.

Six qualifications have been reported by the Greentown, Indiana, Rifle Club under the new course. They are:

Sharpshooters: Eha Stone, 165; E. Lindley, 156; John Ball, 150; Geo. Sloan, 151.

Marksman: Lawrence Brobsh, 179; Lou Allen, 160.

Six expert qualifications have been reported by the Rochester, New York, Rifle Club under the old course. They are:

Chas. Warder, 220; C. C. Rogers, 214; J. N. Wernz, 223; Wm. Armstrong, 211; M. C. Brodbury, 221; Chas. B. Spraker, 220.

San Diego, California, Rifle and Revolver Club has reported five qualifications under the old course. They are:

Expert: Carl Schroder, 222; Walter Bellon, 218.

Sharpshooters: Geo. Cromwell, 201; Leland S. Moore, 196; W. C. Merritt, 190.

The California Railroad Commission Rifle and Pistol Club of San Francisco, has reported twenty-four qualifications under the old course. They are:

Experts: Phillip Bancroft, 225; W. H. Mallett, 221; R. M. Vaughan, 221; P. Thelen, 219; F. A. Daugherty, 216; M. E. Ready, 215; R. C. Ashworth, 211; W. G. Brey, 210; J. E. P. Daugherty, 210.

Sharpshooters: E. P. McAuliffe, 205; C. Grunsky, 203; L. R. Kessing, 198; W. G. Middleton, 198; R. W. Emes, 195; A. N. Johns, 193; R. G. Ellis, 192; A. E. Graupner, 191.

Marksman: B. A. Brackenbury, 184; H. Schmidt, 182; W. K. Cullen, 172; J. S. P. Dean, 169; B. W. Campbell, 168; P. J. Noerager, 167; J. F. Beaman, 163.

The P. R. R. Keystone Rifle Club of Harrisburg, Pa., has reported the qualification of T. L. Sproule as an expert rifleman with a score of 213.

(Concluded on page 318)

CONCERNING PATRIDGE SIGHTS

By E. E. PATRIDGE

In *The American Shooter*

THE Patridge sights are designed more particularly for pistols and revolvers, although they are equally valuable on rifles if open sights are to be used, particularly in hunting, while the front sight is superior to the ordinary factory sight, even when used with a peep rear sight. The last two models of United States rifles, the Krag and the latest Springfield, are equipped with an exact copy of the front sight.



Cut of sights and bullseye (magnified) showing how they should appear to the eye. (1) Rear sight. (2) Front sight as seen by the eye. (3) Front sight side view. (4) Sights and bullseye as they should appear when pistol is properly aimed.

These sights were developed by the writer during the winter of 1891 and 1892 while shooting at the Walnut Hill range of the Massachusetts Rifle Association and at the indoor gallery of the Boston Athletic Association. Although I had done considerable pistol shooting the previous summer at the outdoor range, having then for the first time seriously attempted to master the hand weapon, it was only until I essayed the indoor game with a trying artificial light that I realized the defects of the ordinary factory sights and set myself to improving them. At first I supposed that the weird effects obtained when focusing the sights and bullseye at the same time were caused by my defective eyesight, and experimented at first with various combinations of eye-glass lenses.

Notwithstanding exhaustive trials, under directions of Boston's best optometrists, the sights continued to show blurred lines with fuzzy appendages, often fading away to the vanishing point.

The then prevailing sights, known as the "Paine Sights," consisted of a very minute U for the rear and a correspondingly dainty bead front. Evidently these were adapted from the rifle peep and bead sights, the rear peep being cut across to make it an open sight. As a peep disc has necessarily a very small opening to

accomplish the best results which this excellent combination gives, transforming it into an open sight does not prove at all satisfactory, the basic principle of the peep being eliminated.

A peep, to be effective, must be a very minute hole in order that the eye shall automatically center it, merely gazing through it and have only the task of seeing the front sight aligned on the mark. Consequently, all kinds of front sights go well with the peep—bead, globe, cross-hair or post, indifferently and as directed by the fancy of the user.

But if the peep is cut across the middle, an entirely different effect is produced. Not only must the eye see this sight, but as it cannot be focussed by the eye with the front sight and target, except by removing the back sight from close proximity to the face to a point much nearer the front sight; it then being further from the gaze, the size, logically, should have been increased.

But this was not done, the manufacturers seemingly preferring to place on their weapons sights that would appeal to the inexperienced by their fineness rather than to have a combination that could be seen by the average person without undue eye strain. Undoubtedly there are persons with absolutely perfect eyesight who can overcome such obstacles; but the average eyesight, particularly of the residents of cities accustomed to using their eyes on nearby objects, must be assisted, not forced to do extra duty.

It is not necessary to bore the reader with tedious recitals of the various forms of both front and rear sights tried out before the combination known as "The Patridge Sights" was finally evolved. Early in January, 1892, my friend and expert gunsmith, E. C. Schmidt, was directed to make a front sight of 1-16 inch in thickness with a slightly wider square notch for the rear sight. This order he filled under protest, saying it would be too coarse. When I called for my pistol Mr. Schmidt said, as he handed it to me, "I made it just as you said, but I will file it down," eagerly reaching for his file and the pistol.

"No," I said, "leave it as it is until I try it, for it looks about right to me."

Taking it to the testing loft I made such good practice at the short range available that a police officer who was testing his revolver opened his eyes in wonder. That evening I took the pistol to the gallery and broke the record for the range with a

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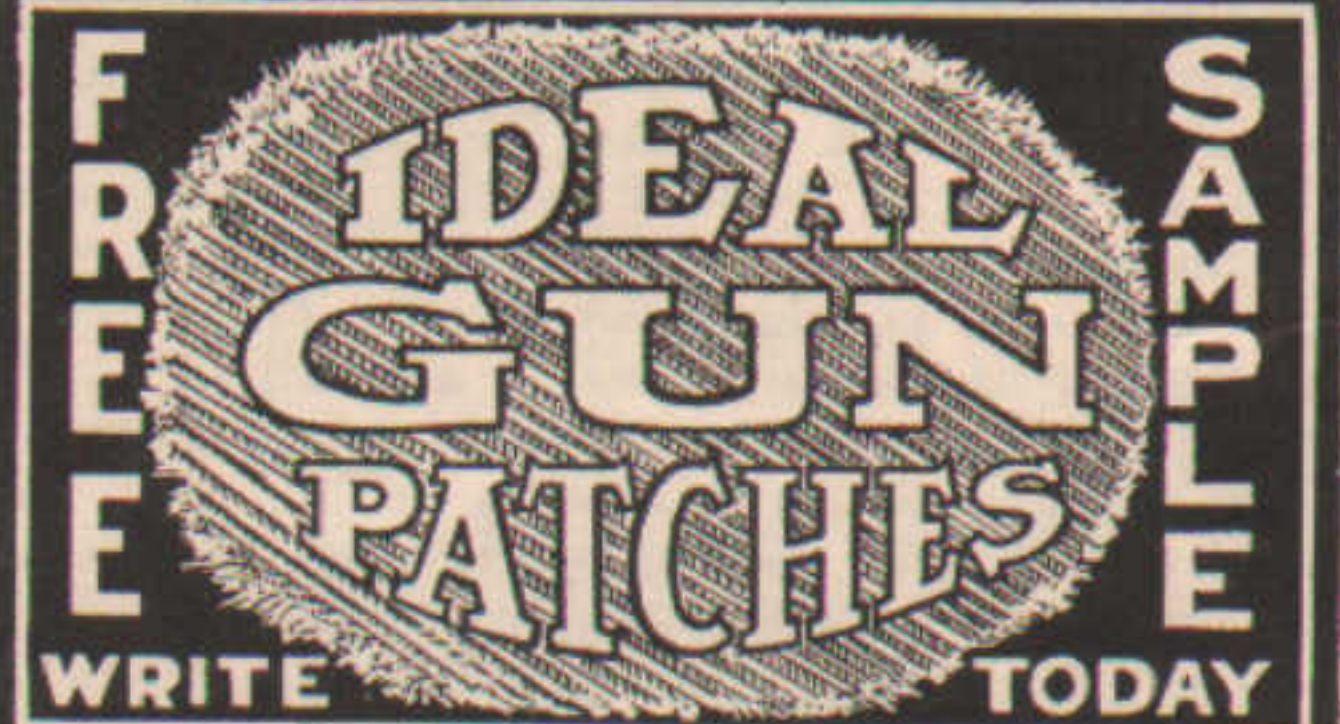
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98 out of a possible 100. This stood for a time, but my good friend John Paine, using the same sight, later raised it a point.

As I got accustomed to the seemingly exaggerated size of the sights they were gradually enlarged until the front sight was made one-tenth of an inch thick at the rear end for open-air shooting and one-

eighth of an inch for indoors, the rear sight being correspondingly widened.

The dotted lines indicate parts set in barrel on Smith & Wesson arms.

The cut does not show edges of sight as sharply defined as they should be. The front sight should taper from rear to front, with thick end towards eye, and the rear sight should be thin or else cut beveled; that is, angling out to the wider part toward muzzle. The shaping of the sights in this way gives a sharp edge toward the eye, making clearly defined lines and also preventing reflections from the sides, confusing the shooter. The effect of the sights when in use is that of absolute straight lines, any deviation from the correct alignment being plainly and instantly evident, as the eye can easily detect and estimate the departure from straight lines and the spaces between, while circles and discs may be slightly infringed upon without being detected or error correctly estimated.

Again, the sharpness of definition largely eliminates eye strain, which will cause fatigue to the eye and brain, resulting in erratic shooting.

Although particularly adapted for those with faulty eyesight, these sights are used by many of the most expert pistol shots for fine target work, and are unexcelled for field use.

They look coarse to one used to seeing ordinary sights, but this "coarseness" is an essential feature of the combination.

For open-air shooting, the front sight is made not less than 1-10 inch thick and the rear notch 11-100 inch wide.

For gallery work (artificial light) the front sight should be $\frac{1}{8}$ inch thick or more and the rear notch 1-100 inch wider.

It is advisable to increase the width of rear notch if shooter does not see both sights clearly or has difficulty in keeping front sight within the opening when aiming.

In using these sights bring the front sight into rear notch, making a straight line across the rear bar and top of front sight in opening, so that the eye will see a black bar with two lines of light of equal width on each side. The depth of cut is of no importance, except it should be enough to show sufficient of the front sight to distinguish it clearly.

In target work hold this bar directly under the bull, just touching but not breaking into the circle. Adjust sights to correct error after observing how shots group. Keep sights black by smoking with wax taper or by burning camphor gum.

For hunting, particularly in dark woods, a facing of white (ivory or bone) for the rear of front sight is desirable, and is also superior to a bead for hunting rifles, even when using a peep rear sight.

The Monitor Comes Back

British monitors are playing an important part in the Italian advance toward Trieste. The monitors have again proved themselves in this war. They appear to be the only type of craft that can carry big guns into shallow water and bombard coast fortifications successfully. Submarines can not follow them into these shallows, and they have so little free-board that they present a difficult mark for the enemy to hit.

Monitors took up the sea work at the Dardanelles after the battleships had been lost or had been driven by submarines to seek protected ports. Monitors shell the Belgian coast when attacks are made on the German bases there. Now they are shelling the Austrian coast ahead of the Italians. And so far there has been no report of a single monitor lost.—*Buffalo Express*.

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SOMETHING ABOUT THE .45 AUTOMATIC

By A. P. LANE

The side arm has done much to assist in the development of the United States, and stories of pioneer days in the West will always praise the revolver as a great help towards civilization.

It is a far cry from the ancient horse pistol of our forefathers' days to the modern Government model automatic pistol.

The idea of a repeating one-hand firearm is several generations old, for there are in existence today many designs of pepper-box weapons so made that a group of barrels rotate one after the other under the firing mechanism. Automatic pistols themselves are not especially new ideas, but the first models were far from being reliable or even safe. The new military automatic, however, has proven itself very satisfactory.

The Government automatic pistol shoots a metal-jacketed bullet of .45 calibre, weighing 230 grains, with a muzzle velocity of 800 feet per second. Its magazine holds seven cartridges and can be removed by pressing a button on the left side of the frame back of the trigger. The barrel is 5 inches long and the weapon weighs just a fraction less than 2½ pounds.

When the automatic pistol was first adopted officially by the United States Government, a great hue and cry went up from those who believed that the automatic pistol was not as good as the old-style revolver. They said that the automatic was dangerous—that it was unreliable—that it was inaccurate and many other uncomplimentary things. Many shooters objected to it on the grounds that it was not very accurate, that the trigger pull was bad, and that it didn't balance properly.

Just as with any improvement there are always those who object, so it is with the automatic pistol, but time has shown that most of these objections are unfounded. The automatic pistol may possibly not be as accurate as the old-style revolver and the trigger pull is certainly not as good, but as a weapon for fighting—and that is what a military side arm is for—it certainly outranks anything that preceded it.

Those who are taking up practice with the Government automatic pistol will find at first that they cannot make good scores with it. This is due partly to the difference in its balance and the shape of the grip and also to the sights and trigger pull. To get the hang of the new weapon, it is advisable to do snapping practice with it daily. The weapon should be held firmly but not so tight as to cause trembling. After the student is able to place his shots on the target with reasonable accuracy at slow fire, he should immediately take up the practice of rapid-fire shooting, for the hand-arm is essentially a weapon for quick work at close quarters.

The sights on the Government model are too fine and it is a pity that such an otherwise excellent weapon has such a narrow front sight. However, this may be remedied later on.

If you are having trouble in practice with the automatic pistol, I will be very glad to help you out.

Passing a hand over his forehead, the worried drill-sergeant paused for breath as he surveyed the knock-kneed recruit. Then he pointed a scornful finger. "No," he declared, "you're hopeless. You'll never make a soldier. Look at you now. The top 'alf of your legs is standin' to attention, an' the bottom 'alf is standin' at ease!"—*Tit-Bits*.

INQUIRIES OF GENERAL INTEREST

(Concluded from page 314)

seems to have a tendency to cause rust if not thoroughly removed afterwards. The flame from an acetylene burner produces a very intense black, but of such a nature that it scales off.

Q. I have been told that it is very bad to use .22 short cartridges in any rifle made to take the .22 long rifle cartridges. How about the rifles that are made to take all three sizes?

A. When a .22-calibre rifle is made to take the .22 short, long and long rifle cartridges, it simply means that the chamber in the barrel is the right length to fit the .22 long rifle cartridge and that the action will handle all three sizes. When .22 short cartridges are used in such a barrel the bullet moves a short space before it strikes the rifling, and as it does not fit very tightly until this happens, a certain amount of gas rushes past it, burning away the steel of the chamber at the forward end. In time this wearing away will cause a loss in accuracy and .22 long rifle cartridges swell into the depression at the time of the explosion and are extracted only with great difficulty. It is an excellent plan not to use .22 short cartridges in a rifle barrel unless it is especially chambered for them. It doesn't matter whether the rifle is marked for the .22 long rifle cartridge or for all three sizes, the effect of .22 shorts in such a barrel is always detrimental.

Q. Assuming that I have a good rifle and ammunition, and that I have a telescope on my rifle, what size groups would it be possible for me to make shooting with a rest for the barrel and my elbows? The rifle shoots the .22-calibre long rifle cartridge.

A. If you are an expert shot, you should be able to make half-inch groups of ten shots at twenty-five yards.

Q. All the military rifle cartridges I have examined are loaded with a bullet having a sharp point. Are they made this way so they will cut a clean hole and not tear a jagged wound?

A. Military rifle bullets are made pointed primarily because it has been found that a pointed bullet goes through the air with less resistance than a round pointed bullet. At the longer ranges a pointed bullet produces a clean hole, but at short ranges it frequently tips and spins end-wise and creates as much damage as a "dum-dum" bullet. It is due to this fact that there arose so many accusations regarding the use of "dum-dum" bullets in the beginning of the war.

ALONG THE FIRING LINE

(Concluded from page 316)

Three Sharpshooter qualifications have been reported by the Cambridge, Illinois, Rifle Club. They are:

Harry McCaskrin, 207; Wm. Floyd, 206; James Reed, 202.

The Westminster, Massachusetts, Rifle Club has reported Wesley W. Young as a Sharpshooter with a score of 171.

Five qualifications have been reported by the Albuquerque, New Mexico, Rifle Club under the old course. They are:

Experts—C. L. Eimer, 235; Robt. J. Reed, 211.

Sharpshooters—Fred Brosey, 202; A. A. Boyle, 207.

Marksman—P. R. Fisher, 173.

Ten qualifications have been reported by the Key System, California, Rifle Club under the old course. They are:

Experts—M. S. Boggs, 222; L. S. Carter,

220; E. M. Boggs, 215; Dean S. Weeks, 216.

Sharpshooters—P. J. Law, 209; S. S. Boggs, 203; A. C. Ostrom, 199; W. L. Allen, 199.

Marksmen—M. R. Hanson, 167; H. L. McCabe, 162.

Five qualifications have been reported by the Hopkins, Minnesota, Rifle Club under the old course. They are:

Experts—A. L. Hamilton, 237; C. C. Snavely, 236; E. L. Redden, 221; A. G. Hamilton, 219.

Sharpshooter—P. Sundquist, 206.

The Seattle, Washington, Rifle and Revolver Association has reported two expert qualifications under the old course. They are:

J. J. Agutter, 238; A. L. Johnson, 237.

ARMY CONSIDERS NEW SHORT-RANGE COURSE

Officers of the United States army are reported to be conducting experiments at the Fort Sill School of Musketry to determine the feasibility of training recruits for the new National Army under a course of fire which approximates the old army course at distances up to 300 yards.

Until the success of these experiments is assured, the National Rifle Association will take no steps toward the sanction of such a course for qualification shooting.

The necessity for such a course can be traced to the need of training recruits of the National Army in the handling of arms, and to the scarcity of centrally located range sites where target practice at 1,000 yards can be obtained.

Tentative plans are to develop a course following the conditions of the army course as closely as possible, but to adapt them to distances one-half as great as those called for in the Small Arms Firing Regulations.

WANTS AND FOR SALE

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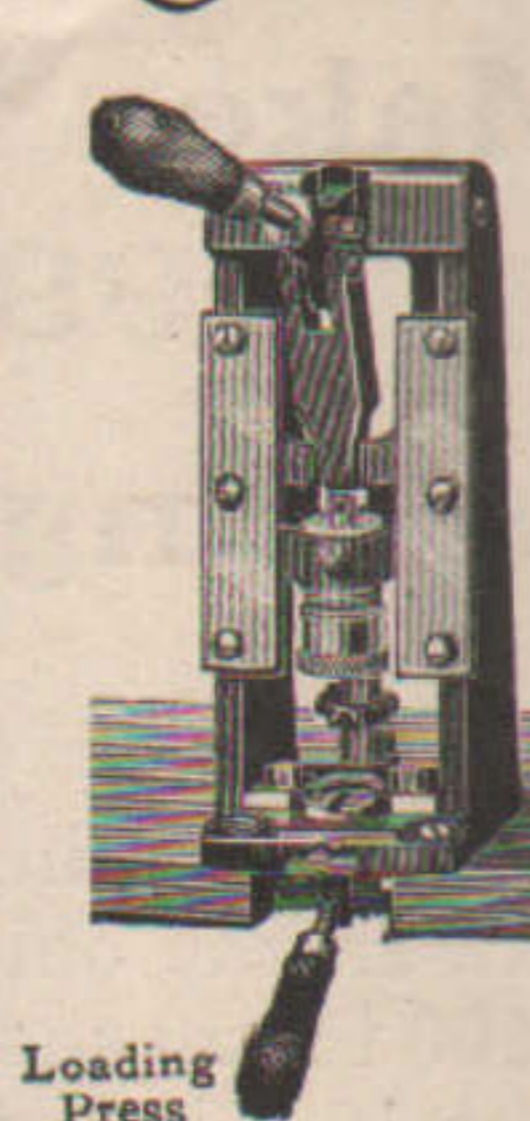


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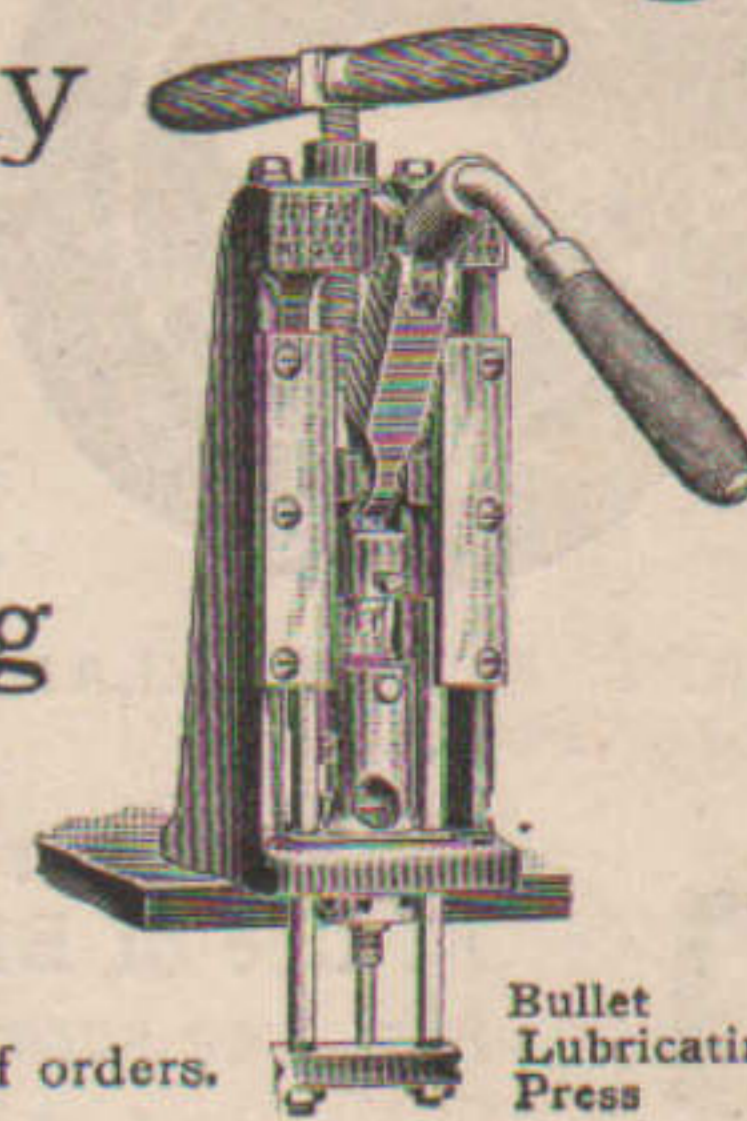
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