

ARMS AND
THE MAN

GUN FIRE AND THE HEARING
THE RELATION OF THE EYES TO RIFLE
SHOOTING, PART 2
BRITISH BAYONET TACTICS FOR U. S. ARMY
THIRTY YEARS AGO ON THE FIRING LINE, No. 10
RESULTS OF N. R. A. COLLEGE, MILITARY SCHOOL
AND HIGH SCHOOL MATCHES
EDITORIALS
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JUNE 2, 1917



N. R. A. Interclub Champions—The Peters Rifle and Revolver Club Team, King's Mills, Ohio. From left to right: A. D. Rothrock, G. A. Muenzenmaier, W. C. Hines, G. Guckenberger, B. H. Buchanan, C. E. Pierson, H. Feinerer, J. Beedle, P. W. Bolmer, J. H. Ennis.

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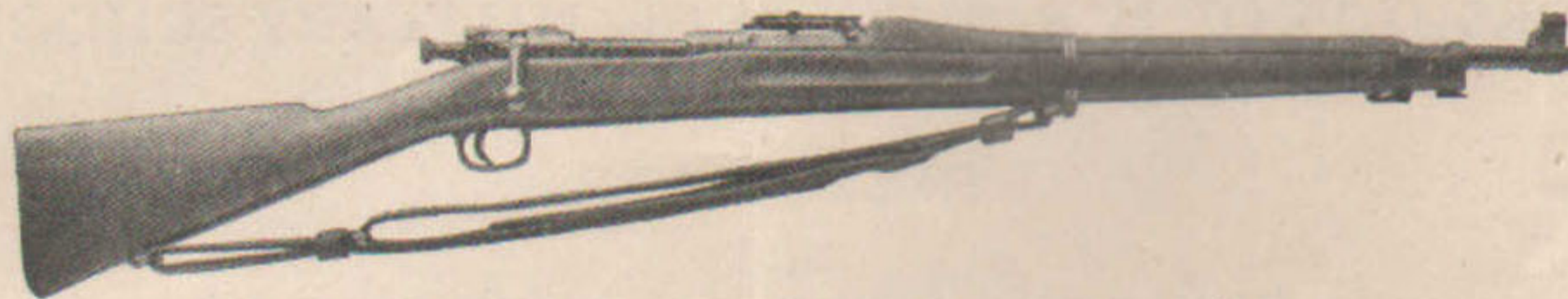
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Gun Fire and the Hearing

By EDWARD C. CROSSMAN

ONE of the minor but none the less regrettable sequels to the great war will be the large number of men with impaired hearing. By large number I do not mean only those who handled the big guns of the artillery, but every man who was engaged to any considerable extent in infantry fighting.

While exposure to the terrific reports of field guns may destroy the hearing immediately under certain conditions, the evils that come to the hearing from the reports of the infantry rifles are less noticeable at the time, but none the less sure in their work.

Few men keenly interested in rifle shooting, and following the game consistently, have normal hearing. Their departure from the normal is peculiar, and the trouble comes on in subtle form.

Such men possess probably all the old keenness of ear for single sounds. In the stillness of a marsh the far-off quack of a mallard or the whistling of widgeon comes with the plainness of yore, and depending only on this test each would declare that he could hear as plainly as ever. The trouble manifests itself in attempting to differentiate between various sounds coming together. Attempting to pick up the voice of a speaker above the roar of a train is one form in which this gun-fire deafness makes its bow to the sufferer. Queerly enough, while individual sounds, even so tiny as the distant hum of a bee, come plainly and distinctly, many sounds coming at once, run together, blur and refuse to be segregated.

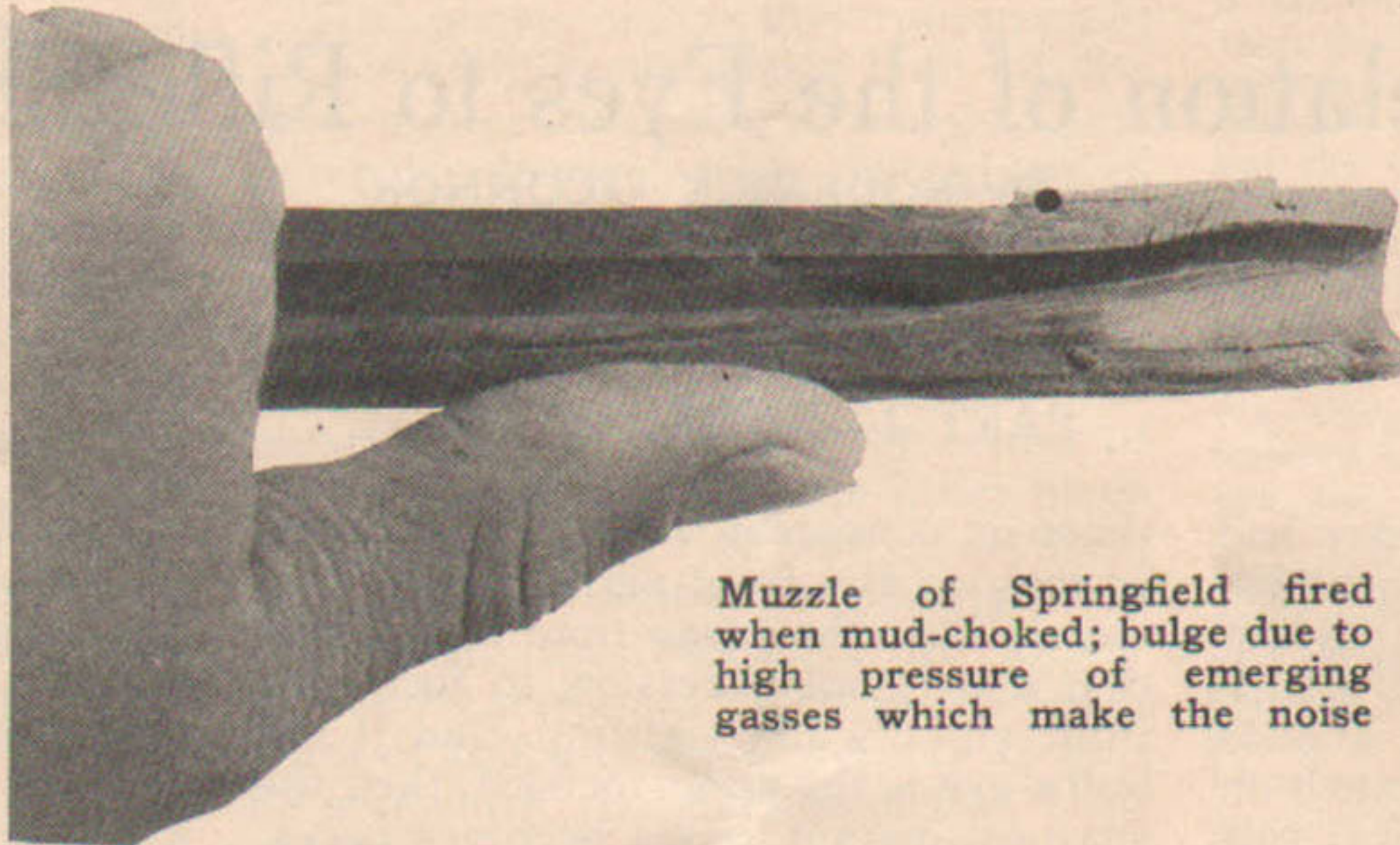
The person so afflicted has trouble in hearing the voice of some one person speaking while others in the same room are also talking at the same time. The ear, as keen as ever, apparently, seems to lose its power to attune itself, like a wireless instrument, to any one sound. The trouble is exasperating and puzzling in its first appearance, because there seems to the sufferer no logic in hearing that can grasp the slightest individual sound, but cannot deliver to the brain much louder sounds that come mixed with other noises.

The modern rifle is greatly responsible for such trouble. It is far worse than the worst boiler shop that ever banged and clanked and roared to the distraction of the listener. It is worse than the apparently more noisy old black-powder rifle, with its hearty roar and its cloud of accompanying smoke. Aboard ship some of the smaller guns in the secondary battery are far worse on the ears than the larger ones, nor is the reason entirely due to the position of the gun. The crews in

turrets of ponderous 13-inchers have been deafened by the noise of small 6-pounders on the superstructure above. Part of the trouble came from the position of the smaller gun, firing over the turret and so giving the gunners the benefit of the muzzle blast; part of it arose from the sharper crack of the small gun.

The evil effect on the ears seems to arise from the high velocity and pressure of the emerging gas from the rifle muzzle, which in turn sets up air and sound waves—if one can differentiate in the expressions—that impinge violently on the ear drums because of the high speed imparted by the escaping gases.

Our own service rifle, for instance, has a muzzle pressure of about 9,000 pounds per square inch, less with some powders. That is, there impinges on the outer air a column of gas a third inch wide, traveling at the rate of 2,700 feet per second and under the pressure of anywhere from 7,000 to 9,000 pounds per square inch. Needless to say, this sets up violent air and sound waves. While sound travels at the rate of 1,090 feet per second, it travels much faster when first



Muzzle of Springfield fired when mud-choked; bulge due to high pressure of emerging gasses which make the noise

starting from such an origin as the service rifle.

The shotgun, on the other hand, has a muzzle pressure of not to exceed 600 pounds per square inch, often less. So, while the gas column is wider, its velocity is but 1,200 feet seconds, and its pressure not a tenth that of the rifle. Shotgun figures and modern rifle figures have somewhere between them the figures pertaining to the old and noisy black-powder military rifles. In the case of those arms the noise was loud, but less painful, and arose from the impact of much unconsumed matter on the outer air. There is no mistaking the difference between the softer "boom" of black powder and the sharp, ear-splitting crash of high-pressure smokeless.

Bursting shells of the H. E. type, grenades and other forms of high-explosive missiles partake, in their sharp crash, of the rifle-report nature. There is no comparison between the bursting of the huge missile full of TNT and the old black-powder, cast-iron missile of Civil War days.

It is not necessary to go to the front to have the hearing impaired by rifle fire. As pointed out, enthusiastic and consistent rifle shooters of military persuasion rarely have normal hearing. The writer has averaged for the past eight years about 50 days a year on the rifle range; if not shooting, then exposed to the noise of other rifles. Although using most of the time some form of ear protection, the unprotected seances,

and probably the inadequacy of the devices used, have brought on a mild but plain case of the sound-confusion form of ear trouble.

Trap-shooters—otherwise clay-bird devotees—take far better care of their hearing, so far as protection goes, than do rifle shooters, although the danger is comparatively slight with the shotgun. Where most trap-shooting followers install some form of ear protector before firing, the rifleman often fails to take precautions, and a reasonable estimate would place the danger from the rifle as about three times that from the shotgun, even considering the fact that the shotgun men stand in a curved line, with the men at the flanks slightly in advance of the men in the middle, and so getting now and then the benefit of the muzzle blast when a gun is swung toward the flank. As the direction of a gun blast is forward, and of the air waves accordingly also forward, the position even with the muzzle or ahead is far worse than one to the rear of the gun.

The effect on the ear is probably a lessening of the sensitiveness of the auditory nerve in protection against the frightful shock. The ear drums do not seem to be affected.

Protecting devices are many but rather inadequate, although far better than nothing at all.

A form that is in common use is a celluloid tube, rounded at the end to be slipped into the ear-passage, cut off square at the other, and furnished with rubber diaphragms designed to fit the ear passage and make a sound-proof junction. A small hole, hardly larger than a pin, runs through the tube endwise, by which ordinary sounds are conducted to the drum. This, of course, cuts down volume of sound and air wave and so protects the inner ear.

A modification is a semi-dumb-bell-shaped celluloid device that fits into the ear and admits sound only through small passages with right-angle turns in them.

A simpler and less expensive arrangement consists of merely a soft rubber cup with rubber diaphragm, to make a sound-proof fit with the ear passage. It completely blocks the way to the inner ear. For swimmers the cup is left closed; for the shooter a small pin-sized hole is pierced in the bottom, admitting of course a smaller volume of sound and air wave than would enter with the ear unstopped by any device, but still admit-

ting ordinary sounds sufficiently for practical purposes.

Cotton serves the purpose fairly well, but when used in sufficient density to be of use, it cuts off to an annoying extent ordinary sounds, such as a voice or a whistle. The celluloid forms of ear protectors mentioned are articles of regular issue in the artillery divisions of our army and navy.

A British form, more carefully designed, provides the usual leak-proof diaphragms, but has a separate diaphragm completely closing the ear channel, and supposed to vibrate in harmony with sound impinging, and so convey the same vibrations to the ear drum. High waves of pressure, as from the report of a rifle, force back the diaphragm against a fine gauze-wire support behind it, while another such screen in front prevents excessive motion in that direction. In other words, it provides a supplementary and outer ear drum, cutting down sudden pressures, but transmitting ordinary sounds.

A British paper suggests as the cheapest and most satisfactory form of protector "plasticene, mixed with sheep's wool," which can be made up cheaply and thrown away when dirty.

The Relation of the Eyes to Rifle Shooting

By RODERICK O'CONNOR

FORMERLY MAJOR, MEDICAL CORPS,
(From *Ophthalmology*, July, 1915)

PART 2—RIFLE SHOOTING

I AM not an expert shot but have had enough experience, having qualified as a sharpshooter in 1910, to enable me to study the subject practically as well as theoretically, and to arrive at conclusions based as much on the practical as on the theoretical side of the question. I found, in discussing the matter with such distinguished shots as Captain Allen and Lieutenant Whelen, Major F. C. Baker, as well as many others, that my conclusions seem to correspond with the generally accepted ideas on the the subject.

Lately numerous writers have attempted to prove that good shooting is consistent with poor vision, and as a result of a report to that effect by Colonel Banister and Major Shaw (published as Circular 5, War Department Series 1908), the visual requirement for enlistment has been reduced to 20-40 for the right eye and 20-70 for the left. These authors take the stand that:

1. As good shooting can be done with 20-40 as with 20-20.
2. The bull's-eye, in sighting, furnishes the blurred image, the front sight being clearly focused, and inferentially that any degree of reduced

vision is consistent with good shooting as long as the front sight can be seen clearly. At the same time they admit that if it is not necessary to focus the front sight while sighting, and if the bull's-eye is the point focused, then the sharpest distant vision becomes necessary.

I hope to disprove to the satisfaction of everyone not an expert shot, for they already know from practical experience, that both of these statements are erroneous.

Before taking up the question of sighting it may be best to insert a few remarks on the optics of the range and rifle.

In the following table the figures are approximate only as the distance of the eye from the sights is not constant.

The visual angle subtended by front sight is 4'; rear sight is 10';
200-yd bull's-eye is 4' = 20-80 vision;
300-yd bull's-eye is 2½' = 20-50 vision;
500-yd bull's-eye is 4' = 20-80 vision;
600-yd bull's-eye is 3' = 20-60 vision;
800-yd bull's-eye is 4' = 20-80 vision;
1000-yd bull's-eye is 3½' = 20-70 vision;
a man 20 inches wide at 1,200 yards is 1½' = 20-30 vision.

When one remembers that the nor-

mal visual angle is 1 minute it is seen that the most acute vision required is 20-30 viewing the range condition merely as a test of visual acuity under the best conditions. Of course, viewing a man at 1,200 yards under actual conditions would be far different from viewing a black figure on a white background.

The amount of target covered by the front sight is four inches for each 100 yards of range, corresponding pretty closely with the diameters of the bull's-eye for each range. This serves as an aid in aligning sights directly under the center of the bull's-eye and in making slight variations in aim with altering sight adjustments. At 1,000 yards the sight would cover the width of two men. The above knowledge could be put to considerable practical use in estimating one's distance from a man by sighting and determining how he compared with the front sight. If the front sight exactly covers him, and he is facing the observer, the distance would be about 500 yards; if he is facing at right angles to the direction of the line of sight and the sight exactly covers, then his distance would be about 300 yards, assuming a man in clothing to be twelve

inches in depth; if in this case he covers but half the front sight his distance is 600 yards. Of course this method can be applied only to objects of which we know practically the exact size and, for these, I am satisfied more accurate estimates can be obtained. Moreover, the range-finder (the rifle) is always at hand and men are the objects at which the soldier must aim.

The accommodative power necessary to focus the sights is 1.12 diopters for the front and three for the rear, these amounts being in addition to that required to focus the target. Of course, in cases of myopia the above figures do not hold good. They show the great range of accommodation called into play in aligning the sights on mark and also show that the only possible way in which all three points can be seen at the same time, and clear enough for sighting, is by fixing the bull's-eye as described below under sighting.

The first essential to accurate shooting is the ability to sight accurately, consistently and, for rapid fire, quickly. One must be absolutely certain where he is "holding" the instant his piece is discharged, otherwise he will not be in a position to make intelligently the sighting corrections necessary in order to allow for influences that produce deviations in the trajectory of the bullet or to hold on the same place for each shot in case no corrections are required. In making such corrections the bull's-eye is often used as a unit of measure, but with reduced vision this would be impracticable as its apparent size is changed and the edges too blurred to get an accurate measure.

Sighting is a monocular act even though both eyes be kept open, the image in the non-sighting eye being suppressed.

The act of sighting includes the following steps:

1st. Selection of the point at which one wishes to aim.

It is hardly necessary to state that one must be able to see in order to do this and it seems reasonable to add that the better the vision the more accurately the point of aim may be selected.

2nd. Alignment of the front and rear sights on, or, as most shots prefer, just below the point one wishes to hit. This alignment necessitates a shift of focus from target to front sight to rear sight in order that the top of the front sight may be placed where desired, the proper amount of front sight taken, and front sight placed vertically in the center of the rear sight notch. If the front sight is held too close to the bull's-eye its (the sight's) slight blur, together with slight irradiation from its tip, will cause it and the bull's-eye to run together blurring both. This trouble is remedied by holding enough

below the bull's-eye to secure a *distinct white* line separating it from the top of the front sight.

One can imagine a degree of expertness where alignment can be secured without the change of focus described. This is done in shotgun shooting, but with the rifle such slight errors in sighting cause such large deviations on the target, and the inability of presbyopes to maintain their expertness, although the condition only prevents focusing the rear sight, make it most improbable that this degree of proficiency is ever reached.

3rd. The alignment being secured, it becomes necessary to hold the position while the trigger is being pulled, and to do this the object (bull's-eye) is focused clearly by direct vision, the sights being seen by indirect vision, the front appearing but slightly blurred in the center of a much blurred rear sight notch. This may be further explained that most expert shots prefer to see a distinct white line between the lower edge of the bull's-eye and the top of the front sight which means that the lower edge of the bull's-eye is the point especially focused and the rest of it even is seen by indirect vision.

The above description presupposes an eye with normal vision both for distance and near and for all practical purposes is identical with that given in the firing regulations, which, however, does not describe in detail the method of securing alignment.

With reduced vision it becomes necessary either to estimate the center of the target or to pick some other place at which a better aim may be secured, adjusting the sights accordingly. In this event the bull's-eye no longer serves its purpose, which is that of a point of aim, and therefore may as well be abolished. In this connection I remember very well the extreme difficulty beginners had with the Krag rifle before the wind gauge sight was employed, it frequently being necessary, at long range, to hold many feet off the entire target. One can readily see how impracticable this would be for a man with reduced vision. The present battle sight forces a return to this method at the short ranges and the difficulty of locating the same spot on an earth bank is back again, which difficulty is greater with reduced vision and in rapid fire. I have yet to hear an expert shot say a good word for the present battle-sight, all agreeing that its elevation is too great, thus increasing the natural tendency to shoot high.

While men who have become expert shots with normal vision may make good scores with temporarily reduced vision, it is unwise to assume therefrom that visual defectives can be trained to the same degree of expertness. In

fact I am satisfied such cannot be the case except in very unusual cases where considerable intelligence is combined with much time, study and interest in the subject, and even then results would be better still with normal vision. The ordinary recruit will become discouraged by his inability to make consistently good scores.

The following extracts from Firing Regulations are quoted in support and illustration of the above statements:

1. Paragraph 13 (1906), last two sentences. "Some men also in sighting will look at the front sight and not at the object. As this often occasions a blur, which prevents the object from being distinctly seen and increases both the difficulties and inaccuracies of sighting, it should be corrected."

2. Paragraph 30 (1906). "The soldier must be cautioned that while raising the line of sight to the mark he must fix his eye on the mark and not on the front sight. * * * The front sight will always be plainly seen, though the eye is not directed particularly upon it."

3. Paragraph 42 (1916). * * * "It follows that the ability to quickly catch the aim, to pull the trigger promptly, without disturbing the aim and to get in, in quick succession, several well directed shots on a vanishing target, is of great value to the soldier."

4. Paragraph 129 (1906). "If the target is hit on the first shot and the allowances then made result in a 5 or close 4 for the second shot, the sights should not be changed during the remainder of the score, but the variations which may occur in the conditions affecting the elevation, or wind allowances, unless they are very considerable, should be allowed for by altering the place on the target upon which the rifle is held."

5. Paragraph 6 (1909). "If the eye is focused on one of the three points—bull's-eye, the front or the rear sight, the other two will appear blurred. This blurring effect is best overcome by using the peep sight as though looking through a window and focusing the eye on the bull's-eye. The blurring of the peep hole will be concentric, giving a clear, easily defined center. The blurring of the front sight will be less, but symmetrical on both sides with very little blur on top."

The above paragraphs evidently presuppose the presence of normal vision and it is difficult to imagine a visual defective being able to comply with them. For example, suppose a case of oblique hyperopic astigmatism with vision of 20-30. Its effect will be to tilt the front sight, which will therefore not appear vertical. It will then be placed so that this will cant the rifle, thus interfering with the intended aim. This error requires most careful correction by lenses.

In order to disprove the statement that as good shooting can be done with 20-40 as with 20-20 vision, I rely on the following:

1st. The table given on page 4, Circular 5, 1908, which shows that of the expert rifleman only 25 per cent. had less than 20-20 (how much less is not stated), while of the poor shots

(second-class men) 61 per cent. had less than 20-20.

2nd. Of the thirty men making the highest scores in three companies at Fort Scriven in 1910, not one had less than 20-20, and this in spite of the fact that none of the thirty could be considered expert shots and that 30 per cent. of the command had varying degrees of reduced vision.

3rd. Some years ago I examined the eyes of twenty-one expert riflemen and 383 sharpshooters, of which number only ten had less than 20-20 in the sighting eye and, of these ten, nine had 20-30 plus. Only one expert rifleman had less than 20-20 (a case of 20-30 plus) and he was a beginning presbyope, an old soldier of many years' experience on the range and who, furthermore, stated that his vision was better when he qualified, which was six months before my examination. This is all the more reasonable as his refraction in the sighting eye was a low hyperopia (+S 1.00+cyl. .50 ax. 65). One sharpshooter had 20-50 but was suffering from acute albumenuric retinitis. He stated that his vision was "all right" at the time he qualified.

The other eight had such low refractive errors that it is difficult to see how their vision could have been anything less than 20-20 full; for examples, one had +cyl. .25 ax. 90, another +S .1, another +S .75—in fact, all were under +S. 1.50, which, considering their ages, should have easily been corrected by the accommodation as all were cases of hyperopia. All were refracted under mydriatic.

4th. The following data secured for me by Major F. M. Hartsock, Medical Corps, by inquiry among the expert shots gathered at Camp Perry for the National Matches of 1915. He questioned 95, finding that 94 shot with normal vision (71 without, 23 with glasses). In the other case he failed to state the vision, but I am sure it was normal as I know the man. He stated that all who had refractive errors wore exact corrections and that the general idea as to sighting corresponded closely with my description, although many seemed unable to describe accurately their method. The general opinion was that results are proportionate to the visual acuity, other things being equal.

The following facts disprove the statement that the bull's-eye furnishes the diffusion image and that the focusing of the front sight is more important than a clear image of the bull's-eye:

1st. All expert shots I have questioned, among them Captain Allen, Lieutenant Whelan, Major Baker, state that in sighting they see the bull's-eye clearly and if, for any rea-

son, it should blur they are less confident of their aim.

2nd. While sighting it is very difficult to focus the front sight, as the natural tendency is to see best that at which one desires to aim. But after some practice it can be done, whereupon the bull's-eye blurs out. This is due to the fact that while so focused the eye is myopic about 1.12 diopters, the front sight being the temporary far point. Myopia of that amount reduces vision to about 20-150 and even circular 5 does not claim that good shooting can be done with such poor vision. If a clear view of the front sight is the essential why not reduce the minimum requirement to a myopia giving 20-150 vision?

3rd. If one is unable to control his accommodation sufficiently to enable him to perform the above experiment he can secure the same results as follows: While sighting at the 300-yard bull's-eye, as it is the smallest, have convex lenses of increasing strength held in front of the sighting eye till the strongest is found that affords a clear image of the front sight. The eye is now in the position of the normal eye focused on the front sight but it will be unable to change focus to the target and therefore time is afforded to make definite comparisons. The bull's-eye has disappeared as such, only the target showing as a large blur, and on testing the vision by test letters it will be found reduced to about 20-150. I am sure anyone who will carry out this experiment properly will have no further doubts as to the facts.

4th. The experience of expert shots at the onset of presbyopia. Without exception their shooting becomes poorer for the following reasons:

(a) They cannot see to adjust the rear sight. This, however, is easily remedied by a half lens in lower segment of frame.

(b) They cannot align the sights because of their inability to focus the rear sight notch or to shift focus rapidly, all this even though they may have a clear view of the front sight and bull's-eye. The only way this can be overcome is by learning to align sights without focusing the rear sight during the process, which must be very difficult. I have had a number of expert shots (expert riflemen and distinguished marksmen) request glasses to help them recover their old accuracy. At first I was hopeful but soon became convinced that glasses will not remedy the trouble. I would try the lenses while they sighted at a mark, simulating a bull's-eye in appearance, in an effort to secure one of intermediate strength which would allow a clear focus of the sights and yet not blur the bull's-eye more than absolutely

necessary. Without exception they refused to take any lens that would produce the slightest blur of the bull's-eye, saying that they could not aim confidently unless it was clearly defined. Under the subject "Accommodation" I mentioned the only remedies for this condition and can see no reason why a pin-hole disc should be prohibited and the much more fragile glasses permitted. Many men are absolutely helpless without their glasses, a most conspicuous example being Lieutenant Whelan, perhaps the most distinguished shot in our army, who has a myopia of -S 2.25, giving a vision of about 10-200, which, however, is corrected to 20-20 plus by lenses.

5th. The following trial shooting tests. I had not fired a rifle since 1904, and never the present one, and so considered myself sufficiently out of practice to try some experimental scores. I fired three scores only, not taking the best of several, one each with naked eye, 20-40 vision and 20-70 vision, making:

With naked eye 3 bull's-eyes; 2 close 4's;=total 23.

With 20-40 vision no bull's-eyes; 5 4's;=total 20.

With 20-70 vision 1 bull's-eye; 3 4's; 1-3=total 20.

The range was 300 yards, so the bull's-eye, being the smallest, makes it the hardest range from the standpoint of visual acuity required. All these scores were good under the circumstances and show that such scores can be made without once hitting what is aimed at. Expert shots are not satisfied unless they hit the mark—somewhere to one side won't do. Men who can make nineteen consecutive bull's-eyes at 1,000 yards consider a 4 as a miss, and in fact it would be were a man the object of aim, as the bull's-eye at that distance is about twice the diameter of a man. I did my best, with reduced vision, to estimate the center of the target, finding it necessary frequently to open the good eye in order to get a better idea of its center. The length of time required in sighting was long and rapid fire would have been out of the question. The important point is that with my naked eye I could group my shots fairly close, considering my lack of practice, but with reduced vision they were scattered all over the 4 ring, one accidentally getting into the bull's-eye. I was extremely uncertain where I was holding at the instant of discharge and so felt completely unable to make any sighting corrections had such been necessary.

Captain Thomas, Coast Artillery Corps, fired two scores rapid fire at 200 yards,

(Continued on page 190)

British Bayonet Tactics for U. S. Army

By STEPHEN TRASK

A LONG with the Enfield rifle, the British manual of bayonet fighting is to be adopted for the United States Army.

Time was when the men-at-arms of mail-clad forces, laying siege to some beleaguered stronghold, relied in their mass attacks upon the sturdy pike, the ancient forerunner of the bayonet.

Time came when across many a battlefield, windrowed with the dead, bugles blared the charge which sent the rank and file of an army sweeping across to surge its bloody, half-mad remnants against hostile earthworks, depending upon the shock of combined assault behind cold steel to sweep them on to victory.

The bayonet has never actually become obsolete in the United States Army. When the old Forty-five Seventy, with its swivel bayonet, was discarded, a knife bayonet of more improved type and wider utility was provided for the Springfield. Yet, apparently, the United States for a time has seemed to regard the bayonet as being of doubtful value, and there is little evidence to suggest that any very great amount of thought has been devoted to the establishment of a system of practice through which men might be trained to its uses, although a manual of sorts has been available all the time.

But the blood-written history of the European war has changed all this, and has demonstrated that the bayonet can no longer be dismissed with perfunctory consideration. When upon unnumbered occasions battalions of the Allied forces have crept up the short scaling ladders, "over the top," in that gruesome hour between darkness and misty dawn, after the high explosives have loosened the opposing trenches and have driven the surviving enemies into their "funk holes"; when these men have set out across corpse-strewn "No Man's Land," timing their storming of the enemy lines so that their arrival will be coincident with good fighting light; when they have gone forth to kill or to be killed in hand-to-hand combat—the bayonet has been the weapon upon which each man depended. He relied upon it not only to win the trench, but to bring him through. His fighting faith was pinned to the "short thrust" at the abdomen of an enemy, the deadly "jab" at hostile throat, the "butt parry" which can be used to turn a life-threatening stroke, and the



Trench Practice at Canadian Bayonet School



Thrust Practice at Canadian Bayonet School

(Photos. by courtesy of *The Infantry Journal*)

quick "withdraw" when the steel had found its billet.

The first evidence that the United States Army had decided upon a course of action to supply the deficiency of its personnel in respect to approved bayonet fighting came only a few days ago at the Reserve Officers' Training Camp, Fort Myer, Va.

Capt. H. J. Koehler, in charge of physical exercises at the camp, brought the matter to public notice when he announced that the Regular Army bayonet manual would be supplanted by that of

the British Army, and undertook to train the men along the lines approved by the Allies, as a result of experience in the present world conflict. Captain Koehler declared that the British manual had proved to be the best for practical purposes and straightway set the embryo officers under his charge to work in skirmish formation, charging with fixed bayonets upon lines of straw-stuffed dummies after the British fashion. The United States Infantry Association has obtained copies of the British manual, which are being reprinted by that organization and will soon be available for the reserve officers.

Bayonet practice in the United States Army up to the present time has been largely a negligible matter, left principally to the discretion and the initiative of regimental commanders, and lacking the simulation of actual war conditions regarded as a vital factor by those who have observed bayonet fighting on the European fronts.

The manual of the bayonet, as previously used in the United States Army, was drafted more from the standpoint of individual fencing with this weapon than with an idea of developing corps of bayonet fighters proficient in team work.

Some years ago, for bayonet exercises, a dummy gun with a spring bayonet was provided. In this form the spring invariably broke during heavy bouts, and

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Dummy Bayonet Musket Formerly Used by British. Now Obsolete

ARMS AND THE MAN

1110 WOODWARD BUILDING, WASHINGTON, D. C.

EVERY SATURDAY

Editor

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

Associate Editor

KENDRICK SCOFIELD

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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.

A PAYING INVESTMENT

THE Winthrop, Md., Rifle Range is beginning to return in practical accomplishment, thousands of expert riflemen as the result of the time and money spent in its construction.

Working under forced draft the school of musketry which is being conducted there is "putting through" an average of 160 men a day.

The Winthrop Range was built in spite of deeply-grounded opposition. Its construction was begun October 1, 1909, by a detachment of Marines, under command of Major (then Captain) William C. Harlee, and which included Gunnery Sergeants Hale, Joyce and Lund of the Corps, men who are widely known in the rifle shooting fraternity.

But the building of Winthrop was not all fair sailing. On several occasions the Navy Department seriously considered abandoning the post, and dismantling the range. Each time such an agitation was started, however, the friends of rifle shooting were influential enough to prevent such action.

During the past two years, the Winthrop Range made a remarkable record. In 1915, four hundred expert small arms coaches were graduated from the school conducted there by Captain G. K. Shuler, and in 1916, eight hundred additional were qualified. The bulk of these coaches were drawn from the ranks of petty officers sent there from the Atlantic fleet, to be returned to their ships, when qualified, for the purpose of spreading the gospel of straight shooting among their several ship's companies. Among those graduated from the school last year were sixty Washington High School boys, many of whom have since enlisted in the Naval Reserve as trained instructors. In addition to the small arms coaches, more than six thousand civilians were put through qualification courses on the range last summer.

While the training of the twelve hundred small arms coaches and the education of the six thousand civilians in handling the service rifle was an important accomplishment, the real value of the Winthrop Range came after the declaration of the War with Germany.

As a result of the work of the men who constructed Winthrop, and of the efforts of the friends of rifle shooting who persuaded the Navy Department to refrain from abandoning the post, the Navy now has a firing line of thirty-two targets, a corps of trained coaches, and plenty of equipment with which to carry on intensive and practical training in marksmanship.

Because every target is needed for the instruction of service men, the civilians will probably have no opportunity to shoot at Winthrop this season, but what undoubtedly will be a loss to the civilian cause will be a corresponding gain to the cause of marksmanship in the sea service of Uncle Sam.

Of course, Winthrop is not the only rifle range which has been built for the sea branch of the service by the Marines, for there is Paris Island and half a score of others which are smaller but none the less serviceable. The pathway of the United States Navy and Marine Corps through the world can be traced by the rifle ranges they have established. They are to be found in China, Nicaragua—even in Africa.

This, however, in no way alters the fact that in time of need Winthrop is proving a tower of strength, and it is the propensity for building a range wherever a detachment chances to land which is destined to make the Marine Corps play no unimportant part as expert riflemen in the forthcoming hostilities.

RIFLE TRAINING FOR RESERVE OFFICERS

THERE are approximately twenty-five hundred candidates for Army commissions at the Fort Myer, Va., Officers Reserve Corps Training Camp. There is no rifle range on the reservation. The chances are that the training of these officers would have omitted any practical rifle shooting instruction if the National Rifle Association had not been in a position to offer range facilities and trained instructors. As a consequence, if the offer of the Association is accepted, each of these candidates can be put through a forty-shot qualification course before the close of the camp.

There may be other officers' training camps similarly situated as concerns rifle practice. If this is true, the nearest N. R. A. club possessed of a rifle range should offer the use of the range to the commandant of the camp, together with volunteer operators. For the moment, civilian club members should not consider their own convenience, but should offer their services, and their range facilities and stand ready to help in every way possible.

Shooting any single course cannot by any stretch of the imagination be considered equivalent to proper training in the handling of the rifle, but it is that much more than no training at all, and will at least give a man a comprehensive idea of the working of the Springfield and the theory of straight shooting, and will equip him so that he can approach practice later with a clearer comprehension of what rifle shooting means.

Great Britain found in the ranks of the English N. R. A. thousands of trained instructors. The United States should not fail to take advantage of the services of her civilian expert riflemen, many of whom, although at present exempt, stand ready to "do their bits."

Thirty Years Ago on the Firing Line

Being short sketches of men who a generation back burned black powder; hand-loaded their own shells; seated bullets apart from the cartridge which contained the charge; made high offhand scores on the Creedmoor target, and kept alive for posterity, the art of marksmanship.

No. 10—J. A. RABBETH

PICK a crowd of riflemen at random. In it there will be one who in preparation for his advent upon the firing line selected a weapon which he believed, in theory, to be the best suited to his needs, and who will forever after cling to that weapon with a fidelity sometimes worthy of a better arm. Another will refuse to take anything on faith. If the rifle with which he starts fails to live up to the accuracy expected of it, he will add little individual refinements, and if it still fails to put the pillets in the Black, regardless of skillful holding, the weapon will be "junked" for a new one. And then there is perhaps a third—he whose love of ballistics and the science of rifle shooting is never dormant; to whom a new rifle is a new problem to be solved and who is not content until he has experimented at first hand with every known make of small arm and satisfied himself that he has gotten the best out of every weapon which has come into his hands.

As a confirmed experimenter with all makes and types of rifles, J. A. Rabbeth was known throughout the shooting fraternity of America and England thirty years ago.

A rifle shot of distinction, he was continually conducting tests and trials for the purpose of establishing just what could be expected, as the ultimate of perfection, of every make of rifle and every grade of ammunition. Those who knew him best were wont to declare that when he had taken up a rifle and obtained therefrom the best results, the weapon no longer held his interest. The charm was gone, and he would immediately set about finding some untried firearm mechanism the possibilities of which were still a mystery.

With all makes of rifles during a long shooting career Rabbeth established records and made scores which before had been believed impossible. His performances often upset the calculations of shrewd handicapping committees who thought that they had established matches upon an equitable basis.

While catholic to the extreme in his taste, so far as the make of weapon was concerned, Rabbeth nursed one pet aversion. He consistently maintained that the muzzle-loading rifle was neither suitable for hunting or warfare, and he never attempted experiments with this type of small arm.

J. F. Rabbeth was a native of Connecticut and reached the zenith of his shooting career when about forty-eight

years old. To his natural skill as a Marksman was added an unusual mechanical ability,—he having in early life perfected the Rabbeth spindle, which was known wherever cotton manufacture was followed.

For eight years at a period following the perfection of his commercial discovery, he was employed at the Remington Armory where he gained an intimate and thorough knowledge of fire-arm mechanics, which later contributed much to the value of his experiments and to him and his propensity for breaking from beaten tracks, the riflemen of his time owed much of their enlightenment on the theory and practice of rifle shooting.

The Remington rifle seemed to appeal to Rabbeth perhaps more than any other make, but his continual experimenting often made it difficult to classify many of the weapons which he used, for frequently a rifle which he carried to the firing line and with which he made brilliant scores, would consist of a breech mechanism of one make, a barrel of another manufacture and sights from a third type of weapon.

Rifle history records many unusual records made by him with Remington long- and short-range rifles; Ballard rifles re-bored from a .22 caliber to a .38 calibre; Remington rifles with Maynard barrels; Brown Military rifles, as well as other rifles of twenty-eight and twenty-five caliber. The origin of these two calibers, rifle history of a generation past attributes to Rabbeth, who is said to have evolved them in an effort to prove his theory that the .22 caliber was not large enough for small game, and that all calibers above the .22 were too large. For many years the .25 caliber was his favorite hunting rifle.

The skill and knowledge which Rabbeth gained in the Remington Armory not only made it possible for him to produce these odd calibers, but also to make the shells, bullet molds, and other appliances, which these unusual bores demanded.

In shooting, Rabbeth fired from the left shoulder, using full unmodified hip-rest position, a hold which he not only used at the targets but also when hunting.

After having won many contests in the local club to which he belonged, Rabbeth who even then was recognized as an Expert Marksman, and had contributed widely to the sporting journals of his day, made his first big winning in 1875.

During that year a short-range, off-

hand match open to the world, and which drew an unusual number of extremely skilled shots, was held at Creedmoor. The first prize and highest score were won by Rabbeth.

This victory was the first of a long series of brilliant performances, and shortly thereafter moving to Boston, he became a member of the Massachusetts Rifle Association, of which he was recognized as one of the most finished shots of that famous club at either short- or long-range, with match or military rifle.

During the summer of 1881, he made some unusual long distance records at 800, 900 and 1,000 yards. With this practice as a preparation he entered the Creedmoor matches in September and won the Wimbledon cup from a large field of skillful opponents. Having run up one of the highest aggregates on the team of Company D, First Mass. Infantry, he was picked as a shooting member to represent that organization in the second international military match, at Wimbledon, England, but owing to trouble with his eyes, he did not actually take part in that competition.

While experimenting, Rabbeth customarily shot from a rest, and was one of the originators of the rest matches, which were so popular on the Walnut Hill Range. He always contended that more could be learned of rifles and their possibilities from rest shooting than could be ever gleamed from off-hand work.

To him belongs the credit of having made the first possible of 100 points on the Massachusetts decimal target, a record which stood for three years before it was equaled by any other rifleman.

One of the most remarkable performances at rest shooting which had ever been known during his time, Rabbeth accomplished with a Sharps military rifle at 200 yards on the Standard American Target, June 24, 1886, when he placed nine out of ten shots within the innermost circle, $3 \frac{36}{100}$ inches in diameter. This was a score seldom equaled by experts with a match rifle cleaned after every shot. The rifle Rabbeth used was not cleaned between shots and had a six pound trigger pull.

On April 7, 1886, Rabbeth made a clean score of ten consecutive bulls-eyes in a regular off-hand match, using a Remington rifle with a Maynard barrel. He shot patch bullets but did not clean the rifle.

Just before the annual meeting of the

National Rifle Association, in 1886, Rabbeth attempted long range shooting, at 800, 900, and 1,000 yards, with a Sharps Military rifle, fitted with Remington Military sights which were mounted on the barrel as near the action as possible. A sling was attached to the rifle and shooting was done from the "Texas Grip" position.

When Rabbeth went to the firing point he slipped his left leg through the strap, lay flat on his back, right leg straight, left leg thrown across the right leg at the knee, butt of the rifle brought back under the head, left hand and arm brought under the head, and the left hand grasping the upper part of the stock just ahead of the butt plate. In this position the shooter could not conveniently use the trigger finger, and so the thumb of the right hand was placed through the trigger guard at a point beyond the first joint, and the trigger thus pressed.

After practicing in this position Rabbeth went to Creedmoor and using the Sharps rifle made three clean scores of seven shots each, at 500 yards in the Governors' match, and a run of eighteen consecutive bulls-eyes at this range; three clean scores of five shots in the Stewart match at 200 yards, and the winning score in the Shorekley match at 800, 900 and 1,000 yards, the scores at the several distances being 47 out of 50 at 800 yards, 44 at 900, and 38 at 1,000.

RELATION OF THE EYES TO SHOOTING

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making 21 with normal vision and but 9 with 20-70, in spite of the shortness of the range, which allowed sufficient view of the figure. He could not sight rapidly.

6th. In the coast artillery gun pointers and observers must have normal vision and in the navy gun pointers must have 20-15 vision.

7th. The following quotation from the report of a committee, composed of Drs. de Schweinitz, Fox, Standish and Posey, appointed by the Surgeon-General to prepare visual standards for the army: "The former standard for enlisted men of the line of the army has been maintained, as it is the opinion of the committee that while the possession of the minimum degree (20-40 R. P. O'C.) would be *insufficient* for *sharpshooting* and the *performance* of other duties which demand the *sharpest vision*, there would always be sufficient number of candidates enlisting with normal vision from whom there would be no difficulty in securing soldiers who would be able to perform the duties demanding extraordinarily sharp vision." I think but few officers will agree with the last por-

tion, as carried to the end it would mean a division of the fighting force into two classes, a firing and a non-firing. Paragraph 136, Firing Regulations for 1906, emphasizes the value of average proficiency.

8th. I requested Major William J. Lester, Medical Corps, to take the vision of all the expert riflemen and sharpshooters in the Eleventh Cavalry. He was able to secure only 100 for examination, which number includes many who qualified in the years 1908 and 1909 after the order authorizing the reduction of visual requirements. Out of this number not one had less than 20-20, 84 having 20-20 or 20-20 plus, and 16 having 20-15 or 20-15 plus.

During these years the reduced visual standard has been in force and consequently it is fair to assume that the Eleventh Cavalry has the same proportion of visual defectives as the rest of the service and that none of them could qualify.

9th. As a result of a letter written by me to the Adjutant-General of the Army calling attention to the errors in the work of Col. Banister and Major Shaw, Lieut. Williamson was directed to make a special investigation and report on this subject. The following extracts from his report bear out my contentions fully:

"It has been stated by some authorities (Banister and Shaw in Cir. 5, War Dept., 1908), who in turn quote Helmholtz, Coullaud, Schmidt-Rimpler and others, that the sights on the rifle are seen by direct vision and the target by indirect vision. In other words, that in the act of shooting the eye is focused on the front sight of the rifle and not on the target. By other authorities (O'Connor) it is claimed that the point of focus is the target and that the sights are seen by indirect vision. The latter view is undoubtedly correct, as evidenced by the experience of all expert shots and as shown by our firing regulations."

"Eames has shown that a change of one minute in the angle of elevation produces a very material change in the point of impact, and as a change in direction of one minute is the smallest movement appreciable to the normal eye it is plain that a normal eye will have a great advantage in aiming."

"At the National Rifle Match at Camp Perry in 1911 an examination was made of the visual acuity of 517 men who composed the teams from the various States. Of these 90 had a vision of 20-20, 273 a vision of 20-15, and 91 a vision of 20-10. They all shot without glasses. Of the 63 remaining who had less than normal vision, only six had errors of high degree, and these were all myopes who said they could

not shoot at all without glasses (although the front sight was fairly plain). All the 63 who had visual errors wore correcting lenses, which brought their vision up to 20-20 or better. The men composing these teams were all engaged in civilian occupations and were selected from the militia (where the standard of vision required is usually not very high) after competitive matches. As the percentage of vision is so much higher than among civilians generally the inference is that the visual defectives or those whose defects were not corrected must have been eliminated. In talking with these expert shots it was the firm belief of all of them that the slightest difference in their vision made a difference in their shooting."

(To be concluded)

BAYONET TACTICS FOR U. S. ARMY

(Continued from page 187)

this earlier "dummy" was discarded in favor of a wooden musket of solid oak, the length of rifle and bayonet. The bayonet end was surmounted by a pad. For the protection of the recruits taking part in the bayonet exercises, heavy wadded "armor" was provided, with strong masks and padded gauntlets.

Under the old system, the practice, in the main, took the form of individual fencing bouts. Occasionally regimental commanders provided "dummy" opponents for thrusting practice, and at times the fencing would be conducted upon a wider scale, by dividing the command into units and pitting one unit against another. Still the underlying principles were merely those of fencing, and the padded armor, masks, and the dummy guns were very much in evidence.

In the opinion of present-day military experts fresh from the fields of France, this sort of thing is not productive of the kind of training which will stand the recruit in good stead, since it fails to take into consideration many of the problems which confront the bayonet fighter in actual war, and upon the solving of which during the thick of battle depends the safety of the soldier, and, what is more important from a military standpoint, the effectiveness of the charge.

To supersede the bayonet manual of the United States Army with that of Great Britain is entirely feasible, say army officers. There is very little difference between the British rifle and the Springfield, so far as bayonet fighting goes, the Enfield being only 2 inches longer than the United States weapon. The bayonets are practically the same length and are interchangeable, to the extent that the Enfield bayonet is a comfortable fit in the Springfield scabbard. This point was brought out when, in

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BAYONET TACTICS FOR U. S. ARMY

(Concluded from page 190)

taking stock of the extra equipment needed if the expeditionary force to France were to be armed with Enfields, the ordnance experts discovered that the Springfield scabbard would accommodate the Enfield knife.

The British bayonet practice takes little notice of body armor and padded gloves. It has very little in common with the dummy gun.

The principle upon which the British manual of bayonet fighting has been based is apparently the conclusion that "to attack with the bayonet effectively, good direction, strength and quickness are required during a state of wild excitement and probably physical exhaustion."

In drawing up the manual the British officers also established as a premise that the limit range of the British bayonet is about five feet, measured from the opponent's eyes, but that more often the killing is at close quarters at a range of 2 feet or less, when troops are struggling corps against corps in trenches or darkness. The slight difference in the lengths of the British and American rifles would seem to bring combat with the Springfield under the same general conditions.

In the British Training Manual of 1916, these points are made concerning bayonet combat:

"The bayonet is essentially an offensive weapon—go straight at an opponent with the point threatening his throat, and deliver a thrust whenever an opening presents itself. If no opening is obvious, then create one by beating off the opponent's weapon or by making a 'feint thrust' in order to make him uncover himself.

"Hand-to-hand fighting with the bayonet is individual, which means that a man must think and act for himself and rely on his own resources and skill; but, as in games, he must play as one of a team and not for himself alone.

"In a bayonet assault all ranks go forward to kill or be killed, and only those who have developed skill and strength by constant training will be able to kill.

"The spirit of the bayonet must be inculcated into all ranks, so that they go forward with that aggressive determination and confidence of superiority born of continual practice without which a bayonet assault will not be effective.

"The technical points of bayonet fighting are extremely few and simple: the essence of bayonet practice and continuity of practice.

"An important point to be kept in mind in bayonet training is the development of the individual by teaching him to think and act for himself. The simplest means of attaining this is to make men use their brains and their eyes to the fullest extent by carrying out the

practices, so far as possible, without words of command. This procedure develops individuality and confidence. Alertness and rapidity are also qualities to be developed.

"As technique of bayonet fighting is so simple, long detail is quite unnecessary and makes the work monotonous. All instructions should be carried out on common-sense lines. It should seldom be necessary to give the detail of a 'thrust' or 'parry' more than two or three times, after which the classes should acquire the correct positions by practice. For this reason, a drill should rarely last more than thirty minutes. It should be remembered that nothing kills interest so easily as monotony.

"The spirit of the bayonet is to be inculcated by describing the special features of bayonet and hand-to-hand fighting. The men must learn to practice bayonet fighting in the spirit and with the enthusiasm which animates them when training for their games, and to look upon their instructor as a trainer and helper.

"Interest in the work is to be created by explaining the reasons for the various positions, the method of handling the rifle and bayonet, and the uses of the thrusts. Questions should be put to the men to find out whether they understand these reasons. When men realize the object of their work, they naturally take a greater interest in it.

"Progression in bayonet training is regulated by obtaining: first, correct positions and good direction; then, quickness. Strength is the outcome of continual practice.

"In order to encourage dash and to gradually strengthen the leg muscles, from the commencement of their training classes should be frequently practiced in charging short distances.

"All company officers and noncommissioned officers should be taught how to instruct in bayonet fighting, in order that they may be able to teach their men in this very important part of a soldier's training. It should have place in all training schedules, and in all rest periods in war time.

"Sacks for dummies should be filled with vertical layers of straw and thin sods, leaves, shavings, etc., in such a way as to give the greatest resistance without injury to the bayonet. A realistic effect, necessitating a strong withdrawal, as if gripped by a bone, is obtained by inserting pieces of hard wood, $\frac{1}{4}$ inch thick (pieces of crating or boxes), between the stuffing and the sack on the side facing the attacker, and the grain must be vertical.

"These sack dummies can be made to stand on end by fixing a wooden cross or star (two or three pieces of wood about two inches broad and $\frac{3}{4}$ inch thick nailed across one another) in the base of the sack before filling it. They can also be placed with good effect on rough tripods or tied to improvised stools.

Dummy sacks should be suspended from gallows and weighted or tethered to the ground from the bottom corners.

"By use of a little ingenuity an officer can readily represent the torso of an opponent in positions simulating actual conditions.

"The greatest care should be taken that the object representing the opponent and its support should be incapable of injuring the bayonet or butt. Only light sticks must be used for parrying practice.

"The chief causes of injury to the bayonet are insufficient instruction in the bayonet training lessons; failure to withdraw the bayonet clear of the dummy before advancing; and placing the dummies on hard, unprepared ground.

"For practicing direction, there must always be an aiming mark on the dummy. Cardboard discs for this purpose are desirable. By continually changing the position of the mark, the 'life' of the dummies is considerably prolonged.

"In the absence of discs, five or six spots or numbers can be painted on the dummies as marks."

SEND BEAR CUBS FOR MASCOTS

About every sort of question which a hundred thousand riflemen can devise is at some time or other put up to the Rifle Smokeless Division of the DuPont Powder Company to answer. Usually the experts of the office have no trouble, but a facer has been presented to them at last.

A few weeks ago a telegram was received in Major K. K. V. Casey's office from a Canadian who announced that three bear cubs were on their way to the Rifle Smokeless Division. The cubs, according to the shipper, are to be given to any United States Regiment in search of mascots, and the Rifle Smokeless Division has been asked to place them.

So far the cub triplets are being cared for at the big powder plant, awaiting applications from Regimental foster parents who may desire the young bears for mascots.

Officer—"Is that soup ready, Jones?"

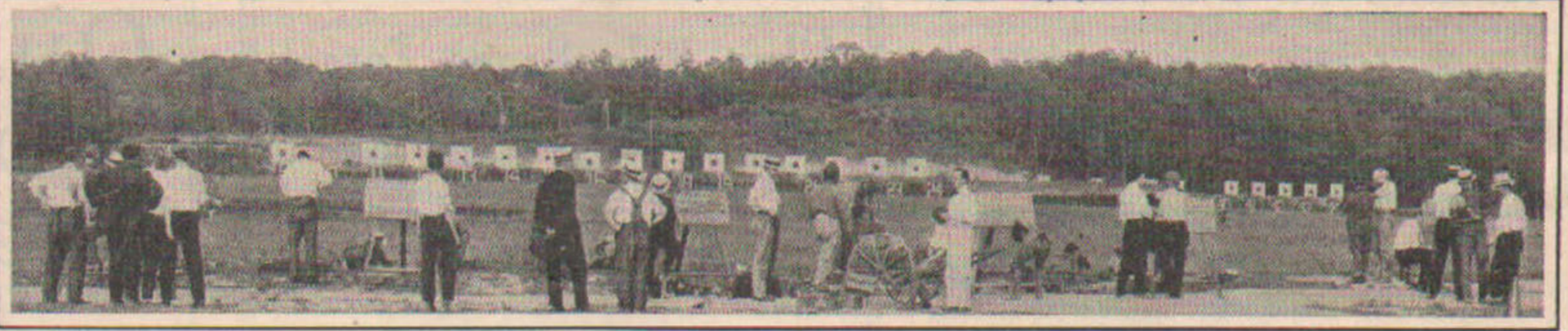
Officer's Servant—"No, sir, the stove went out, sir."

Officer—"Went out! Then why don't you light it again?"

Officer's Servant—"Cos it went out by the roof, sir"—London Opinion.

The men in the trenches abroad are coming to resemble their armor-clad forbears. The latest innovation is a chain mail veil draped from the steel helmets. The invention is that of a London eye specialist and it has proved its value. The steel veil hangs from a rod across the helmet front and protects the eyes and face while not interfering enough with the sight to impair the soldier's efficiency.

AT THE TARGETS!



Winners of High School, College and Military School Matches Announced

RESULTS in College, Military School and High School gallery matches recently conducted have been announced by the National Rifle Association.

The College competition was won by the Michigan Agricultural College, of East Lansing, on a total score of 9,638 out of a possible 10,000 points. This score represents a match average of 963.8 out of a possible 1,000 and an individual average of 192.76 out of a possible 200 for the entire series.

The class winners of this competition are not yet complete, the B Class award being withheld pending the decision of a protest. Class C was won by the University of Tennessee, Knoxville, on a score of 9,176. The Tennesseans began shooting in D Class, but worked themselves up to the top of C Class during the matches. Bowdoin College, Brunswick, Me., has been declared winner of D Class.

The score of the Michigan Agricultural College, while not nearly so perfect as that of the Peters Rifle and Revolver Club, winners of the civilian competition announced several weeks ago, takes second place in comparison with all other scores in the series, being higher than that of the winners of either the Military School or High School matches.

The Military School competition was won by the New York Military Academy, Cornwall-on-Hudson, with a score of 9,500, a team average per match of 950 out of 1,000 points and an individual average of 190 for all matches. The Class B prizes in this competition have been awarded to the Culver, Indiana, Military Academy, on a total of 7,811.

The High School competition was won by the Iowa City, Iowa, High School on a total of 9,517, a team average per match of 951.7 and an individual average of 190.31, a slightly better showing than that which won the Military School contest. Class B of this match has been awarded to the Jamaica, Long Island, High School.

The aggregate scores of all contestants finishing in the matches are:

Colleges

1. Michigan Agricultural College, East Lansing, Mich. (A) 9638
2. West Virginia University, Morgantown (A) 9561
3. Columbia University, New York City, N. Y. (B) 9413
4. Norwich University, Northfield, Vt. (A) 9374
5. Notre Dame University, Indiana (A) 9280
6. Mass. Agricultural College, Amherst (A) 9259
7. Cornell University, Ithaca, N. Y. (A) 9231
8. University of Tennessee, Knoxville (D) 9176
9. State University of Iowa, Iowa City (A) 9071
10. University of Pennsylvania, Philadelphia (B) 9016
11. Bowdoin College, Brunswick, Maine (D) 9029

12. U. S. Naval Academy, Annapolis, Md. (A) 8986
13. Worcester, Mass., Polytechnic Institute (C) 8886
14. California University, Berkeley (B) 8617
15. University of Michigan, Ann Arbor (A) 8615
16. Iowa State College, Ames (C) 8575
17. University of Vermont, Burlington (B) 8571
18. University of Illinois, Urbana-Champaign, Ill. (B) 8546
19. University of Nebraska, Lincoln (B) 8469
20. Princeton University, New Jersey (B) 8391
21. Mass. Institute of Technology, Cambridge, Mass. (C) 8368
22. Kansas State Agric. College, Manhattan (D) 8366
23. Oregon Agric. College, Corvallis (C) 8351
24. Clark College, Worcester, Mass. (D) 8263
25. New York State College of Forestry, Syracuse, N. Y. (D) 8244
26. Pennsylvania State College, State College (C) 8047
27. Williams College, Williamstown, Mass. (C) 7994
28. Oklahoma Agric. and Mech. College, Stillwater, Okla. (C) 7830
29. Connecticut Agric. College, Storrs (D) 7728
30. Rensselaer Polytechnic Institute, Troy, N. Y. (B) 7597
31. Dartmouth College, Hanover, N. H. (D) 6455

Military Schools

1. New York Military Academy, Cornwall-on-Hudson (A) 9500
2. St. John's Military Academy, Delafield, Wis. (A) 9177
3. Bordentown, N. J., Military Institute (A) 8627
4. Kemper Military School, Boonville, Mo. (A) 8503
5. Culver, Ind., Military Academy (B) 7811
6. Tennessee Military Institute, Sweetwater (A) 7260
7. Shattuck School, Faribault, Wis. (A) 7218
8. Mount Tamalpais Military Academy, Cal. (B) 7161
9. Hitchcock Military Academy, Cal. (B) 7097
10. Miami Military Academy, Germantown, Ohio (A) 6984
11. Columbia, Tenn., Military Academy (B) 6738
12. Bingham School, Asheville, N. C. (A) 6161
13. Hill Military Academy, Portland, Ore. (B) 5269

High Schools

1. Iowa City, Iowa, High School (A) 9517
2. Placer Union High School, Cal. (A) 9494

3. Central High School, District of Columbia (A) 9021
4. McKinley Manual Training High School, District of Columbia (A) 8989
5. Cedar Rapids, Iowa, High School (A) 8717
6. Burlington, Iowa, High School (A) 8609
7. East Salt Lake, Utah, High School (A) 8401
8. Erasmus Hall High School, Brooklyn, N. Y. (A) 8498
9. Jamaica High School, L. I., N. Y. (B) 8387
10. Central High School, Grand Rapids, Mich. (B) 8295
11. Dixon, Illinois, High School (B) 8188
12. Baltimore, Md., City College (B) 8161
13. Western High School, District of Columbia (B) 7788
14. New Haven, Connecticut, High School (B) 7724
15. Lewis and Clark High School, Spokane, Washington (B) 7551
16. Northfield, Vermont, High School (A) 7306
17. Smith Academy Manual Training School, St. Louis, Mo. (A) 6271
18. University High School, Laramie, Wyo. (B) 5960
19. Crosby High School, Waterbury, Conn. (B) 5361

RICOCHETS

The Fort Pitt Rifle Club, Pittsburgh, Pa., held its regular match on the Highland Range, May 26. The match resulted in a runaway for P. H. Dillman, who took all the "pep" out of the rest of the bunch by making 39 consecutive bull's-eyes out of 40 shots, this exhibition so flabbergasting the rest of the near-shots that the best any of them could do was a possible followed by a 47 by T. C. Beal, who won second place, and third place was given to Granville Teter, who had a score of 48.

Three-hundred-yard match scores:

P. H. Dillman	50	50	50	49
T. C. Beal			50	47
Granville Teter				48
F. B. Fisher				47
G. B. Armstrong				46
W. E. Schlessman				46
V. J. Shepard				46
G. A. Snyder				45
J. D. Lightner				44
S. F. Hand				40
T. M. Millis				34

The Fort Pitt Rifle Club staged an 800-yard match on the Highland Range, May 19, which was won by T. C. Beal with 48, I. C. Laughery second with 47, and R. S. Everett third with 47.

The scores were: T. C. Beal, 48; I. C. Laughery, 47; R. S. Everett, 47; F. B. Fisher, 46; G. Teter, 46; O. G. Harris, 46; G. H. Keil, 44; G. A. Snyder, 43; G. B. Armstrong, 43; G. O. Knable, 43; P. H. Dillman, 42; R. V. Swanton, 42; W. E. Schlessman, 41; H. P. Tiemann, 34; J. R. Wise, 34, and V. J. Shepard, 32.

The Manchester rifle team defeated the team of the Concord, Mass., Rifle Club April 24th by the score of 710 to 706, the totals of the five high men on a side being taken to settle the match. The locals, however, found contentment in having the high score for the 12 men, 1,609 to 1,601. The score:

Manchester

Dr. G. C. Wilkins.....	144
A. J. Reed.....	143
E. A. Hayes.....	139
L. B. Swartz.....	120
R. P. Farmer.....	141
A. E. Wooster.....	108
R. G. Lang.....	143
E. Pollard.....	118
S. J. Marsh.....	131
H. J. Danforth.....	138
Carleton.....	137
M. W. Gould.....	139

Totals.....1,601

Concord

Roy Livingston.....	128
William Bishop.....	134
Fred L. Johnson.....	136
Samuel Dunsford.....	135
A. L. Cushman.....	146
Roy E. Marston.....	141
A. S. Tracey.....	138
Frank Leavitt.....	139
Harold Fraser.....	126
William Campbell.....	119
C. L. Martin.....	142
Z. I. Tibbetts.....	128

Totals.....1,609

The Rochester, N. Y., Rifle Club opened its outdoor shooting season May 19th with the new "marksman" course. Seventeen members reported, twelve shooting the completed course and seven qualifying. Enthusiasm ran high and, considering the number of "rookies," some good scores were hung up. Spraker and Wernz led the bunch, Spraker making 18 straight 5's in his rapid string. The scores, 200 yards, target B, 200 points possible, were: Sulzer, 130; Tozier, 162; Farley, 155; Richardson, 148; Armstrong, 163; Bent, 148; Harris, 138; Wernz, 188; Spraker, 192; Warder, 149; Ashley, 153; Swope, 162.

The Red Oak, Iowa, Rifle Club has reported these qualifications under the old course.

Expert. George Windsor, 221; Harold F. Gochenour, 216; A. Hodgson, 211.

Marksmen. Harry E. Stevens, 177; John C. Bryant, 164.

The Seattle Washington, Rifle and Revolver Association has reported two expert qualifications. They are C. C. Finn, 223 and R. K. MacDonald, 228.

These marksman qualifications have been reported by the Farmington, Iowa, Rifle Club under the new course. They are: H. A. McWilliams, 181; John Hamlin, 179; and T. C. Jansen, 113.

The Springfield, Illinois, Rifle Club has reported 23 qualifications, 13 as sharpshooter and 10 as marksmen. They are:

Sharpshooters. Carl Reisch, 175; W. H. Eldred, 177; W. E. Shanklin, 167; A. R. Livingstone, 164; Thos. B. Watts, 163; N. F. Reinboth, 163; Carl C. Yoakley, 160; Harry Kloppenberg, 156; Ben Ashby, 156;

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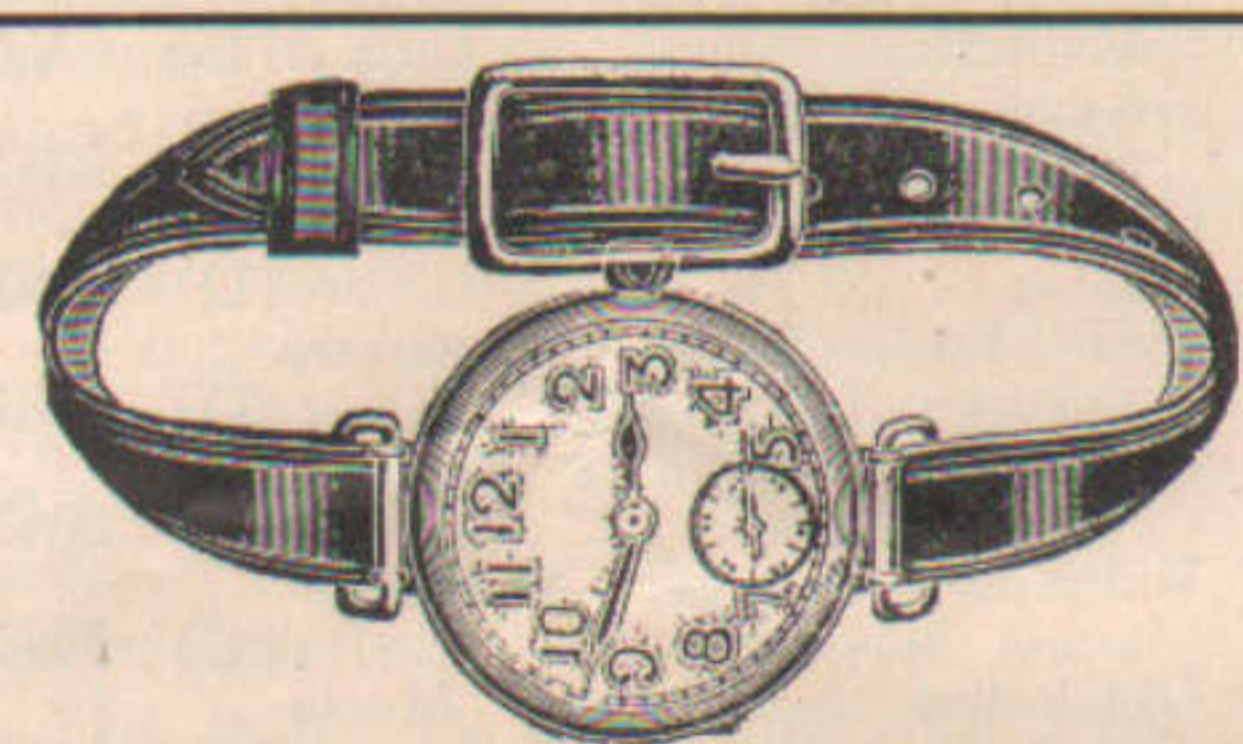
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References: Dun, Bradstreet, or any Chicago Bank.

George C. Matheis, 155; A. F. Anderson, 155; Leonard C. Matheis, 149; J. B. Kivingstone, 148.

Marksmen. W. S. Eldred, 192; R. Kamm, 185; Harry L. Pierce, 175; H. W. Bilyeu, 174; A. E. Blair, 174; Claude Irwin, 171; Otto Giehl, 170; Frank Link, 164; E. L. Reisch, 162; George A. Luers, 155.

Six marksmen qualifications have been reported by the Scott, Arkansas, Rifle Club. They are Walter Alexander, 182; Wayne Alexander, 166; Hugh T. Brown, 171; R. L. Pemberton, 165; J. K. Thibault, Jr., 171; Dr. H. Thibault, 179.

One expert and ten sharpshooter qualifications have been reported by the California Railroad Commission Rifle Club under the old course. They are:

Expert: Frank Joseph Farrell, 220.
Sharpshooters: R. C. Ashworth, 209; Philip Banarft, 207; R. M. Vaughn, 204; F. A. Daugherty, 198; W. G. Buy, 196; A. N. Johns, 193; J. E. P. Daugherty, 192; R. G. Ellis, 192; A. E. Graupner, 191; Paul Thelen, 190.

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A score of 85 standing and 90 prone entitles the rifleman to the marksman's bronze decoration.

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**The Secretary of the
National Rifle Association
of America**

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Off Hand From the Clubs

Trigger Pull Important In Defense League Work

By A. P. LANE

THE members of the thousands of Home Defense Leagues rapidly being organized all over the country are equipping themselves principally with rifles and revolvers and most of them are already practicing at the target.

I will try to set down here a few points that friends of mine who are instructors are emphasizing. Such, for instance, as the right way to hold, the right way to sight, amount of pressure to place on the grip, position of the arms, position of the feet, etc., and, most important of all, the correct pull of the trigger.

In rifle and revolver shooting, the ability to pull the trigger at the right moment and without jarring the gun in any way is an art which must be mastered before the bullets will strike the bull's-eye with any degree of regularity. Even if you have eyes like an eagle and can hold as steady as a rock, the bullets are sure to go wild if you pull the trigger with a sudden yank rather than by a steadily increasing pressure.

A beginner who is just starting in at the target with the rifle or revolver is advised to line up the sights as well as he can and hold as steadily as possible, but, for a while at least, do not pay special attention to these points. Your whole energy should be concentrated on pulling the trigger properly. The sights may dance around on the target in a distressing manner and perhaps they will appear fuzzy at times, but when you miss the target remember that yanking the trigger threw your shot wild, for I have never seen a man yet who had such poor eyes or who was so shaky as to miss the target provided he could get that smooth and even let-off of the hammer that produces no visible jump in the gun.

Some men learn how to shoot more quickly than others, just as some men learn how to swim or how to ride horseback more quickly than others who are not physically or temperamentally as well adapted. It is a relatively common impression that shooters are born and that if a man is not a born rifle or revolver shot, he will never become one. Such is not the case. Those of you who find the sights have edges like coarse fur and that the barrel wiggles around in a most distressing manner, should be cheered up considerably by the fact that it has been proven time and again that persistent practice will always produce a considerable degree of skill. I have started in many shooters who seemed to be almost hopeless, but who in a comparatively short time produced surprisingly good scores.

It will occur to many of you that practice in deliberate shooting at a large and clearly defined bull's-eye on a target will never be of any practical use to you for the reason, as you will probably figure to yourself, that for home defense particularly the ability to shoot quickly and without preparation is of vital importance. In one way you are right. Slow-fire shooting is not directly useful, but it is the primary department of shooting and it teaches you the problems in a simplified form that you will be called upon to solve when you take up rapid shooting.

A Brick-bat for Linder

A. L. Thomson, one of the members of the California Civilian Team at the 1916 National Matches, has this to say, in part, concerning the Linder Target, printed recently in *ARMS AND THE MAN*:

"This story introduces a kind or class of article which is different. At times, 'something different' awakens interest and gives added life and zest; but in this instance the 'something different' compels a hitherto respected body of men to offer humble apology. The body of men referred to is the California Civilian Team, of which Mr. Linder was a member. The California Civilian Team is not a fisherman's club.

"A fisherman's club and a rifle club are composed of different breeds of nut, each class getting its excitement from entirely different angles. The rifleman, for instance, gets his particular brand of pleasure by demonstrating his proficiency with firearms on the rifle range and in the presence of the multitude and the ever-alert range officer.

"With a fisherman things are different. He carefully selects his tackle and bait (liquid and otherwise) and hies himself off to some secluded spot in the wilderness (sometimes taking 'Junior' with him). Sometimes he casts a few times, but it really doesn't matter much whether he catches anything or not. He doesn't get his action out there in the wilderness. No, sir; his time comes later, seated in a big, soft, upholstered chair at the Anglers' Club, telling the story of the great catch. No range officer mentioned.

"Now, Mr. Linder lays particular stress on the point that five shots were fired each day for a number of days, at the same o'clock. As he is a writer on scientific subjects, possibly he will explain his conciseness in this respect. I feel sure that the reason was to secure the same conditions and angles of light. Not being a scientist, I can't figure how the sun would shine at the same angle at any given time for a period of ten days. Mr. Linder's 'Bursting Gun Barrels' story was quite interesting, but would probably be not a circumstance to his explanation of the above phenom."

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. In constructing a rifle range in a vicinity which is thickly populated and which presents few natural backstops, would it be practical to use a tunnel or arch or a series of arches, so arranged that any shot which passed all of them could not strike anywhere but in an artificial backstop?

A. This arrangement has been found quite practical. The Municipal Range at San Antonio is constructed along these lines.

Q. Where is the logical place to hold in order to do consistent good shooting? In recent matches, using the Springfield gallery rifle, a marksman of some experience with other rifles held at the extreme bottom of the black, and the ratio of the resulting group circle and error in proportion to the 1/2-inch counting bull was so great that it was impos-

sible to call the shots with any degree of accuracy. While consistent elevation was possible, the shots would scatter from one side to the other, regardless of careful holding.

A. Many marksmen hold at the bottom edge of the bull; others hold "in the black," according to individual preference. In shooting, if your hold is always the same, hits should be expected to show in practically the same place. The variance in hits as described may have been caused by defective or dirty cartridge holders.

Q. Have the qualification courses been changed in any way to govern the shooting during the season of 1917?

A. At the present time the rules effective in 1916 are still in force.

Q. In civilian rifle-club work is it permissible to use home-loaded ammunition whenever the club members so desire?

A. There never has been any objection to this practice. Now that the Government has curtailed temporarily the free issue of Government ammunition, rifle-club members should be encouraged to keep up their practice with re-loaded ammunition.

Q. If a club desires to change its membership fee, is it necessary to take up the matter with the N. R. A.?

A. While a club is permitted to fix its membership fee, no change in its by-laws can be made without submitting it to the N. R. A. Because of this, it would be necessary to communicate with headquarters before such a change was ordered, since the club fees are part of the by-laws.

Q. We notice in the illustrations in the Marine Corps Score Book that the Marines assume the squatting position of the modified Navy course, with both heels flat on the ground. In shooting, some of our members find that they can get greater steadiness by raising the right heel slightly. Is this permitted?

A. There is no objection to raising the right heel slightly in assuming the squatting position, if this seems to contribute to steadiness.

Q. Can a man who is a subject of Great Britain join a rifle club and benefit from the free issue of ammunition? If not, can he join a rifle club and purchase his own ammunition?

A. Only citizens of the United States are eligible for membership in civilian rifle clubs affiliated with the National Rifle Association.

Q. Does the law whereby a member must qualify as sharpshooter or better to obtain title to his rifle apply to arms purchased before this ruling was made, or is this law *ex post facto* in its operation?

A. The Ordnance Department has ruled that any rifles purchased before May 27, 1916—the date of the order in question—do not have to be accounted for.

Q. Do both the standing and prone targets in the watch-fob qualification course have to be shot on the same day?

A. No.

Q. For the past nine or ten years I have been in the practice of going out rifle shooting on every vacation I could get, but now, as

this country is in a state of war, can I continue rifle practice, or shall I stay in and not enjoy the pleasure I have been enjoying for years?

A. Unless you intend to shoot in districts which are under martial law, there is no reason why you should not hunt game or do target practice now as well as before the war started. The President's proclamation prohibits the owning of firearms or their use by alien enemies, but as you state you are a citizen of the United States, this naturally does not apply to you.

Q. Which is the best for shooting at 25 yards, the .22 short or the .22 long rifle?

A. At distances up to 25 yards there is no practical difference in the .22 short cartridge used in a barrel chambered for it and the .22 long rifle cartridge which is also used in a proper barrel. Beyond this range the .22 long rifle cartridges are the best.

Clubs Admitted to N. R. A. Membership During the Past Week Include:

CIVILIAN

Arizona

Flagstaff Rifle Club—John D. Guthrie, secretary; Fred S. Breen, president; William Webb, vice-president; J. P. Wilson, treasurer; Francis D. Crable, executive officer. Membership, 152.

Kingman Rifle Club—J. H. Rosenberg, secretary; J. N. Cohenour, president; J. B. Wright, vice-president; E. F. Thompson, treasurer; G. R. Franklin, executive officer. Membership, 91.

Sasco Rifle Club—E. M. Blalock, secretary; H. F. Easter, president; E. W. Beitzel, vice-president; H. L. Morris, treasurer; H. G. Bateman, executive officer. Membership, 35.

Arkansas

Lincoln County Rifle Club (Star City)—Thos. W. Raines, secretary; W. M. Crook, president; J. F. Ligon, vice-president; R. L. Fish, treasurer; H. R. Lucas, executive officer. Membership, 57.

Warren Civilian Rifle Club—Edwin Hankins, secretary; E. P. Harrison, president; J. Crawford Jolly, vice-president; Bryan Martin, treasurer; C. W. Holderbaum, executive officer. Membership, 40.

Wilmot Rifle Club—J. D. B. de Yampert, secretary; Erle J. Newton, president; C. B. Harrington, vice-president; A. L. Wooten, treasurer; H. N. Princehouse, executive officer. Membership, 83.

California

Montebello Rifle Club—R. L. Kegg, secretary; M. A. Miller, president; W. D. Stephens, vice-president; G. N. Van Orsdel, treasurer; Truman Cole, executive officer. Membership, 30.

Santa Paula Rifle Club—C. P. Strickland, secretary; A. C. Hardison, president; N. B. Bowker, vice-president; C. Beckley, treasurer; W. Claberg, executive officer. Membership, 83.

Santee Rifle Club—F. E. Campbell, secretary; James Ballantyne, president; Chas. M. Knowles, vice-president; F. T. Follett, treasurer; J. W. Crawford, executive officer. Membership, 25.

Colorado

Florissant National Rifle Club—Chester S. Allen, secretary; W. E. O'Brien, president; H. D. Gilmore, vice-president; E. R. Benner, treasurer; L. A. Taylor, executive officer. Membership, 21.

Red Cliff Rifle Club—Adrian Reynolds, Jr., secretary; E. M. Thomas, president; Wm. H. Luby, vice-president; L. E. Turner, treasurer;

G. W. Gustafson, executive officer. Membership, 20.

Connecticut

Compounce Rifle Club (Bristol)—Harry W. Tuttle, secretary; William Dow, president; Herbert A. Maronn, vice-president; Arthur D. Somers, treasurer; Clarence C. Stevens, executive officer. Membership, 115.

Delaware

Delaware City Rifle Club—William B. Jester, secretary; W. U. Reybold, president; Frank O. Moore, vice-president; Wm. B. Nichols, treasurer; T. E. Sadler, executive officer. Membership, 52.

District of Columbia

Ordinance Rifle Club—James F. Delaney, secretary; Arthur E. Johnson, president; Dayton A. Gurney, vice-president; J. Leroy Delaney, treasurer; H. B. Hambleton, executive officer. Membership, 85.

Idaho

The Farmers' Rifle Club of Eden—Everett W. Utt, secretary; Harold Ryan, president; Jean Day, vice-president; E. L. Harris, treasurer; F. H. Fellibaum, executive officer. Membership, 17.

Gooding Military Rifle Club—L. P. Salisbury, secretary; Howard Robinson, president; Milton Roberts, vice-president; Earl Knight, treasurer; Herbert Meyers, executive officer. Membership, 15.

Indiana

International Lead Refining Works Rifle Club (East Chicago)—F. E. Stolte, secretary and treasurer; G. P. Hulst, president; F. P. Clark, vice-president; E. A. Mayhew, executive officer. Membership, 22.

Kansas

Caldwell Rifle Club—I. E. Showalter, secretary; H. W. Baker, president; E. A. Detrick, vice-president; V. L. Brooks, treasurer; A. L. Harris, executive officer. Membership, 51.

Council Grove Rifle Club—W. G. Allen, secretary; C. W. Debit, president; W. E. Nix, vice-president; C. H. White, treasurer; C. O. Brown, executive officer. Membership, 50.

North Wichita Rifle Club (Wichita)—George A. Schreffler, secretary; G. T. Rohrback, president; A. G. Errickson, vice-president; G. A. King, treasurer; A. E. Reeder, executive officer. Membership, 97.

Louisiana

Merryville Rifle Club—E. C. Mooring, secretary; J. E. Eaves, president; D. G. Lunsford, vice-president; J. B. Walters, treasurer; B. H. Carroll, executive officer. Membership, 60.

Montana

Butte Home Guard Rifle Club—A. L. Matter, secretary; J. A. Donovan, president; J. H. Rowe, vice-president; D. J. Charles, treasurer; Andrew Jensen, executive officer. Membership, 29.

Nebraska

St. Paul Rifle Club—Frank Sazama, secretary; George Pyne, president; T. N. De Vry, vice-president; Alvin Johnson, treasurer; Earle Luick, executive officer. Membership, 35.

Nevada

Las Vegas Rifle Club—J. P. Ingle, secretary; C. E. McCarthy, president; A. B. McDorman, vice-president; G. H. French, treasurer; W. F. Rteor, executive officer. Membership, 60.

New Jersey

Bergenfield Rifle Club—Walter Wunder,

secretary; John T. Green, president; J. B. Hambright, vice-president; F. W. Patterson, treasurer; Harry B. Inman, executive officer.

Mahwah Rifle Club—Wm. O. King, secretary; Elmer J. Snow, president; Thos. H. Latham, vice-president; B. F. Lord, Jr., treasurer; Edward B. Rice, executive officer. Membership, 42.

New York

Civic Rifle Club (White Plains)—George P. Conover, secretary; William Scott, Jr., president; Ralph M. Cook, vice-president; Alfred Dalhein, treasurer; John C. Ruggiero, executive officer. Membership, 15.

Corfu Rifle Club—W. W. Tyler, secretary; H. J. Stevens, president; C. E. Curtiss, vice-president; Orvis Kenyon, treasurer; John G. Meyers, executive officer. Membership, 40.

Hinckley-Prospect Rifle Club (Hinckley)—W. E. Becroft, secretary; A. C. Kline, president; T. E. Roe, vice-president; E. V. McClung, treasurer; A. C. Hall, executive officer. Membership, 20.

Rockville Center Rifle Club—Fred H. Griffin, secretary; Wm. H. Connell, president; C. Woodworth, vice-president; A. E. Ives, Jr., treasurer; J. Fred White, executive officer. Membership, 140.

Webster Rifle Club—David W. Schribner, secretary; L. J. Bowenblust, president; Earl E. Smith, vice-president; Wm. H. Wilcox, treasurer; Roy B. Crane, executive officer. Membership, 15.

Ohio

Cleveland Garrison Rifle Club (Cleveland)—J. A. La Tour, secretary; Gust Knierim, president; T. A. Montgomery, vice-president; Ralph H. Meyers, treasurer; Harry C. Gehres, executive officer. Membership, 70.

Twenty-second Maccabee Rifle Club (Akron)—J. R. Smith, secretary; C. W. Mantell, president; John C. Schaefer, vice-president; Harry C. Major, treasurer; Ernest R. Snyder, executive officer. Membership, 24.

Pennsylvania

New Kensington Rifle Club—J. R. Long, secretary; Harry B. Galbraith, president; Louis Steiner, vice-president; Adolph Beyer, treasurer; Charles L. Whipple, executive officer. Membership, 10.

Susquehanna Rifle Club (Catawissa)—John P. Fenstermacher, secretary; Charles M. Harder, president; Warren E. Rhawn, vice-president; R. J. Kistler, treasurer; Paul R. Burger, executive officer. Membership, 171.

Texas

Giddings Home Guard Rifle Club—E. M. Collier, secretary; C. W. Fields, president; E. T. Simmang, vice-president; Paul Neger, treasurer; J. T. Ward, executive officer. Membership, 167.

Miami Rifle Club—J. R. Durrett, secretary; W. A. Dyer, president; L. G. Waggoner, vice-president; Mat. M. Craig, treasurer; J. Holmes, executive officer. Membership, 78.

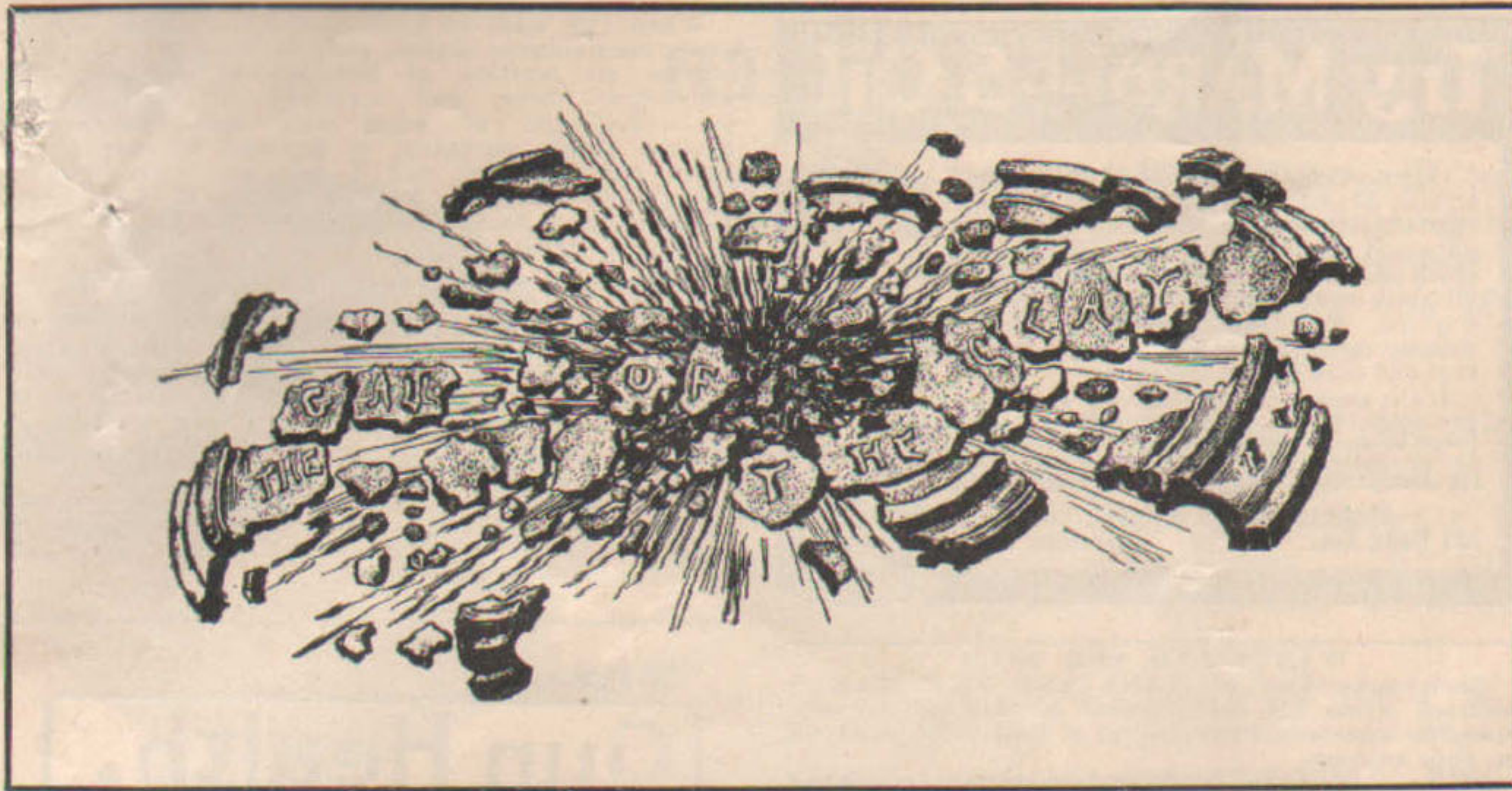
Boys

Kansas

Wichita Manual Training Association Rifle Club—Chester Watt, secretary; Elmer Kinneson, president; Albert McMain, treasurer; William Toepke, captain. G. A. King, N. R. A. Judge. Membership, 23.

Life Members

Phineas M. Talcott, New Haven, Conn.
William H. Forester, Erie, Pa.



Trap Shots are Made—Not Born

By H. H. STEVENS

Mr. Stevens is now and was last year the manager of the trapshooting school in Atlantic City, N. J. He is a student of trapshooting and considered one of the most efficient instructors in the United States. Therefore his views on this subject are worth while.

JUST as long as the earth revolves there will be people insisting that expert marksmen are born—not made. My experiences as manager of the Trapshooting School on the Million Dollar Pier, Atlantic City, N. J., cause me to take the opposite view—that marksmen are made—not born.

I had a great opportunity to study people last year at the trapshooting school and I got a lot of quiet amusement out of watching people who had never fired a gun, take to the sport like a duck to water. There was more fun still in coaching experienced shooters out of the "50-50" class.

Of course, in the case of a raw beginner there may be need for but very little instruction, or he may require a great deal; but at the worst it is simple, because he has formed no habits. Having by a few simple tests determined the eyesight presents no difficulty, and selected a gun with a stock of a shape to fit reasonably well, then a little instruction in handling the gun usually starts him breaking targets. The rest is a matter of refinement in gun fitting, coaching and practice.

Naturally, some beginners make progress faster than others. But it is not that one is endowed by nature with better shooting ability than the other, but that he simply learns quicker and better.

The most common of all faults and which most handicaps almost every beginner and every dub shooter, is a bad shooting position. This can be corrected, in most cases, very easily by coaching.

Possession of a gun which does not fit the shooter cannot be correctly called a fault; rather, it is a misfortune. The beginner in wing-shooting knows nothing about selecting a gun to fit him. And I usually find that the man who comes along and confesses to me that he had some experience but is a poor shot has been handicapping himself with a misfit gun. Generally he doesn't even know the dimensions of his gunstock.

Reverting to the subject of position, the beginner and very often the dub shooter, when taking up a gun for the first time at the school, would assume a decidedly strained position,

holding the gun awkwardly and balancing at the waist with hips thrust forward and shoulders back. Naturally, each had to be taught to stand firmly on both feet, lean slightly forward and swing freely from the hips.

For another thing, sometimes the beginner showed an apparently unbreakable desire to raise the cheek from the gun stock when the target appeared in flight, and, of course, continued to miss until he learned better.

Other grave faults were inclination to hold too long on the target before firing, and flinching. Without coaching the tyro would not easily outgrow these faults, but with it rapid progress was always made.

I have found it interesting and useful to study the beginners from the human-nature standpoint.

For instance, supposing a new man comes along: it may be a good thing to just let him find his way around, so to speak, and not give him too much attention.

He gets a gun, and you see at once if he is familiar with it. If not, you will see him watching the other shooters. This he will do either frankly and with manifest interest, or out of the corner of his eye. If the former, you know you can go right ahead and tell him, and he will learn quickly; if the latter, you must take your time, only suggest things, ask diplomatic questions and let him have the pleasure of finding it all out for himself.

By using a trygun, the construction and use of which has been described in previous articles, we take the exact fit of each shooter, thus insuring a proper gun is provided for use during instruction and also enabling him or her to obtain from any gunmaker precisely the fit in a gunstock that it is necessary to have to shoot well.

But among all of the many beginners I haven't found a single born crack shot—nor one who could not learn.

The "Joker" Trap

They call it the joker trap, and never was a name more appropriate. To casual glance it looks just about the same as any other well-behaving automatic trap for throwing clay pigeons. It has the same graceful lines—the same fine balance and innocent appearance.

In repose there is nothing to distinguish it from the average trap save for two little electric wires that lead from the traphouse back to the small battery box at which the operator sits. For the joker trap is sprung electrically. The press of a button sends it into action. The "puller" and the lever, which are familiar to almost all trapshooters, are eliminated.

It is in action, however, that this unobstructive little equipment gets in its fine work. Once the button is pressed, then it is time to beware, for never did more elusive or more difficult targets ever cleave the air. In flight they are much swifter than the swiftest bird. Sharp angles are their middle names. In fact, the variable courses they take through the air—their sudden flips and turns—are most disconcerting.

Verily, the joker trap is no place for even a fair shooter, for it is dollars to doughnuts that its targets will elude his aim. It's not the easiest thing in the world to "bust" a target that's flying straight up in the air, at better than express-train speed. And, incidentally, it's no easy matter to pulverize a quartering bird that just about clears the grass. Grass cutters they call them, for want of a better name, but the way they go scudding out of the trap would put the most nimble jackrabbit to shame.

During the Grand American Handicap at St. Louis two of these jokers were installed for the entertainment of the shooters. There were some great shots present. A man has to be a pretty good shot to stand anywhere near the lead in this greatest of all trapshooting classics. But—there were very few crack shots who were able to produce any startling results at the joker.

A few of them, it is true, ran up some pretty fair scores, but as a usual rule the hits and misses were more in favor of the latter. It may seem like exaggeration to say that six out of ten targets was a pretty high score, but such was the case. And only in one or two rare exceptions was this record exceeded. —Trapshooter.

Scattering Shot

Trapshooting will be the big sporting feature of the Elks Convention in Boston next month.

Six hundred and ninety persons shot at 39,775 clay targets at the Atlantic City Trapshooting School during the first month of the season.

Breaking 188 out of 200 targets, Dr. D. L. Culver recently won the trapshooting championship of the New York Athletic Club.

The 200-target amateur trapshooting championship of America has been shot for 12 times, and has always been won by an Easterner.

Clubs of 58 cities have been awarded trophies by the Interstate Association for team competition.

Fifty trophies have been donated by the merchants of Hartford, Conn., for the high guns in the Eastern Handicap, which takes place in Hartford on June 20, 21, 22.

The Baltimore Shooting Association and the Prospect Shooting Association have amalgamated under the name of the Baltimore-Prospect Shooting Association.

Trophies numbering 79, and valued at \$3,000, and \$2,000 in cash, will be given to the trapshooters who participate in the great Maplewood, N. H., mid-summer handicap, which takes place during the week of July 2d.

Women of Danbury, Conn., have emulated the example of the women of Middletown, N. Y., and formed a rifle club.

Beginners' day attracted 6,784 shooters in 1915, and 11,625 in 1916. The harvest this year will be even greater, for the war has given trapshooting a great boom.

The Maplewood Hundred has been shot at Lakewood, Boston, New York and Roanoke. The winners were D. F. Mahon, of New York; Fred Plum, Atlantic City; W. K. Silkworth, New York; R. D. Morgan, Washington. These and the winners of the five races to be shot will shoot for the title at Maplewood on July 3d.

Buena Vista, Pa., in the heart of the Blue Ridge Mountains, the summer home of Secretary of the Treasury McAdoo and many of Washington's diplomatic family, will be the scene of a two-day tournament on June 29th and 30th. Two hundred targets will be thrown each day. The final hundred on the first day will be for the Buena Vista championship, and the final hundred on the second day will be the Buena Vista Handicap. Trophies and cash amounting to \$500 will be given.

Senators Martin, of Philadelphia, and Washers, of York, recently engaged in a live-bird shooting match, Martin winning, killing 13 to his opponent's 11. The match was witnessed by a majority of the members of the Pennsylvania Legislature.

Delaware sportsmen, desiring to perpetuate the memory of "Dal" Richardson, have presented to the Delaware State Sportsmen's Association a trophy known as the Richardson Memorial, and it will be shot for annually at the State championship. A duplicate of the trophy will be given to the South Shore Country Club, of Chicago, for competition on the opening day of the Grand American Handicap.

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FOR SALE—Rifle trunks, marine and British shooting bags, imported telescopes, British cleaning rods and brushes, shooting glasses, rifle rests, British micrometers and verniers, telescope rests, Marble cleaning rods and brushes; locking front sight protector and rear sight cover, Hoppe No. 9; bull's-eye score books, Marine score book, sweat bands, elbow pads, the adjustable shoulder pad, gun covers, "Never Nickel" lubricant. Motter paste, rim oil, Winchester oil, barrel gauges, Marble field and rifle cleaner, cleaning patches, all kinds and calibers of brushes, Spitzer greaser, Mobile lubricant, Ideal micrometer, B. S. A. Rifle Saftipaste, Elliott ear protector, gun bore wicks, revolver and pistol rods, rifleman's Favorite sight, black; barrel reflectors, officers' hat cords. Send for catalog and price list. P. J. O'Hare, Importer and Manufacturer of Shooting Accessories, 33 Bruce St., Newark, N. J.

When you want to know something about YOUR guns, ammunition, sights, etc., or want special information on matters of firearms or shooting you will save time and expense by writing to me. Tell me of what you want to know, enclose check, currency, or postage, at rate of 15 cents per question, and I will give you reliable information covering YOUR case. T. T. Pierce, Firearms and Ammunition Expert, P. O. Box 964, Gladstone, Mich.

WANTED—Club secretaries and club members to enclose stamps to Farrow Arms Co., Washington, D. C., for offer of prizes for competition. It will stimulate the desire for accuracy and lead to mutual benefit.

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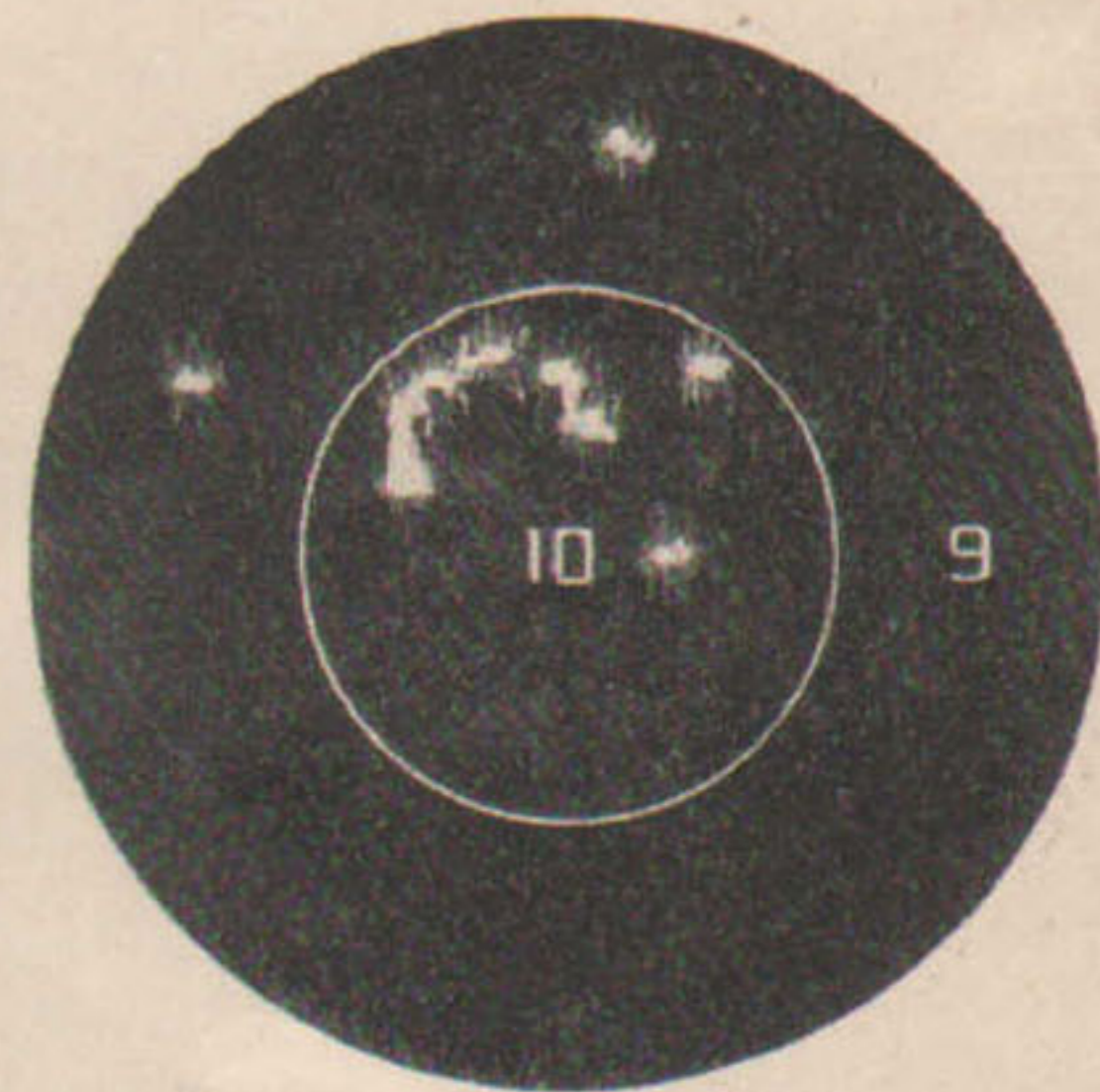


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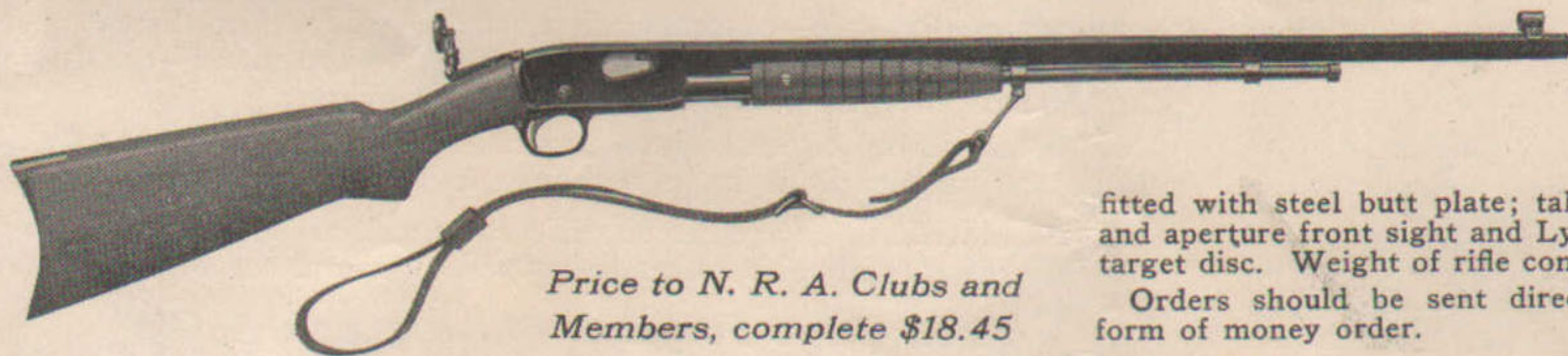
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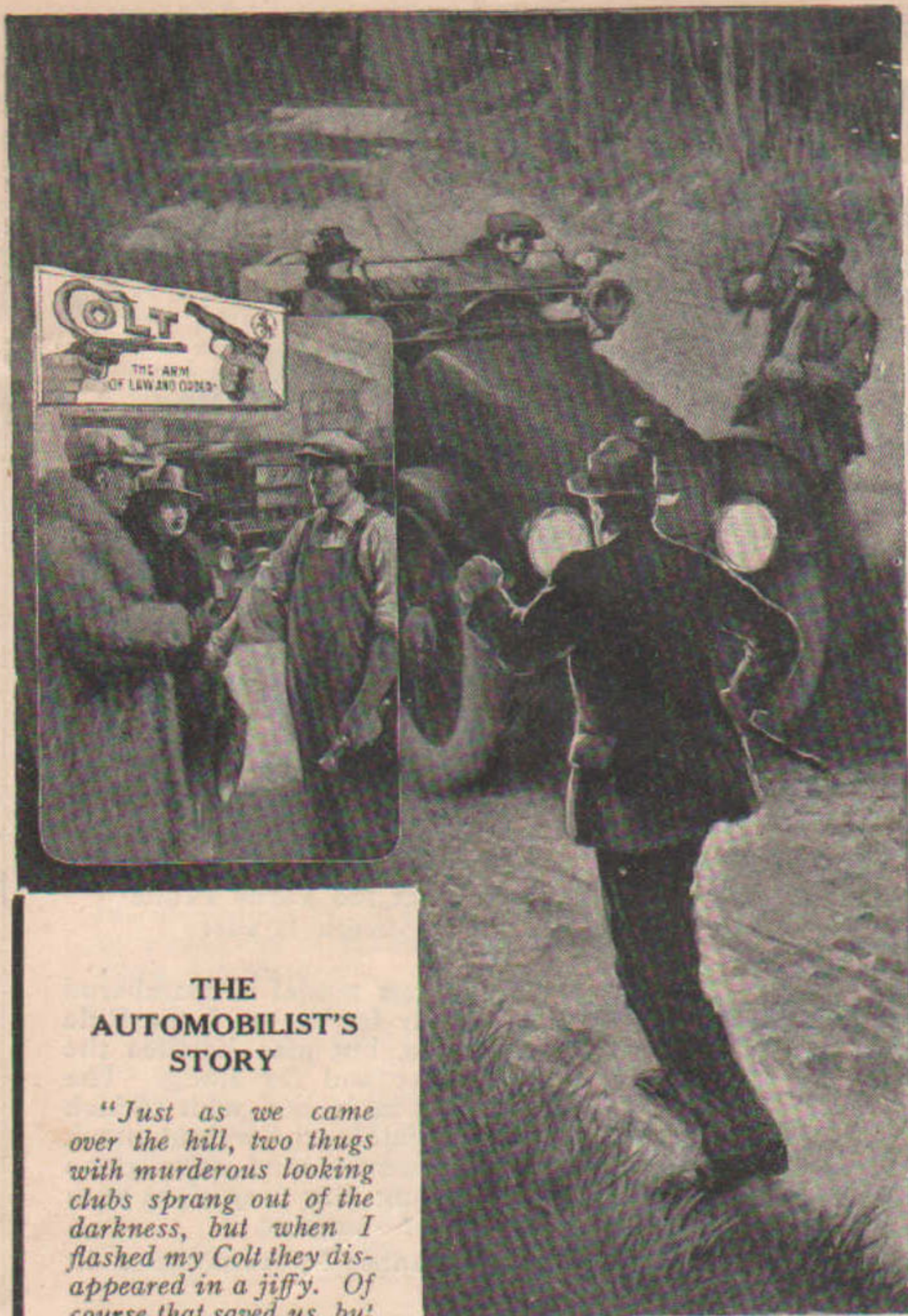
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