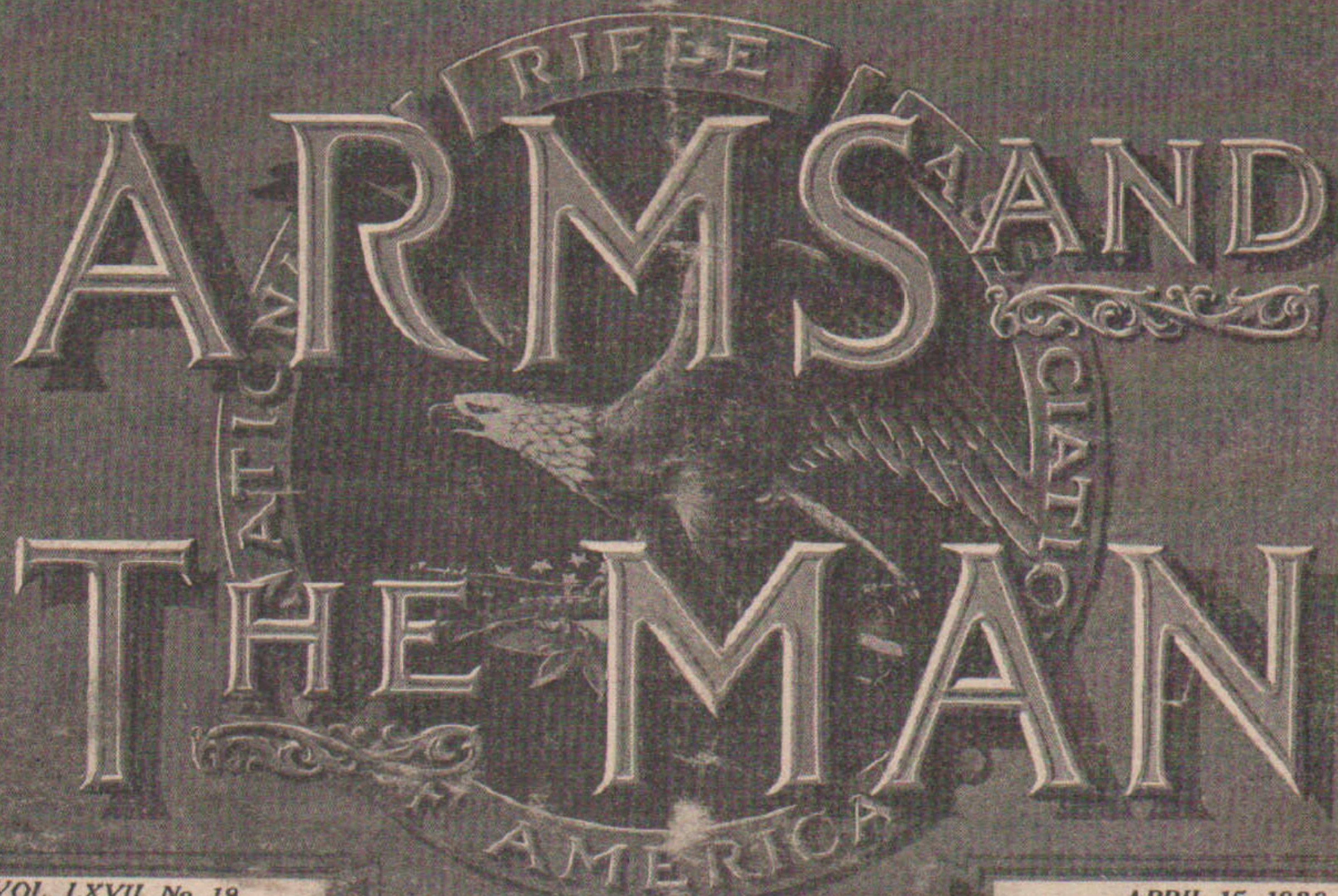


# THE AMERICAN RIFLEMAN'S MAGAZINE



VOL. LXVII, No. 19

APRIL 15, 1920



## A New Sport for Spring

There's a tingle in the veins these days that summons to sport afield. There's a new stir in the blood, a new spirit within that makes us all restless for the out-of doors.

There's no better spring tonic than going afield for target practice with a gun. And there's no finer way to enjoy this sport than with the new Winchester game of family trapshooting.

The thrill of striving to hit a target is universal. From the small boy with snowball and marbles through the air-rifle stage to the crack shot on the 1000-yard range, it's the same instinct.

The Winchester Junior Trapshooting Outfit satisfies this play instinct in every member of your family—and at a surprisingly moderate cost.

Here's the whole game of trapshooting compactly assembled to take on week-end motor trips—on runs into the country or down to the shore.

An endless store of fun is unlocked when you open this outfit. It puts a whole new field of sport into your hand.

It's thrilling sport and interesting to watch. Any member of the party can throw the midget clay targets with the sturdy Winchester-made midget handtrap as the shooter calls "Pull." Or the shooter can handily throw his own targets.

With this outfit the novice can become an expert shot, while the veteran can sharpen eye and touch in practice.

*Outfit includes the hard-hitting little .410-bore Winchester Shotgun—with all the finish, balance and shooting qualities of all Winchesters; the sturdy Winchester-made handtrap; 150 of the Winchester .410 shot shells; 100 midget clay targets, and the preparations necessary for the proper care of this fine gun. All in a handy, compact and strong carrying case.*

Ask your dealer to show you this Outfit. If he has none in stock write to

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Repeating Arms Co.

New Haven, Conn., U. S. A.





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NEW YORK, N. Y.



# ARMS AND THE MAN

The Official Organ of the National Rifle Association of America

Volume LXVII, No. 19

WASHINGTON, D. C., April 15, 1920

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## Army Tests the Mann Rest

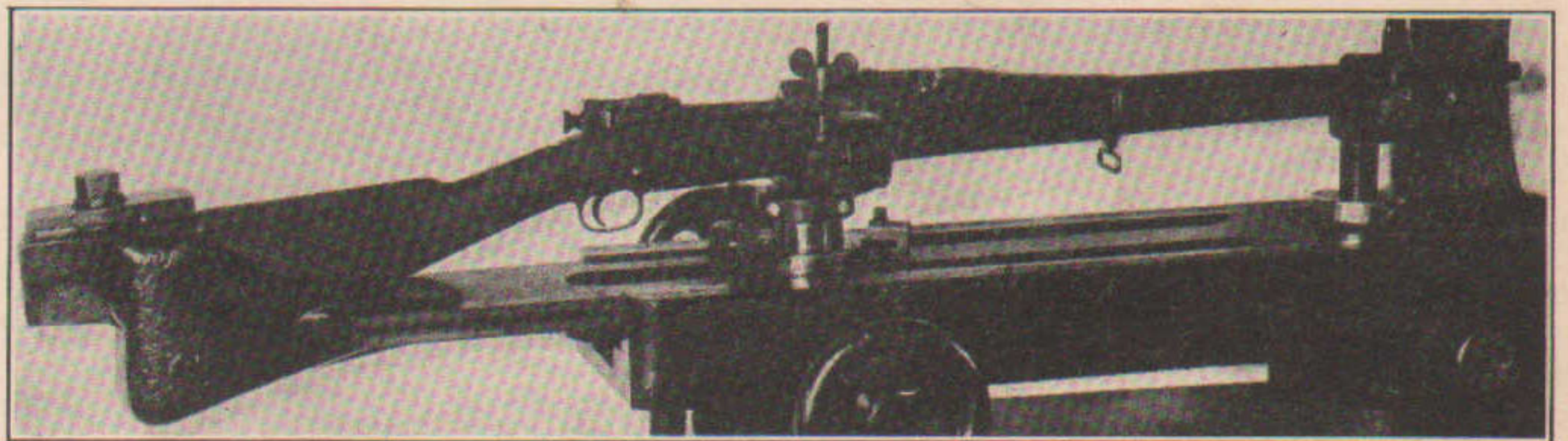
By

Lieut. Col. JULIAN S. HATCHER

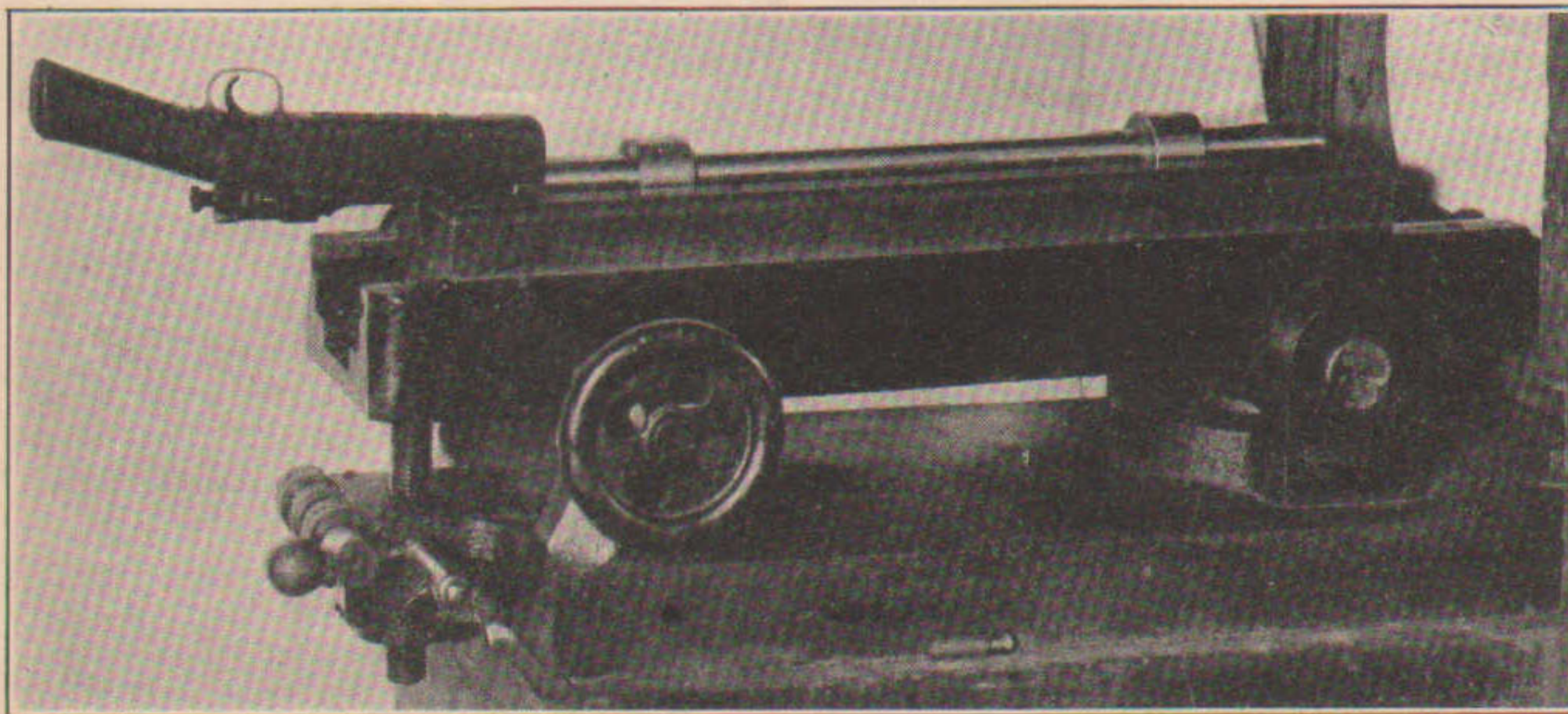
THE board for testing rifles and ammunition for the National Matches which met at Sea Girt last July reported not only on the ammunition but also on the methods which should be adopted for similar tests in the future. In addition, the board appended to its report a few pertinent remarks and recommendations on the subject of accuracy testing in general and the recording of tests. This part of the board's report reads as follows:

"The Board is of the opinion that the present type of machine rest does not permit the rifle to work under conditions best conducive to accuracy. That in an ammunition test, where it is desired that the accuracy or inaccuracy of the ammunition stand out as far as possible alone, a much more satisfactory method

receiver of the rifle leaving the barrel free to jump and vibrate as it will. Also that the rest should be so arranged that in recoil the rifle will slide to the rear, and will come to rest of itself in approximately five inches of travel. There should be no springs or weights to return the slide to the firing position."



TOP; Figure 1; The Frankford type of Mann rest, which holds the rifle at 3 points and which has several disadvantages.



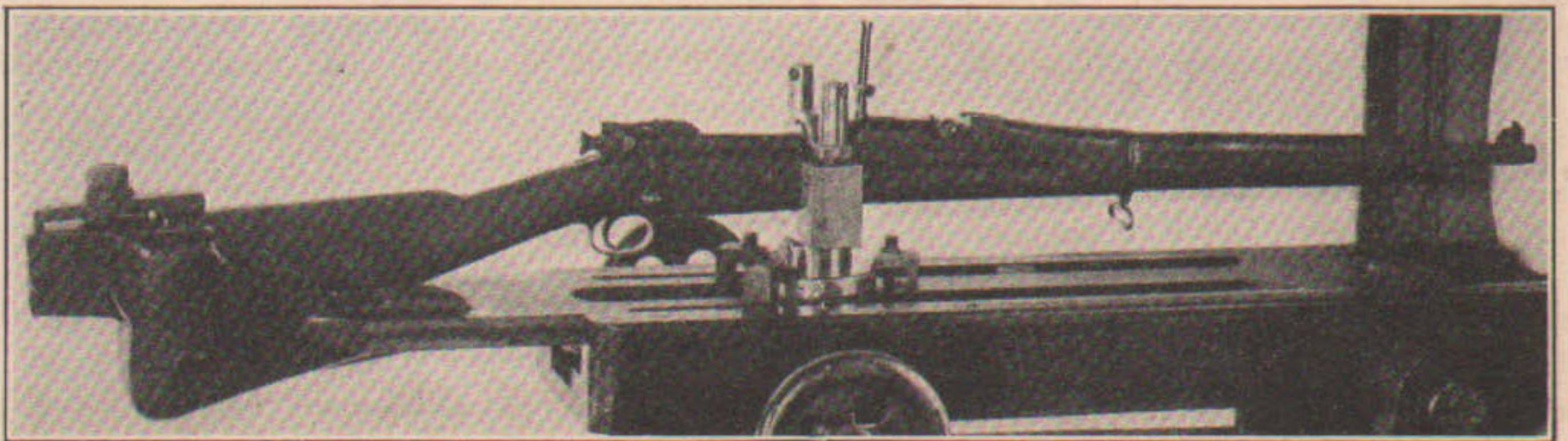
CENTER: Figure 3; The Mann Rest as constructed by Colonel Wilhelm.

BOTTOM: Figure 2; The Springfield type of Mann rest, which holds the rifle only at the butt and the receiver, avoiding interference with natural barrel vibration.

of testing can be devised. That the only satisfactory method of testing the service rifle is by extended firings of the rifles as they are intended to be used, by expert shots using ammunition of known accuracy.

"The Board is of the opinion that a much more satisfactory machine rest for testing ammunition can be devised by following in general the type of rest known as the 'V Rest,' and described by Dr. F. W. Mann in his work 'The Bullet's Flight.'"

"When it is desired to conduct a machine rest test with complete service rifle, it is believed that it would be better to so design the machine rest as to secure only the butt and



Prior to the meeting of this board two types of machine rests had been in general use for testing service rifles and ammunition. These are known as the Frankford type and the Springfield type of fixed rest. The Frankford type is



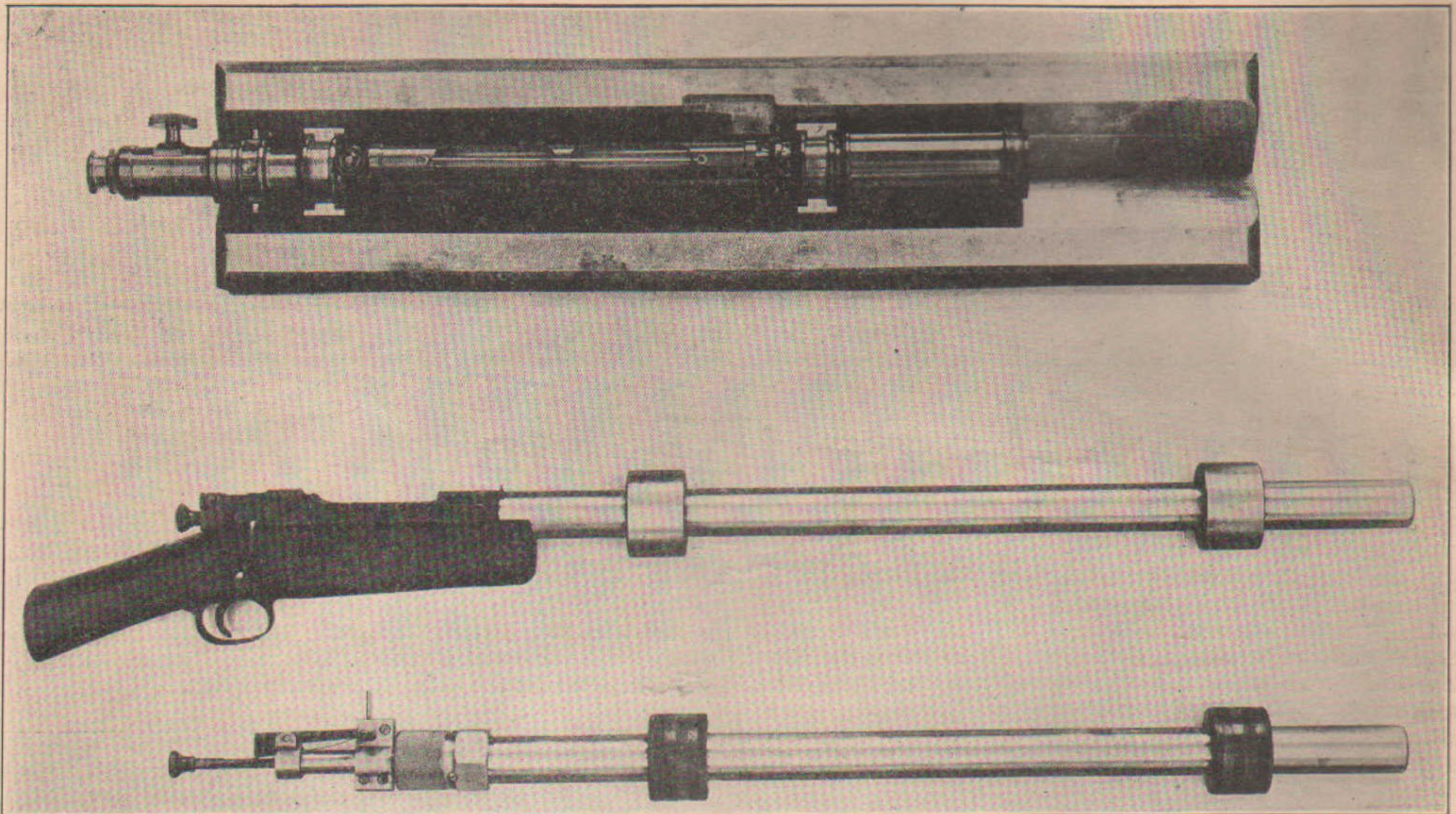


Figure 4; Showing the V-rest, the barrel with Springfield action and steel rings, and the barrel with concentric action and maple rings

shown in Figure 1. It consists of a heavy fixed base, an upper movable base, adjustable by handwheels for elevation and deflection, and a sliding top carriage, on which the rifle is clamped. The rifle is held at three points. One clamp holds the butt, one embraces the receiver, and one holds the rifle just behind the upper band. The sliding top carriage is held forward by heavy springs.

This type of rest has several serious disadvantages. For example, great care and skill is required to properly adjust the rifle in the rest. A three-point type of support is unsuitable for such a purpose as holding a rifle in a fixed rest, for the reason that unless all three supports are lined up exactly, there will be a tendency to bend the rifle and thus cause erratic shooting. As all the supports touch on irregular parts of the rifle, there is no way of getting them lined up exactly. Moreover, holding the rifle not only at the butt and receiver, but also near the muzzle is an unnatural condition, never met with in ordinary shooting, and is liable to cause trouble, as a barrel confined near the muzzle has not the necessary freedom to conform naturally to temperature changes. A barrel clamped near the muzzle is liable to spring as it heats up; and besides, the clamp may give rise to nodes of vibration and other unlooked for effects. The spring return for the top carriage is another bad feature of this rest. Every time a shot is fired the gun slides back several inches, then jumps forward with a bang, ending up with a jar that is sure to change the alignment of the most solid mount in a few shots. In addition, the way the rifle is held is such that each shot tends to settle the rifle more into the stock, and settle the stock more

in the clamps, so that changes are bound to occur.

The second type of machine rest, called the Springfield type, is a modification of the Frankford type. It is shown in Figure 2. The difference is that in the Springfield type the rifle is held only at the butt and the receiver. The clamp at the muzzle is omitted, and the muzzle is unsupported except by the stock. In this way interference with the natural barrel vibration is avoided and the barrel is allowed free play to conform to the effects of heat in a normal manner, the same as when the rifle is fired from the shoulder, in which case the barrel is supported in a similar manner. Except for the difficulty of adjusting the rifle in the mount and the unnatural construction at the muzzle, this rest shares the disadvantages of the Frankford type.

The Mann rest, named after its inventor, the late Dr. Franklin W. Mann, consisted, in its original form, of a heavy V shaped steel trough, fixed on a massive concrete base. A heavy barrel was arranged for use in the rest by having concentric maple rings fitted, one near the muzzle and one near the breech. These rings were made truly concentric with the bore, so that when the barrel was laid in the rest, the axis of the bore was exactly parallel with the V shaped trough. The barrel was threaded at the rear end, and fitted with a concentric breech action and firing mechanism, so that all tendency to lateral vibration would be overcome by having the whole apparatus symmetrical. A telescope was also fitted with concentric rings in a similar manner so that when the telescope was laid in the V, the cross-hair was on the point where the bore of the gun would point

when the telescope was removed and the gun substituted for it in the V. When firing was done with this rest, the recoil simply caused the barrel to slide straight to the rear, in the V shaped groove, and as this motion of the barrel was not resisted in any way, there was no tendency to disturb the alignment of the device.

Even before the report of the board, mentioned above, was received, Lieut. Col. Glenn P. Wilhelm, Ordnance Department, Commanding Officer of the Small Arms Ballistic Station, Miami, Fla., had pointed out the necessity for some better type of fixed rest, and had started on the construction of a rest of the Mann type. Colonel Wilhelm's Mann rest is seen in Figure 3. It consists of a V block of the Mann design mounted on the base of the Springfield rest. This allows it to be adjusted for elevation and azimuth. The gun used in it is a very heavy barrel, bored and rifled with extreme care, and chambered with the minimum tolerances, with every effort to keep the chamber in line with the barrel. The barrel is fitted with two concentric steel rings, and has a Springfield action, with sawed off stock. A 5A Winchester telescope is fitted with concentric rings for use with this rest. The rings are made adjustable so that the telescope can be centered in them by means of screws. It is easy to test the centering of the telescope by revolving it in the V rest. If it is centered properly, the intersection of the cross hairs representing the line of sight will remain stationary on a distant point while the telescope is being rotated. If the concentric rings are properly put on the barrel, the center line of the bore will likewise remain on one point when the



barrel is rotated in the rest. This does not necessarily mean that the barrel will shoot where it is pointed, however, as it may have a slight bend or other imperfection that will cause it to group to one side. This can easily be tested by shooting a series of shots, rotating the barrel slightly after each shot until it has turned all the way round. If the barrel is shooting anywhere else than in the center-line of bore, it will shoot a hollow group when it is turned in this manner as it will group first high, then right, then low, then left, as it is turned. Most barrels behave in this manner. When shooting for accuracy this barrel error is easily overcome by always shooting with the barrel in the same position. In Colonel Wilhelm's rest this is easy, as the Springfield action with part of the stock is attached to the barrel, and by always having the stock uppermost when shooting, the necessary conditions for accuracy are automatically fulfilled.

Before adopting the form of barrel described above, with the steel rings and the Springfield action, Colonel Wilhelm tested out a barrel with maple ring and concentric action, as originally recommended by Dr Mann. The maple rings had a tendency to swell and split when subjected to varying conditions of moisture and temperature, and were generally unsatisfactory. The concentric action was slow and inconvenient to use. Comparative accuracy tests were made, and they showed no advantage in either the concentric action or the maple rings. Accordingly the steel rings and the Springfield action were adopted. Figure 4 shows the V rest, the barrel with Springfield action, and steel

rings, and the barrel with concentric action and maple rings.

Owing to the fact that none of the shock of recoil is transmitted to the rest itself, there is very little tendency for the Mann rest to move, even though it is insecurely mounted. It has given excellent results when mounted on an ordinary machine gun tripod. This test was conducted at Borden Brook, Mass., by Colonel Wilhelm.

In order to settle the merits of the different types of machine rests in comparison not only with each other, but also with an expert shot using a muzzle rest, Colonel Wilhelm fired a test which gave the following results:

Mann Type Machine Rest	Frankford Type Machine Rest With Springfield Armory Clamp	Muzzle Rest
3.9	5.9	5.0
4.3	5.6	3.1
3.8	5.5	5.5
2.9	6.5	4.1
4.6	6.4	5.3
5.3	5.0	4.6
—	—	—
Mean: 4.1	5.8	4.6

This result is interesting not only as showing that the Mann rest is the most accurate method of testing ammunition, but also as showing that an expert shot with a muzzle rest can do better than the old style machine rest. This certainly is a vindication of the American system of rifle training and a tribute to the efficiency of our sighting methods, for it shows that the rifleman, with only the sights furnished for service use can align the gun on the target and hold it there during the trigger squeeze for shot after shot with more perfect

regularity that the gun can be held by the most rigid steel clamps it has been possible to design.

After months of continuous work with the Mann rest, Colonel Wilhelm sums up its advantages and disadvantages as follows:

*Advantages.*

Gives the most accurate results of any known method of firing. Requires very little experience to operate, since all the setting is done with the telescope. After the rest is once adjusted on the target, it remains fixed, and each group of shots occupies almost exactly the same places as the preceding groups. It has no clamps to loosen or cause trouble. Excellent targets can be fired without any warming up. It lends itself excellently to scientific and experimental ballistic work, owing to its accuracy and the ease with which angles of departure and deflection can be determined by its use.

*Disadvantages.*

It is not so rapid to operate as the Frankford type. The heavy barrels with concentric rings cost more to prepare than the regular barrels for use with the Frankford rest.

Enough Mann rests with heavy barrels and mounted in rings have been manufactured for experimental work at Springfield Armory, Frankford Arsenal and the Small Arms Ballistic Station. The adoption of the Mann rest for Government work is an interesting chapter in the recent development of small arms work, and the results obtained with it have amply justified the recommendation of the board which led to its adoption.

# The Small Bore Pistol

By MAJOR S. J. FORT

Formerly Chief Instructor, Pistol Range, Small Arms Firing School, Camp Perry.

**A**FTER years of solicitation, argument and prayer, the small bore rifle has come to its own as a valuable under-study to the military rifle, for which reason, those of us who have persistently presented the claims of the small-bore pistol as an under-study to the military pistol, are beginning to hope that the new cult may include this weapon with its confrere, the small-bore rifle.

The revolver and pistol have always been considered a side issue until Model 1911 hit the Huns to a fare-you-well and brought forth enthusiastic encomiums from the Assistant Secretary of War, Mr. Crowell, who has stated that it "was one of the greatest successes of the war," but one has only to scrutinize the past history of the hand-gun, to think that peace time efforts to promote military preparedness for the future may repeat itself, and again push it aside instead of fostering and promoting its use and providing means for extending pistol practice.

Training in the use of the pistol naturally divides into two parts, one part teaching use of the sights, grasp of the handle and trigger-squeeze with deliberate aim, and this once

learned the development of extreme skill depends largely upon constant, and regular practice.

The second part consists in training with rapid fire.

The principal arguments I have heard expressed unfavorable to the small-bore pistol as a training proposition, have been that there is no relation between the weight, trigger-squeeze, sights and recoil of the small-bore pistol as compared to those of the military pistol.

Possibly these objections are valid; certainly they are worthy of just consideration and later in this article these objections will be shown to be overcome by a new weapon now under consideration by the Ordnance Department.

It will be remembered that during the war several hundred thousand Colt and Smith & Wesson revolvers of .45 calibre, chambered for the automatic pistol cartridge, were manufactured and issued to supplement the regulation pistol. It will also be remembered that the National Pistol Match of 1919 permitted the use of revolvers as well as pistols.

In any event, it seems that the revolver of .45 calibre or even .38 calibre should not again be thrown into the discard, for there are still many whose love for the "six-shooter" has never waned, even though they have taken up the Colt automatic and recognize its serviceable qualities.

Any scheme looking towards popularizing and extension of pistol practice has a right to consider the wishes of all concerned to promote success.

When teaching the use of the pistol at the same time the beginner is learning how to use his rifle, much of that learned with the latter is applicable to the former, hence a saving of time when the two are combined in the curriculum, to say nothing of the double interest excited. This was demonstrated time and again at the Small-Arms Firing School, especially with those students who had never before had an opportunity to learn how to shoot a pistol. At Camp Dodge, where non-coms and enlisted men were given equal opportunity to practice with the pistol, along with the officers, it was a difficult task to keep them from sneaking away from the rifle targets to get extra practice with the pistol, and even the officers were not at all backward in such attempts.

Our pistol targets at Perry, prior to the matches of 1918 were simply swamped by those desiring practice with the pistol, so it would seem that the ground is prepared for an



extensive campaign to stimulate pistol practice, the small-bore pistol offering the least expensive means to this end, both from the cost of the weapon and its ammunition as well as the cost of the required ranges and targets.

In view of the fact that the automatic pistol has come to stay as a military side-arm, the rapid-fire method of shooting becomes the first consideration after the beginner has learned how to manipulate his weapon and how to group his hits with deliberate aim.

Any objection to the use of the Colt .22 automatic pistol as an understudy of the .45 automatic, is directly overcome by issue of the new Army .22-.45, described by Lieut. Colonel Hatcher, in the issue of *Arms and The Man*, for November 9, 1919.

Colonel Hatcher describes this weapon or rather this attachment for a .45 automatic pistol, as a .22 calibre slide and magazine which fits the frame of the service pistol and can be used with the .22 calibre long rifle cartridge.

In making the attachment, the regular magazine is removed, the slide stop is pushed out and the slide removed. The .22 attachment is put in place and slide stop replaced. The .22 magazine, which is the same size and shape as the regular magazine, is inserted, the breech block is drawn back and released thus loading and cocking the piece, ready to fire.

The slide does not recoil and the .22 calibre barrel is bored out of the solid metal of the slide, which is pinned fast to the frame by the slide-stop, a sliding breech-block working on the blow back principle, being fitted inside the rear end of the slide itself.

The weight, balance and sights are the same as those of the regulation weapon and as the regular receiver is used, the trigger squeeze is the same.

The magazine follower is made to arrest the breech block in the rearward position when the magazine is empty, so that the action remains open after the last shot is fired. The action closes again, however, as soon as the magazine is removed, for all that holds it is the magazine follower, and this makes it necessary to draw back the breech block to load the pistol each time a filled magazine is inserted.

"As far as my experience goes the accuracy of the arm leaves nothing to be desired. It is rifled with one turn in sixteen inches and makes excellent targets."

Apologies are offered Colonel Hatcher for not making straight quotations of his description in the above abstract, which is introduced here to again call attention to a device, which may be lost in the shuffle and which his recommendation is sufficient warrant to cause its resurrection as a live proposition, thorough test and adoption, if found available.

The .22 calibre Colt automatic pistol is with us again, albeit at a considerable advance in price, and offers itself as a practical weapon for teaching purposes, as well as being a charming companion for an outing. Its accuracy commends it for practice with

deliberate aim and while it may have nothing in common with the military automatic pistol except its rapidity of fire, I believe its use in this method of firing valuable as a training for subsequent practice with the heavier weapon.

The distances over which the small-bore rifle is shot have steadily lengthened, which is right and proper. As far back as 1888 fifty yards became the adopted long distance for pistol and revolver practice using the 200 yard Standard American target with an eight-inch bull for this distance and reducing the target proportionately for shorter distances. The present regulation pistol target is a hybrid between the regulation "A" or 200 yard rifle target and the Standard American 200 yard target, showing a 5-inch bull with no subdivisions, such as those of the Standard American bull. This target was used for a time as far back as 75 yards and is still used for the Expert qualification at 50 yards. The regulation distances called for in the National Pistol Match are 15 and 25 yards on the above mentioned target and experience leads me to believe that for intensive training such as was given at Perry, these distances and this target have their advantages. At the same time I believe that a 5-inch bull, even though the 8-ring is 12 inches in diameter, is too small, especially when the conditions call for five shots at 50 yards in thirty seconds, as a test for so-called expert qualification. The would-be expert is required to make a total of 40 or better for his five shots and is not only bucking the score but the timed fire element as well, with a very small mark upon which to hold.

A modern system of training in the use of the pistol is not to develop a few experts, but a whole lot of individuals competent to group their hits on a man's size target at comparatively short ranges. Such a system develops confidence and once that is established the more remote effect is to stimulate interest in practice, which in turn may and often does develop expert skill.

Officers came to Perry, who openly stated that while they had grown gray in the service, they had never been able to shoot a pistol with any degree of certainty. I do not remember a single officer who completed the course of instruction, who did not go away competent to take care of himself in a melee. Pistol practice should remain a sport and be well patronized at that, but the final result of all such sportive practice is to train an available soldier.

One of the problems in teaching the use of the pistol with rapid fire is that of establishing a rhythmical delivery of fire, according to the time regulating the firing of five shots, and while our present methods of procedure, either by taking the time at the firing line or in the pit are productive of results, for use with the small bore pistol, a means of exposing and withdrawing the target by a clock mechanism would be of great service, for the time would then be exact for each shot and the man firing could concentrate his attention upon each shot instead of having to guess at the time the target will remain exposed and thus tend

to fire his shots more rapidly than is really necessary. A revolving spindle with five arms each holding a target, and protected by a steel plate with an opening in its top just large enough to show the target, is in the nature of this suggestion; the clock mechanism turning the spindle and showing a target for the required number of seconds would be far better than depending upon a stop watch and the human element.

Captain LeBoutellier, one of the pistol instructors at Perry, introduced what he called a "marching target," which soon became known as LeBoutellier's "goat-getter," in that when stacked against it, even at 15 yards, many of the experts found it a fine way of getting rid of some of their conceit.

This method of training is not only practical but spectacular and interesting. There was always a gallery back of the firing line whenever the marching targets were at work and it was difficult to break the men away from such practice.

Some such system worked by levers at the firing points would be equally practical for use with the small bore pistol.

I do not know whether it would be possible to introduce a pistol skirmish run, for general use, owing to the possible danger of accidents, but wherever there is military discipline to prevent such accidents, it would seem to be a most practical method of training for combat firing. This was tried out in a small way at Perry and at Camp Dodge, and proved both exciting and interesting.

At Benning, the idea coming direct from Fort Sill, there was an effort made to work out something more than a trial of shooting from the hip and it is surprising to those who have never indulged in this method of firing, how easy it is to hit a silhouette target when you once learn how, but it was impossible during my service with the School to carry it beyond an experimental stage, owing to the press of work called for by the schedule.

The field is wide and the small bore pistol is admirably adapted to these and other methods of training, providing always that ways and means can be provided to establish ranges for the pistol as well as for the rifle. Adoption of the .22 calibre attachment for the .45 calibre automatic would be the simplest way to provide a large number of weapons for issue to civilians along with the regulation pistol. The alternative would be an issue of Colt automatic .22 pistols, as the present price is almost prohibitive.

Now that the National Rifle Association has taken hold of pistol shooting and proposes to push it, it is up to old timers and the men who received training during the period of war service to help out in their several localities. The N. R. A. can launch a boom for pistol shooting, provide ways and means, and otherwise boost the game, but unless all of us help the work, it will prove a failure.

Let us call it the seventh inning and every one get up and stretch.



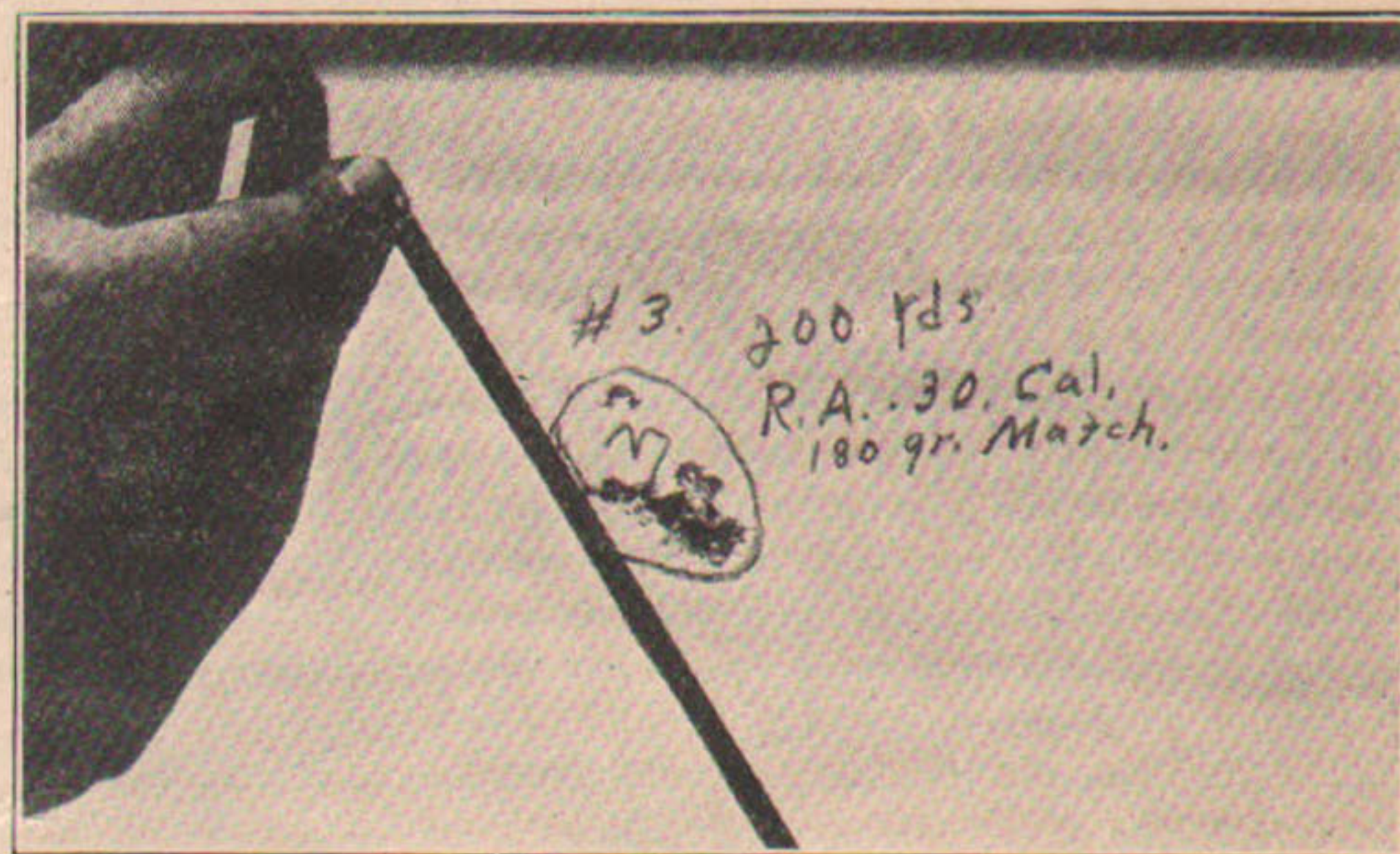
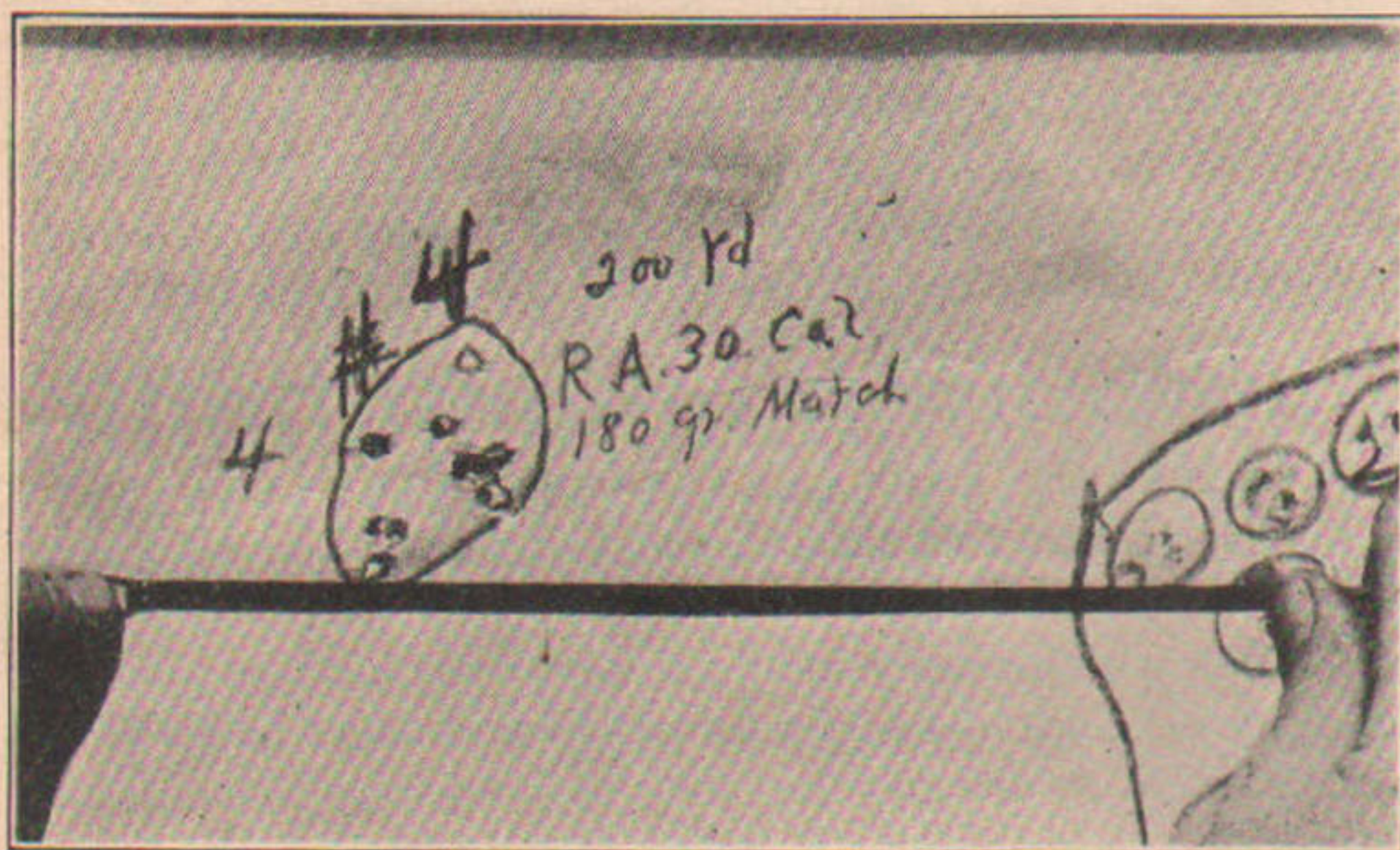
# Two Groups Worth Seeing

CAPT. E. C. CROSSMAN who since the National Matches of 1919 has been serving as an Experimental Officer at the Army Small Arms Ballistic Station, Daytona, Florida, has been doing some very interesting test shooting in connection with his

Whereupon we galloped back to the firing point and dug out the remaining ten cartridges and fired them up the range, through the same muzzle screen—100 ft. distance. The second group measured 2 1-8 inches for the ten shots. 200 yards.

Two groups of Frankford aircraft fired just previous to these gave 7 and 5 1/2 inches respectively for the ten shots.

These consecutive groups illustrate both the splendid ammunition and the performance of the heavy barrel in the Mann V rest. Three inch groups for ten shots are too common to provoke comment with good ammunition, while some special stuff sent down by



The two groups made at the Miami Station by Captain Crossman.

work. The following letter deals with one phase of the shooting in which he thinks riflemen may be interested:

*Editor Arms And The Man:*

I am enclosing herewith the two record 200 yard groups made during the machine rest and Mann rest firing at this station. I have in the past three months fired several hundred groups with each type of accuracy testing arrangement in the routine work of the station and in tests of special ammunition possibly fit for the use of this year's Olympic Team, but these two groups of ten shots, fired consecutively and the only ones fired with this particular make of ammunition, are so good that I am sending them up for your perusal.

They were made with one box of Remington 180 gr. match ammunition left over evidently from the factory's Caldwell stock of last year, and therefore of the same vintage as that ammunition which permitted John Hession to kidnap the Wimbledon Cup.

We were using the Mann Rest with heavy barrel, and firing through the 100 ft. screen to determine angles of elevation as well as accuracy, when I ran in this special and sole box left over. The sergeant watching the muzzle and 200 yard screen with his transit presently announced that the group on the 200 yard target wasn't any bigger than the one on the 100 ft. screen, that the ammunition was making as it went through. Whereat we gave him the horse laugh and advised a new transit and went on.

What happened to the 200 yard screen is sent herewith, numbered in the photograph group No. 3. It wasn't quite as small as the 100 ft. screen group, which was merely one .30 cal. bullet hole, but nine bullets at 200 yards had cut into the same enlarged hole, and the tenth enlarged the group to a total size—distance from center to center of the two wide shots—of 1 7-8 inches.

Evidently the factory extracted the X, Y, Z, & Q error from this stuff before it left the plant.

It was at this stage of the game that the C. O., Colonel Wilhelm, arrived and requisitioned the two groups in the name of the Continental Congress. I'd send you the originals but find it good policy to humor these persons with the silver leaves, eagles and such on their shoulders. Suffice to say that they are now in the office and attested to.

Colonel Clay of Frankford within a week, a bullet of 175 gr. at 2600 ft. secs. put on two consecutive groups of less than three inches, 2 1/4 and 2 3/4 inches to be accurate.

All of which goes to prove that with a good heavy Springfield barrel and good ammunition, the best shooting of the antiquated Schuetzen muzzle loading type of cannon can be beaten, not to mention the ability to fire more than three shots in an afternoon.

## Back Packing

Being the fifth of a series of talks for the Out-of-doors man.

By Captain FRANK WINCH.

OF absorbing interest to the out-doorsman is the problem of equipment for a back packing trip. The novice usually wonders how he is to carry all the stuff piled knee high in his den, the other fellow who has trudged mountain and valley year on year figures how much of this paraphernalia can be left at home. There's one—and only one important point to be considered—it's not what to take but what NOT to tote along.

An annual vintage of words blossom forth every season on this subject—the sporting goods stores bulge with the whatnots of the back-packers art, every magazine page is stoop-shouldered with its burden of latest comfort creations enthusiastically conceived by the scissor and paste potter whose only venture into the thrills of the great out-of-doors consists of a jaunt to the zoo with a copy of Dan Boone tucked under arm.

As a result the tyro finds backpacking a hardship, while as a matter of fact the only hardships of a trip are mostly self-induced through a wild ambition to transport an eight room apartment luxury to the hinterland of tall timbers. Take what you need—make up

your list of duffel, pack it, weigh the pack and dump out at least one half of the first selection. Try it all over again and when you can figure on about one third of the original outlay you can safely believe that you aren't really carrying more than two-thirds of the things unessential.

There is no absolute cut and dried panacea for the evils of one's imagination in outfitting for the trip, but we have to guide us the experience of old timers—they in turn looked to their predecessors, who by virtue of knowledge through contact with the primitive woodsmen, and that great genius of the out-doors, the Indian, there have come a certain set of fundamentals with which all should be familiar. To the individual is left the choice of arrangement, selection and type of the essentials for a back packing hunting outfit which should consist of clothing, gun and ammunition, personal kit, bedding, first aid, mess kit and rations.

The world isn't half as wide as the range of appurtenances offered, but there yet remains to be devised the outfit that will serve every purpose, for every climate, for every man,

(Continued on page 10)



# ARMS AND THE MAN

1111 WOODWARD BUILDING, WASHINGTON, D. C.

SEMI-MONTHLY—ON THE 1st AND 15th DAY

Editor

BRIG.-GEN. FRED H. PHILLIPS, JR., Secretary N. R. A.

Associate Editor

KENDRICK SCOFIELD

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

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

## TRENCH TACTICS IN THE HILLS

RECENT dispatches from India indicate that British troops, trained in the Flanders type of trench fighting, are finding it difficult to adapt their trench tactics to fighting conditions in the hill country when it becomes necessary, to send a column against obstreperous hillmen. So signally have the men trained only in trench fighting failed to accomplish any results against the hill men, that British military journals are advocating the formation of a special force trained with the one idea of serving in the hill country and skilled in the kind of fighting which will permit "Tommy" to meet the Afgan and his kind on a common ground.

This in just one more bit of evidence tending to show that the recent war in Europe did not demonstrate beyond all peradventure the superiority of hand grenade and bayonet fighting over snap shooting in the open. England has already learned that the tactics which governed the fighting in Europe were the outcome of a special condition rather than the development of offensive and defensive tactics which can be

counted upon to prove effective in any combat; and if the United States is ever called upon to go into such a country as lies directly below the state of Texas, similar truths will speedily be demonstrated.

There is little likelihood, however, that the United States Army will wait until it enters a campaign in the field to prepare our fighting men for combat which differs fundamentally from that obtained in the European trenches. The establishment of the Infantry School of Arms at Camp Benning, Ga., under the direction men who thoroughly appreciate the necessity of training the individual soldier as an individual fighter as well as part of a fighting machine, will do much toward making the American soldier capable of taking care of himself under any combat conditions which may confront him.

## HAND GUN SHOOTERS MUST ACT

UNLESS the hand gun shooters of the United States exercise at this time unusual vigilance, they will soon find themselves in the position now occupied by the gentlemen who formerly indulged in various kinds of alcoholic beverages. That the aforesaid gentlemen never believed the nation would go dry and that they took no steps to counteract prohibition propaganda, is generally admitted to be one of the reasons why the United States is arid today. In this circumstance, regardless of whether one favors total aridity, there should be found a lesson for those of us who know the value of practice with small arms.

In many of the smaller newspapers of the west and middle west, as well as in many of the larger dailies, there are appearing with a constancy which would suggest the workings of a carefully organized propaganda numerous articles directed against the ownership of weapons. The publication of attacks on small arms, if permitted to pass unchallenged, and to gain credence through repetition can have but one result—the passage of laws which will in no way curb the criminal element, but which will seriously interfere with the legal use of small arms for the purposes of home protection and sport. There is but one way to counteract such propaganda, and that is to fight it in the columns of the public press and to see that the voters of every community are not misled into enacting the wrong kind of anti-firearm legislation under the false idea that they are stamping out homicide.

## How to Read the B. S. A. Rear Sight Scale

By E. NEWITT.

THE following instructions for reading the B.S.A. rear-sight scale are published in response to numerous inquiries from users of the B.S.A. Match Rifle. This sight scale is commonly known as the Vernier scale and these directions will apply equally to any sight or other instrument having a Vernier scale, including many of the micrometers used elevating the Springfield rearsight.

Vernier's method of finally graduating the scales of astronomical, nautical and surveying instruments has stood the test of time and

no other method at once so mathematically exact and mechanically perfect has yet been found, hence it is applied to all instruments requiring scales which have any claim to mathematical accuracy.

The diagram, Figure 1, shows five B.S.A. rearsight stems with the sight set to read 0, 1, 2, 3, 4, 5, respectively.

Each scale is 80-100ths or 8-10ths or .8 of an inch long, divided by lines 5-100ths or .05 of an inch apart.

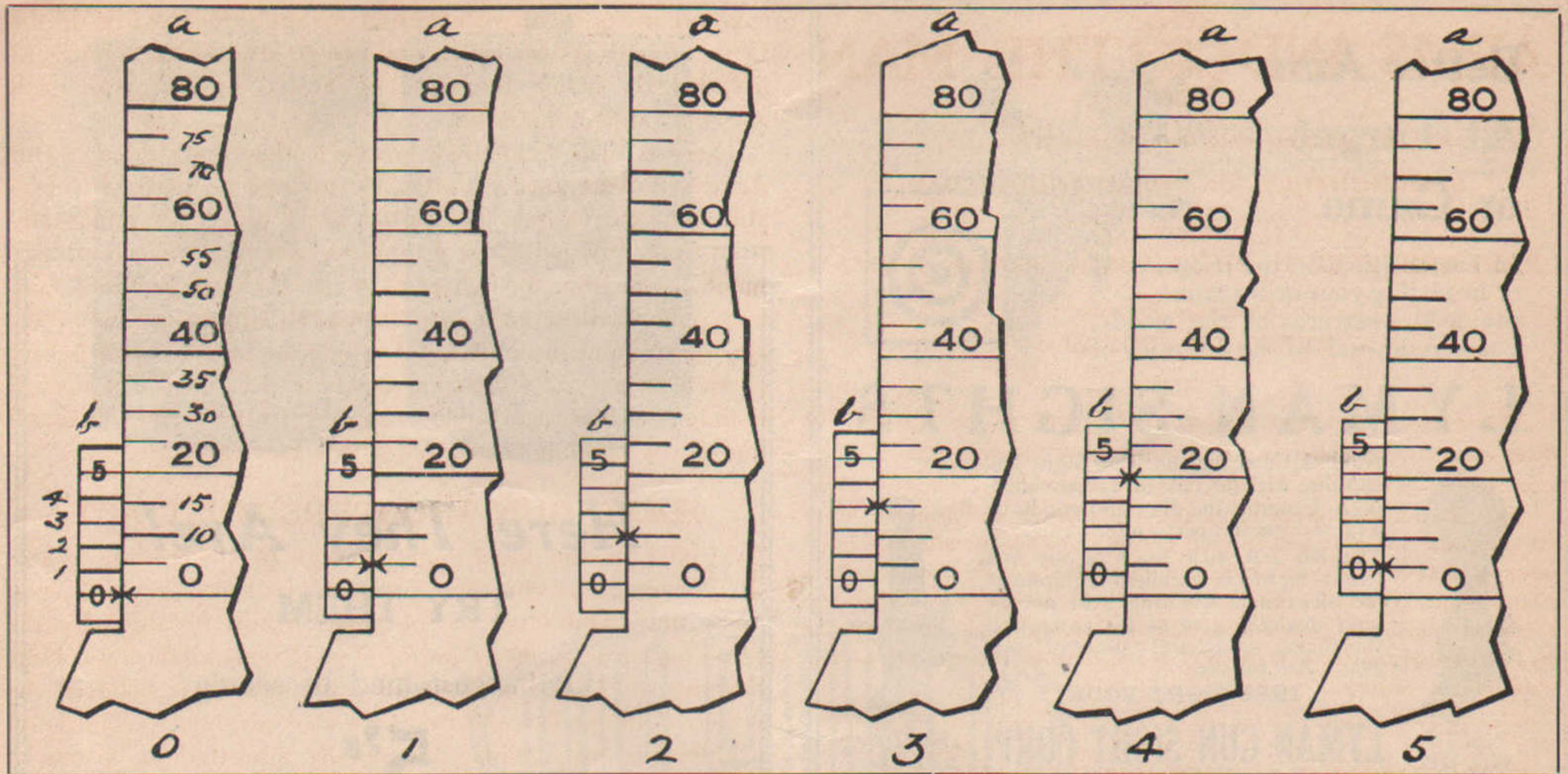
As in the case of a clock dial, space does not

permit of numbering every individual minute so in this case it is impractical to number every individual graduation, but to aid the present explanation numbers have been added to many of the graduations in the first diagram.

The disc carrying the sighting aperture is screwed to and moves upwards with the short piece of scale marked 'B' when the elevating screw is turned. The sole purpose of this short piece of scale, which, we will call the moving member, is to enable us to split the 5-100ths graduations on the stem 'A' (which we will call the fixed member) into 1-100ths. This moving member has six graduations, No. 0 to 5, and for the purpose of this explanation let us imagine them to be No. 0, 1, 2, 3, 4, 5, as has been done in the first diagram.

The 0 line on the moving member is the index line from which the setting is finally read.





If we look at the first diagram, the index line 0 on the moving member is continuous with the zero line 0 on the fixed member, and the elevation therefore reads 0.

Now, if we turn the elevation screw until the next line above, that is line No. 1, on the moving member, becomes continuous with the next line above line 0 on the fixed member, as shown in the second diagram, we have raised the sight 1-100th of an inch, the elevation reads one, and the index line on the moving member will be seen to have advanced 1-100th up the scale on the fixed member.

Similarly if we raise it until line 2 on the moving element becomes continuous with the second line on the fixed element, as shown in the second diagram, we have raised the sight 2-100ths, and the elevation reads 2. The third, fourth and fifth diagrams show the sight raised to 3-100ths, 4-100ths and, 5-100ths respectively. When we have reached 5-100ths the index line 0 on the moving element will be continuous with the first or 5-100 line on the fixed element, and we can start again splitting the next five hundredths into individual 1-100ths by turning the elevation screw until the next two lines above on each scale, respectively, become continuous.

For example if we wish to set the elevation to 43 we should run the index line on the moving member up to 40 on the fixed member, and then continue turning the elevating screw until the line 3 on the moving member becomes continuous with the third line above 40, (that is to say line 55,) on the fixed member, the index line on the moving member will then read 43.

Fortunately it is much easier to read a Vernier scale than to explain the method of doing it but a few minutes practice should make anyone permanently proficient.

## The Camp Gun

By CHARLES A. BRAMBLE

**I**N addition to your rifle for heavy game you need something with which to fill the pot. There are continually chances at grouse, duck or rabbit, which are not worthy of an expensive, high-power load, nor do you wish to advertise your coming by a startling explosion every once in a while. True, as Colonel Townsend Whelen has pointed out, there are excellent short-range loads for heavy rifles, especially so for the Springfield—but where I shoot we have too much trouble in getting the right components to reload with, and the shop short-range loads are so unsatisfactory, that practically few use them, in fact, I do not recollect ever having seen a Canadian sportsman with any such cartridges. The favorite, by an enormous majority, is the .22 Long Rifle. I see Colonel Whelen gives it a good word in the December 15 issue of *Arms and The Man*. His criticism of the killing power of this remarkable cartridge in his book on the rifle was one of the very few statements I felt obliged to take exception to. Only the other day, a man brought down a dozen big full-plumaged snaptails, off high poplars, with a .22 Remington, without having even a runner.

No doubt you sometimes lose a bird, but the enormous advantage of the .22 L. R. is that the ammunition is ready to hand, cheap and accurate. Then the rifle itself is so light that it is always in your hand, and you get many a shot that you never would get if you had to depend on carrying some more cumbersome weapon.

There are practically no 25-86 in use, as they are too powerful for the short ranges at which small game is shot in the Canadian bush. We murder everything at such point-

blank ranges that almost anything kills. (I trust I may be pardoned for using the term point blank, knowing that there is no such animal—yet the impression it conveys is correct.)

A rifle I have shot with much satisfaction is an English .250 by Holland. The cartridge has a 56 grain, hollow-point bullet, and 7 grains of powder and according to the maker, a velocity of over 1300 ft. sec., and a muzzle energy of 226 ft. lbs. While not quite as accurate as the .22 it has a reserve of power which comes in handy, and them, like all first-class English rifles, it is a dream of finish and balance. The worst point is that the cartridges are expensive and hard to get in Canada, so that, though I have a reloading set, I use it but little now. It is so much easier to slip into a store and stock up with .22 long rifle cartridges.

Sometimes I have taken a .22 pistol or revolver instead of a rifle, as a camp gun, and they work well, especially one fearsome weapon with a 12 inch barrel, made by a company long defunct, but on the whole the rifle is the surer weapon when you depend upon a shot for your evening stew.

Of course, for the most deadly work, a shotgun beats any rifle. I own a 24 bore weighing 5 pounds and shooting a charge of 2 drs., and 3/4 ounce with one barrel cylinder and the other extra full choke, which may be relied upon to do its part if held straight. With the left at 30 yards a mallard has no show whatever if the man behind the gun is feeling fit. But there is not the satisfaction, the glow of conscious rectitude about a successful shot with this gun that exists after a neat decapitation of a duck or grouse with the small bore



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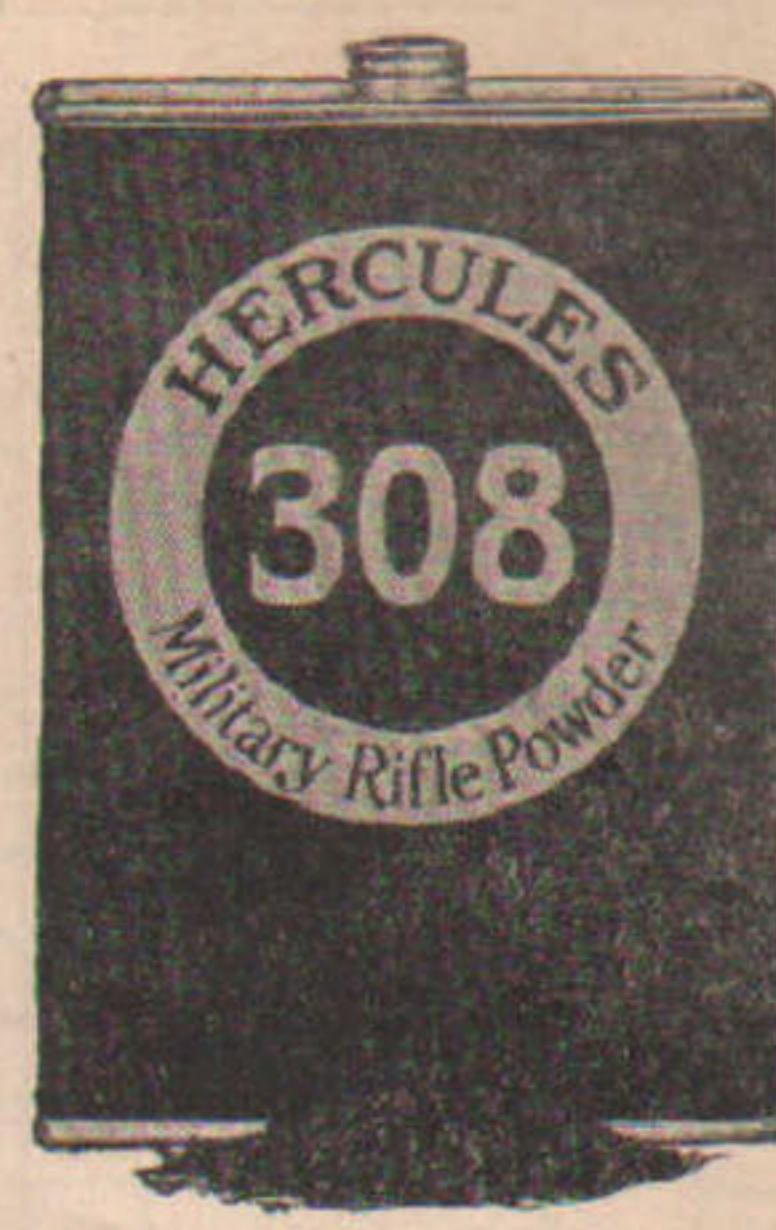


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rifle. One always feels a sense of shame after slaughtering some poor innocent with a charge of small shot, though this usually, I must confess, gives place to a feeling of beatitude as you fondle lovingly the fat breast of your victim and indulge in pleasurable anticipations of the coming "mulligan."

All of which shows we are terribly unscientific up here in the Canadian nor'west; but then we labor under a severe handicap. It's no good taking up a book and reading that so many grains of such a powder will give excellent results, because we know only too well that there is not a pound of that particular powder in any of the three prairie provinces, nor in British Columbia either, and that the procuring of it means delay, expense, and a lot of fussing at the custom house. We just learn to be content with what we can get, and reflect that if we are not able to shoot up-to-date loads, at any rate we have lashings of game. Scientific cookery is as rare in the bush as scientific gunnery, but should you be able to sneak a few "partridge" home, so that they may be given those delicate attentions which are required to bring out their exquisite flavor, you need not envy such as sit in the seats of the mighty and are served pheasant, English partridge or American quail.

It may be said, in passing, that though we have had closed season—quite uncalled for during the past autumn—on chicken and partridge since 1915, this law is not enforced "north of fifty three," and it is to that region these remarks apply.

### BACK PACKING

(Continued from page 7)

everywhere. Consequently the issue narrows down to this personal equation—how much should one carry, what is it carried for, and how much will you leave behind on the next trip.

Mark you well, the suggestions herein offered are not made for the purpose of establishing a millenium, it can't be done—however, if you fit the dimensions of the feller who is busting into print under the caption as narrated, it is believed that these observations will merit your consideration. The outfit weighs twenty-one pounds and snuggles sweetly up on the shoulders of a chap who weighs about one hundred and ninety pounds, whose build averages any other which has been devoted to considerable time in the outdoors.

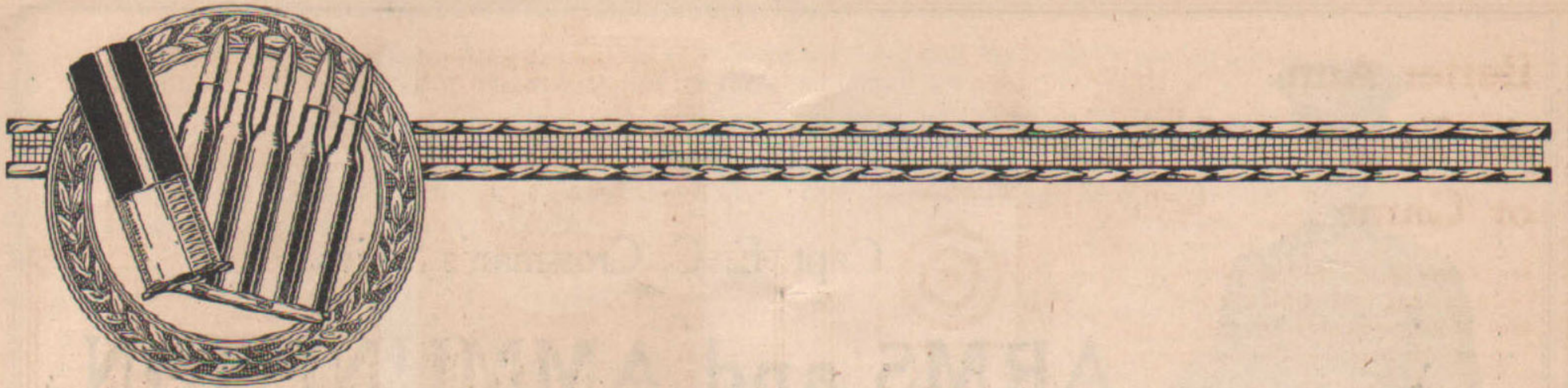
Secure first, one of the old time U. S. A. knapsacks the kind with the two leather straps and both anchored in the wrong place, unfasten the two ends that hang just below the shoulder blade, put them in a place that will center in the upper part of the small of the back and fasten with several copper rivets. As a container for your duffle this contraption while not exactly the best, will amply serve the purpose in an honest sort of a way and then too, it don't cost much.

Let the personal kit consist of the following—two old towels, crash. A cake of Life Bouy soap, tube of tooth paste, a tooth brush

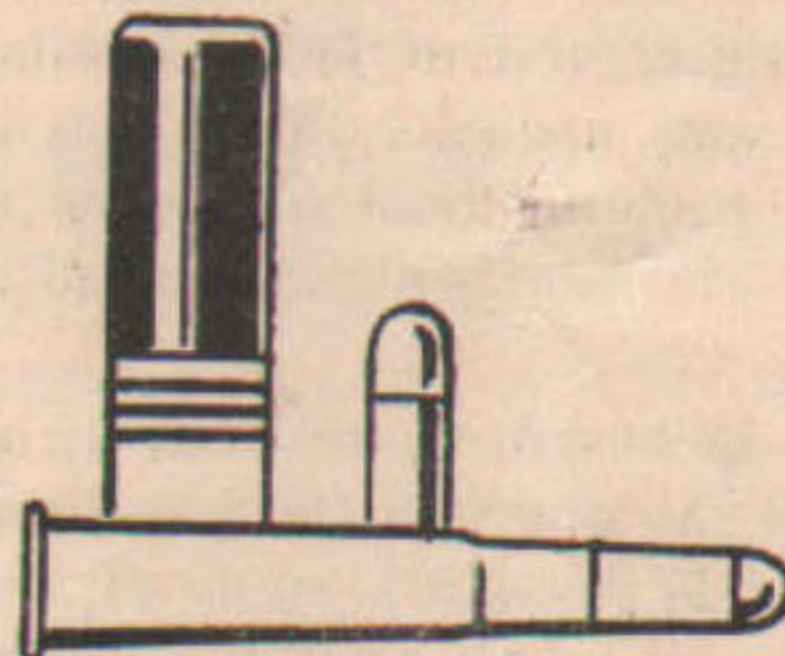
with handle cut atwain, comb of aluminum, small tube of cold cream, the hunting license, pipe and tobacco (unless the wave of prohib engulfs this pastime), matches, pocket aid, map, compass, knife, whistle, note-book, pencil, camera and film, hand warmer, mess kit, envelope stamped and addressed to relative, whetstone, drinking cup and housewife. An extra supply of matches should be waterproofed in this wise, thin a little shellac varnish with alcohol, dip matches half length and lay them on a newspaper to dry. The pocket first-aid can be made of an empty tobacco box, small and flat, into this put an ampoule of iodine, a compressed gauze bandage, pack with loose cotton and bind edges of box with bicycle or adhesive tape, the map of the locality you desire to enter can be secured by writing the U. S. Geological Survey Washington, D. C. These should be mounted on muslin, folded to fit pocket and kept in waterproof cloth. The compass should be one that can be read day or night as should be the watch which is at its best when fastened about the wrist. It's a good bet to have a pocket knife that's fastened to a key chain. The hand warmer is a light little article, cheap and for sale most anywhere. This, with a small pocket flashlight are convenient to have. For bedding, two of the lighter army blankets and a rubberized poncho, the former spread over a thick mattress of balsam boughs and the latter for a coverlet will do much toward making comfort for the nights in the open.

(Concluded on page 12)





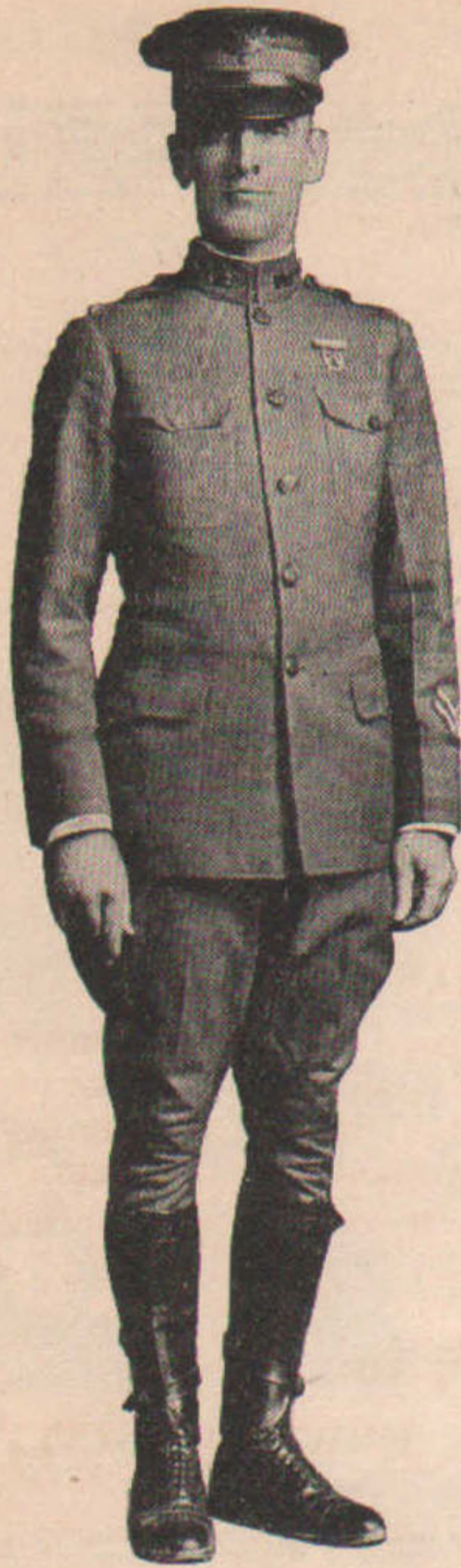
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#### BACK PACKING

(Concluded from page 10)

Secure now a wooden cigar box of about these dimensions: Nine and a half inches long, five and a half wide and two and three-quarters inches deep. This to serve as the container for the medical kit. There are oodles and oodles of camp doctories on the market, ranging in price from a dollar to forty; the ingredients are what count and these have been selected after twenty years experimenting with the ills, colds and what nots a fellow never expects to enjoy on an outing. By this I might parenthetically mention is not meant that there are more ills in back packing than any where else, only it seems a fact that most of us do things that we shouldn't do, sleeping on wet ground, overheating and the same word leaving out the H, and so on through the list. To those, and there will be some who complain that the medical list is too long, let this be borne in mind, you will be away from where medicine is to be had, take it as a precaution, the outfit weights just two pounds and here it is—Antiseptic gauze in waxed paper, compressed absorbent cotton, 3 rolls one-inch gauze bandage, two packages half inch adhesive tape, several packages Allen's Foot Ease, a vial of toothache medicine,

ampoule aromatic spirits of ammonia, a few quarter grain calomel, box of intestinal anti-septic, box five grain, cascara, Red Cross triangular bandage, surgical tweezers, surgical scissors, new safety razor blade in wax paper, vial of New Skin, small ointment, vial of jamaica ginger, vial of iodine, vials of carbolic acid and arnica. Pack the above in loose clean cotton. Seal the edges with adhesive tape and here's hoping it will never be used.

For the mess kit there's hardly anything better than the one you can purchase at any sporting goods store, it's made of aluminum, weighs one and a half pounds and consists of the following: Frying pan, deep stew pan, small pot and cover, drinking cup, fork and spoon.

As to the matter of rations, this must necessarily be left to the individual taste and the requirements of the trip, for the back packing that most of us do, where a small amount of fresh game can be relied on, the balance of vegetables and fruit should be of the dehydrated variety. Figure your meals so that plenty of sweets enter the menu, tea is better than coffee, and chocolate the best of any, about three and a half pounds a day is the amount of food required.

There are some who tote along a hand axe, and this should have a handle about seventeen inches long with blade the temper and edge of a good axe. A sheath knife made from a good-sized file will better answer the purpose, this can be turned out at home, is inexpensive and a mighty pal on the trip. It is always well to carry a whistle, the military kind is the best, or an empty brass shell will serve the purpose.

This is the back pack which has chummed with me through many a tramp. Add to it asinclination may suggest—twenty-one pounds is plenty for the average man who is not hardened to the rigors of the out of doors—but be it this or any other pack, get you out in the open. The man with the back pack is never lost. There is no anxiety about tomorrow, or the day after, or the one after that. You will come out someplace and one place is just as good as any other.

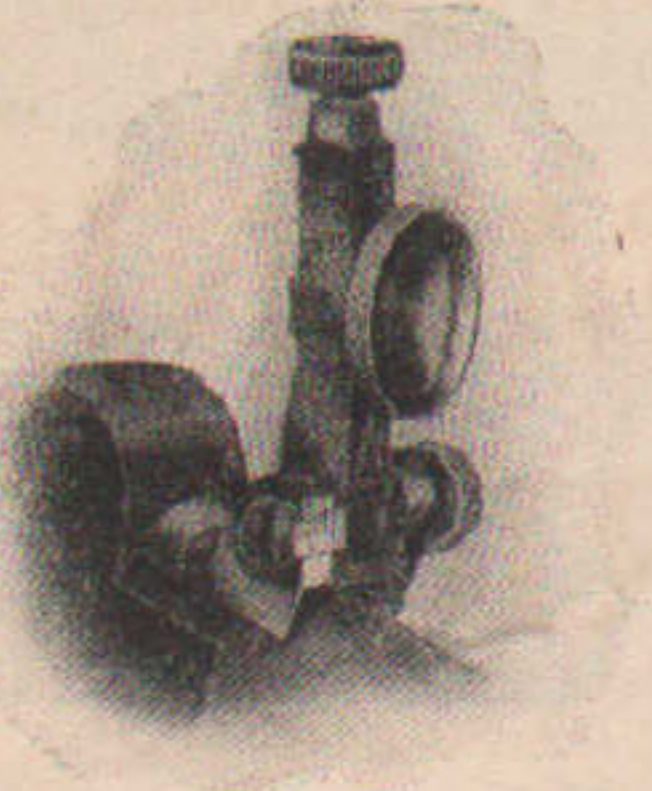
The charm of nomadic life is its freedom from care, its unrestrained liberty of action, and the proud self-reliance of one who is his own master, free to follow his bent in his own way, carrying with him, in a few small bundles all that he needs for food and shelter in any land, habited or wild. The back packer is the lord of himself and his surroundings.



The N. R. A. Matches begin May 3rd. You want a rifle for these that can really be loaded and fired rapidly, and telescope sights are barred. The perfect rifle for these matches is the

## B. S. A. MATCH RIFLE, Model 12

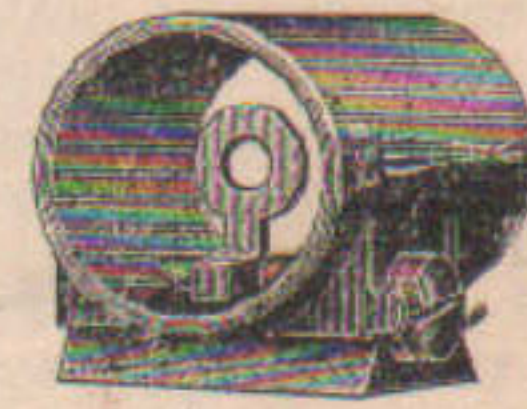
which made the highest scores under similar conditions at Caldwell, and has made the highest individual score to date in the N. R. A. Winter Matches.



The B. S. A. No. 8a Wind-gauge rearsight with 6 apertures to suit all lights.

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The B. S. A. No. 19 duplex front sight with choice of blade or ring.

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The B. S. A. No. 8a rearsight, fitting most rifles, is a sight designed for the man who is tired guessing how much he is changing when he makes a move. Fitted with Vernier scales for both elevation and windage, and clicks for changes of half an inch at 100 yds. to save watching the sight scales the No. 8a makes sight setting a certainty instead of guesswork. With its 6 hole peep disc it gives various sizes of aperture for various light conditions. The No. 19 front sight is a fitting accompaniment with choice of blade or globe, changeable by moving an external lever, and does not change elevation.

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## SHOOTING NEWS AND COMMENT



**T**HE National Rifle Association of America has prescribed the following qualification course to be fired with the small-bore rifle:

Open to life and annual members of the N.R.A. and N.R.A. Rifle Clubs. Unlimited entries.

### Marksman and Sharpshooter Course:

- 50 yards, 10 shots, slow fire, standing.
- 50 yards, 10 shots, slow fire, kneeling or sitting.
- 50 yards, 10 shots, rapid fire, kneeling or sitting.
- 100 yards, 10 shots, slow fire, prone.
- 100 yards, 10 shots, rapid fire, prone.

Time limit: Slow fire, 5 minutes for each 10 shots; rapid fire, 2 minutes for each 10 shots, contestants to start with rifle and magazine empty.

Rifle: Any .22 calibre rim fire rifle.

Necessary to qualify as Marksman, 400 points.

Necessary to qualify as Sharpshooter, 450 points.

### Expert Rifleman's Course:

Open to all who have qualified as Sharpshooter in the preceding course.

20 shots, 200 yards, slow fire, prone, Target 200 yards decimal: 10-ring, 4 inches, 9-ring, 8 inches, comprising aiming bull; 8-ring 12 inches; 7-ring 16 inches; 6-ring 20 inches; and 5-ring, 24 inches; on rectangle 26 inches wide and 28 inches high.

Time limit 20 minutes.

Rifle: Any .22 calibre rim fire rifle.

Necessary to qualify as Expert Rifleman 175 points.

Badges will be awarded to all qualifying by N.R.A.

**Sale of Official Score Sheets:** All scores for qualification must be entered on official score sheets, and properly certified to. Score sheets will be sold to clubs at 25 cents each, and will be sold by them to individuals at 50 cents each, this to assist the club in paying for targets, labor, etc. Upon receipt of properly authenticated score sheets the N.R.A. will mail badge to the individual qualifying.

FRED H. PHILLIPS, Jr.  
Executive Officer and Recorder.

[S the Schuetzen game dead? Should it be revived?

A devotee of marksmanship signing himself "Ichabod" believes that the style of shooting which calls for palm rests and set triggers should have no place in our present-day programs. He says:

The present is a practical and progressive age, an age of hurry to obtain results, and so-called efficiency.

The Schuetzen game is an anachronism, and it does not fit into our present-day life. It is too deliberative, too unwieldy for these days of quick action when everything must be full of "pep." Far be it from me to say our latter-day methods are best, but I speak of things as they are—not as they should be.

Modern guns, modern ammunition, and modern methods have so transformed the rifle game that could the spirits of those whose shadows pass before my mind's eye as I write, visit a modern tournament, they would be perplexed with the purport thereof, wotting not what manner of evolution had worked so great a change.

Strange things come to pass and perchance another generation may see the return of the day when calm deliberation will replace our present pace of restless hurry, but under present conditions we might just as well try to scrap our automobiles and revive the old stage coach.

—Ichabod.

**T**EN million rounds of ammunition were fired by United States Marines on rifle ranges in the last eleven months, according to the report of the Inspector of Rifle Practice, given at Marine Corps Headquarters in Washington.



This is the answer to the question. Why are Marines always crack shots? which has been asked over and over again by their opponents at recent military rifle matches when they saw the "sea soldiers" walk away with most of the trophies.

Nineteen thousand of the 21,000 men who fired qualified as marksmen or better. In 1919, so far, Marines fired on ranges in ten foreign countries and possessions, as follows: Ireland, Siberia, China, France, Germany, Cuba, Santo Domingo, Haiti, the Azores, and Nicaragua. And in nineteen States, Territories and possessions of our own country.

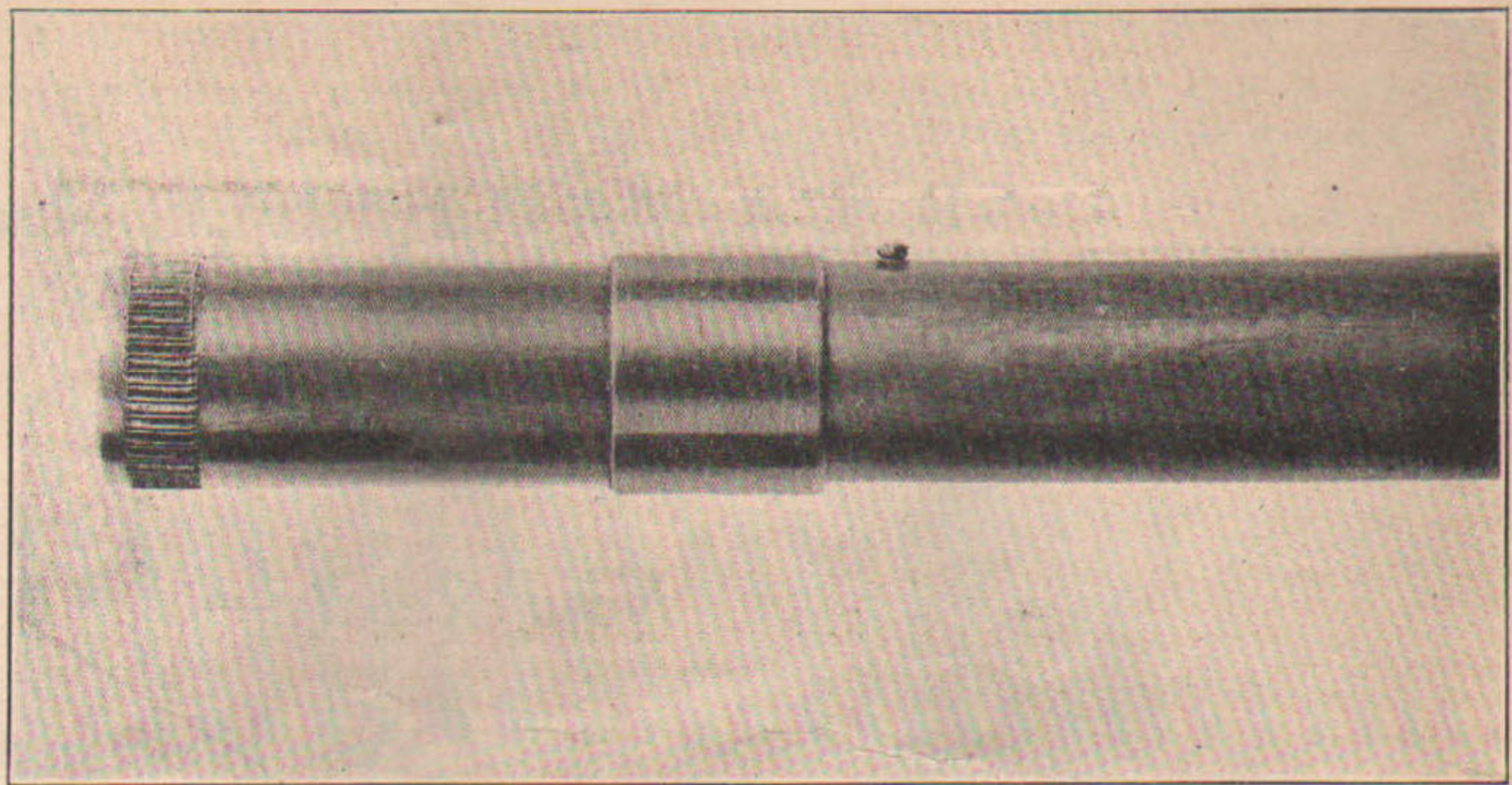
Rifles that were actually used by United States Marines against the Huns in France at Belleau Wood, Soissons, St. Mihiel, Champagne, or in the Argonne will be issued to recruits who never saw a fight when the big job just begun at the Marine Corps depot of supplies here is finished.

All the rifles used by Marines in France have been turned in at the Philadelphia depot to be refinished and repaired. So well did their bearers care for them that most of them can be used again.

When they come out of the gun shop as good as new they will be issued to recruits, who will be inspired by the knowledge that they carry the same rifles that were used in the World War.

Fred Adolph, of Genoa, N. Y., the maker of high-grade sporting rifles, has discovered a new "choke muzzle" which he believes will be of value to many sportsmen. In a letter concerning the appliance, Adolph says:

Although ARMS AND THE MAN is more a rifle magazine, the following may be of interest to some readers who use a shotgun. A few days ago I was in a gunshop in Ithaca, when a fellow dropped in and asked for a choke muzzle. I never heard of such a thing before and after the dealer had shown me the



The Choke Muzzle

device and explained it, I went right away to the photographer and had a picture taken of the thing.

You know the user of a pump or automatic gun is somewhat handicapped by having either a cylinder or choke bore barrel, while quite often he may have use of the other kind. He may not mind so much the expense of buying two barrels, but he does not like to carry around two of them. Here is where the choke muzzle stepped in.

A thread is cut on the muzzle and the choke attachment is screwed on to it like a silencer, making a cylinder gun a full choke gun. The thing is taken off again in a moment and a small ring attached to the muzzle to protect the thread. The whole job is of very fine workmanship, illustrated by the fact already mentioned, that a hunter who left his attachment at home, could use another one without any trouble—the fit was simply perfect.

Very fine patterns have been made, some as high as 80 per cent in a 30-inch circle at 40 yards. The attachment can be carried in the vest pocket—its price is only about one-fourth what a second barrel would cost, and I believe many of the readers of ARMS AND THE MAN will be interested in this device.

DOWN in the Canal Zone, Van Allen Lyman spends about all his spare time in keeping the local shooting enthusiasts going and in searching out obscure facts concerning small arms. Some time ago Lyman located an old timer who was a professional buffalo hunter and interviewed him. The interview resulted in this excerpt from one of Lyman's letters:

"Readers of Arms and The Man will recall a carefully written article on 'The Buffalo Gun' by Stephen Trask which appeared in the issue of August 31, 1918. One of the few of the real old time buffalo hunters who are still with us offers some interesting and valuable commentaries on this article. He says in essence:

"The writer evidently got the right dope in his article but he ascribes too large a prominence to the .50 caliber Sharps. While there were quite a few in evidence the fifty caliber fell far short of our requirements and the gun most in evidence was the .45-125:550 Sharps with the .44-90-420 Remington a fair second. While some (evidently very modern) writers have quite loosely ascribed no small share of the bison's decimation to the .44-40-220 Winchester (1873 model) the fact is that these little repeaters were used only by inexperienced tenderfeet, never by the regular buffalo runners. The range and efficiency of the .44-40 cartridges were against it for the long range work in which we usually indulged, most of the buffalo killed by professionals being shot at 300 yards and upwards. The little Win-

chester was very largely employed on deer, antelope and the smaller fry, and I am fully convinced that the Winchester Model 1873 has killed more game of all kinds than any other type of gun ever turned out by the world's manufacturers.

"My buffalo guns have always been equipped with high class telescopic sights and double set triggers. It may be interesting to know that in the old buffalo days, on account of the cold so benumbing our fingers that we lost the delicate "touch" so indispensable to hair trigger work—we used to grind down the skin on the first two joints of our trigger fingers with a bit of sandstone so that we could feel the set trigger thru the "quick" so exposed without unduly pressing it. Over the super-thinned integument so produced we used to wear a soft buckskin finger shield, tied to the wrist to avoid loosing it, which was removed just before the act of aiming."

E. P. HODGES, Secretary of the San Juan, P. R. Rifle Club has written this brief account of the doings of his organization:

Editor, Arms and The Man:

The San Juan Rifle Club has been for years a flourishing organization and numbers today 33 active members composed of representative business men of this community who practice every Sunday from 8 a. m. until noon at the "Escambron" military range, with the Springfield model 1903, .30 cal. rifle, at 200, 500 and 1,000 yards rapid and slow fire.

Our scores are constantly improving and indicate that our team to the National Matches next summer will give some of the northern clubs a severe tussle. Matches are being arranged between our team and those of the Porto Rico Regiment, National Guard of the City of Mayaguez, who have a company of 150 men, and the Rio Piedras Military School Cadets, who are all armed with the Springfields.

As we enjoy eternal summer here our outdoor range is always available, and being on the sea-beach, is free from mud and very pleasant even when the sun is at 85 to 90 degrees.

Our best shooting was done February 8th, at 200 yards, 10 shots rapid fire (one minute standing to kneeling and sitting) by Dr. Del Valle who made 92. Second best, R. Alers, 91. At 500 slow fire, prone, ten shots the first and second best were Ramirez-Mattei, 76 and Hodges 75.

We use exclusively the peep sight and full power ammunition.

We will be glad to hear from any clubs interested in our doings in this southern tropical Island and will surely be on hand next National Match to wrest the laurels from the Northern boys.

E. P. HODGES, Secretary.

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THE seasons' schedule of matches of the Pennsylvania Rifle League, have been announced. The events which will be staged during the coming seas on are:

- 1st Match:—Between April 24th and May 8th, inclusive.  
 2nd Match:—Between May 22nd and May 29th, inclusive.  
 3rd Match:—Between June 5th and June 19th, inclusive.  
 4th Match:—Between June 26th and July 10, inclusive.  
 5th Match:—Between July 17th and July 31st, inclusive.  
 6th Match:—Between September 4th and September 25th, inclusive.

This schedule will give us five matches before the National Match.

Any military rifle equipped with military or Lyman sights may be used in any or all parts of each match and either factory loaded or hand loaded ammunition may be used.

Coaching in all matches is allowed and encouraged.

Each club may enter as many men as possible in each match and the six men making the highest scores in the match will constitute the club team and the total score of these men will constitute the club score for that match.

The course in each match will be as follows: 200 yards Timed Fire, 10 shots on target D in one minute, shot from the kneeling position in the first match, sitting in the second, kneeling in the third, sitting in the fourth, and the shooter may take his choice of the two positions in the fifth and sixth matches.

500 yards, Slow Fire, prone position, two sighting shots and 10 shots for record.

600 yards, Slow Fire, prone position, two sighting shots and 10 shots for record.

The entrance fee for the year is \$10.00 per club. This money will be used to purchase a trophy for the team making the highest number of points in the series of matches.

The report of firing of each match is to be made in duplicate, one copy to be mailed to the President and the other to the Secretary-Treasurer within five days after the match is shot.

Each club should do its very best to have a good turn-out at each match so that we can develop material for an A No. 1 state team this season.

PREPARATIONS for the National Matches of 1920 are taking shape. Major Morton C. Mumma, the Executive Officer has established his temporary headquarters at Iowa City, Iowa; and is putting in motion the machinery to make the matches a success.

One of the first staff appointments in connection with the competitions is that of Col. Ward Dabney, as Quartermaster. Colonel Dabney is now at Camp Travis, Texas.

EDGEWATER Park in Cleveland, Ohio, will be the scene of the 1920 Grand American Handicap Trapshooting tournament—the blue ribbon tournament of trapdom.

The tournament will more than likely be held the week following the Grand Circuit trotting races—the week of August 23.

Cleveland intends to run a real shoot. It is the ambition of those behind the tournament to make this the greatest Grand American Handicap ever held, and these men know how well the shoot was handled in Dayton and at the South Shore Country Club.

Twelve traps will be erected in Edgewater Park—twelve traps in a straight line, the first time that twelve traps were ever erected for use in the Grand American Handicap.

We have it on good authority that the Preliminary Handicap will be restored to the program this year and that the twelve traps will be used in the Preliminary and Grand American Handicaps. On the other days ten traps will be used.

The shooting will be done over the water, the same as in Chicago, although the traps may be a little further back of the water's edge than they were at the South Shore Club.

Cleveland is working on the assumption that if the Grand American Handicap is a success that they will be given the handicap again in 1921 and possibly 1922. Those handling the shoot are not working on the idea that this is the only time Cleveland will conduct the tournament.

It isn't likely that the Cleveland people will bother about a Beginners' Trap or a practice trap, or the other things that would go a long ways towards making trapshooting a bigger sport than it is; the only thing they are concerned in is running the tournament as it appears on the program off in a satisfactory manner.

It is the intention of the Cleveland management to engage high school boys to pull the traps, keep score, referee, etc., and these boys will be taken in hand one week before the shoot and instructed in their duties daily. They will all be in uniform so that they may be distinguished from other boys on the grounds.

Cleveland was awarded the Grand American Handicap over Atlantic City, N. J. The seashore town wanted to stage the shoot the last week in September. This and the fact that the committee felt that Atlantic City was too far east killed the seashore city.

Atlantic City isn't too far east to bring more than 300 shooters to the Westy Hogans. Keeping the Grand American Handicap in the same section all the time isn't going to benefit the rest of the country a great deal.

A BOOSTER for the black and white rectangle is to be found in Capt. Lincoln Riley, U. S. R., of Wisner, Neb. Captain Riley takes exception to the doctrines of E. Newitt and R. S. Tinney. His comments upon proposed new systems of small-bore practice follow:

*Editor Arms and the Man:*

The recent article "A Practical Small Bore Course" does not suit me at all. Able writers like Mr. Newitt and Capt. Tinney are capable of doing a great deal of good, but they do an immense amount of harm in eternally waving the bloody shirt. Most of us will never hunt

much or go to war either. Mr. Newitt admits this when he says "In hunting it is so easy to find a plausible excuse, and in war we rarely know whether we hit or miss: moreover, both come so seldom in a lifetime as to fail to impress us. Then why do they constantly strive to perpetuate the bloody background to rifle shooting? "Hunting and war" is the slogan they harp on much to the detriment of the shooting game. Why not promote rifle shooting for what it is—a clean, manly sport? Our city high school is now installing a gallery in the gymnasium because the Board of Education has been convinced that rifle shooting is a valuable addition to both manual training and physical culture.

As to the course in question, I think the title "Practical" is a misnomer. I do not understand why those graven images are preferable as targets to a rectangle of paper. Does the imagination of the rifleman need a bloody stimulant? Mr. Newitt says the two inch circle on the side of the beast should be "quite invisible" at 143 yards, and I fully agree with him that it would. Also that the target would last for 1,000 shots seems reasonable. Another bad feature is the wide dispersion of fire produced by his plan of placing the targets, making a wide area dangerous. The whole system would take a lot of time and great expense.

It is to be noted that last year the authorities of the national matches abandoned the figure target for rapid fire in favor of the "B" target as more accurately expressing the ability of contestants.

I think the orthodox range and regulation targets with the variety of slow and rapid fire possible, are capable of using to good advantage all the time that most of us have to devote to shooting. The mission of the Rifle Club is to induce young people to start shooting, to teach the setting of sights and doping weather conditions, and to do it all as cheaply as consistent with good work. Real "Nail-driving accuracy" is exactly the thing to be aimed at, and if fairly well attained the happy possessor may go hunting if he wants to: he will probably make good. And if fate should sent him to the military camp he will be mighty good material for the instructors to work on. But let them do it there, field-firing problems have no place in the civilian rifle club.

(Concluded on page 22)

## The Best from Contemporary Sources

SOME two years ago I went into Mortlock's the antique china shop at the corner of Oxford Street and Orchard Street, London. Carelessly stacked in an alcove were a pile of rusty old muskets, rifles and fowling-pieces. As a collector of arms I immediately overhauled the pile and selected a heavy Jäger rifle flintlock and a peculiar

**The Earliest English Rifle** to be an early breech-loader as it had a removable trigger guard disclosing a chamber. Both pieces were encrusted with grime and fouled with old oil turned to gum. I gave them a preparatory scrubbing with paraffin, then a little hot water and soap suds, finishing with more paraffin. Next came metal polish for the stock ornaments. I then found that the English rifle was fitted with a solid silver butt plate and escutcheon, side plate and fore-end terminal. Further research disclosed a folding back peep-sight, the London proof mark and the gun-smiths' name "Willmore, London."

The thing that astonished me was that the whole piece suggested "Queen Anne" in a manner that no amateur of old fire-arms could fail to understand. The silver decoration was Queen Anne of the same type as the old familiar cannon barrel pistols with silver butt

masks and side hammered box locks. But with the tradition of the Ferguson rifle of 1777 as the first breech-loading English rifle firmly in mind, this seemed an anachronism.

The walnut stock was pure Queen Anne, the mounts were of the same period, the removable unscrewing trigger guard, the rifling, the peep-sight—well it was a puzzle. Finally I decided that the silver, the woodwork, the swamped or bell-mouthed barrel, the round swan-necked cock, and curved base lock plate were decidedly nearer to 1700 than 1800. Further the arm was rifled, had no ramrod pipes and was evidently meant for use as a breech-loader. The next day I went to Fenton's, the armour and antique arms dealers of Holborn. I told Fenton of my discovery of a Queen Anne breech-loading rifled peep-sighted flintlock. He, too, held that there could not possibly be such an arm.

"It's as Queen Anne as that pistol" I said, picking up an old silver-mounted cannon barrel flintlock on his desk. I bought that pistol then and there, because by all the collector's gods it was made by the same maker as the rifle—Willmore of London. The pistol bore in addition to the proof marks an armorer's mark, a crowned F between the two proofs.



A protracted search for Willmore arms has only revealed another cannon barrel pistol with no marks left. Neither the silver of the rifle or the pistol bore a mark or date letter, and the armourer's mark a crowned F was also born on a brass-barrelled pistol by Collumbell, which had silver mounts by Jeremiah Ashley, London, 1743. Careful comparison showed a difference between the crowned F mark on both pistols, and the Collumbell was a side-lock piece of conventional 1740 design. A few weeks back *Arms & Explosives* informed me that a kindly official of the Gunmakers' Company had discovered the record of apprenticeship of Willmore to a gunmaker named Foad in 1689. This accounts for the crowned F (which is evidently the armourer's mark of Foad) on the Willmore pistol, and builds up a chain of actual evidence in support of my previously conceived theory that the rifle is a production of the time of William and Mary or Queen Anne.

The rifle is to the best of my knowledge and belief both the first breech-loader and the first rifled breech or muzzle-loader made in England. Its only competitor is the match-lock breech-loading arquebuse of King Henry VIII in the date 1537, but according to Greener (See *The Gun and its Development*) and other expert opinion it is probably of French make. The Willmore piece is absolutely unique as a testimony to the excellent work produced by the London gunsmiths of its period. The arm is to-day as sound as when it was made and an enduring testimony to the craftsmen employed upon it. The number of "best guns" as one would call them to-day that have come down to us from this period is extraordinarily few. Tower muskets of William and Mary are known but are not plentiful, but first-class English weapons are limited almost entirely to the beautiful old cannon barrel pistols, and all fowling-pieces or gentlemen's guns seem to have vanished. We read of Truelocke the gunmaker in Pepys, but records of any English gunsmiths before 1700 are very rare, and I doubt that I have more than a dozen names of this period registered in my file index of gunsmiths' dates. To any one interested in the history of the arms industry in Great Britain the Willmore rifle is an object of national importance.

The piece is stocked with the dark knotted walnut we associate with Queen Anne furniture and has something of the same quaint Dutch style. The silverwork is chased in the rather florid ornament of the period, and escutcheon, fore-end side-plate and the heel of the butt extension are all in the same style. The identical treatment of the silver mounts appears also on the companion pistol.

The rifle weighs 6—lbs. and has an over-all length of 51— inches. The barrel length by internal measurement is 35— inches. The internal measurement is 35— inches. Though its contour near the muzzle suggest a bell-mouthed interior, in point of fact the bore diameter diminishes almost .002 of an inch as the muzzle is approached, the average diameter behind the construction, which is possibly accidental, being .660 inch or 16 bore. The rifling consists of eight segmental grooves about .030 inch deep and .150 inch wide, being thus rather wider than the lands. The twist is one turn in six feet.

The breech action is simple, a plug with an ordinary screw greater than the diameter of the bore is forged to a forward extension of the trigger guard. The guard is unscrewed to expose the loading cavity which is presumably meant of use with loose powder rather than for any form of cartouche. The gas check was probably the use of a soft lead ball larger than the bore and not a patch.

The lock presents no peculiarities but some refinements of workmanship and is perfectly sound. The rear sight is a hinged flap set in the rear of the breech block and is pierced with three peep-holes for different ranges. It

is identical in principle with the modern military sight, now advocated.

That the weapon is meant for use as a breech-loader is clearly shown by the absence of ramrod and ramrod pipes and fittings. That it was made for some wealthy client is suggested by the lavish use of silver and its general excellent finish and design.

Several questions are raised by the discovery of this rifle. Firstly it is suggested that it is an English version of the early French breech-loader known as the "Amulette de Maréchal Saxe," about 1650—but these I have always understood had a breech plug on something like the tap principle. Also they were smooth bores, not rifles. Secondly it has always been a cherished tradition of our American cousins that the rifle was unknown in England till their backwoodsmen demonstrated its use. Benjamin Robin's "Principles of Gunnery" would suggest otherwise, but here in the Willmore piece we have actual

proof that the breech-loading flintlock rifle was made in England at the close of the seventeenth and beginning of the eighteenth century. An entry in the Patent Rolls shows that Arnold Rotsipen (probably a German or a Flemming) took out a patent for rifling arms in England in 1628. Until this Willmore piece was found, there was no trace of English rifled arms from this entry of 1628 to 1777, when Fergusson's rifle appeared.

I should be very grateful for particulars of any other Willmore arms or pieces of equivalent style and date that anyone may have in their collections, and would be obliged if any student of arms can point out any existing English made piece which is an earlier breech-loader, an earlier rifle—or both—for as far as I know this Willmore rifle is absolutely unique and an important link in the whole history of fire-arms.

Captain HUGH POLLARD,  
in *Arms and Explosives*.

## With the Small-bore League

THERE is little doubt, judging from the standing of clubs at the close of the eighth match that when all returns are in, the Quinpiac Rifle Club will have set a record which has never been approached. In both the seventh and the eighth matches this club has hung up the perfect score of 1,000. The total of this club is 7,991 out of a possible 8,000, the remarkable match record of 998.87 out of a possible 1,000.

### CIVILIAN CLUBS.

#### Match No. 7, Ten High Teams.

	<i>Club Total</i>
1. Quinpiac R. & R. Club, New Haven, Conn. A. A. Clouet, 200; Wm. Breuler, 200; W. H. Richard, 200; H. J. Gussman, 200; Virgil Richard, 200.....	1000
2. Lakewood Rifle Club, 1st Team, Lakewood, Ohio. W. C. Andrews, 200; Frank C. Fry, 200; E. E. Tindall, R. L. Rowe, 200; M. M. Foster, 200.....	1000
3. Bridgeport Rifle Club, Bridgeport, Conn. C. B. Naramore, 200; R. E. Rose, 200; G. A. Strong, 200; G. Z. Smith, 200; C. W. Kuhne, 200.....	1000
4. Denver City Rifle Club, Denver, Colo. H. W. Beck, Jr., 200; Floyd Redding, 200; R. E. Ladwig, 200; L. G. Pridy, 199; T. B. Watters, 199.....	998
5. Ordnance Rifle Club, Washington, D. C. A. M. Morgan, 200; W. R. Stokes, 200; R. C. Stokes, 200; L. Nuesslein, 199; C. D. Perkins, Jr., 199.....	998
6. Santa Fe Rifle Club, Santa Fe, New Mexico. T. H. Parkhurst, 200; R. E. Clark, 200; Frank E. Andrews, 200; J. F. Day, 199; James C. McConvery, 199.....	998
7. Bangor Me. Rifle Association, Bangor, Me. L. W. Somers, 200; V. H. Somers, 200; E. M. Sylvester, 199; W. S. Belding, 199; Chas P. Allen, 198.....	996
8. Auburn Rifle Club, Auburn, N. Y. J. H. W. Stebbins, 200; J. Welch, 200; L. A. Wheeler, 199; Wm. A. Ockenden, 199; C. E. Shapley, 198.....	996
9. Jacksonville Rifle Club, 1st Team, Jacksonville, Fla. J. E. Byrd, 200; S. E. Smith, 200; W. T. Dow, 199; Wm. McNamee, 199; A. Williams, Jr., 198.....	996

10. Victory Rifle Club, Amsterdam, N. Y. George Young, 200; Wm. H. Pew, 200; Henry D. Wilber, 199; Wm. H. Jacoby, 199; William Mickels, 198.....	996
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#### MATCH No. 7.

##### College Clubs, Ten High Teams.

	<i>Club Total</i>
1. Norwich University, Northfield, Vt. H. W. Tyler, 200; J. Wesley Joslyn, 200; P. M. Martin, 199; R. K. Shaw, 199; D. V. Anderson, 199.....	997
2. University of Pennsylvania, Philadelphia, Pa. P. D. Ten Broeck, 200; E. I. Bensen, 200; J. R. Byrne, 198; H. R. Robertson, 198; D. M. Steele, 197.....	993
3. Dartmouth College, Hanover, N. H. B. Helmer, 199; J. F. Inghram, Jr., 198; H. W. Reed, 197; R. R. Wells, 197; S. D. Kilmarx, 199.....	986
4. Massachusetts Agricultural College, Amherst, Mass. R. D. Tillson, 200; Stuart Main, 199; P. L. Robinson, 197; R. B. Lambert, 195; R. H. Sanderson, 192.....	983
5. University of Pennsylvania, Freshman, Philadelphia, Pa. J. D. Conwell, 197; G. E. Dowden, 196; Jas A. Pray, 196; M. K. Fleishman, 195; L. Hoodley Sellers, 191.....	975
6. Worcester Polytechnic Institute, Worcester, Mass. O. H. Dodkin, 199; R. W. Cushman, 196; I. R. Smith, 193; R. E. Chapman, 192; W. A. Ellsworth, 189.....	969
7. Columbia University, New York City. Ralph Kerr, 197; W. P. Schweitzer, 194; L. R. Condon, 194; J. R. Twiss, 191; J. F. Krenninger, 191.....	967
8. Princeton University, Princeton, N. J. H. Cunningham, 195; W. G. Wells, 193; A. H. Van Alen, 192; H. M. Richardson, 191; D. E. McWilliams, 190.....	961
9. Iowa State College, Ames, Iowa. R. E. Kirkham, 197; W. J. Barrans, 187; W. H. Ruppel, 186; Frank P. Hanson, 185; R. H. McAlpin, 184.....	939
10. University of Maine, Orono, Maine. R. S. Leighton, 192; L. W. Davee, 189; E. O. Feeney, 186; H. T. Carey, 184; F. P. Leavitt, 183.....	934



MATCH No. 7.

Military Schools, Ten High Teams.

Table with 2 columns: Club Name and Club Total. Lists 9 military schools and their scores.

MATCH No. 7.

High School Clubs, Ten High Teams.

Table with 2 columns: Club Name and Club Total. Lists 10 high school clubs and their scores.

Table with 2 columns: Club Name and Club Total. Lists 2 high school clubs and their scores.

MATCH No. 8.

Civilian Clubs, Ten High Teams.

Table with 2 columns: Club Name and Club Total. Lists 10 civilian clubs and their scores.

MATCH No. 8.

High School Clubs, Ten High Teams.

Table with 2 columns: Club Name and Club Total. Lists 5 high school clubs and their scores.

Table with 2 columns: Club Name and Club Total. Lists 10 high school clubs and their scores.

MATCH No. 8.

Military Schools Clubs, Ten High Teams.

Table with 2 columns: Club Name and Club Total. Lists 8 military school clubs and their scores.

MATCH No. 8.

College Rifle Clubs, Ten High Teams.

Table with 2 columns: Club Name and Club Total. Lists 3 college rifle clubs and their scores.



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4. Worcester Polytechnic Institute, Worcester, Mass. O. H. Dodkin, 197; E. L. Thayer, 196; R. W. Cushman, 196; W. A. Ellsworth, 195; R. E. Chapman, 195..... 979	5. Marion, Ohio, Rifle Club. 994; 996.. 7960	27. Chicago, Ill., Rifle Club. 982; 983.. 7858
5. Columbia University, New York City. Ralph Kerr, 195; L. R. Condon, 194; J. F. Krenninger, 194; H. H. Hopkins 194; Edgar N. Smith, 193..... 970	6. Bangor, Maine, Rifle Association. 996; 996..... 7960	28. Centennial Rifle Club of Chicago, Ill. 982; 986..... 7857
6. Princeton University, Princeton, N. J. R. Hopkinson, 198; H. Page, 192; D. E. McWilliams, 192; H. M. Richardson, 189; H. Cunningham, 188..... 959	7. Ordnance Rifle Club, Washington, D. C. 998; 994..... 7952	29. Bucyrus, Ohio, Rifle Club. 993; 993..... 7854
7. Massachusetts Agricultural College, Amherst, Mass. R. H. Sanderson, 196; M. F. Webster, 195; P. L. Robinson, 190; H. E. Wentsch, 190; R. D. Tillson, 186..... 957	8. Lynn, Mass., Rifle & Revolver Club. 933; 993..... 7941	30. Commonwealth Edison Rifle Club, Chicago, Ill. 986; 979..... 7853
8. Iowa State College, Ames, Iowa. R. E. Kirkham, 193; Carl L. Campbell, 193; W. J. Barrans, 190; C. G. Farr, 188; John E. Hiland, 187..... 951	9. Remington UMC Rifle & Gun Club, Bridgeport, Conn. 995; 999..... 7935	31. Pentwater, Mich., Rifle Club. 983; 980..... 7849
9. Lehigh University, So. Bethlehem, Pa. R. L. Lerch, 192; J. A. Holmes, 189; B. B. Davidson, 188; W. C. Compher 188; C. A. Voss, 188..... 945	10. Birmingham, Ala., A. C. Rifle Club. 992; 994..... 7934	32. Madison, Wis., Rifle Club. 986; 983..... 7847
10. University of Maine, Orono, Maine. L. T. Merriman, 192; E. O. Feeney, 191; Silas E. Merry, 184; R. S. Leighton, 182; H. D. Cahill, 181..... 930	11. Butte, Mont., Indoor Rifle Club. 992; 996..... 7932	33. Wisner, Neb., Rifle Club. 989; 981..... 7845
<i>Club Total 8th Week</i>		
1. Quinnipiac Rifle & Revolver Club, New Haven, Conn.; 7th week, 1000; 8th week, 1000..... 7991	12. Brattleboro, Vt., Rifle Club. 994; 998..... 7926	34. Roberts Island Rifle Club, Stockton, Calif. 991; 997..... 7844
2. Lakewood Rifle Club, 1st Team, Lakewood, Ohio. 1000; 1000..... 7984	13. Philadelphia, Pa., Rifle Association. 991; 995..... 7921	35. Rogers Park Rifle Club, Chicago, Ill. 991; 979..... 7843
3. Denver City Colorado, Rifle Club; 998; 1000..... 7980	14. Arlington, N. J., Rifle & Pistol Club, 1st Team. 994; 993..... 7917	36. Los Angeles, Calif., Rifle & Revolver Club. 970; 981..... 7837
4. Bridgeport, Conn. Rifle Club. 1000; 1000..... 7971	15. St. Paul, Minn., Rifle & Pistol Ass'n. 993; 994..... 7914	37. Robbins & Myers Rifle Club, Springfield, Ohio. 983; 988..... 7830
	16. Santa Fe, N. Mex., Rifle Club. 998; 998..... 7910	38. Middletown, N. Y., Rifle Club. 978; 984..... 7829
	17. Corvallis Rifle Club, Hamilton, Mont. 992; 988..... 7906	39. Concord, N. H., Rifle Club. 986; 976..... 7828
	18. Haverhill, Mass., Rifle & Gun Club. 990; 990..... 7902	40. Salt Lake Rifle & Revolver Club, Salt Lake City, Utah. 976; 983..... 7826
	19. Boston, Mass., Rifle & Revolver Club. 993; 989..... 7900	41. Manchester, N. H., Rifle & Pistol Club. 979; 984..... 7825
	20. Auburn, N. Y., Rifle Club. 996; 988..... 7897	42. Dayton, Ohio, Y.M.C.A. Rifle Club. 986; 979..... 7824
	21. Jacksonville, Fla., Rifle Club, 1st Team. 996; 995..... 7894	43. Jacksonville, Fla., Rifle Club, 2nd Team. 966; 991..... 7820
	22. Irving Park Rifle Club, Chicago, Ill. 990; 995..... 7885	44. Worcester, Mass., Pistol & Rifle Club. 980; 989..... 7820
	23. Hillsboro, Ohio, Rifle Club. 984; 982..... 7881	45. Minneapolis, Minn., Rifle Club. 988; 986..... 7818
	24. Victory Rifle Club, Amsterdam, N. Y. 996; 996..... 7872	46. Claremont, N. H., Rifle Club. 992; 991..... 7813
	25. Brooklyn, N. Y., Rifle Club. 984; 979..... 7868	47. Towanda, Pa., Rifle Club. 981; 983..... 7806
	26. San Diego, Calif., Rifle Club. 987; 992..... 7858	48. Beaver, Pa., Rifle Club. 984; 981..... 7803



49. Lakewood, Ohio, Rifle Club, 2nd Team. 986; 992.....	7802
50. Business & Professional Men's Rifle Club, Boston, Mass. 978; 984.....	7801
51. Hawthorne Rifle Club, Chicago, Ill. 982; 976.....	7800
52. Reed Indoor Rifle Club, Springfield, Ohio. 977; 974.....	7798
53. Norwalk, Conn., Rifle Club, 1st Team. 982; 962.....	7794
54. Franklin, Pa., Rifle Club. 979; 980.....	7792
55. Arlington, N. Y., Rifle Club, 2nd Team. 980; 984.....	7788
56. Joliet, Ill., Rifle Club, 1st Team. 978; 976.....	7780
57. University of Chicago Civilian Rifle Club, 1st Team. 981; 982.....	7780
58. Grand Forks, N. D., Rifle Club. 976; 970.....	7773
59. McKean County Rifle Club, Bradford, Pa. 971; 972.....	7768
60. Riverside, Calif., Rifle Club. 975; 979.....	7768
61. Covington, Va., Rifle Club. 985; 976.....	7756
62. Rochester, N. Y., Rifle Club. 970; 961.....	7736
63. Rumford Rifle Club, Mexico, Me. 972; 971.....	7733
64. Huntington, W. Va., Rifle & Revolver Club. 967; 964.....	7727
65. Scott, Arkansas, Rifle Club. 960; 966.....	7723
66. Lakewood, N. J. Rifle Club. 966; 961.....	7715
67. Peekskill, N. Y., Rifle Club. 973; 972.....	7712
68. Citizens Rifle & Revolver Club, Rochester, N. Y. 955; 976.....	7705
69. Ridgeville Rifle Club, Evanston, Ill. 957; 965.....	7703
70. Elmira, N. Y., Rifle & Revolver Club. 967; 960.....	7693
71. Saginaw, Mich., Rifle Club. 971; 967.....	7685
72. Detroit, Mich., Rifle & Revolver Club. 982; 965.....	7683
73. Moraine National Rifle Club, Dayton, Ohio. 975; 971.....	7660
74. Mound City Rifle Club, St. Louis, Mo. 962; 950.....	7658
75. Altoona, Pa., Rifle Club, 1st Team. 955; 965.....	7655
76. Norwalk, Conn., Rifle Club, 2nd Team. 957; 975.....	7646
77. Joliet, Ill., Rifle Club, 2nd Team. 973; 967.....	7645
78. Roundup, Mont., Rifle & Pistol Club. 954; 967.....	7627
79. Wewoka, Okla., Rifle Club. 945; 954.....	7604
80. Chibridge Rifle Club, Greenville, Pa. 937; 954.....	7571
81. Chicago, Ill., Engineers Rifle Club. 955; 948.....	7567
82. Hoosier Rifle Club, Indianapolis, Ind. 951; 946.....	7566
83. East Saginaw, Mich., Rifle Club. 932; 954.....	7555
84. Paterson, N. J., Rifle Club. 949; 964.....	7546
85. Lamar, Colo., Rifle Club, 3rd Team. 952; 957.....	7545
86. University of Chicago Civilian Rifle Club, 2nd Team. 957; 946.....	7545
87. Joliet, Ill., Rifle Club, 3rd Team. 954; 954.....	7537
88. Niagara Falls, N. Y., Rifle Club. 957; 948.....	7528
89. Shawnee Rifle & Revolver Club, Lima, Ohio. 959; 942.....	7528
90. Minneapolis, Minn., Marine Rifle Club. 939; 952.....	7517
91. Albion, Ind., Rifle Club. 952; 956.....	7517
92. Altoona, Pa., Rifle Club, 2nd Team. 947; 942.....	7500
93. Interwoven Rifle Club, New Brunswick, N. J. 950; 948.....	7486

94. Superior, Wis., Rifle Club. 938; 948.....	7462
95. Berkeley, Calif., Defense Corps Rifle Club. 944; 952.....	7460
96. Cromwell, Ind., Rifle Club. 951; 923.....	7446
97. Liberty Rifle Club, Dubuque, Iowa. 921; 968.....	7441
98. Lamar, Colo., Rifle Club, 1st Team. 945; 943.....	7441
99. Lamar, Colo., Rifle Club, 4th Team. 943; 935.....	7432
100. Lamar, Colo., Rifle Club, 2nd Team. 933; 947.....	7369
101. Eclipse A. A. Rifle Club, Franklin, Pa. 945; 967.....	7345
102. Cazenovia, N. Y., Rifle Club. 923; 939.....	7329
103. New Bedford, Mass., Rifle Club. 935; 935.....	7254
104. Groton, Mass., Rifle Club. 900; 870.....	6977
105. Watertown, Mass., Rifle Club. 851; 868.....	6826
106. Ottumwa, Ia., Rifle Club, 850; 893.....	6808
107. Company G. Rifle Club, Springfield, Mass. 900; 865.....	6584
108. Mt. Washington Lyceum Rifle Club, Pittsburgh, Pa. 882; 824.....	5967
109. Atlanta, Ga., Rifle Club. 386; 381.....	5263
<b>8th Match Missing.</b>	
Warren, Pa., Rifle Club, 992.....	6915
Olympic Pistol & Rifle Club, San Francisco, Calif. 989.....	6910
San Francisco, Calif., Telephone Rifle Club. 989.....	6865
East Orange, N. J., Rifle Club. 978.....	6844
Fremont, Ohio, Rifle Club. 978.....	6830
Fort Wayne, Ind., Rifle & Revolver Club. 980.....	6801
Des Moines, Iowa, Rifle & Revolver Club. 972.....	6767
Miami Rifle Club, Cincinnati, Ohio. 969.....	6743
Needles, Calif., Rifle & Revolver Club. 961.....	6616
Du Pont Rifle Club, Flint, Mich. 953.....	6572
Nemadji Rifle Club, Superior, Wis. 952.....	6553
Yellowstone Rifle Club, 2nd Team, Billings, Mont. 940.....	6522
John Forrester Rifle Club, Pittsburgh, Pa. 931.....	6472
Commencement Bay Rifle Club, Tacoma, Wash. 934.....	6429
Grass Valley, Calif., Rifle Club. 886.....	6345
Camden, N. J., Rifle Club. 905.....	6234
Yellowstone Rifle Club, 1st Team, Billings, Mont. 366.....	5910
<b>7th and 8th Matches Missing.</b>	
Danbury, Conn., Rifle Club.....	5821
Providence, R. I., Revolver Club.....	5778
Varnum Continentals Rifle Club, E. Greenwich, R. I. ....	5599
Military Service Rifle Club, Elizabeth, N. J. ....	5519
Nevada City, Calif., Rifle Club.....	5291
<b>6th, 7th and 8th Matches Missing.</b>	
Ancon Pistol & Rifle Club, Balboa Heights, Canal Zone.....	4720
Ewa Rifle Club, Ewa, Hawaii.....	4381
<b>5th, 6th, 7th and 8th Matches Missing.</b>	
Ridgewood, N. J., Rifle Club.....	3838
National Capitol Rifle Club, Washington, D. C. ....	3884
Onondaga Rifle Club, Syracuse, N. Y. ....	3697
San Francisco, Calif., Telephone Rifle Club, 2nd Team.....	3538
<b>4th, 5th, 6th, 7th and 8th Matches Missing.</b>	
Marine Corps Civilian Rifle Club, Springfield, Mass. ....	2878
Lawrenceville, N. J., Rifle Club.....	2870
<b>3rd, 4th, 5th, 6th, 7th and 8th Matches Missing.</b>	
Forest Service Dist. 1 Rifle Club, Missoula, Mont. ....	1946

<b>2nd, 3rd, 4th, 5th, 6th, 7th and 8th Matches Missing.</b>	
196 Co. H. D. R. Rifle Club, Tonawando, N. Y. ....	894
Rupert, Idaho, Rifle Club.....	613
<b>2nd and 3rd Matches Missing.</b>	
Tacoma, Wash., Rifle & Revolver Club.	
<b>No Matches Reported.</b>	
Pershing Rifle & Revolver Club, Millvale, Pa. 1799 Rifle Club, New York City. Washington Marine Draftsmen, Washington, D. C.	

**COLLEGE RIFLE CLUBS.**

*Club total 8th Week.*

1. Norwich University, Northfield, Vt. 997; 996.....	7929
2. University of Pennsylvania, Philadelphia. 993; 991.....	7899
3. Worcester, Mass., Polytechnic Institute. 969; 979.....	7780
4. Dartmouth College, Hanover, N. H. 986; 988.....	7778
5. Columbia University, New York City. 967; 970.....	7760
6. Massachusetts Agricultural College, Amherst. 983; 957.....	7748
7. Princeton University, N. J. 961; 959.....	7679
8. Iowa State College, Ames. 939; 951.....	7515
9. Lehigh University Rifle Club, So. Bethlehem, Pa. 926; 945.....	7441
10. University of Maine, Orono. 934; 930.....	7281
11. Cornell Rifle Club, Ithaca, N. Y. 975; 890.....	7009

**8th Match Missing.**

University of Pennsylvania, Freshmen, Philadelphia, Pa. 975.....	6738
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**7th and 8th Matches Missing.**

University of Washington, Seattle.....	5476
University of California, Berkeley.....	5610

**6th, 7th and 8th Matches Missing.**

Massachusetts Institute of Technology, Cambridge.....	4857
Massachusetts Institute of Technology, Freshmen, Cambridge.....	4691
Ferris Institute, ROTC, Big Rapids, Mich. ....	3483

**5th, 6th, 7th and 8th Matches Missing.**

Syracuse University, N. Y. ....	3924
Leland Stanford Jr., University, Stanford University, Calif. ....	3650

**5th, 7th and 8th Matches Missing.**

Bowdoin College, Brunswick, Me.	
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**MILITARY SCHOOL RIFLE CLUBS**

*Club Total*

1. St. John's Military Academy, Delaware, Wis. 994; 998.....	7964
2. Culver Military Academy, Ind. 989; 992.....	7904
3. Western Military Academy, Alton, Ill. 972; 963.....	7590
4. Castle Heights Military Academy, Lebanon, Tenn. 949; 966.....	7415
5. Bordentown Military Institute, N.J. 921; 939.....	7397
6. Tennessee Military Institute, Sweetwater, Tenn. 931; 907.....	7371
7. Northwestern Military & Naval Academy, 1st Team, Walworth, Wis. 917; 940.....	7350
8. Nazareth Hall Military Academy, Nazareth, Pa. 709; 716.....	5000

**8th Match Missing.**

Northwestern Military & Naval Academy, 2nd Team, Walworth, Wis. 851.....	6029
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**7th and 8th Matches Missing.**  
 New York Military Academy, Cornwall-on-Hudson, N. Y. 5747

**6th, 7th and 8th Matches Missing.**  
 Miami Military Institute, Germantown, Ohio 4329  
 Tabor Academy, Marion, Mass 4186  
 Morgan Park Military Academy, Chicago, Ill. 3069

**4th, 5th, 6th, 7th and 8th Matches Missing.**  
 Army & Navy Prep. School, Washington, D. C. 2800  
 St. John's School, Manlius, N. Y., 1st Team 2558

**3rd, 5th, 6th, 7th and 8th Matches Missing.**  
 St. John's School, Manlius, N. Y., 3rd Team

**No Matches Reported.**  
 Albany Academy Rifle Club, Albany, N. Y.  
 Kentucky Military Institute, Lyndon, Ky.  
 Missouri Military Academy, Mexico, Mo.

**HIGH SCHOOL RIFLE CLUBS.**

*Club total 8th week*

1. Central High School, Washington, D. C. 995; 994 7948
2. Business High School, Washington, D. C. 992; 991 7902
3. McKinley Manual Training School, Washington, D. C. 983; 989 7843
4. Jamaica High School, Jamaica, N. Y. City. 979; 989 7789
5. Evanston Township High School, Evanston, Ill. 969; 953 7651
6. Ridgewood High School, N. J. 962; 952 7601
7. Springfield Tech. High School, Springfield, Mass. 930; 942 7507
8. Commercial High School, Brooklyn, N. Y. 940; 939 7416
9. Crosby High School, Waterbury, Conn. 952; 936 7397
10. Watsonville Union High School, Watsonville, Calif. 915; 919 7329
11. Tempe Normal School, Tempe, Ariz. 897; 855 7205
12. Lewis & Clark High School, Spokane, Wash. 903; 898 7012
13. Erasmus Hall High School, Brooklyn, N. Y. 810; 853 6574
14. Richmond Hill High School, Richmond Hill, N. Y. 453; 496 4955

**8th Match Missing.**

Davenport High School, Davenport, Iowa. 954 6645  
 Iowa City High School, Iowa City, Iowa. 904 6199  
 Bonita Union High School, La Verne, Calif. 844 5960  
 San Jose High School, San Jose, Calif. 848 5891  
 Red Bluff Union High School, Red Bluff, Calif. 829 5642  
 San Bernardino High School, San Bernardino, Calif. 859 5242  
 Orland Joint Union High School, Orland, Calif. 785 5045

**7th and 8th Matches Missing.**

Sacramento High School, Sacramento, Calif., 1st Team. 512; 2356  
 Sacramento High School, Sacramento, Calif., 3rd Team. 237 1672

**6th, 7th and 8th Matches Missing.**

Western High School, Washington, D. C. 5th week, 944 4755  
 Dinuba Union High School, Dinuba, Calif. 894 4293

**5th, 6th, 7th and 8th Matches Missing.**

Fresno High School Cadets, Fresno, Calif., 2nd Team, 4th week, 883 3406  
 Fresno High School Cadets, Fresno, Calif., 1st Team 851 3381

**4th, 5th, 6th, 7th and 8th Matches Missing.**

Citrus Union High School Azusa, Calif. 3rd week, 666 1937  
 Eastern High School, Washington, D. C. 936 2776  
 Pomfret School, Pomfret Centre, Conn. 783 2305

**3rd, 4th, 5th, 6th, 7th and 8th Matches Missing.**

South Pasadena High School, Los Angeles, Calif. 1098  
 Boys' High School, Brooklyn, N. Y. 549

**2nd, 3rd, 4th, 5th, 6th, 7th and 8th Matches Missing.**

Fillmore Union High School, Fillmore, Calif. 741  
 Huntington Park Union High School, Los Angeles, Calif. 683  
 Inglewood High School, Inglewood, Calif. 382

**3rd, 6th, 7th and 8th Matches Missing.**  
 Roseville Union High School, Roseville, Calif. 4th week, 769; 5th week, 798.  
 Sacramento High School, 2nd Team, Sacramento, Calif. 142; 361.

**5th, 7th and 8th Matches Missing.**

Lawrenceville School, Lawrenceville, N. J.

**No Matches Reported.**

Eureka High School, Eureka, Calif.  
 San Rafael High School, San Rafael, Calif.  
 Shasta Union High School, Redding, Calif.

**MILITARY UNITS.**

Officers' Rifle Club, Camp A. A. Humphreys, Va. 5th week, 959; 6th week, 954; 7th week, 960 6661

**5th, 6th, 7th and 8th Matches Missing.**

Service Rifle Club, Camp A. A. Humphreys, Va., 2nd Team 2519

**3rd, 4th, 5th, 6th, 7th and 8th Matches Missing.**

Service Rifle Club, Camp A. A. Humphreys, Va., 1st Team 1128

**HOLDING THE RIFLE**

By Captain W. H. Richard

**M**ETHODS of instruction as to the proper way to hold a rifle in learning to shoot are as varied and numerous as the number of instructors engaged in the work.

Try some of these suggestions:—In the off-hand position:—Take your stand with weight straight downward—Balance so you will not have to hold yourself upright by muscular exertion. Raise the piece with your left arm, hand either extended or in close, but with wrist and hand in straight line. If you bend the hand backward at the wrist you have taut muscles that will soon cause the whole arm to tremble. Do not grip the rifle too tightly with either hand—a slight backward pressure with left hand will do. There is absolutely nothing to be gained except unsteadiness in jamming the piece hard against the shoulder. You may not agree with the following statement at first hand but it is true nevertheless, that:—

Tensed and constricted muscles blacken and bruise more easily than relaxed ones. That tensed muscles are always anticipating the worst and get it. That if you analyze that bad flinch which all of us pull off at times, it will be laid up against tensed muscles that beat us to the nice, smooth pull we were going to let off. Finally, that, while no man in the offhand position can hold a rifle absolutely still, we can so equalize the weight and muscular effort required to much improve our shooting and that the line of least effort upon our part is the proper method for us to use.

In the prone position, with rifles equipped with sling, position work becomes almost purely a mechanical proposition, in which one's main muscular occupation is that of the trigger finger from the second joint outward. By this is meant that the left forearm becomes a fulcrum or rest which takes up most of the recoil. The weight of the head upon the comb of the stock is the force that holds the rifle in place while aiming so that, while absolutely muscle, relaxed, the piece is hung upon its line with the target rather than held so.

It is a fact also that the principles that go toward perfection in prone holding by the aid of the gun sling apply while shooting prone without the use of the sling. That is, straight lines bound by weight insured first, last and all the time by muscle relaxation while aiming and pulling trigger is the line of least effort. To be an expert in any line, be it shooting, dancing, fancy skating—anything you choose, might well be defined as direct action along the line of least resistance.



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# Loads And Re-loads

*In this column, conducted by Capt. Townsend Whelen, will be answered inquiries pertaining to target and hunting small arms, hunting licenses, game guides, and kindred subjects. An effort will be made to reply to inquiries direct by mail before the appearance in this column of the answer. This service is free to all, whether the inquirer is a subscriber to Arms and the Man or not. All questions are answered at length by mail. Those portions of general interest are published here.*

WHAT revolver is best for all-around use on hunting trips, bearing in mind relative accuracy and killing power, in shooting game if necessary?

R. R. P., New York City.

Answer: The most accurate revolvers are the Colt, and Smith & Wesson, using the .38 Smith & Wesson Special cartridge. The cartridge is plenty strong enough to stop any of the game you speak of except bear. No revolver is powerful enough for bear, and bear are so scarce in the country that you are going into, and so afraid of man, that I would not advise your getting a more powerful revolver on their account, which would not be nearly as good as one using the above cartridge for all your other purposes. The two best revolvers for this cartridge are the Colt Officers Model, and the Smith & Wesson with square butt and target sights. Of these two, the Smith & Wesson is considerably better for a man having a small hand. Otherwise there is practically no choice between the two. I use both of them myself, and do not know which I really prefer. They are the best revolvers made. By all means get them with adjustable target sights. With any other revolvers you are hopelessly handicapped in target shooting against men using either of these revolvers.

WHERE can I obtain a barrel for a Krag Carbine? From John Lynn's article in the February 1 number, I thought I might be able to get one from Bannerman, but am informed that they have no more.

R. B., Petersburg, N. Y.

Answer: The only place I know where you can obtain such a barrel is from the Winchester Repeating Arms Company, New Haven, Conn. They make a specialty of furnishing fine target barrels for the Krag rifle. I believe that they can make it any weight and length within reason that you wish. They will turn you out a very superior barrel. I have one of their barrels on my Krag rifle, 26 inches long, of the same weight and outside diameter as the barrel regularly furnished for the Winchester Model 1895, .30-40 rifle. This size of barrel at the breech conforms excellently to the size and dimensions of the receiver, and makes a most satisfactory combination. My Krag has been remodelled into a sporting model, and has no handguard. The barrel is one of the most accurate that I own.

WILL .32 Colt New Police cartridges work all right in a .32 S. & W. Target Revolver? Wouldn't the former be a better cartridge to use on small game (on the trap line) than the latter, on account of the blunt nose, and consequently greater shocking power. Is "Bullseye" smokeless powder a good revolver powder for re-loading? What I mean is, would it be safe to use this powder when the revolver would be shot in the morning on an all day's trip and not cleaned out until evening. Have been using Semi-smokeless powder in this way

without any harm, but cannot obtain any more of it locally.

E. A. A., Hyderville, Vt.

Answer: The .32 Colt New Police cartridge will work satisfactorily in the .32 Smith & Wesson target revolver. The Colt cartridge has a little more destructive effect on animal tissue, due to the blunt nose; but it seems to me that usually on the trap line you wish to avoid destructive effect on account of the pelt.

Bull's Eye powder is a very satisfactory powder for reloading. There will be no deterioration in your revolver provided it is cleaned the night of the day on which it was fired with any good powder solvent.

I desire to obtain a pair of scales sufficiently accurate to weigh reloading charges. Where may they be obtained?

E. E. B. Altoona, Pa.

Answer: Such scales as you wish may be obtained from the Bond Machine Co., Wilmington, Del., who are manufacturing a highly satisfactory line of reloading tools.

THE Manito Rifle Club members of Spokane, Washington, have ordered new Springfield rifles which are now coming along. They seem to be new 1918 barrels with re-finished parts; some have checked butt plates and trigger guards. Some have very fine barrels, but others are not so satisfactory. As a whole, they make us think more of our old rifles. What we wish to know is. Are these all the N. R. A. can procure at present? Would a life membership put us in any better shape than our annual membership? At the close of the Shoot at Camp Perry a year ago selected rifles were sold. Was not East this year but have been told by one of the team that such was the case at Caldwell. Any chance of getting one of these? How is a man limited under the present rules as to purchasing rifles or barrels?

J. C. L., Spokane, Wash.

Answer: Every effort has been made here to get satisfactory Springfield rifles into the hands of members of the National Rifle Association. The Ordnance Dept. has had selected rifles set aside for this purpose, and only these rifles are sold to N.R.A. members. There has been some little complaint about N.R.A. members getting poor rifles, but on the whole I think that they are now getting excellent ones. It is my opinion that the post war rifles are superior to the prewar rifles. Life membership would not put you in any better shape for getting a good rifle than annual membership. All are treated alike. The only thing we can do is to bring all these cases to the attention of the Ordnance Department, and I might say that they are co-operating with us in every way possible towards issuing only selected rifles to members of the N.R.A.

I understand that a member of the National Rifle Association is entitled to purchase one

rifle for his own use, and also to have repairs made on that rifle at any time or to purchase new barrels for it as they wear out.

I AM contemplating making some bullets on a screw machine for the .30, 06 cartridge and would like to ask if you could tell me the most satisfactory material to use.

Do you think I could find a market for them if made in large quantities?

T. R. G., Williamsport, Pa.

Answer: I am in receipt of your letter relative to material for use in making bullets on screw machines. The most satisfactory metal is that used in the manufacture of the 8 mm. Lebel bullet. I believe that the Western Cartridge Company made their bullets of this calibre on screw machines during the war.

This metal is known as "Gilding Metal," and is a composition of 90% copper and 10% zinc. It can be obtained from the Marlboro Metal Works, Marlboro, Mass. Address your inquiry attention Mr. Moineau. I believe that this metal comes in rods about 10 to 12 feet long, of a suitable size for turning down to 8 mm, which is close enough to .308-inch (.30 calibre) for your use.

I have no idea whatever about the market for these bullets. I imagine that a market would have to be created, after a rather extensive test to prove accuracy and lack of wear or other trouble with the bore. The demand would be almost entirely from target shots and experimenters, as such a bullet is not suited for game shooting. Except that there might develop a considerable demand from hunters for such a bullet in about a 150 grain weight, for use with a charge of about 18 grains of Du Pont No. 80 powder, for a small game charge. If such a bullet will shoot accurately at a low velocity, and will not injure the bore in any respect, it should prove a fine bullet for small game, as it will not deform or upset, and hence will not mangle small game or ruin the fur.

Personally I do not believe that such bullets will injure the rifle a particle, and I rather look to see some remarkable accuracy attending their use, provided that they are correctly and uniformly made.

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## Shooting News

(Concluded from page 14)

ORDERS accomplishing the retirement of various arms now considered obsolete, have been drawn by the War Department. The official announcement of this action reads:

The Secretary of War has directed that caliber .22 gallery practice cartridges will be used by the National Guard troops and by the Reserve Officers Training Corps. Model 1898 caliber .30 cartridges, caliber .45 cartridges, caliber .303 cartridges, and caliber 8 mm. cartridges are declared obsolete. All Ross rifles are declared obsolete. All calibre .303 machine guns on hand are declared obsolete. Such arms as are declared obsolete will be replaced in the Air Service by Browning guns. The Hotchkiss machine guns are declared obsolete and where in service will be replaced by Browning guns. The Inspector General will formally condemn the above arms and ammunition, which will be disposed of in accordance with the law.


Calibre .22 rifles will be issued to R. O. T. C. units for gallery practice. It is estimated that 1,500 additional rifles, either model 1903 or Winchester calibre .22, will be needed during the year 1920, all of which are now on hand ready to issue. The annual allowance of calibre .22 ammunition for each R. O. T. C. student and for each officer and enlisted man of the National Guard will be 200 rounds, making a total for the year of approximately 44,000,000 rounds now on hand.

The War Department has decided to issue to R. O. T. C. units certain gallery practice ammunition, calibre .30 (loaded cartridges) on a basis of 200 rounds per student annually for instruction in Course C which will be prescribed in "Rifle Marksmanship" on 100-yard outdoor ranges at those institutions where ball cartridges cannot be safely used. This ammunition will not be used for gallery practice in lieu of calibre .22 gallery practice ammunition. It is estimated that a total of approximately 2,000,000 rounds of gallery practice cartridges calibre .30 will be required during the year 1920.

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## WANTS AND FOR SALE

Each subscriber to ARMS AND THE MAN is entitled when his subscription is paid up for one year, to one free insertion of a half-inch want ad in this column.

All he needs to do is to send in the advertisement for insertion at the same time calling attention to the date when his subscription was paid.

OLD-TIME and modern firearms bought, sold and exchanged. Kentucky flint-lock rifles, old-time pistols, revolvers, guns, swords, powder horns, etc. Lists free. Stephen Van Rensselaer, 805 Madison Avenue, New York City.

WANTED—A 4-gauge single barrel shot gun; an 8-bore double barrel. Prefer hammerless b. l., weighing 13 to 20 lbs. Also Bullard 22 cal. single shot rifle. James N. Sterling, 119 Galena ave., Dixon, Ill.

WANTED—.22 rifle with telescope, for match shooting. Must be in excellent condition. H. J. Greene, 25 Brattle St., Worcester, Mass.

WANTED—5A Winchester telescope .22 long rifle Winchester musket. Up to 2000 gas checks for Ideal bullet No. 308334. S. N. Keefer, 5938 Cobbs Creek Parkway, W. Philadelphia, Pa.

FOR SALE—1 Savage Model 1919 Bolt Action .22 L. R. Perfect condition. \$30.00. L. W. Dick, 1135 Bluff st., Dubuque, Iowa.

FOR SALE—Colt .45 calibre Automatic with two extra clips, leather holster, web belt, 50 cartridges. Fired less than 50 shots. A-1 condition. \$22.00. W. D. Voorhees, M.D., 80 Seymour st., Auburn, N. Y.

WANTED—Stevens telescope sight, 12 power, No. 525 or No. 477, in A-1 condition. Describe fully with price first letter. O. C. Anderson, Sunman, Ind.

FOR SALE OR EXCHANGE for .22 Winchester Automatic in perfect condition, a new Sharps hammerless rifle, .45 cal., octagon barrel. In fine condition. I have never fired it. E. B. Gregory, M.D., Reno, Nev.

FOR SALE—6 power Goetz prism binocular, perfect condition, \$35. 3A Kodak, anastigmat Cooke 6.3 lens, compound shutter, \$50. Cash only. L. A. Waters, 122 East Washington st., Syracuse, N. Y.

FOR SALE—Firing Pin for 1903 Springfield fitted with new Lyman sight, No. 52A, \$5.00. Three draw telescope, never used, \$5.00 (cost \$6.00). Krag carbine, OK condition inside and out and 60 rounds ammunition, to N.R.A. members, \$7.50. Order through Secretary. Clayton H. Waite, Box 588, Springfield, Vt.

FOR SALE—Absolutely brand new Colt's New Service Target revolver, .45 cal. Cost \$60. Will sell for \$45. Postal money order only accepted. R. D. Talmage, East Hampton, N. Y.

GUNSTOCKS and restocking; military rifles fitted with sporting stocks a specialty. C. T. Harner, 117 N. Isabella st., Springfield, Ohio.

FOR SALE—Colt .22 Auto., with Patridge sights, \$30.00; 40-44 S. A. Army Colt, wood grips, loading tool, \$20.00. Both new. P. F. Lahm, 57 E. 15th st., Brooklyn, N. Y.

FOR SALE—Stevens N.R.A. .22 cal. rifle No. 414; fitted with fine target sights, also with Stevens No. 338 telescope. All in first class condition. Barrel perfect. First draft for \$50.00 receives all. A. J. Klumb, Menominee Rifle Club, Menominee, Mich.

WILL EXCHANGE—A model 1917 Enfield—.30 '06 cartridge, in perfect condition for a Ross or short Lee Enfield chambered for .303 British. Tom Garvine, care of Arms and The Man.

FOR SALE—Ross 280 rifle 28" barrel special stock, bead front sight, folding rear leaf sight, Lyman folding (Ross) receiver peep sight, checkered bolt, butt plate and trigger, perfect condition, inside and out, price \$50.00. One B.S.A. .22 long rifle, model 12, 25" barrel, No. 19 combination aperture and blade front sight, No. 8 aperture rear sight, vernier adjustment for elevation and windage, barrel drilled and tapped for Scope Mounts (mounts not included), checkered trigger, fitted with 1906 Springfield sling, price \$35.00, perfect condition inside and out. One '06 Springfield complete, barrel somewhat worn but will make good group yet, Price \$20.00. One .22 Long Rifle Colt Automatic Pistol, two magazines in new condition, price \$30.00. One Savage 250-3000 Lever Action, Folding rear leaf sight, Lyman Folding Tang peep sight, perfect inside and out, price \$35.00. W. G. Hansen, 1009 Yale st., Sacramento, Calif.

WANTED—February 15th and March 1st numbers of ARMS AND THE MAN. \$1.00 for the two. T. W. Hewitt, Charles City P. O., Va.

FOR SALE—Sharps-Borchard rifle 32-38 cal. Remington barrel, very fancy pistol grip stock, checkered, finely finished, perfect condition, bullet mold and everlasting shells. D. V. Ely, 376 Genesee st., Utica, N. Y.

WANTED—Springfield and Krag empties. DuPont No. 16 powder; .30 cal. jacketed bullets, prefer 170 gr. sp. Describe, quote prices to S. Carter, Colliers, West Va.

WANTED—One Stevens telescope, No. 540. W. W. Naramore, 26 Brooklawn Place, Bridgeport, Conn.

WANTED—New or used barrel for a Krag rifle, must be good. Mat Middendorf, R. No. 5, Brookville, Ind.

FOR SALE—1 1914 Colt machine gun, factory condition. S. E. Haines, 1023 Filbert st., Philadelphia, Pa.

## CIVILIAN CLUBS.

These Clubs have been admitted to membership in the National Rifle Association of America:

## ARIZONA.

Pearce Rifle Club, Pearce, Arizona; Percy W. Wilson, Sec'y; Pearce Ariz.; Ernest J. Renaud, Pres.; E. B. Monmonier, Vice-Pres.; J. F. Murphy, Treas.; W. D. Monmonier, Jr., Exec. Officer. 18 members.

## COLORADO.

Holly Rifle Club, Holly, Colorado; C. E. Fortney, Sec'y, Holly, Colo.; W. S. Partridge, Pres.; L. M. Appel, Vice-Pres.; K. A. Shanner, Treas.; C. F. Hampton, Exec. Officer. 50 members.

## DISTRICT OF COLUMBIA.

Oxon Hill Rifle Club, care of General Staff, Washington, D. C.; C. W. Sands, Sec'y, Washington Barracks, Washington, D. C.; W. E. Fletcher, Pres.; J. J. Jordan, Vice-Pres.; A. L. Calcutt, Treasurer; E. A. Strachan, Exec. Officer. 16 members.

## KANSAS.

Woodston Rifle Club, Woodston, Kansas; H. L. Triplett, Sec'y; Woodston, Kan.; W. J. Morrissey, Pres.; E. C. Parmer, Vice-Pres.; P. D. Scott, Treas.; L. M. Dunn, Exec. Officer. 21 members.

## MICHIGAN.

Du Pont Rifle Club, Flint Michigan; M. W. McGrew, Sec'y, Dupont Engineering Co., Flint, Mich.; I. G. Hershey, Pres.; W. D. Abbott, Vice-Pres.; R. S. Hummel, Treas.; J. W. Miller, Exec. Officer. 28 members.

## MINNESOTA.

Martinson Pistol Club, Hennepin County, Minnesota; U. T. Martinson, Sec'y, Sheriff's Office, Hennepin Co., Minn., Oscar Martinson, Pres.; W. C. Frest, Vice-Pres.; Wm. Campbell, Treas.; E. A. Munson, Exec. Officer. 67 Members.

## MONTANA.

Yellowstone Rifle Club, Billings, Montana; Homer L. Guiler, Sec'y, 208 Alderson St., Billings, Mont.; Richard Throssel, Pres.; A. H. Mercier, Vice-Pres.; J. MacKenzie, Treas.; Clark Wright, Exec. Officer. 102 members.

## NEW MEXICO.

Burro Mountain Rifle & Pistol Club, Tyrone, New Mexico; Alex. B. Knox, Sec'y, Tyrone, New Mexico; E. M. Sawyer, Pres.; G. E. Cripler, Vice-Pres.; A. D. Edwards, Treas.; F. C. Fawcett, Exec. Officer. 20 members.

## NEW YORK.

Alliance Rifle Club, Brooklyn, N. Y.; Melvin Kaufman, Sec'y., 255 Adelpia Street, Brooklyn, N. Y.; Harry A. Marcus, Pres.; Sidney Oster, Vice-Pres.; Murray Friedman, Treas.; Alex Oster, Exec. Officer. 15 members.

Bald Mountain Rifle Club, Buffalo, N. Y.; C. B. Sprakes, Sec'y., 256 Main Street, Buffalo, N. Y.; A. S. Matthews, Pres.; Geo. Barrows, Vice-Pres.; C. B. Sprakes, Treas.; Geo. Merry, Exec. Officer. 14 members.

## PENNSYLVANIA.

Mifflinburg Rifle Club, Mifflinburg, Pa.; C. E. Kempel, Sec'y., Mifflinburg, Pa.; H. Y. Barger, Pres.; Geo. C. Grove, Vice-Pres.; Ryan C. Sechler, Treas.; C. F. Barber, Exec. Officer. 36 members.

Philadelphia 6th Division Home Defense Reserves Rifle Assn.; Germantown, Philadelphia, Pa.; Maurice D. Wilt, Sec'y., 612 Hortter St., Germantown, Philadelphia, Pa.; George B. Harris, Pres.; Jos. S. Francis, Vice-Pres.; Frank E. Burgess, Treas.; Robert Winters, Exec. Officer. 56 members.

## VERMONT.

Ethan Allen Rifle Club, Burlington, Vt.; E. R. Fellows, Sec'y., 206 East Ave., Burlington, Vt.; S. D. Smith, Pres.; V. L. Scott, Vice-Pres.; M. C. Hutchinson, Treas.; C. P. Ravlin, Exec. Officer. 11 members.

## WASHINGTON.

Bremerton Rifle & Revolver Club, Bremerton, Wash.; J. Brincard, Sec'y., Box 41, Bremerton, Wash.; M. A. Campbell, Pres.; G. A. Carter, Vice-Pres.; C. Jacobson, Treas.; W. W. Anderson, Exec. Officer. 14 members.

## WISCONSIN.

New Holstein Rifle Club, New Holstein, Wis.; F. H. Sternbeck, Sec'y., New Holstein, Wis.; H. C. Thiessen, Pres.; B. F. Arps, Vice-Pres.; Geo. Schmidt, Treas.; Alfred Bosna, Exec. Officer. 15 members.





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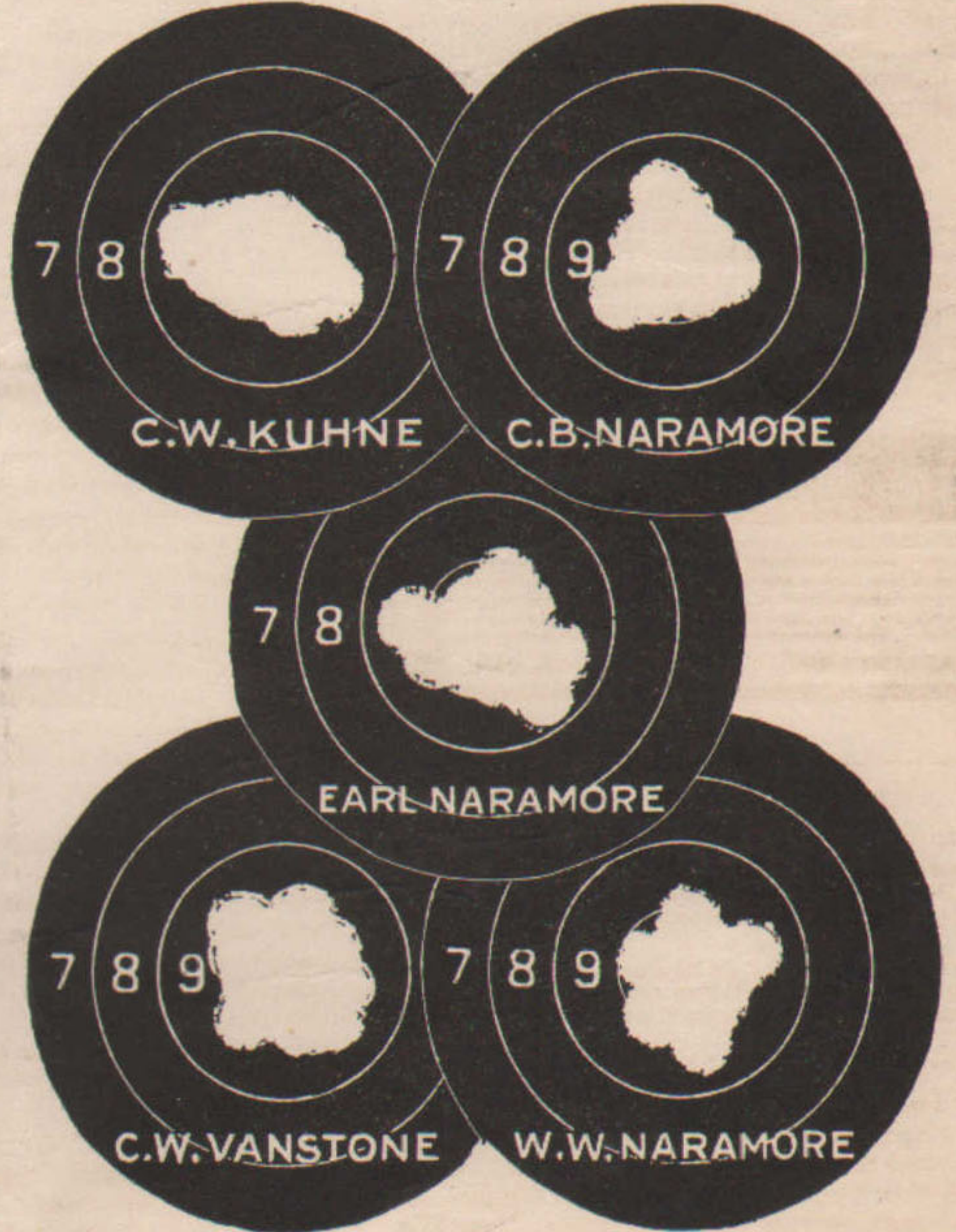
Composite Target

State League Indoor Matches. Official targets of 5th match, 50 shots—5 men—10 shots each.



Composite Target

N.R.A. Civilian Rifle Club Matches. Official targets of 5th match, 100 shots—5 men—20 shots each.



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