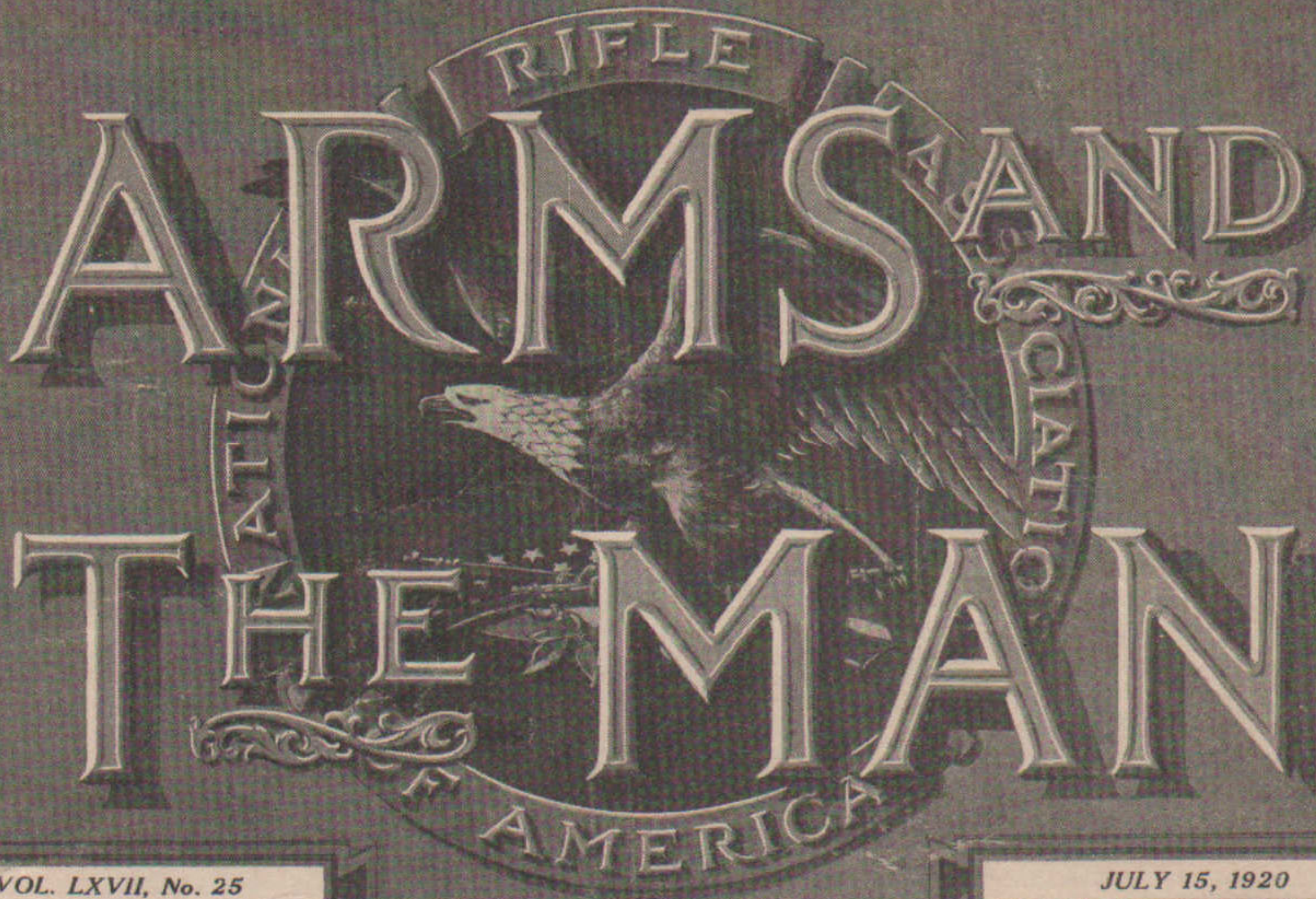


THE AMERICAN RIFLEMAN'S MAGAZINE

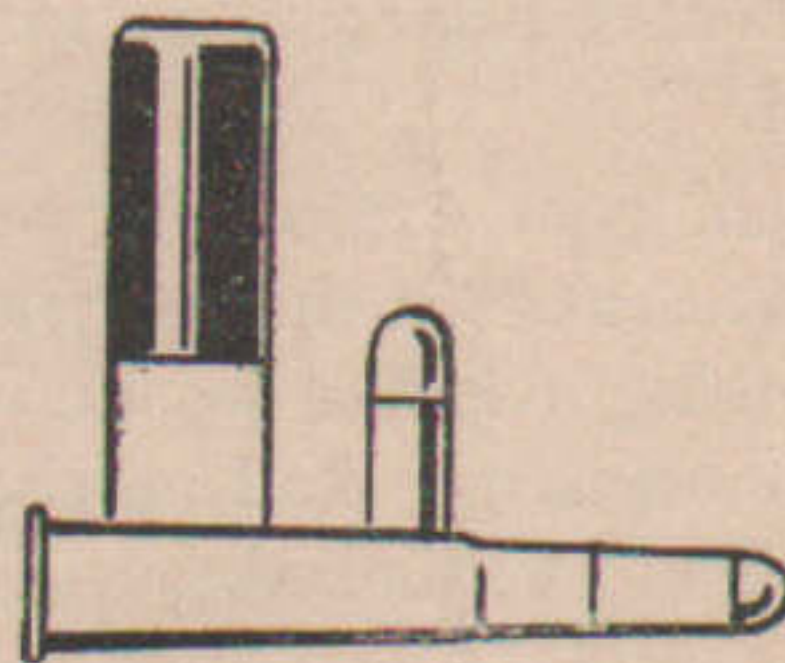


VOL. LXVII, No. 25

JULY 15, 1920



For one hundred and eighteen years Du Pont has meant "the powder" to sportsmen and to the military.



E. I. du Pont de Nemours & Company, Inc.
WILMINGTON, DELAWARE



WINCHESTER

SPORTSMEN'S HEADQUARTERS

Will Help You Plan Your Vacation

WHERE will the best spot be found for your favorite sport when your time off arrives? What fish and game laws govern that locality at that season? What is the best route to take? What is the transportation service? Where can you get the right guide? What is the best equipment for the sport and section you have decided upon?

A hundred and one such questions may come up. Perhaps you are not prepared to answer them off hand.

That's where Winchester Sportsmen's Headquarters comes in. You can save yourself the work and worry of voluminous correspondence by dropping in at Sportsmen's Headquarters if you are around New York, or asking us by mail to give you the information you need.

Let us help you plan your equipment, too. Drop in on your way through New York and get the sportsmen's welcome. You'll be interested in looking over the wonderful exhibit of sporting equipment to be found here. And maybe it will suggest some useful articles you had overlooked.

The latch string is always out here for you.

FIFTH AVE. AT 40TH STREET

NEW YORK CITY





The Official Organ of the National Rifle Association of America

Volume LXVII, No. 25

WASHINGTON, D. C., July 15, 1920

\$3.00 a Year. 15 Cents a Copy

Accuracy Firings With Boat-Tail Bullets and Match Ammunition

By WALLACE L. CLAY

Ordnance Department, U. S. A., (Capt. C. A. C.)

WITH the approach of the National Matches of 1920, many shooters are inquiring as to the type of ammunition which will be furnished, and many are, undoubtedly, wondering what progress has been made in the development of boat-tail bullets.

In regard to the National Match Ammunition for this year, it can be safely said that it will probably surpass any heretofore furnished.

The Ordnance Department of the Army, under which the Small Arms Ammunition Shops at Frankford Arsenal operate, is probably more interested in the National Matches than any other ammunition producing organization. For this reason each year an extensive series of tests are conducted to improve, wherever possible, the quality of service ammunition to be furnished for the Matches.

This year the experiments not only surpassed those of former years, but the scope was extended to include extensive firing tests with many other types of ammunition besides the Service Model of 1906. Accuracy firings were conducted almost daily from January to June with various combinations of bullets weighing from 150 to 180 grains.

In deciding upon the type of ammunition to be used this year, various factors were taken into consideration and carefully weighed before the adoption of the particular type.

An analysis of the firing records, after approximately 100 targets had been fired with each type of bullet, indicated that excellent results could be obtained with several combinations of the 170 grain, flat type, having a muzzle velocity of 2,600 f.p.s. This combination also made a good shooting load which would not tire or injure the shoulder in a day's firing to any greater extent than the Service '06. Bullets weighing between 150 and 170 grains did not give sufficient improvement in ballistics to warrant their adoption, while the 175 and 180 grain types did not allow sufficient pressure margin for loading with pyro powders under service specifications, and did not show any particular advantages over the 170 grain type at any of the ranges up to 700 yards. In other words, the ammunition with 170 grain bullet, 2,600 f.p.s., was considered the best all-around load for the Match firings.

Gilding metal was tried as a substitute for cupro-nickel for bullet jackets. Also various powders were obtained and used in loading this experimental ammunition to determine the ballistic qualities of the same. An analysis of the firing records indicated that there was but a slight difference in the accuracy results with eleven combinations of the 170 grain bullet—the mean figures for mean radii at 600 yards varying from 4.40 to 4.90 inches. The best figures recorded as a result of firing 100 targets, under various conditions, were obtained with the

170 grain bullet with gilding metal jacket—.025 inches in thickness—and a core hardened with lead and tin. Excellent results were obtained with the 170 grain bullet with cupro-nickel jacket and regular 30-1 core, and this bullet was finally selected as the best manufacturing proposition to give consistent results in all rifles. This same bullet was entered by Frankford Arsenal in the competitive shoot, held at Sea Girt, N. J., on May 15th, to determine who would supply the ammunition for the American Olympic Rifle Team. In this shoot the ammunition gave a mean radii of 3.66 inches at 600 yards, 30 targets being fired. The UMC Company, firing a 180 grain bullet with m.v. of 2,575 f.p.s., exceeded the above result by .25-inch only, principally due to the greater wind bucking qualities of their bullet, as the results indicated that their mean of extreme horizontal deviation was one inch less than the Frankford Arsenal 170 grain bullet.

All shooters will agree, however, that vertical deviations are more important than horizontal, and drop shots or high fliers certainly are demoralizing. The Frankford Arsenal 170 grain bullet showed the best results for vertical deviations, the mean of extreme verticals being .50-inch less than obtained with the UMC 180 grain bullet, the next best,

The extreme distance from top to low shot in firing 30 targets with the Frankford Arsenal ammunition during the Olympic competition was only 14.75 inches, or four inches less than any other ammunition submitted.

The above shows the results that can be obtained with the bullet which will be used this year for the National Matches. The test of the National Match ammunition, machine loaded, held at Sea Girt at the same time the Olympic firings were conducted, showed that this ammunition was far better than any heretofore submitted by the Frankford Arsenal.

All ammunition shipped to Camp Perry for the Matches will be loaded with DuPont's No. 17½, which is a new powder of the decopperizing or anti-fouling type. This powder has been under test at Frankford Arsenal for several months and gave very satisfactory results as to uniformity, and far surpasses any powder yet tried to prevent metal fouling.

Shooters can therefore look forward to some wonderful scores at Perry and the old "ammonia dope" bottle can be filled with "home brew" as we anticipate no trouble with metal fouling at these Matches.

As for the boat-tail bullets, a preliminary report just rendered by the writer to the Small Arms Division indicates that approximately fifty or more combinations have been fired for ballistic results with very promising results having been obtained with several types.

If we investigate the different factors which enter into the ballistic efficiency of a bullet we find that its power to overcome the resistance of the air and retain its horizontal component of velocity, is dependent upon the following:

(a) *The ratio of the weight to the cross-sectional area, commonly called "sectional density."* In other words, the heavier the bullet per unit of area exposed to frontal resistance, the more efficient will it be in retaining its velocity. As an example of this, all shooters know that heavier bullets show up better at longer ranges than light ones of the same calibre. It is for this reason that most shooters prefer to use 180-grain bullets for firing at 1,000 yards, instead of our standard 150-grain bullet used in service ammunition.

(b) *The shape of the point.* It can readily be understood that sharpening the point of the bullet will reduce the resistance encountered by reducing retardation, which in turn permits the bullet to retain its velocity the better. The superiority of the sharp point was exemplified when the United States service ammunition was changed from the old round nosed Krag to the present Model 1906 pointed bullet of the spitzer type. There is a limit, however, to the sharpening of the point for a given length and calibre of bullet, for if it is made too sharp the bullet will have its balance disturbed and will tumble in flight.

(c) *The shape of the base or tail.* All bullets in flight are subjected to a frontal resistance but are also subjected to a drag from the rear. Our experiments have conclusively shown that the boat-tail bullet has considerable less drag than one of the flat-base type, thus enabling it to retain its velocity the better. In fact, experiments have shown that the flat-base bullet of given weight driven at a velocity of 3,000 feet per second can readily be surpassed in ranging qualities by the boat-tail bullet of the same weight fired at a velocity of 2,600 feet per second.

(d) *The oblique presentation of the bullet to the atmosphere as the gyroscopic action of the rotating bullet causes the point to describe small circles about the tangent to the trajectory.* This oblique presentation with its effects causes drift. A strong cross wind will also apparently effect the lateral movement of the bullet. Here the element of time is an important factor—for the longer the wind force acts upon the bullet the greater in proportion will be the deflection. It is for this reason that the boat-tail bullet is less affected than a bullet with a flat base, because for a given range and a given velocity the time of flight of the former is less than the latter, thus decreasing the lateral deviation due to the cross wind.

All of the above factors have been carefully considered in the experimental work on boat-tail ammunition. Bullets of many shapes, varying in weight from 150 to 225 grains, have been fired at different velocities, in rifles having various pitches of rifling, with various chamber pressures, to determine ballistic data.

Frequent use of the heavy barrel in machine rests and the Mann rests was resorted to in order to eliminate variations due to the rifle. Up to April 5th four hundred and seventy-

one targets had been fired with the bullet giving best results, viz: 175 grains with boat-tail about .28-inch long and modified service profile, a mean of mean radii of 5.45-inches being obtained at 600 yards. This shows that the bullet can be made to shoot accurately and an analysis of the firings indicates that even better results are obtained if the chamber pressure is kept low, as 197 targets using DuPont's No. 1013 powder gave a mean of mean radii of 4.76-inches at 600 yards. This powder will only give a chamber pressure of about 39,000 pounds per square inch with the 175 grain boat-tail bullet driven at 2,600 f.p.s.

Experimental firings have shown that the 150-grain flat-based service bullet—2,700 f.p.s.—has practically spent all its energy at 2,700 meters, while the 175-grain boat-tail bullet—2,600 f.p.s.—when fired from a rifle with considerably less angle of departure decisively ricochets at 3,600 meters and strikes a blow at 5,100 meters equal to that of the service bullet at 2,700 meters.

Further experimental work will, undoubtedly, produce a boat-tail bullet which will give quite consistent accuracy, and in every other respect will be far superior to those of the flat-based type.

Camp Perry Sighting Shots

BY E. C. CROSSMAN

TO THE old-timer it hardly seems possible that there is a rifleman in this country who has not at some time or other seen Camp Perry, but the very fact of the six-new-man rule guarantees that at least a third of each team shall be men to whom the green spaces of the great Ohio range are strange spaces.

If you approached Camp Perry from the west, along the shores of Lake Erie, you would first cross the huge Erie Proving Ground of the Ordnance Department of the Army, one of the great undertakings of the war days. When the armistice was signed the proving grounds were well along toward completion, and they were sending big guns in for proof firing.

The Proving Grounds take up miles of the lake shore and include great buildings of steel and glass, shops, barracks, gun emplacements, railroads, and all the unpretty equipment of a great manufacturing plant thrown in.

Then as you step out of the confines of the Proving Grounds you are on the Perry range, in an old apple orchard, and the site of the Small-bore layout. Here, where was the old sniping range during 1918, there rises the 250 foot covering for the long firing point, with out in front the dark wooden butts for the little targets. They include the 50, 100 and 200 yard distances. Back of the firing point is the small bore range house where is the ticket office, statistical outfit, and all. Arms and ammunition people will be permitted to erect tents at the small-bore range for their headquarters, as the outfit is a long way from the center of camp, otherwise Commercial Row, where the arms and ammunition and accessory people have their headquarters.

By the flank of the small-bore range as you walk along you find the end of the thousand yard firing point, with a good road running along just back of the benches for the spectators and firers. Keep in mind that all firing at Perry is done practically north, into the lake, and that a miss is not called a miss, but a "Lake Erie bull."

The butts of the thousand yard range run nearly into the lake, a condition that is also true of the 600 yard butt. One year the lake climbed into the butts during a heavy onshore wind, the lake being a temperamental lake

and rising and falling according to the direction of the wind.

The thousand yard firing point runs into the 800 yard, and this in turn into the 600, the firing point continuous, the butts arranged in echelon.

On the other side of the road back of the firing points run occasional latrines.

The end of the 600 yard firing point finds you at headquarters, where the main road comes in at right angles to the road paralleling the firing point, with the flag pole at the junction, and at the corner of the two roads the old frame building housing the office of the Executive Officer. Down this right angle road runs Commercial Row, and on its right side 150 yards from the corner rises the great two story mess hall, the largest permanent building at Perry. The camp proper is usually put on either side of this Commercial Row, running as far in either direction as the attendance requires, some of it behind the 600 yard point, some of it behind the 200 yard range.

Abandoning Commercial Row, and continuing down along firing point road, we find the 200 yard range with its 50 targets, making with the longer ranges 250 rifle targets in all. Past this rise the concrete butts and firing point of the pistol range with its 15, 25, and 50 yard distances. Here the road curves off to the left and then to the right again, with the pumping plant in the curve. A hundred and fifty yards past the pumping plant and the great iron standpipe rises the handsome clubhouse of the Ohio State Rifle Association, with its wide porches, and its view of the lake on the shore of which it is built.

Lake Erie here makes a big curve, accounting for the fact that you can walk along parallel to its general direction back of the firing points, which shoot toward the lake, and still run into it at the clubhouse.

The trapshooting layout will be put just beyond the pumping plant, and near the clubhouse, and it therefore represents Beersheba if the small-bore range is Dan. In war days there rose a supplementary row of pistol targets on the lake shore near the clubhouse, presided over by Lieut. Jawn Dietz, one of the best pistol shots in this country. It was a

(Continued on page 10)

The American Rifle—A Type

By Captain TOWNSEND WHELEN

(Conclusion.)

THE sights on the typical American rifle require the closest consideration. A fine rifle capable of shooting 2½-inch groups at 100 yards and 5-inch groups at 200 yards should not be handicapped by sights which have large errors of aim, and which cannot be adjusted close enough to bring out the capabilities of the arm and ammunition. First we will dismiss front sights with a few words. The regular ivory and gold bead front sights with small sized beads as made by a number of companies, have proved very satisfactory. The gold bead is usually preferred because it can be blackened by smoking for purely target work without injuring it. Both are equally satisfactory for hunting.

Almost all intelligent riflemen prefer the Lyman type of aperture for the rear sight. It has been found by actual trial with a large number of men of varying degrees of skill that the Lyman type of aperture has less error of aim than the open sight. For fine target shooting a cup disk with a small aperture is provided to be screwed into the large Lyman aperture. The large Lyman aperture should always be as close to the eye as the recoil of the rifle permits. Placed far away from the eye one has a very poor sight which is not in accord with the Lyman principle.

The rear sight should be adjustable for minutes of angle for both elevation and windage. A minute of angle is equivalent to a change in point of impact of one inch for every hundred yards of range, and an adjustment as close as this is absolutely necessary. Different loads will require different adjustment for both elevation and windage. Different ranges also require different adjustment. It is necessary to keep track of all these adjustments, and the adjustments should be capable of being clearly read and recorded.

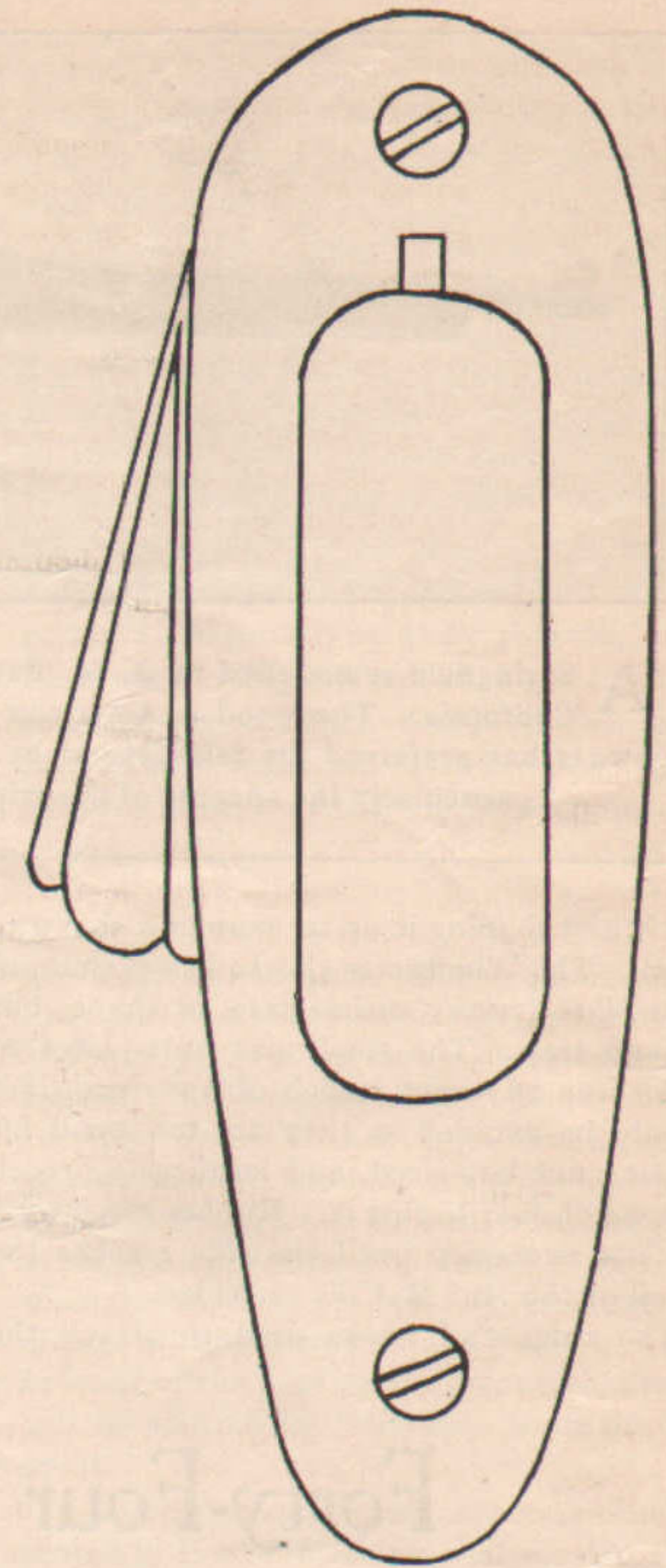
On bolt action rifles the most popular and satisfactory rear sights are the Lyman No. 48 receiver sight, and the Lyman No. 103 bolt head or tang sight. The former has adjustments for minutes of angle, and the latter for half-minutes of angle. The No. 48 sight can be adapted to almost any modern rifle by a gun maker, by making slight modifications in

the base. I have used it on all the Winchester rifles, the Springfield, the Krag, and the Ross, although it is regularly made for the Springfield only. The No. 103 can be secured to the cocking piece or bolt head of any bolt action rifle, or it can be had with a tang base to fit almost all the lever action rifles.

I have had many inquiries as to which of these sight I prefer. On a good bolt action rifle with fairly tight bolt there is no difference at all in the accuracy of the two sights. The No. 103 is usually better for a purely hunting sight because the aperture is brought nearer to the eye, and this facilitates the rapidity of aim, and aim in poor lights, which is a distinct advantage to the hunter. On the other hand it comes so close to the eye that it cannot be used in the regular military prone position without endangering the eye in recoil, and tending to make the shooter flinch. Therefore, for a rifle that is to be used for both hunting and target shooting the Lyman No. 48 is to be preferred.

With a fine rear sight of this type there is absolutely no necessity for a rear sight on the barrel, and such a sight had better be left off the rifle.

The securing of the forearm to the barrel is often quite a problem. It should always be firmly secured, the two tang screws on bolt action rifles not being sufficient for this purpose. The forearm is liable to split, and to warp away from the barrel in time. The best way to secure it is by a small, thin band around the barrel, on the under side of which a lug is secured. A screw passes through the forearm into this lug, or the front sling swivel screw may be used to secure the forearm to the lug. In some cases a lug may be soldered to the under side of the barrel, and the forearm screw made fast to it. It is a bad plan to screw the forearm directly to the barrel, and under no circumstances should a slot be cut in the barrel as slots set up uneven vibrations in the barrel which always interfere with the accuracy. If a band is used around the barrel it should not be very tight, but should be capable of sliding easily on the barrel for an inch or two in either direction so that it will

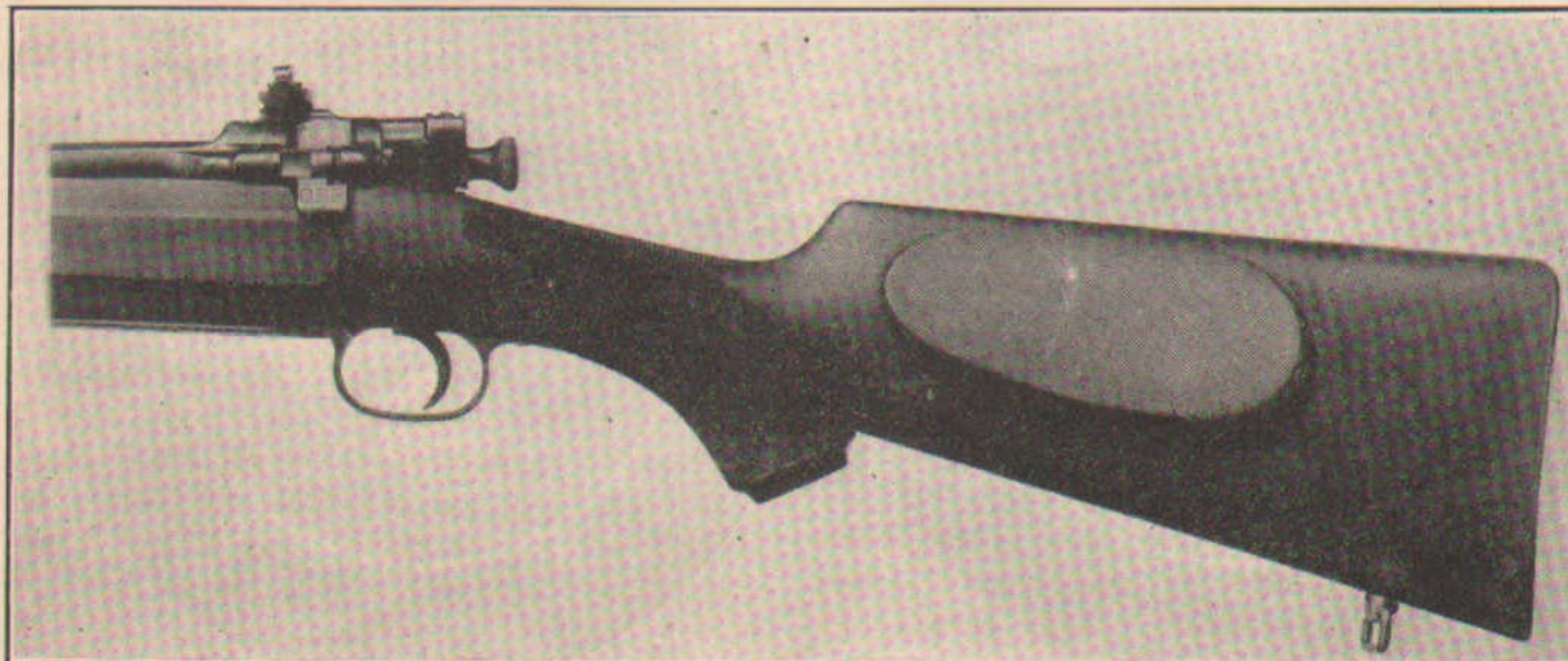


Section of butt stock showing edging of cheek piece

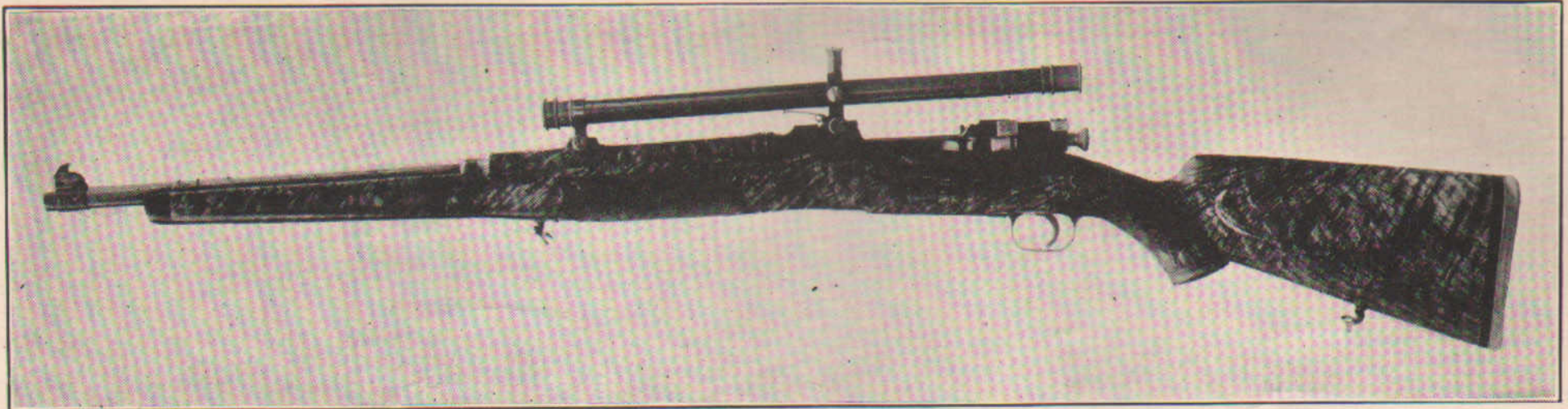
not bind the barrel as the latter expands and lengthens from the heat of firing.

Often a cheek piece on the stock is desired. A cheek piece often makes it easier to catch a quick sight by furnishing a guide which quickly brings the pupil of the eye into the line of aim, and sometimes makes a muzzle heavy rifle balance better. The usual type of cheek piece has a sharp edge which quickly becomes dented and unsightly. My own model of cheek piece has a rounded edge which has a very pleasing appearance, does not become deformed, and is liked by all riflemen who have seen it. It is shown in the accompanying illustration.

A proper butt-plate is quite a problem today. Formerly we used to get fine butt-plates from Germany, but this market is now closed to us. The butt-plate should be of steel, sharply checked to prevent slipping. It should be shotgun shaped, or perhaps just a trifle more curved than our regular shotgun butt. It should have a trap in it, closing by a hinged door, so as to allow access to compartments in the stock in which are kept field cleaner, one-drop oil can, brass bristle brush, flannel cleaning patches, and perhaps a broken shell extractor. It is even possible to include a short jointed cleaning rod. Quite a satisfactory butt-plate can be made from the regular Springfield military butt-plate by heat-



The cheek piece as it appears when finished



A Springfield remodelled by A. M. Pachmayr, 718 Maple Avenue, Los Angeles, California, for Mr. Charles H. Pool of Hollywood, California. The wood is American walnut, and is by far the best figured piece of native wood that we have seen. In this case the owner has preferred the telescope sight and a long forearm. Notice how closely it conforms in other details to the regular type, and particularly the shaping of the grip of the forearm, and pitch of the butt-plate. The workmanship on this rifle is superb.

ing it and shaping it up to more of a shot gun form. The Winchester checked steel shotgun butt-plate is very satisfactory in shape, but has no trap. The small size butt-plates so often seen on recent models of American rifles should be avoided as they are too small for anyone not boy-sized, and localize the recoil instead of distributing it. Rubber recoil pads are not necessary until the rifle reaches the recoil of the .405 W.C.F. cartridge.

The rings and hooks used to attach the

gunsling on the ordinary American rifle are a constant source of annoyance. The sling is always twisted, and often becomes unhooked at the wrong time. The hooks rattle and alarm game. They should not be used. Permanently attached sling swivels can be obtained from the Government as used on the Springfield and Krag rifles, or smaller ones of the screw-in pattern may be obtained from the Stevens Arms Company. By far the best sling swivels are those used as the butt-swivel

on the Winchester Model 1895 musket. These fasten to a base screwed into the stock and forearm, will not twist, are noiseless, and can be instantly removed by pushing in a button.

There are made for a sling about 7-8 inch wide.

The sling should be either of my own type as illustrated and described in "The American Rifle," or of the Kerr type. Both are very satisfactory, the latter being the lighter, but the former usually the stronger and quicker.

Forty-Four Remingtons

By FREDERICK H. MEARS

ANY rifle, shotgun or pistol enthusiast, be he still a moderately fair, or through practice has become an expert, shot with any of these arms, can readily look back over the years to that period of his boyhood when he owned his first firearm. Most any one of us grown-ups find real enjoyment when some little incident of the busy present links him up with the past and open the door for memory to throw on the screen of today some of his earlier exploits. How vividly he recalls, for instance, the pride he took in showing his first *brand new Blue Jacket revolver* to his school cronies, and inviting them one Saturday afternoon to a trip into the country to shoot off a real box of fifty cartridges. His great pleasure came not alone from possession, but as well from the fact that all of the boys admired it and each of those short trousered companions looked wistfully forward to the day when such good fortune would be his.

And as with the boy, so likewise the man, for "men are only boys grown tall; human hearts don't change much after all."

A year or so ago I delved into the history of Single Shot Pistols, and was greatly impressed with a description by Charles Winthrop Sawyer in his book, "United States Single Shot Martial Pistols." Among other arms described is the old .50 calibre Army and Navy Remingtons of the vintage of 1866-1871, the

latter model having the familiar *hump*, or projection on the handle.

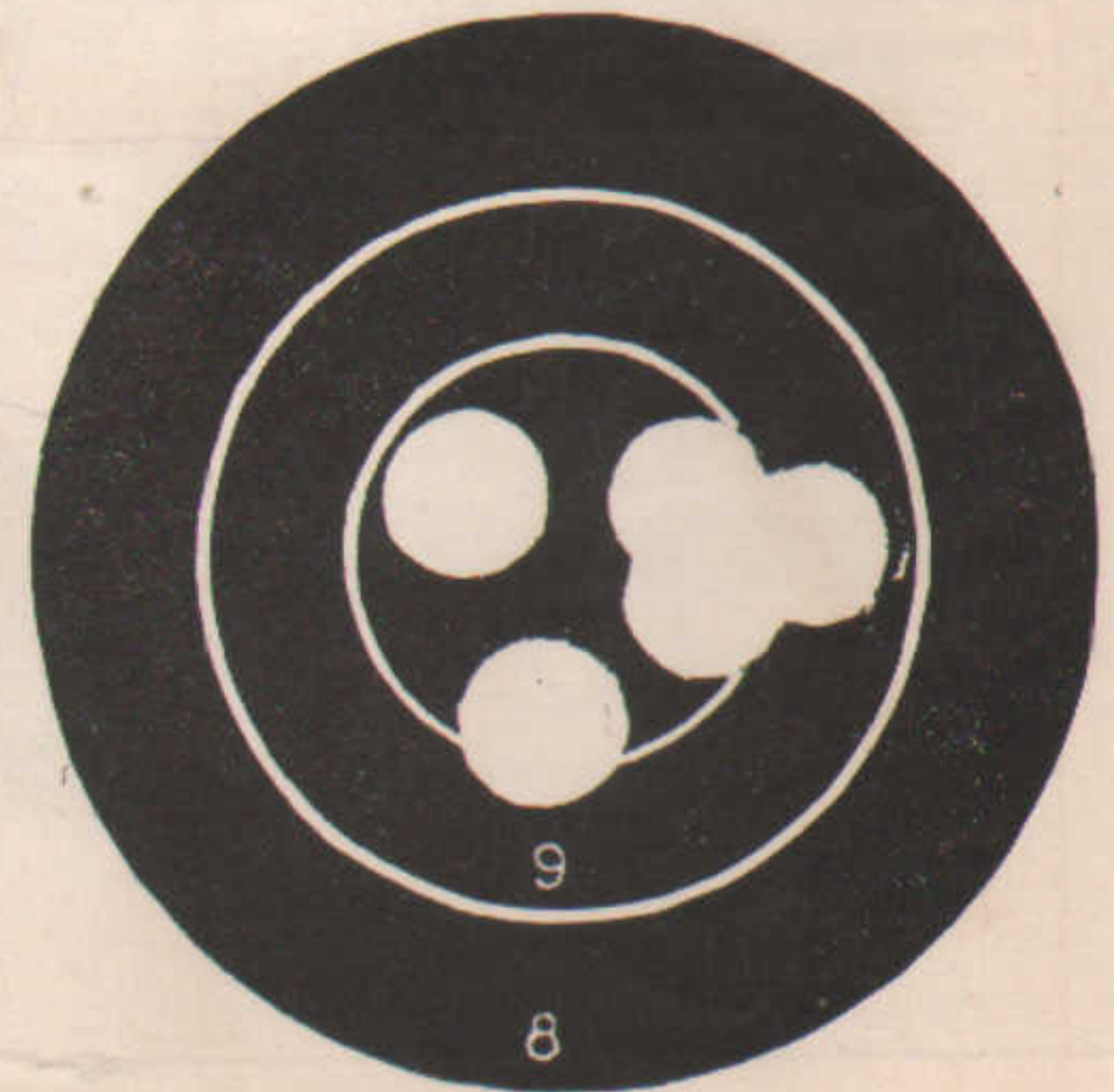
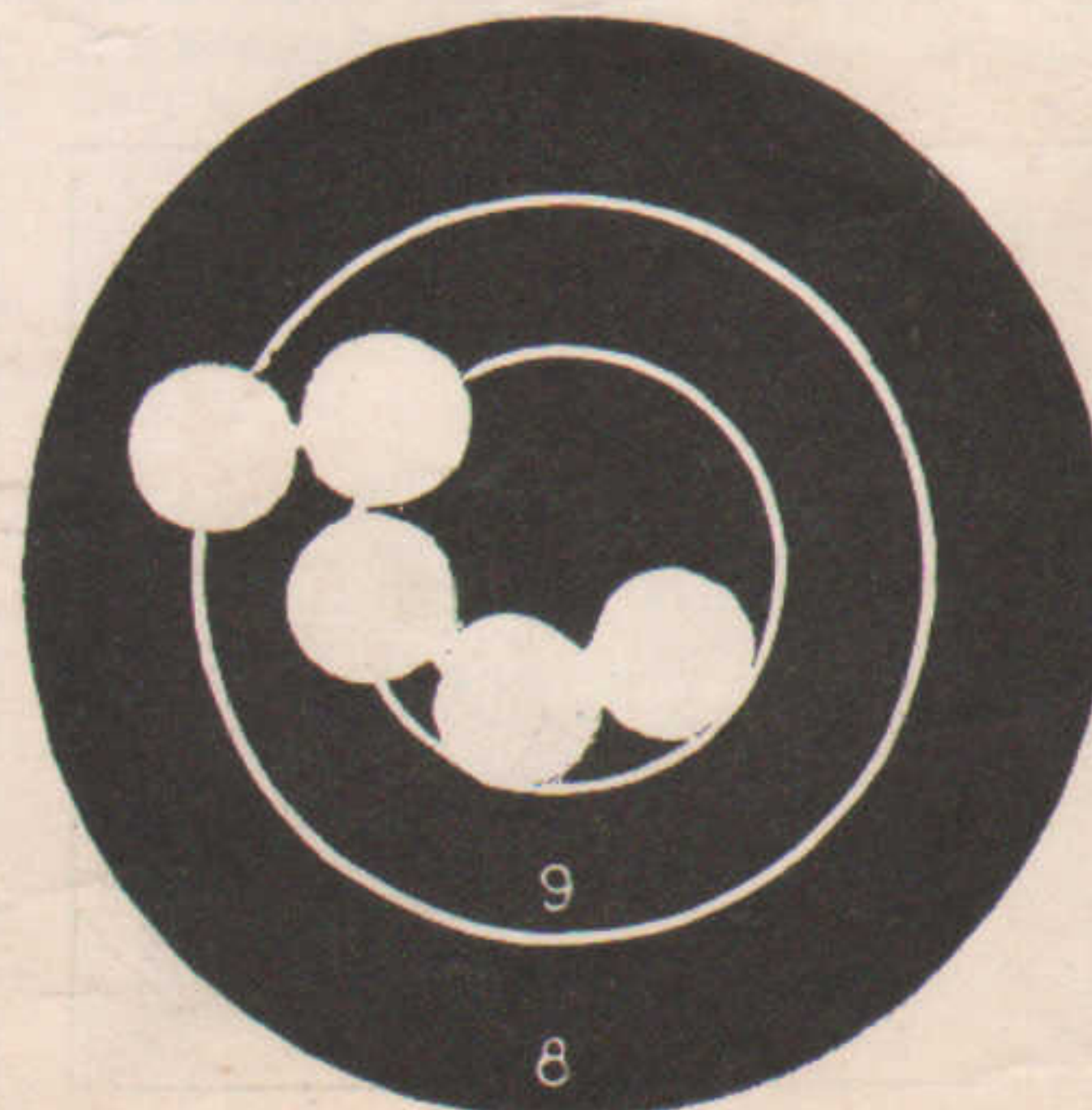
Sawyer in referring to this model says "the Feel is so good that nowadays the frame and handle are much sought by marksmen to fit with a new barrel for use in target practice."

My efforts to obtain one of these old Remingtons of the 1866-1871 pattern was rewarded shortly after placing an advertisement in *Arms and the Man*, and I lost no time in sending it to Mr. Charles H. Barnes, 100 South Fourth Avenue, Ilion, New York, to have it remodeled

to take the world celebrated .44 Smith & Wesson Russian cartridge, still considered by many ballisticians and pistol experts as the ideal cartridge for fine consistent target work.

After a lapse of about three weeks time I received the refinished product from Mr. Barnes, and had it been made specially to order by the most celebrated gunmaker of Europe, I doubt if it would have presented a handsomer or more pleasing appearance.

In place of the old 8-inch barrel on the original, a splendidly tapered round 10-inch barrel, wonderfully colored to a deep black satin finish, was substituted. The old grip and fore-end were replaced by a pair of exquisitely grained Circassian walnut finely checkered in a very neat design; the frame work nicely case hardened with the mottled



effect standing out in strong contrast to the dark blue screw heads, finished flush with frame. A very up-to-date elevating windage rear and inclined broad front sight of the Patridge principle made up the sight equipment, while the main spring had been carefully ground to just that proper tensile strength to permit a slightly-plus fall of the hammer when released by the finely adjusted two and one half pound trigger pull, to detonate the primer.

A machine rest group of five consecutive shots at 60 feet proved that the arm possessed the highest degree of accuracy by placing the five wad cutter bullets in a circle less than three-quarter inches in diameter.

Having possessed a good many types of target and other pistols during the years I have been interested in ballistics, and while paying tribute to many as possessing fine workmanship and accuracy, still I unhesitatingly pronounce this remodeled Remington the superior

of them all in accuracy, balance and appearance.

Mr. Barnes, who by the way, is the official designer and experimental man for the Remington Arms Union Metallic Cartridge Company, and possesses a small laboratory in his own home equipped with the latest scientific instruments which serve the gunmakers art, merits the title of "Master Mind" in his special line of work, which is evidenced by such well-known connoisseurs and collectors of firearms as Messrs. Gustavius D. Pope, I. D. Bolton, Ream C. Looker, Major S. A. S. Hammar, of the Ordnance Department, U.S.A., and I believe Mr. Thomas K. Lee, having within the last year availed themselves of similar products from the work shop of Barnes of Ilion.

In a recent record pistol course at the Detroit Hunt Street Police Station and Training School, where the writer finds his way once a week to assist the *arm of the law* in revolver

instruction, the enclosed targets were recorded and are modestly submitted by him in confirmation of what the .44 Remington-Russians are capable of. The pistol range at this station lacks only a few feet of the standard 60 foot range.

The target load used in this cartridge when the enclosed groups were made, consisted of a 172 grain, sharp shoulder bullet propelled by 3 grains of DuPont No. 3 Pistol Powder, and gave splendid satisfaction. The targets are verified by Lieut. of Police Thomas Frost, an expert revolver shot in charge of the Training School.

To those who desire the finest in a target pistol, I would advise their securing one of these old Remingtons and having it remodeled to shoot the cartridge of their choice, for the cost of such work will be found very reasonable and within the reach of all devotees of the sport.

The Small-Bore and the Telescope

By E. NEWITT

LEST we fail to appreciate the reasons behind this 1920 propaganda which is so strongly advocating small-bore shooting, it may be well to mention right here that its main purpose is to so reduce the expense and difficulty incidental to big-bore shooting as to bring rifle practice of some kind within reach of all.

To realize the whole of the possibilities incidental to the use of an inexpensive cartridge of low energy we must not only use small-bore rifles but shoot them on small-bore ranges in the small-bore way.

Our big-bore shooters of whom will fall the task of inspiring the formation of small-bore clubs and the construction of the small-bore ranges of the future should be prepared to view the problem from a broad standpoint, and to abandon without hesitation any of the traditional features of big-bore shooting where necessary. More especially does this apply to the design of ranges.

The high power and long range of the big-bore almost invariably necessitates a firing line many miles from town, expensive butts equipped with equally expensive mechanism for manipulating large targets, and target tenders to mark.

We shall entirely fail to realize the possibilities of small-bore shooting if we are merely content to perpetuate the big-bore range on a diminutive scale. The low power and short range of the small-bore lend themselves to the construction of ranges quite close to town and usually conveniently accessible to members. Nor are excavated pits, target apparatus, marking discs, target tenders or any of the paraphernalia of the big-bore range either

TOP—The scope and stand folded for transportation.

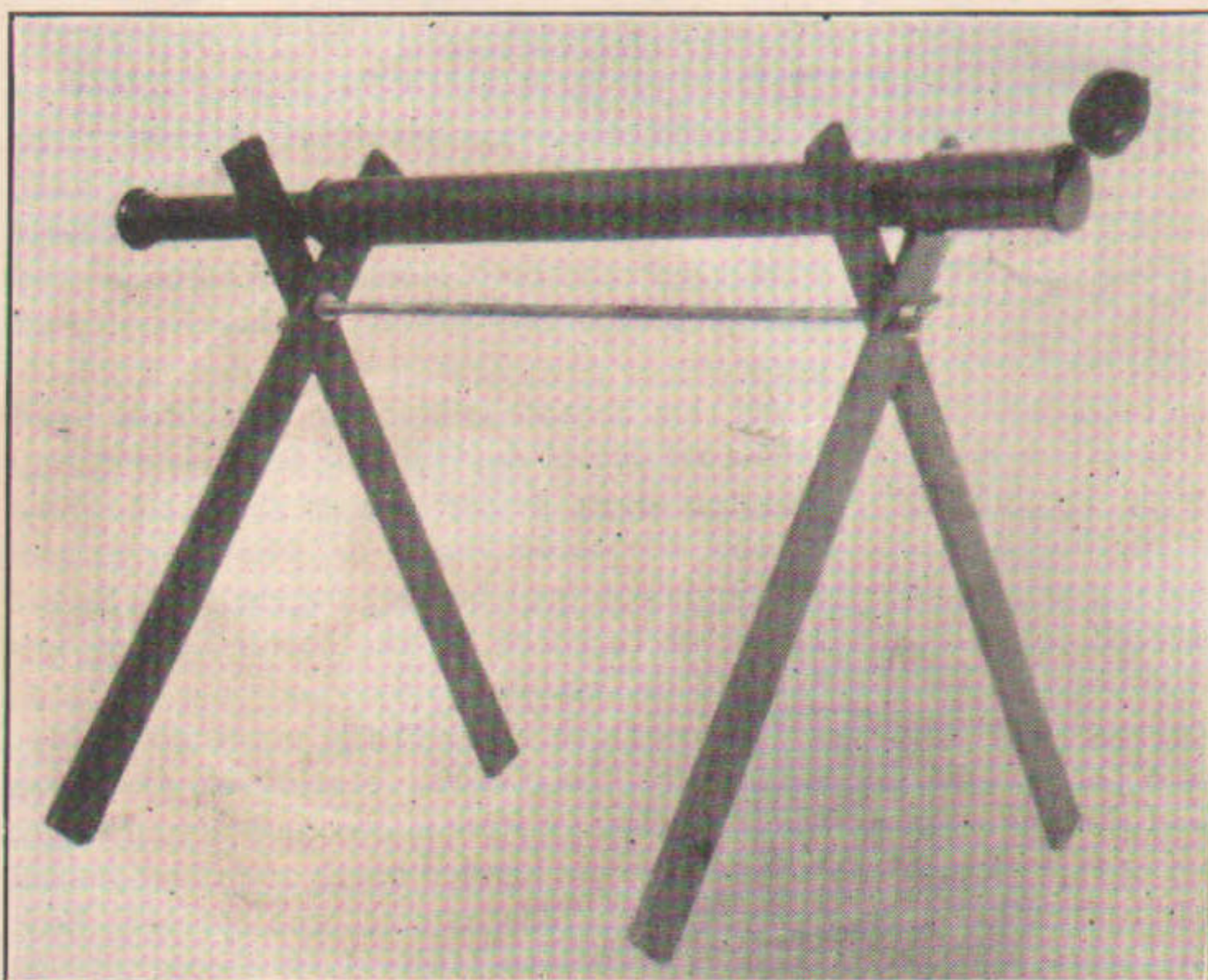
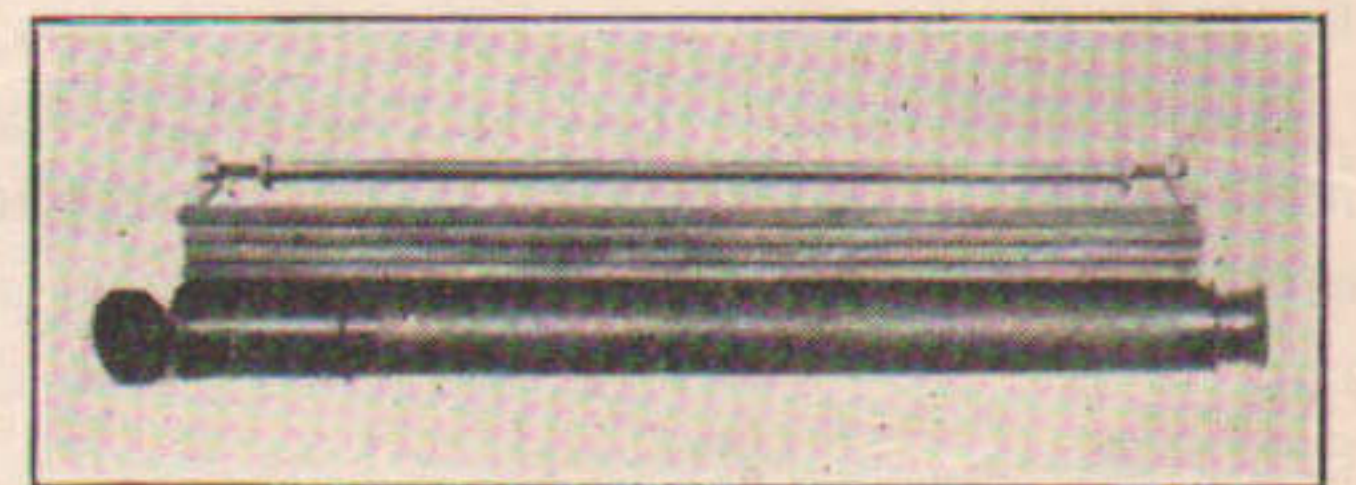
LEFT—Scope on stand.

RIGHT—The scope in use.

necessary or desirable. Most big-bore ranges have pits or earth mantlets for the protection of the target tenders, but nothing to stop the bullets. The ideal small-bore range should be just the reverse of this, there need be no pits or mantlets but the bullets should be stopped by earth or earth and timber butts; and in lieu of target apparatus and target tenders, the separate card target will be used for each string; an abundance of these will be placed in front of the butt at one operation, and hits will be spotted by telescopes from the firing point.

The limit of satisfactory spotting with telescopes in lieu of marking is about 100 yards, though under favorable atmospheric conditions which, alas, are too infrequent, the same tele-

(Concluded 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.

KEEPING THE DEWAR TROPHY

IF ONE can believe in signs, this is an excellent year to beware of a stout florid person with white mutton-chop whiskers, an old-fashioned sort of hat and the Union Jack for a vest.

A British relay team came to Philadelphia in May and there proceeded to run circles around the picked wingfooted persons representing the great American universities.

A green brute of a sloop, carrying as much canvas as one of the old-time clipper ships and only praying for a good stiff breeze is at the present writing lurking in New York Bay, asking only that our yacht *Resolute* come out of the creek and engage in two or three canters with her. The first one has already been taken by the great British entry, due to a mishap to the American boat, but there seems to be no great confidence in what the future races will bring forth.

The sunny and salubrious month of August will see an American team of small-bore riflemen engaged in the laudable endeavor at Camp Perry to put more shots into the center ring of the targets than did the British small-bore rifle team, firing the last of July in their Liverpool matches.

Should the Yankee entrants fail, then the beautiful and impressive Dewar Trophy, now resting in the War Department at Washington, will go into a box, and the box will be addressed

to England, and that will be the last the American riflemen will see of it until they can again get the combination that makes more tens than can the British team.

Only indifference can lose the Dewar Trophy—emblematic of the small-bore rifle team championship of the world—to American riflemen. The fact of the team shoot being held at the end of a small-bore tournament, which is in turn held in conjunction with the National Matches at which the pick of American riflemen attend, gives the American cause an enormous advantage. But, if the American team is not made up of the best shots in this country, who can be secured out of the competitors at Camp Perry this year, then the Dewar Trophy is going to change hands.

The British have not been asleep since their defeat of 1919 at their own pet game of out-door small-bore rifle shooting. They have taken the matter to heart, and if they again lose, it will not be due to their having poor rifles, poor ammunition, or an insufficient number of good shots from whom to select the team.

Too many of our service riflemen affect a lofty air of superiority to the small-bore rifle game, even when there is involved the question of an international championship, the reason being apparently that the little rifle neither kicks nor bellows when it delivers its bullets.

Such top-lofty persons have only to inspect the list of the 40 competitors who remained after the first elimination of last year's tryout, and then to note the skilled and famous riflemen who did not make the team in the final shoot, to realize that making this team requires a skill higher perhaps than they possess.

Every rifleman who has confidence in his ability to hold where most of the alibies of the game are removed before he starts, ought to make a special point of trying to land a place on the American small-bore rifle team of 1920. More is involved than the mere shooting through the small-bore matches.

This year there are no squadded small-bore competitions, the small-bore rifleman can drop in at the range and fire his single entry scores whenever time permits. The prize list, both as regards medals, and special prizes, is more generous than any of the service rifle matches of years past.

Neither lack of time, nor lack of inducement can be pleaded as an excuse this year for failing to try for the American team. There remain available only the two timeworn reasons for such failure—indifference, or lack of confidence in oneself.

Small-Bore Rifles for the Olympic Team

By Captain E. C. CROSSMAN

AND it came to pass at the eleventh hour that the wise men composing the Kumity of the Seventh Olympiad arose and spake, saying among many other things: "And the course for the small-bore team match, and for the individual match likewise shall consist of forty shots *offhand*, and nothing more. Likewise the rifle shall be any rifle that is not cursed with a sight containing glass, and that will shoot a .22 calibre bullet. Truly this course shall please no man, and the

kumity can rest content with its labors."

It is evident that the rest of the Olympic shooting course had so puzzled our astute rifle authorities that this small-bore joker had escaped notice up to the last moment. With a little attention the fact became evident that the man winning it would be a person armed with a heavy single-shot rifle of the Schuetzen type, and that the man essaying to win without this sort of arm in a match open to anything short of mayhem, lacked some sense of

being a half-wit, inasmuch as if he did manage to win he could do it much more emphatically with a rifle more suited to this free-for-all game.

All this became evident to those interested in the arming of the Olympic team, something like ten days before the U. S. S. *Antigone* spliced the main brace or whatever is the nautical term for whistling for the Rush Street bridge and casting off the halter holding her head to the manger.

It was at this stage of the proceedings that persons at the railway station at Quantico reported that an Irish comet had passed them, boarded a train headed north and disappeared from view. This comet was named Jack Dooley, otherwise Major J. J. Dooley, U. S.

M. C. Reserve, on his way to see about rifles for the small-bore contingent of the American Olympic team.

The team already had rifles, small-bore rifles, and good ones, but no more suited for the cut throat offhand of the Antwerpese than an axe is suitable for removing a vermiform appendix.

In the time that it takes a train to run from Quantico, Va., to New York the said Jack Dooley appeared in the anteroom of Larry Hebard, sales manager of the Siamese Twins Arms Co., better known as Savage-Stevens. He waded through five office boys, a door-keeper, a guard, and the keeper of the throne room, and appeared in the Presence all out of breath and with his clothes rumpled.

It is an open secret that Jack has a slight impediment in his speech, about which he is not at all sensitive, but this only occurs when he's not in a hurry to get an idea over.

In something like ten minutes Jack reappeared at the door, waded in inverse order through the obstacles before named, and disappeared down Church street. He didn't have to talk for an hour and submit a brief to get an idea over to Larry Hebard that would aid an American rifle team. Larry was a major in the war.

Not long after, Jack appeared at the plant of the Stevens Arms Co., at Chicopee Falls, just outside of Springfield, pulled the bell out by the roots and then climbed in a handy window to save time. Shortly he found George Lewis, the superintendent of the big works where they make good barrels and well designed actions.

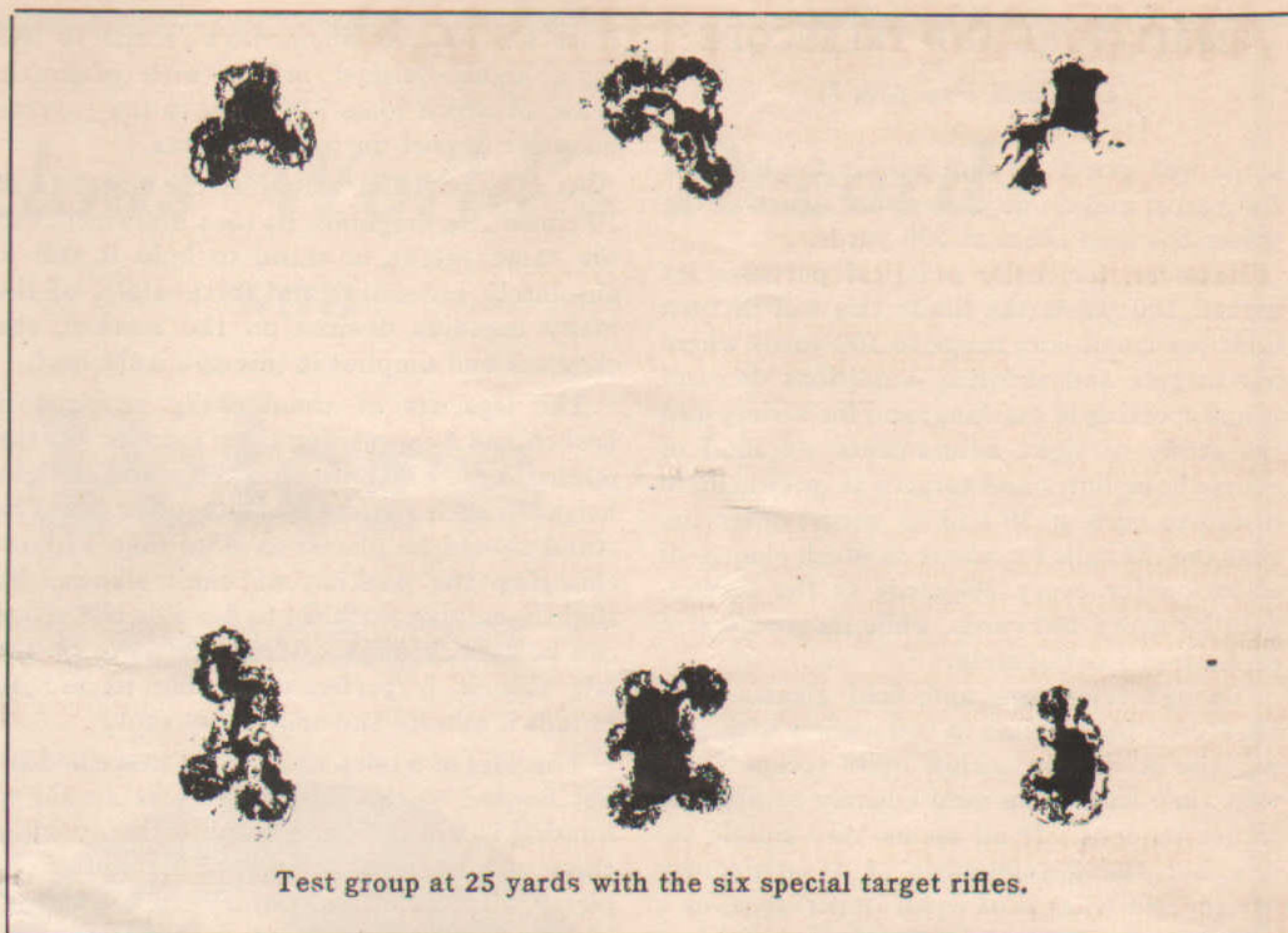
Now at this stage of the game the Stevens Arms Co. didn't have anything in stock but orders and hope. They were twenty-two months behind their orders, and still slipping. An order for a special rifle or any other sort of arm was hung up on the bulletin board as a rich joke, and the man who tried to stop the wheels of progress in that plant would have been taken down and fed to a rifling machine.

Only, Jack had a miracle-performing little piece of paper, and he came in search of the best possible rifles for an American rifle team going abroad to shoot against the pick of the world in open competition.

So, after Jack had poured his tale into the pearly ear of George Lewis, and flashed his magic bit of paper, they proceeded to rearrange that ugly plant that straddles the road from Springfield. They took the water tank off the roof and put it in the basement, they took the drop forging hammers from the basement and put them on the roof. Likewise they put the smokestack on the ground floor and put the front door on the top floor.

All this seems strange, but Jack stated that they turned the plant upside down for him.

This being done, and other things, then they dug up some old bars that had been there from pre-war days, and which were of a thickness suitable to the heavy barrels needed. Also they found a mechanic who'd been there so long that he remembered when Joshua Stevens' pa used to whale him for smoking corn-silk cigarettes, and to this honorable and ancient person they entrusted the task of putting the barrels through the works.



Test group at 25 yards with the six special target rifles.

They put through the bars holes so straight that if they had been continued for a mile, they would not have deviated 1-100 inch from the straight line, and then they reamed these holes and rose-reamed them until they were merely one brilliant flash of light inside.

This done, then they sharpened up some rifling cutters until they had an edge like that of the safety razor blade in the magazine advertisement, than which there is none whicker, as the poet has it, and with these superfine cutters they proceeded to rifle the smooth bored barrels. Oh, boy, some barrels, these—as Jack tells it, and I'm willing to believe him.

All of this time, you'll keep in mind, nothing much else was doing in this works; the order for one gross of Favorites was sidetracked together with the one for three cases good rifles and otherwise for the Ebony Hardware Co., Darkville, Georgia. Gross commercialism was for the once punched in the eye, and told to depart hence—but not too much hence.

After they got the barrels rifled they put in them, chambers so accurately made for the cartridge selected, which happened to be the U. S. N.R.A. of this year's loading, that you couldn't get in a cartridge of another make with a maul or get it out with a stump extractor if you did turn the first trick. Chambering—these rifles ought to have had a new name for what was done to their southern exposures if ordinary rifles are chambered.

Then they put set triggers into the actions, which were hand-stoned and spun for eccentricity and so delicate that they made such crass substances as nitrogen iodide resemble dull paving stones. You might fire said iodide by tickling it with a feather or slamming a door in church in the next block but it was comparatively dull and lifeless compared to these triggers, according to what Jack tells me.

They named each one, and it was so touchy that if you called one Liza when its name was

James, "Bling" she'd go. If other triggers were hair triggers, then these triggers were like the fuzz that grows so thickly on the dome of the well known flea.

With all this done, then they fitted the six heavy rifles with Schuetzen type of stocks, Swiss butt-plate and a pistol grip. For sights they put on an interchangeable globe front, with the Stevens 104 windgauge, vernier peep rear, having the combination six hole cup. The finished rifle weighed 10 pounds, 2 ounces.

After this they shot them, and some of the groups are herewith reproduced. I saw the originals.

After a long series of tests with .22 rifles in machine rest during the past winter, I'm prepared to state with positiveness that rifles shooting groups like these are *some rifles*, which is entirely apart from the fact that they were especially made at much trouble and loss of time and money by a plant already over its head in commercial work.

They also prepared twelve 414 standard Stevens rifles for the team, and shot them also for group.

They picked U. S. N.R.A. ammunition for these rifles for the cold blooded reason that they found it to shoot straighter than anything else on the market. Those persons making rifles and not ammunition, will be found to be brutally frank concerning ammunition for the reason that the reputation of said arms depends as much on the ammunition as upon the care in making the rifle. It is a beautiful fact in nature that putting a crooked cartridge in a straight rifle makes for no accuracy, hence and wherefore naturalists have noted that arms makers without also being ammunition makers, develop early in life a Missouri, not to say surly, disposition as to ammunition, the test being as to whether or not it shoots straight, not as to whether or not it is made by the biggest and noblest factory on earth.

(Concluded on page 18)

SMALL-BORE AND TELESCOPE

(Continued from page 7)

scope will spot a .22 shot hole in the black at 200 yards, and on *very, very rare occasions* the writer has seen them at 500 yards.

However, for really practical purposes let us call 100 yards the limit; this will in turn limit our small-bore range to 100 yards where our targets and shooting conditions demand visual spotting or marking; and for variety and the study of sight adjustments we shall of course have butts and targets at intermediate distances such as 50 and 25 yards; observing that the .22 calls for about as much change of elevation for every 20 yards as the Springfield for every 100 yards, while its groups also expand proportionately.

Though telescopes and field glasses have been used for all time in connection with rifle practise it is only within quite recent years that they have been used entirely to displace target tenders. It all seems very simple today but the development of a satisfactory 'scope, and what is of equal importance, as a satisfactory method of using it, was in fact quite a slow process. In the first place it required a lot of persuasion to convince the shooter that a 'scope costing nearly as much as the rest of his equipment was in fact an economical investment. When, however, it was shown that the cost of excavating pits to accommodate 10 target apparatus, the paraphernalia for protecting them from weather and thieves, was at least 10 times the cost of as many telescopes, while it saved the cost of target tenders, or their equivalent, the labor of members marking for each other, conviction came; moreover shooting is accelerated enormously and one may get at least five times the amount of shooting in the same time.

A good telescope with reasonable care lasts indefinitely and is worth at least 50% of its cost when 10 years old. At the present wage rates the employment of paid target tenders is out of the question, and shooters themselves soon tire of marking for each other that any practical method of dispensing with human marking is preferable.

Contrary to almost universal lay opinion, the most powerful telescope is not the best for spotting. A comparatively low power 'scope x16 or x20 magnification admits more light and will spot hits quite invisible to higher power 'scopes. On very bright days the high power 'scope will spot at longer ranges, and to meet both conditions, 'scopes are sometimes made with what is called a pancratic draw by which the power can be increased at will nearly 100%; incidentally these cost nearly double as much but have not double the general capacity.

A single draw 'scope, with hinged object glass cover, which cannot be mislaid, mounted in a good strong tube, is far preferable to the 3 or 4 draw scope of the "Tourist" type in which the lenses soon get out of axial alignment when exposed to the heat of the sun and the general hard usage unavoidable on the rifle range.

At the moment we are dependent for a supply of 'scopes upon importers and they cost

from \$25 for the single draw 'scope to \$50 for a highly-finished article with pancratic draw, of which some 33% goes to the government for import duty and war tax.

As a 'scope which magnifies the object 16 to 20 times also magnifies its own movements to the same extent, a stand to hold it still is absolutely necessary, and fortunately, of the many ingenious devices on the market, the cheapest and simplest in this case is the best.

The legs are of wood easily replaced if broken and by spreading them more or less the telescope may be brought exactly to the right height. Such a stand costs about \$2.00. The stand should be placed so close that without changing the position of one's elbows, by slightly moving the head to one side the 'scope can be seen through. With the 'scope on the left side it is perfectly feasible to fire 10 rounds a minute and spot every shot.

The uses of a telescope such as described are not limited to the rifle range. As an aid to hunting it will be found useful to many while those who live near the sea, or in some of our picturesque mountain country can always get pleasure in the extended view a telescope enables, and, the draw, when detached by unscrewing, makes a powerful microscope with which any interesting object may be examined.

SIGHTING SHOTS

(Continued from page 4)

cafeteria range, you shot a while, then you went up and looked at your bullet holes and pasted up your own target, and came on back with the squad, either to fire some more or to give way to some other chap. This may be revived this year.

From the small-bore range to the trap-shooting outfit is just fifteen miles. I don't mean to say that it actually measures this to a cold-blooded surveyor and his tape, but that is your impression if you've just finished up on the last target of the 1,000 yard range and have a date on the pistol range in something like fifteen minutes. And if this is the way you feel about it, what good is a surveyor?

As a rule the officers of the range, official guests, etc., are put in tents along the road just past the Executive Building which you'll remember is on the corner. The bulletin board is put out in front of the Executive Building. I have a vivid recollection of an excited Cavalry captain tearing in from the 600 yard butts behind a team of spirited horses in 1913, with the dope on the skirmish run, which showed that U. S. Cavalry had won the team match, and seeing the dope go up on the board. The Hoss soldier doesn't get excited any more, he's getting fat.

Those whose first trip to a National Match was to Caldwell last year, must not get an idea of Perry from the Jersey range. Perry is an old range, and there are no trees anywhere upon it with the exception of a few back of the firing line at 1,000 yards, and a few scattered ones beyond the 200 yard butts. It is a great, open, green, and usually lovely expanse.

OUR weakly health hint: It is not good form to address Lieut. Col. Brookhart as Senator Brookhart, but one may fitly hail him as near-Senator Brookhart. Seems that Smith W. ran for Senator in Iowa, where they raise corn, prohibitionists and railroad ownershipists and ran up a very good vote. But one thing interfered with his taking his seat as a senator—the other chap polled a few more votes.

CAMP Perry is operated this year by the Army, and the flat-foot atmosphere of Caldwell is missing. Wherefore don't go up and ask some soldier for the location of the "head," because he might take you for a Marine

WORD has been received from the British Society of Miniature Rifle Clubs that they will fire their end of the Dewar Match July 31st, at a range near Liverpool during the Liverpool "meeting" which is Britishese for a rifle match. If their rifle shooting papers are to be believed they are out for bear this year, and intend to retrieve the beating of last year. Seems they have not been believers in team work in the small-bore matches. As Newitt tells it, they merely wait until the end of the meet, go up to a chap who'd done fairly well, tag him and say "You're it, you'll shoot on the team at half after one," which he does and the score of this aggregation of total strangers is called a team total. Although Newitt does not admit it, it is apparently bad form for comparative strangers to speak to each other, hence coaching is not done, you know.

VALUABLE pointers in coaching may be picked up from the old-timers. Just for instance. A certain lady who was interested in the rifle shooting game, had been told that one of the finer points of coaching was never to disturb or fuss up in any way the coachee, that it must be spoken to in a soft and soothing voice no matter what happened. Wherefore, firing one day beside the old timers, "Chink Lee," and Denny, old pals, with Lee coaching, she kept out a weather ear for the soft words of encouragement that Lee was to whisper in the rose-like ear of Denny. Presently the poor lady nearly had hysterics when the following bit of coaching, cooed in a voice that shook the firing-point roof, came floating over: Lee to Denny, "CHANGE THAT WIND-GAUGE before I knock your fool brains out!"

Ambitious learners, therefore, will notice that the best rifle shooting persons never speak in disturbing terms to the persons under their coaching.

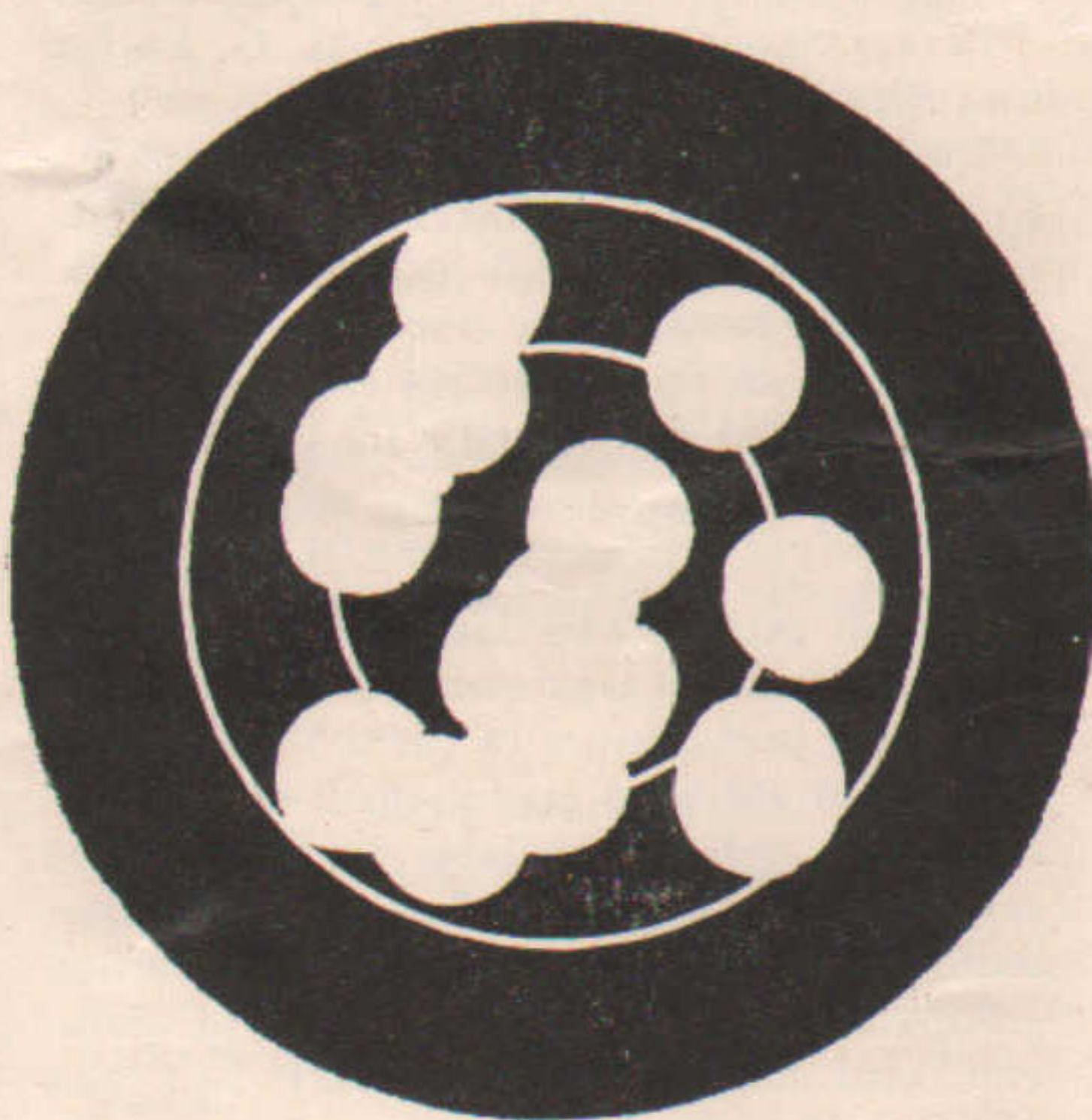
ENDEAVOR is being made to have a supply of .38 calibre ammunition on hand at the National Matches for the use of those affecting this size gun, which is permitted in most of the pistol matches. It is hardly advisable to fire this somewhat ancient ammunition in a serious match but it will do for practice if some can be located and sent to Perry.

A Marvelous World's Record

WITH

Peters

Cartridges



150 x 150

THE FIRST 15 SHOT POSSIBLE

For the first time in the history of the United States Revolver Association a 15 shot possible has been made. The composite target shown above is a reproduction of this World's Record made by T. K. Lee in Match 32 of the recent U. S. R. A. Indoor Team Matches.

But this is only one of the records that he established in this series of matches; he also made *record average* for 33 matches—143-636—25 possible scores of 50—next highest competitor making only 6. Ran 24 consecutive 10's.

Mr. Lee used Peters .44 S. & W. Special Mid-Range Wad Cutter Cartridges.

None of these records have ever been equalled by any other ammunition, and all are records by a wide margin.

THE © BRAND FOR BETTER SHOOTING

THE PETERS CARTRIDGE COMPANY

New York

Cincinnati

San Francisco



MARBLE'S
Cleaning Implements

Make Gun Cleaning EASY

It's no work at all to keep your gun clean and free from rust—use this:

Rifle Cleaner
Removes all lead, rust, powder residuc. Made of softest brass gauze washers on spring wire—won't injure finest rifles. May be attached to all standard rods, 55c. State caliber.

Jointed Rifle Rod
When screwed together it's as solid as a one-piece rod—can't wobble, bend or break. 3 brass sections; 2 steel joints; steel swivel at end; 26, 30 and 34 in. long; \$1.10. State caliber and length.

Nitro Solvent Oil
Keeps guns free from rust—dissolves residue of all powder. 2 oz. bottle, 25c; 6 oz. can, 55c. By mail 10c extra.

If your dealer won't supply you, order by mail. 336

MARBLE ARMS & MFG. CO.
502 Delta Ave., Gladstone, Mich.



THOSE riflemen who are wise in their generation will load up with the National Match ammunition which will be on sale toward the end of the matches at \$3.97 per hundred, lots of 100 or more. This stuff is a compromise between the service 150 and the match 180 grain and is extra fine, with its decopperizing powder, No. 17½ and its fine bullets. The powder is so marked in its effects that a string or so will remove metal fouling already in the rifle. As it will sell for the price of any old ammunition of war vintage, and none will be available after the supply is gone, every man ought to loosen up and buy what he can of it, for special purposes. As a precautionary tip to those who hope to obtain it without the formality of seeing the Ordnance Officer, let it be said that the Executive Officer announces that in the matter of ammunition distribution, Perry will remind you much of Caldwell—in that it will be so different. It is well to keep this in mind, because carelessness might result in withholding of the return fare home.

THE list of the small-bore prizes and donors thereof, to the date of writing is printed herewith:

Lordbury Spoting Telescope; DuPont Powder Co.

The American Rifle, autographed; Captain T. Whelen.

Five Thousand Long Rifle Cartridges; Western Cartridge Co.

Complete set sights for any rifle of .22 cal.; Lyman Gun Sight Corporation.

Ten Thousand Long Rifle Cartridges; Peters Cartridge Co.

Remington .380 Auto Pistol; Remington Arms Co.

Savage N.R.A. Bolt Action .22; Frank Hoppe.

Winchester Bolt Action .22, Model 1919. Junior Trap Shooting Outfit, .41 Bore; Winchester Co.

.250-3,000 Bolt Action Rifle; Savage Arms Corporation.

.22 Colt Automatic Pistol; Colt Patent Firearms Co.

Lordbury Spotting Telescope; U. S. Cartridge Co.

O'Hare Micrometer; P. J. O'Hare.

Order for Adolph Sporting Springfield de luxe, Sterling Silver Cigarette Case; Fred Adolph, Genoa, N. Y.

Marine Corps Shooting Bag. Adventure Magazine, N. Y.

\$250 in cash limited to users of B.S.A. rifles; Birmingham Small Arms Co.

\$30 in cash to users of Kerr gun slings. 23 Kerr gun slings, open to anybody; Manufacturing & Sales Corporation. (Makers of Kerr slings.)

Two subscriptions; Outer's Book, Chicago. Parker Shooting Specialties; A. G. Parker Co., Birmingham.

Two quarts of "Solvol"; Basil Middleton, \$5 in merchandise; Marble Arms Corporation.

Two sets of King sights for any rifle; D. W. King, San Francisco.

All of these things are for the tyro alone; the hard boiled shot can fight for the cash and medals.

THOSE persons who don't believe that the old-timer can ever come back, ought to watch the performance of the old Remington single shot .22 fixed up for small-bore shooting, which will be available for loan at the small-bore range. One of them, in its preliminary tuning-up trip recently put on two groups at 100 yards under 2 inches in diameter, and hung it on the fancy bolt and Martini rifles also present.

K. K. V. CASEY, "Long Range Casey," is expected home from a visit to his ancestral home in France in time to enter in the Perry matches. K. K. V. says he's coming back this year. So did James Jasper Jeffries. The difference is that Casey will get away with it. Persons idly scanning old N.R.A. year-books, and the programs of the Sea Girt matches will note that for a considerable period of time this Casey person with his little Ouija board, put it all over the zephyrs that blew so many other persons out of the chance to win the Wimbledon and other long distance events.

QUESTION before the house. Is T. K. Lee coming up this year to gobble all the small-bore prizes? Strange to say Lee is eligible under the tyro rule, and all he has to do is come up and shoot his home gait, and take first in everything. It was rumored that T. K. would be on hand for the Olympic pistol tryout, but business interfered. Lee ought to remember, for the sake of his friends who'd like to see his handsome mug again, that when a fellow is a sure loser in the fast shotgun game of a G.A.H., and a sure winner in the rifle game, policy dictates playing the rifle game both ways from the jack.

JIM KEOUGH, with a pick-up gang, built the small-bore range at Camp Perry. Seems that Jim, being one of the oldest shots in the game, and a fine instructor in rifle shooting, was given a fine detail down on the border adding up bales of hay and bossing the building of concrete sidewalks. Probably had the hay and concrete specialist teaching rifle shooting in Jim's place. For the proper adjectives to trim this story, apply to Major Critchfield.

GOOD-LOOKING Virgil Richard, son of Kap W. H. Richard but a good shot, hung up a possible of 100 at 100 yards in an open competition recently, taking down the cup for that event. It is thought that he didn't use a Savage rifle.

TOM SAMWORTH will be statistical officer again this year. Sammy is the Lil' busy bee who buzzes around the range all day—bees have stings in their tails you'll remember—then spends the night getting out the results for the day's shoot. He sleeps before and after the National Matches.

MAJOR MUMMA'S husky son, Morton, Jr., is shooting with one of the service teams at Camp Perry—probably the Infantry—and is putting up good scores. This shows that there is nothing in this inheritance stuff.

Saves Elbow Grease



The big advantage of Pyramid Solvent is that it thoroughly cleans the firearm without wearing out the human arm.

Pyramid Solvent

removes residue of high power smokeless and black powders and loosens metal fouling without the hard work you are accustomed to. Contains no harmful chemical and no moisture.

After Pyramid Solvent, always use 3-in-One Oil to prevent rust and to lubricate.

Pyramid Solvent is for sale by most firearm dealers, 3 ounces in a convenient flat can that fits pocket or shooting kit, 30c per can. If your dealer can't supply you, send 35c and we will send you a can postpaid.

Three-in-One Oil Co.
165 A.K.R. Broadway, New York
C217A



SHOOTING NEWS AND COMMENT

ON a total of 998 points out of 1,000 St. John's Military Academy of Delafield, Wisconsin, won the 1920 Astor Cup Match, with five points to the good over the Washington, D. C., Business High School whose team finished in second place. The scores in this match together with a list of 90 per cent medals are:

Astor Cup Match, 1920.

1. St. John's Military Academy, Delafield, Wis. Geo. Greene, 200; A. H. Lorimer, 200; John Christ, 200; J. S. Biebesheimer, 199; A. V. Purinton, 199..... 998
2. Business High School, Washington, D. C. Gerald Trimble, 199; Edw. R. Hands, 199; Geo. Anadale, 199; Wm. J. Burrows, 199; Harry S. Rosenburg, 197..... 993
3. Crosby High School, Waterbury, Conn. A. W. Schuster, 192; Howard Eilertz, 190; Robin B. Pape, 190; M. Turrell, 189; John N. Doran, 187..... 948
4. Bonita Union High School, La Verne, Calif. Gilbert Yorba, 184; Raymond Soper, 184; Marion Hines, 184; E. Breeding, 184; Perry Morris, 181..... 917
5. Erasmus Hall High School, Brooklyn, N. Y. Britton Boice, 187; F. S. Cawthorne, 186; Raymond Zimmer, 180; Edw. Purins, 178; Chas. Zimmer, 176..... 907
6. Richmond Hill High School, Richmond Hill, N. Y. Joel Skidmore, 183; Fred Small, 182; G. E. Wheeler, 180; A. B. North, 180; Chas. Ohlrogge, 179..... 904
7. St. Paul's School, Concord, N. H. L. W. Francis, Jr., 187; J. L. Lawrence, Jr., 178; Floyd M. Smith, Jr., 175; Wm. S. Martin, 175; R. B. Burnett, 175..... 890

90 per cent Medal Awards in the Astor Cup Match.

- | | |
|--|-----|
| George Greene, St. John's M. A..... | 200 |
| A. H. Lorimer, St. John's M. A..... | 200 |
| John Christ, St. John's M. A..... | 200 |
| George Anadale, Business H. S..... | 199 |
| J. S. Biebesheimer, St. John's M. A..... | 199 |
| Wm. J. Burrows, Business H. S..... | 199 |
| Edward R. Hands, Business H. S..... | 199 |
| A. V. Purinton, St. John's M. A..... | 199 |
| Gerald Trimble, Business H. S..... | 199 |
| H. S. Rosenburg, Business H. S..... | 197 |
| N. W. Whittlesey, St. John's M. A..... | 197 |
| Chas. Sincell, Business H. S..... | 196 |
| Stacey Middleton, Business H. S..... | 195 |
| Louis Wolfe, Business H. S..... | 193 |
| Wilson Stokes, Business H. S..... | 193 |
| A. S. Gamble, St. John's M. A..... | 192 |
| A. W. Schuster, Crosby, H. S..... | 192 |
| John W. Culbertson, St. John's M. A..... | 190 |
| Howard Eilertz, Crosby H. S..... | 190 |
| D. K. Mackillican, St. John's M. A..... | 190 |
| Robin B. Pate, Crosby H. S..... | 190 |
| M. Turrell, Crosby H. S..... | 189 |
| Brinton Boice, Erasmus Hall H. S..... | 187 |
| John M. Duran, Crosby H. S..... | 187 |
| Louis W. Francis, Jr., St. Paul's S..... | 187 |
| F. S. Cawthorne, Erasmus Hall H. S..... | 186 |
| E. Breeding, Bonita Union H. S..... | 184 |
| F. J. Doll, Jr., Crosby H. S..... | 184 |
| E. V. Erbe, Crosby H. S..... | 184 |
| Marion Hines, Bonita Union H. S..... | 184 |
| T. E. Ibberson, St. John's M. A..... | 184 |
| Raymond Soper, Bonita Union H. S..... | 184 |

- | | |
|--|-----|
| Gilbert Yorba, Bonita Union H. S..... | 184 |
| Joel Skidmore, Richmond Hill H. S..... | 183 |
| F. P. Jones, Crosby H. S..... | 182 |
| Fred Small, Richmond Hill H. S..... | 182 |
| Harry Morris, Bonita Union H. S..... | 181 |
| A. B. North, Richmond Hill H. S..... | 180 |
| G. E. Wheeler, Richmond Hill H. S..... | 180 |
| Raymond Zimmer, Erasmus Hall H. S..... | 180 |

WINNERS of the individual matches in the N. R. A. outdoor small-bore series have been announced.

The Long Range Match has been awarded to F. H. Coleman of Saginaw, Michigan, on a score of 97 made at 200 yards on the C-5 target.

The Slow Fire Match at 50 and 100 yards was won by H. D. Wilbur, of Amsterdam, New York, on a score of 395. In this competition only a single entry was allowed and the course of fire called for 20 shots at 50 yards and 20 shots at 100 yards.

The Small-Bore Individual Rapid Fire Match was won by F. E. Bryson of Jacksonville, Florida, on a score of 196. This was also a single entry event, and called for two strings of 10 shots each, time limit 2 minutes for each string, starting with rifle and magazine empty.

The scores of the contestants and their order of standing are:

Long Range Match

In this event special medals were awarded to the high man in each state from which there were five or more entrants. In the Long Range Match these medals were won by J. Ed. Byrd of Jacksonville, Fla., and L. W. Somers of Bangor, Maine.

The first ten are winners of bronze medals.

- | | |
|---|----|
| 1. Coleman, F. H., Saginaw, Mich..... | 97 |
| 2. Wood, Owen L., Santa Fe, N. M..... | 96 |
| 3. Bronwell, A. F., Chicago, Ill..... | 95 |
| 4. Byrd, J. Ed., Jacksonville, Fla..... | 95 |
| 5. Crabb, Edw. L., Shoshoni, Wyo..... | 95 |
| 6. Hull, Edw. R., Milton, Wis..... | 94 |
| 7. Somers, L. W., Bangor, Maine..... | 91 |
| 8. Wilbur, Dr. H. D., Amsterdam, N. Y..... | 91 |
| 9. Land, W. J. G., Chicago, Ill..... | 90 |
| 10. Somers, V. H., Bangor, Maine..... | 90 |
| 11. Trombley, Jos., Saginaw, Mich..... | 90 |
| 12. Lively, T. G., Chicago, Ill..... | 86 |
| 13. McNamee, Wm., Jacksonville, Fla..... | 86 |
| 14. Chapman, H. W., Bangor, Maine..... | 85 |
| 15. Partridge, M. F., Watertown, Mass..... | 85 |
| 16. Graham, C. S., Jacksonville, Fla..... | 84 |
| 17. Turner, John, Chicago, Ill..... | 84 |
| 18. Hill, Norman M., Jacksonville, Fla..... | 81 |
| 19. Schwegler, E., Janesville, Wis..... | 81 |
| 20. Bryson, F. E., Jacksonville, Fla..... | 90 |
| 21. Stokes, W. R., Washington, D. C..... | 79 |
| 22. Bonsey, S. R., Bangor, Maine..... | 78 |
| 23. Sylvester, E. M., Bangor, Maine..... | 75 |

Small-Bore Individual Match.

50 and 100 yards, slow fire.

The first ten are winners of bronze medals.

- | | |
|---|-----|
| 1. Wilbur, H. D., Amsterdam, N. Y..... | 395 |
| 2. Sylvester, E. M., Bangor, Maine..... | 393 |
| 3. Crabb, Edw. L., Shoshoni, Wyo..... | 389 |
| 4. Stokes, W. R., Washington, D. C..... | 386 |
| 5. Wood, Owen L., Santa Fe, N. M..... | 386 |
| 6. Somers, L. W., Bangor, Maine..... | 381 |
| 7. Partridge, M. F., Watertown, Mass..... | 379 |
| 8. Chapman, H. W., Bangor, Maine..... | 376 |

- | | |
|---|-----|
| 9. Bronwell, A. F., Chicago, Ill..... | 375 |
| 10. Bryson, F. E., Jacksonville, Fla..... | 374 |
| 11. Land, W. J. G., Chicago, Ill..... | 374 |
| 12. Somers, V. H., Bangor, Maine..... | 374 |
| 13. Lyman, V. A., Balboa Heights, C. Z..... | 373 |
| 14. Byrd, J. Ed., Jacksonville, Fla..... | 371 |
| 15. Hull, Edw. R., Milton, Wis..... | 370 |
| 16. Graham, C. S., Jacksonville, Fla..... | 368 |
| 17. McNamee, Wm., Jacksonville, Fla..... | 367 |
| 18. Schwegler, E., Janesville, Wis..... | 366 |
| 19. Tam, W., Greenville, Pa..... | 364 |
| 20. Hill, Norman M., Jacksonville, Fla..... | 360 |
| 21. Barker, M. E., Ft. Ward, Wash..... | 350 |
| 22. Fischer, Rudolph, Va Verne, Calif..... | 339 |
| 23. Bonsey, S. R., Bangor, Maine..... | 313 |

The winners of state medals in this competition were F. E. Bryson of Jacksonville, Fla., and E. M. Sylvester of Bangor, Maine.

Small-Bore Individual Match.

50 yards, rapid fire.

The first ten men win bronze medals.

- | | |
|---|-----|
| 1. Bryson, F. E., Jacksonville, Fla..... | 196 |
| 2. Lively, T. G., Chicago, Ill..... | 195 |
| 3. Wood, Owen L., Santa Fe, N. M..... | 194 |
| 4. Chapman, H. W., Bangor, Maine..... | 194 |
| 5. Land, W. J. G., Chicago, Ill..... | 193 |
| 6. Somers, L. W., Bangor, Maine..... | 193 |
| 7. Stokes, W. R., Washington, D. C..... | 191 |
| 8. Wilbur, H. D., Amsterdam, N. Y..... | 189 |
| 9. Byrd, J. Ed., Jacksonville, Fla..... | 188 |
| 10. Graham, C. S., Jacksonville, Fla..... | 186 |
| 11. McNamee, Wm., Jacksonville, Fla..... | 185 |
| 12. Lyman, V. A., Balboa Heights, C. Z..... | 184 |
| 13. Crabb, Edw. L., Shoshoni, Wyo..... | 182 |
| 14. Hill, N. M., Jacksonville, Fla..... | 182 |
| 15. Turner, John, Chicago, Ill..... | 182 |
| 16. Sylvester, E. M., Bangor, Maine..... | 181 |
| 17. Bonsey, S. R., Bangor, Maine..... | 176 |
| 18. Somers, V. H., Bangor, Maine..... | 172 |
| 19. Schwegler, E., Janesville, Wis..... | 164 |

The winners of state medals in this event were F. E. Bryson of Jacksonville, Fla., W. H. Chapman of Bangor, Maine, and V. A. Lyman, Balboa Heights, Canal Zone.

90 per cent Medals.

Individual Matches.

- | | |
|-------------------------------------|------------------------|
| A. F. Bronwell, Chicago, Ill. | 50-100 yard slow fire. |
| Long range. | |
| J. Ed Byrd, Jacksonville, Fla., | 50-100 yard slow fire, |
| 50 yard rapid fire, | Long range. |
| F. E. Bryson, Jacksonville, Fla., | 50-100 yard slow fire, |
| 50 yard rapid fire. | |
| H. W. Chapman, Bangor, Maine., | 50-100 yard slow fire, |
| 50 yard rapid fire. | |
| F. H. Coleman, Saginaw, Mich., | Long range. |
| Ed. L. Crabb, Shoshoni, Wyo., | 50-100 yard slow fire, |
| 50 yard rapid fire, | Long range. |
| C. S. Graham, Jacksonville, Fla., | 50-100 yard slow fire, |
| 50 yard rapid fire. | |
| Norman N. Hill, Milton, Wis., | 50-100 yard slow fire, |
| 50 yard rapid fire. | |
| Ed. R. Hull, Milton, Wis., | 50-100 yard slow fire, |
| Long range. | |
| W. J. G. Land, Chicago, Ill., | 50-100 yard slow fire, |
| 50 yard rapid fire. | Long range. |
| T. G. Lively, Chicago, Ill. | 50 yard rapid fire. |
| V. A. Lyman, Balboa Heights, C. Z., | 50-100 yard slow fire, |
| 50 yard rapid fire. | |
| Wm. McNamee, Jacksonville, Fla., | 50-100 yard slow fire, |
| 50 yard rapid fire. | |

M. F. Partridge, Watertown, Mass.
50-100 yard slow fire.
E. Schwegler, Janesville, Wis.,
50-100 yard slow fire.
L. W. Somers, Bangor, Maine,
50-100 yard rapid fire,
50 yard rapid fire,
Long range.
V. H. Somers, Bangor, Maine,
50-100 yard slow fire,
Long range.
W. R. Stokes, Washington, D. C.,
50-100 yard slow fire,
50 yard rapid fire.
E. M. Sylvester, Bangor, Maine,
50-100 yard slow fire,
50 yard rapid fire.
W. Tam, Greenville, Pa.,
50-100 yard slow fire.
Joseph Trombley, Saginaw, Mich.,
Long range.
John Turner, Chicago, Ill.,
50 yard rapid fire.
H. E. Wilbur, Amsterdam, N. Y.,
50-100 yard slow fire,
50 yard rapid fire,
Long range.
Owen L. Wood, Santa Fe, N. M.,
50-100 yard slow fire,
50 yard rapid fire,
Long range.

THESE competitions comprise the events of the National Rifle Association and the Ohio State Rifle Association programs which will be shot in conjunction with the National Matches of 1920:

Match No. 1.

CATROW CUP MATCH.

When fired: 800 yard stage, 7.30 A. M., August 11. 900 yard stage, 8.30 A. M., August 11. 1,000 yard stage, 7.30 A. M., August 12.
Course of fire: 2 sighting shots, 7 shots for record at each range.
Arm: Any military rifle.
Sights: Any, telescope permitted.
Ammunition: Any.
Target: C.
Prize: Catrow Cup and medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.
Entrance fee: \$1.00.

Match No. 2.

MEMBERS' MATCH.

When fired: 7.30 A. M., August 11.
Course of fire: 2 sighting shots and 10 shots for record at 600 yards.
Arm: Any military rifle.
Sights: Any, telescope permitted.
Ammunition: Any.
Target: B.
Prizes: Medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.
Entrance fee: \$1.00.

Match No. 3.

GOVERNOR'S CUP MATCH.

When fired: 200 yard rapid fire stage, 7.30 A. M., August 12. 600 yard stage, 9.30 A. M., August 12. 1,000 yard stage, 1.00 P. M., August 12.
Course of fire: 200 yard rapid fire, one score of 10 shots, choice of kneeling or sitting from standing, time limit one minute. 600 yard stage, 2 sighting shots and 10 shots for

record. 1,000 yard stage, 2 sighting shots and 10 shots for record.

Arm: As prescribed for the National Matches.

Ammunition: Any.

Targets: 200 yard stage, D. 600 yard stage, B. 1,000 yard stage, C.

Prizes: Governor's Cup and medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.

Entrance fee: \$1.00.

Match No. 4.

LEECH CUP MATCH.

When fired: 800 yard stage, 7.30 A. M., August 13. 900 yard stage, 8.30 A. M., August 13. 1,000 yard stage, 7.30 A. M., August 14.

Course of fire: 2 sighting shots and 7 shots for record at each range.

Arm: Any military rifle.

Sights: Military, no telescope allowed.

Ammunition: Any.

Target: C.

Prizes: Leech Cup and medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.

Entrance fee: \$1.00.

Match No. 5.

THE ADJUTANT GENERAL'S CUP MATCH.

When fired: 900 yard stage, 8.30 A. M., August 13. 1,000 yard stage, 1.00 P. M., August 14.

Course of fire: 2 sighting shots and 10 shots for record at each range.

Arm: Any rifle.

Sights: Any, telescope permitted.

Ammunition: Any.

Target: C.

Prizes: Adjutant General's Cup and medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.

Entrance fee: \$1.00.

Match No. 6.

RAPID FIRE MATCH.

When fired: 7.30 A. M., August 13.
Course of fire: Same as first stage of National Individual Rifle Match.

Conditions: National Match Rules.

Ammunition: Any.

Prizes: Medals (1 gold, 9 bronze, 5 tyro).

Cash as per schedule.

Entrance fee: \$1.00.

Match No. 7.

ENLISTED MEN'S TEAM MATCH.

Open to one team of six enlisted men from each of the following: U. S. Infantry, U. S. Cavalry, U. S. Coast Artillery, U. S. Engineers, U. S. Navy, U. S. Marine Corps, National Guard or Organized Militia of the several states and the District of Columbia. No competitor shall shoot on more than one team.

When fired: 200 yard stage, 7.30 A. M., August 14. 600 yard stage, 8.30 A. M., August 14.

Course of fire: 200 yards, rapid fire, one score of ten shots, kneeling or sitting from standing, time limit one minute. 600 yards, two sighting shots and ten shots for record.

Arm: As prescribed by the National Rifle Matches.

Ammunition: Any.

Target: 200 yard stage, D. 600 yard stage, B.

Prizes: Medals. Cash as per schedule.

Entrance fee: \$6.00 per team.

Match No. 8.

CIVILIAN INTER-CLUB MATCH.

Open to teams of four men from any Civilian Rifle Club affiliated with the N.R.A. Limited to one entry from each club.

When fired: 200 yard stage, 1.00 P. M., August 14. 600 yard stage, 2.00 P. M., August 14.

Course of fire: 200 yards, rapid fire, one score of 10 shots, kneeling or sitting from standing, time limit, one minute per score. 600 yard stage, 2 sighting shots and 10 shots for record.

Arm: Any military rifle.

Sights: Military, no telescope allowed.

Ammunition: Any.

Target: 200 yard stage, D. 600 yard stage, B.

Prizes: Medals. Cash as per schedule.

Entrance fee: \$4.00 per team.

Match No. 9.

MARINE CORPS CUP MATCH.

When fired: 600 yard stage, 7.30 A. M., August 16. 1,000 yard stage, 8.30 A. M., August 16.

Course of fire: 2 sighting shots and 20 shots for record at each range.

Arm: Any military rifle.

Sights: Military, no telescope allowed.

Ammunition: Any.

Target: 600 yard stage, B. 1,000 yard stage, C.

Prizes: Marine Corps Cup and medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.

Entrance fee: \$1.00.

Match No. 10.

CHAMPIONSHIP REGIMENTAL TEAM MATCH.

Open to one team of six men from each of the following: Any regiment of the United States Army, Any regiment of the U. S. Marine Corps, any regiment or separate battalion of the National Guard or Organized Militia of the several states or the District of Columbia, any unit of the R.O.T.C., representing any school, college or university, any vessel of the United States Navy or battalion of the Navy Militia of any State. The United States Military and Naval Academies. The Team Captain of each team must furnish a certificate to the effect that each member of his team is an actual bona fide member of the organization which he represents and that he has been a member of the organization continuously during the three months immediately preceding July 1, 1920.

When fired: 200 yard stage, rapid fire, 3.00 P. M., August 16. 600 yard stage, 4.00 P. M., August 16.

Course of fire: 200 yards, rapid fire, one score of 10 shots, kneeling or sitting from

standing, time limit one minute per score. 600 yards, 2 sighting shots and 10 shots for record.

Arm: As prescribed in National Rifle Matches.

Ammunition: Any.

Target: 200 yard stage, D. 600 yard stage, B.

Prizes: Trophy and medals. Cash as per schedule.

Entrance fee: \$6.00 per team.

Match No. 11.

PORT CLINTON TROPHY MATCH.

Open to one team of six civilians from each state, territory or the District of Columbia. Each member of a team must be a bona fide citizen of the State, Territory or the District of Columbia, which he represents and the team captain must furnish satisfactory evidence of such citizenship.

When fired: 200 yard stage, rapid fire, 3.00 P. M., August 16. 600 yard stage, 4.00 P. M., August 16.

Course of fire: 200 yards, rapid fire, one score of 10 shots, kneeling or sitting from standing, time limit one minute per score. 600 yards, 2 sighting shots and 10 record shots.

Arm: As prescribed in National Rifle Matches.

Ammunition: Any.

Target: 200 yard stage, D. 600 yard stage, B.

Prizes: Trophy and medals. Cash as per schedule.

Entrance fee: \$6.00 per team.

Match No. 12.

WIMBLEDON CUP MATCH.

When fired: 7.30 A. M., August 17.

Course of fire: 2 sighting shots and 20 shots for record at 1,000 yards.

Arm: Any military rifle.

Sights: Military. Telescope allowed.

Ammunition: Any.

Target: C.

Prizes: Wimbledon Cup and medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.

Entrance fee: \$1.00.

Match No. 13.

THE HERRICK TROPHY MATCH.

Open to one team of eight men from each of the following: The U. S. Cavalry, U. S. Infantry, U. S. Coast Artillery, U. S. Navy, U. S. Marine Corps, U. S. Military Academy, U. S. Naval Academy, Philippine Scouts, the National Guard and Organized Militia of the several states and the District of Columbia, and one civilian team from each of the several states and the District of Columbia.

When fired: 800 yard stage, 1.00 P. M., August 17. 900 yard stage, 1.00 P. M., August 18. 1,000 yard stage, 3.00 P. M., August 18.

Course of fire: 2 sighting shots and 15 shots for record at each range.

Arm: Any military rifle.

Sights: Military. Telescope permitted.

Ammunition: Any.

Target C.

Prizes: Trophy and medals.

Entrance fee: \$8.00 per team.

Match No. 14.

THE PRESIDENT'S MATCH.

When fired: 200 yard stage, rapid fire, 7.30 A. M., August 18. 600 yard stage, 8.30 A. M., August 18. 1,000 yard stage, 7.30 A. M., August 19.

Course of fire: The National Match course (rifle).

Arm: As prescribed in National Rifle Matches.

Ammunition: Any.

Target: 200 yard stage, D. 600 yard stage, B. 1,000 yard stage, C.

Prizes: President's Letter and medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.

Entrance fee: \$1.00.

Match No. 15.

THE ADJUTANTS' GENERAL MATCH.

Open only to the Adjutants General of States, Territories and the District of Columbia.

When fired: Date and time to be determined by Executive Officer.

Course of fire: 200 yard stage, rapid fire, one score of 10 shots, kneeling or sitting from standing, time limit one minute per score. 600 yard stage, 2 sighting shots and 10 shots for record.

Arm: As prescribed for National Rifle Matches.

Ammunition: Any.

Prizes: The Adjutant Generals, Cup and a medal.

Entrance fee: \$1.00.

The cup given as the trophy for this match was donated by Brig.-Gen. Wm. W. Moore, the Adjutant General of South Carolina, three times winner of the original Adjutants' General Match Cup.

Match No. 16.

OFF-HAND MATCH.

When fired: This match is a single entry match but may be fired at any time targets are open for firing. The executive office will announce by bulletin or otherwise the days and hours on which targets will be available.

Course of fire: 2 sighting shots and 20 shots for record at 200 yards.

Arm: Any rifle not weighing over 12 pounds.

Sights: Any, not containing glasses.

Ammunition: Any.

Target: A.

Prizes: Medals (1 gold, 9 bronze, 5 tyro). Cash as per schedule.

Entrance fee: \$1.00.

Match No. 17.

GRAND AGGREGATE MATCH.

The total aggregate scores in the following matches will count for prizes: Wimbledon Cup, Leech Cup, Marine Corps Matches, Members' Match and President's Match. Special entry must be made in this match in order that aggregate scores may count.

Entries close: 10.00 P. M., August 11.

Prizes: Medal medalions (1 gold, 9 bronze). A special prize of \$50.00 gold, given by Mrs. K. K. V. Casey, will be awarded to the competitor using the service rifle making the high aggregate score in the Wimbledon Cup, Leech Cup, Marine Corps Cup and President's Matches.

Entrance fee \$1.00.

Match No. 18.

SOUVENIR MEDAL MATCHES.

Tickets will be sold entitling the holder to either the souvenir medal, or one of the bars to attach thereto.

The complete set comprises the medal and a bar for each score exceeding the minimum score for a given range.

Medal tickets, 50 cents.

Bar tickets, 25 cents.

Minimum scores for medals:

200 yards, 49.

600 yards, 47.

1,000 yards, 45.

A bar will be given for high score made by each competitor equal to or exceeding the minimum at each range.

Match No. 19.

THE UNITED SERVICE MATCH.

Open to teams of twenty members (sixteen shooting, two alternates, team captain and coach), from the Regular Army, Navy, Marine Corps and Organized Militia. One civilian team will be permitted to fire in this match, but this team will not be eligible to win trophy.

When fired: Immediately on close of National Team Match.

Course of fire: The National Team Match course.

Conditions: National Match rules.

Prizes: The winning team to be awarded the "United Service Trophy" to be held in the same manner as the National Trophy, and medals to the individual members and officers of competing teams.

THE AMERICAN RIFLE

By Lt.-Col. Townsend Whelen

Only book of its kind and scope in authority. Gives every scrap of available information on its subject. A mine of values for rifle lovers. Over 600 pages. Over 300 illustrations. English. By the supreme American Price \$5.00. Order from

Arms and the Man

Woodward Building Washington, D. C.



Riflemen's Clothes

Sports Wear

Military Uniforms

ON SALE

at the display tent

OF THE

**Sigmund Eisner
Company**

Commercial Row

CAMP PERRY

OHIO

THE UNIVERSAL RIFLE

EVEN the worm is said to turn, and if we grant the privilege to the mere worm, why deny it to the president of an arms company after he's been heckled long enough by rifle nuts.

He shall be nameless, but he'd been picked on by various nuts who'd gotten wind of the fact of a new rifle. Aside from disagreeing in every particular and also firmly of the opinion that every other one of the clan needed a head examination, said nuts were unanimous in their advice to said president and he had no trouble at all in following their tips.

Finally he designed a rifle that might approach in a few minor details the rifle that would result if all the suggestions were adopted.

The rifle is *not* yet ready for the market, but the details follow:

"About the butt-plate, there seems to be a diversity of opinion and we shall probably have to meet it as far as possible by giving the shooter the option of a rifle or shotgun butt-plate, but I don't think we can bring out a different rifle style of butt-plate for each individual gun we turn out," said the heckled president. "Some of these days I am going to design a gun myself and when I get through with it, it will suit everybody provided I can devise means of transporting it. Probably the Caterpillar Tractor people will go into partnership with me and furnish a means of making the weapon mobile.

"My gun will have an adjustable stock that can be lengthened or shortened or straightened or crooked and turned to the right or left, fitting it for a long-armed man, the man with short arms or the fellow who wants a long stock in the summer time and short one in the winter when he puts his overcoat on or

(Concluded on page 18)

A Rifleman's Instructor—

The Marine Corps Score Book

New Edition

For use in Army, Navy, Marine Corps, National Guard, Naval Militia, Schools and Civilian Clubs. For beginners, advanced riflemen and rifle teams. For self-instruction and for use in instructing others.

It is the boil-down of the shooting game. Its contents are the digest of range practice and experience. Everything in it is practical, easy to learn and easy to teach. It is the last word in accuracy of the art of shooting, instructing and range service.

Supply it to your Company, Club or Team. It will

save you labor. Your men will then instruct themselves. Your subordinates can teach it. It will produce results for you with the minimum of work.

Adopted by the War Department and issued by the Ordnance Department to organizations of the Army, and to the Organized Militia.

Remittance should accompany order. Stamps accepted for orders less than \$1.00. 20% discount on lots of 50 or more, freight paid by purchaser.

Price, 20 Cents, Post Paid

ARMS AND THE MAN

WASHINGTON, D. C.

HOW FAR WILL YOUR .22 RIFLE CARRY?

The B. S. A. Carries 1400 Yards

THE B. S. A. MATCH RIFLE WAS USED IN THE MOST COMPLETE BALLISTIC TEST EVER MADE OF THE .22 LONG RIFLE CARTRIDGE

Title of illustration. "Farthest North." A .22 Long Rifle bullet (U. S. N. R. A. make) and its imprint on the sand at 1,400 yards. Fired from a B. S. A. Match Rifle at an elevation of 23 degrees, at the Army Small Arms Ballistic Station, Daytona, Florida.



Captains E. C. Crossman and G. L. Wotkyns, two small-bore enthusiasts at the Ballistic Station at Daytona, conducted a series of unofficial tests in which thousands of shots were fired for the purpose of determining the extreme range, angles of elevation, and other ballistic data of the .22 Long Rifle cartridge.

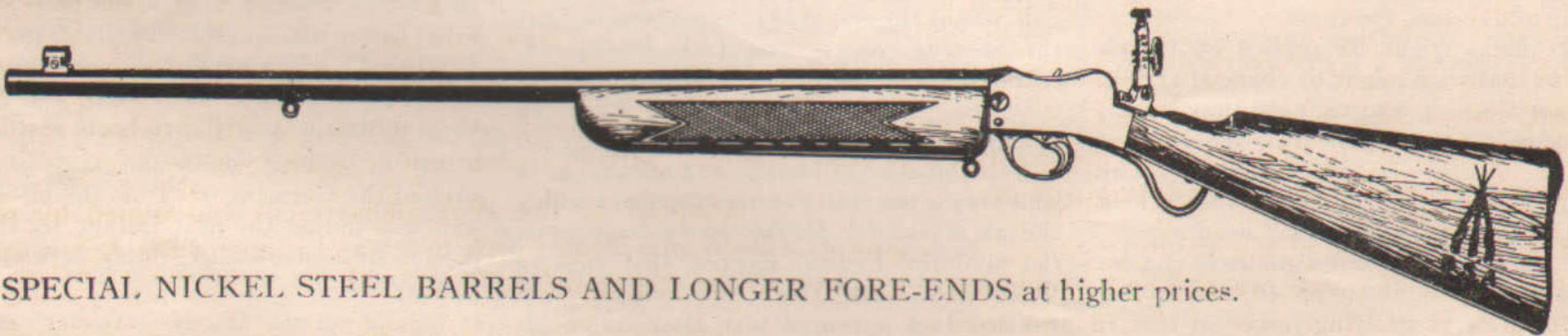
The B. S. A. Match Rifle was selected for this work because of its accuracy, and the convenience of its action. No difficulty was experienced in firing 10 shots in 20 seconds, while

other rifles tried failed to attain the required standard of rapidity and convenience. Evidence accumulates that the B. S. A. Match Rifle is the finest small-bore rifle in existence.

High Gun at Caldwell, 1919. High Gun, N. R. A. Winter Matches, 1920.

High Gun, S. M. R. C. London Meeting, 1920, where it cleaned up the prize list.

Users of B. S. A. rifles are alone eligible for the generous list of cash prizes added to the N. R. A. prizes at Camp Perry, in the small-bore matches.



SPECIAL NICKEL STEEL BARRELS AND LONGER FORE-ENDS at higher prices.

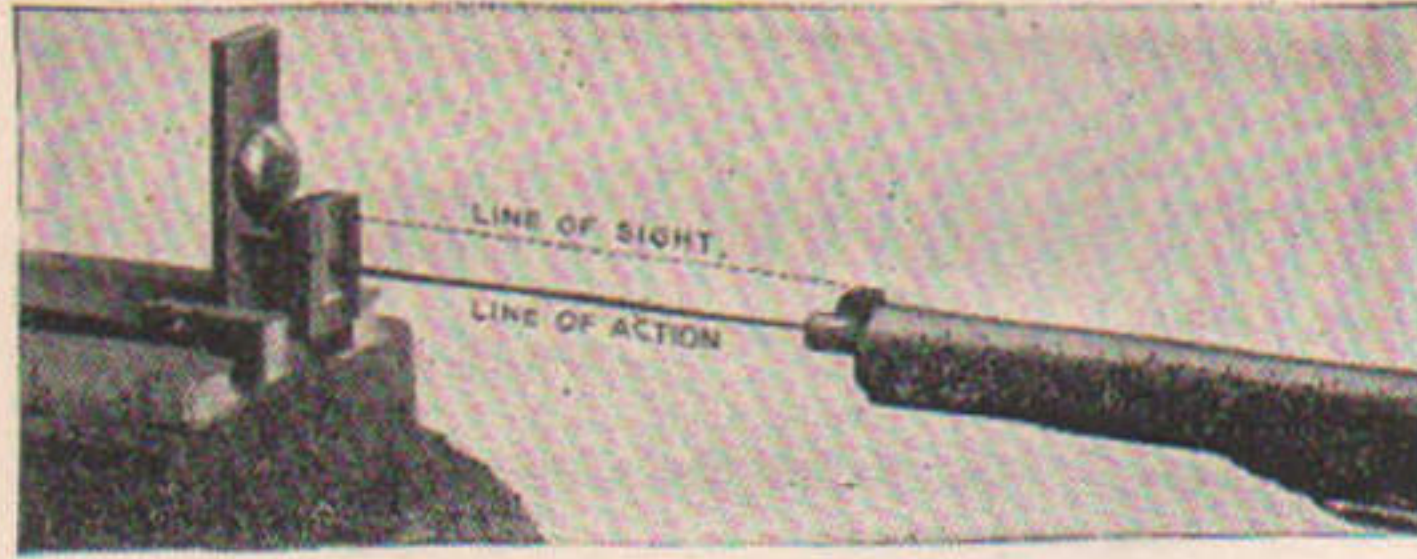
THE PRODUCTION EQUIPMENT COMPANY, Inc.

Dept. 24, 5 UNION SQUARE

Sole Distributors for the United States.

NEW YORK CITY

Canadian Representative: Fraser Company, 10 Hospital Street, Montreal, Canada



NO AMMUNITION NO DANGER UNLIMITED PRACTICE

HOLLIFIELD DOTTER RIFLE AND SIGNAL TARGET HOLDER

Every one, girls as well as boys can become good shots by practicing with the Hollifield Dotter Rifle. This has been demonstrated by results obtained in the U. S. Army and Navy where Hollifield Dotted, for both rifle and pistol, have been used for years. The bell signals "bulls-eye" shots. Ask for catalogue No. 10.

Manufactured under licence from the Hollifield Target Practice Rod Co.
INSTRUCTIVE by Richard Knight, Middletown, N. Y. AMUSING

PERFECTION SCORE BOOK

1920 NATIONAL MATCH EDITION NOW READY

Scoring space for 1600 shots. Single copy, 50 cents. \$5.00 per dozen.
Sent Parcel Post, prepaid.

M. C. MUMMA, Iowa City, Iowa

THE ENORMOUS DEMAND FOR

Hoppe's Nitro Powder Solvent, No. 9

has caused us to greatly increase manufacturing facilities, and we are now located at

2314 North Eighth Street, Philadelphia, Pa.

FRANK A. HOPPE, Manufacturer

THE UNIVERSAL RIFLE

(Concluded from page 16)

equally adaptable to the right-handed man or the southpaw and calculated to overcome the handicap of crossed eyes.

"It can readily have a multiplicity of barrels so that he can shoot any size of cartridge from one of those superfine .22's of ours, which you were so pessimistic as to complain about, right on up the scale to that .50 calibre of which I am the proud possessor, it being the only one in captivity.

"A nice little velvet-lined trunk can go with it in which will be placed, each in its own receptacle, every known type of sight including the telescope variety. If a hunter gets on the hot trail of a grizzly and visibility is low, he can bring up his supply train to fit sights better adapted to the weather conditions or even change barrels if he thinks that will help and resume the chase.

"Butt-plates might be applied by thumb screws so that they might be changed at will. This hadn't occurred to me until the moment but now that I think of it, if he should want to use one of those .50 calibre cartridges why not put a Westinghouse shock absorber in the kit? I am thinking he will need it.

"An instantaneous and automatic camera could also be profitably applied, one having a lens of great magnifying power so that it would instantly record each shot and by having convenient a developing outfit the hunter could determine whether he was shooting his game too far back to make the coup de grace positive and immediate. This would also serve to convince Doubting Thomases of the truthfulness of any claims made about targets. You couldn't, of course, dispute a photograph and while you might claim that the range was mistated, an

Black Diamond Gun Grease

Keeps your guns looking and shooting like new, 50 cents, postpaid. Send for testimonial letters and circulars.

CHURCHILL & SCHIEFER
223 E. North Street : : Buffalo, N. Y

apparatus for verifying that could also be very properly used in connection with this universal gun I am going to devise.

"P.S.—Certainly my own gun will be equipped with a range finder. I nearly overlooked that."

RIFLES FOR OLYMPIC TEAM

(Concluded from page 9)

The opinion of the Stevens cohorts as to the excellence of jimburns latest product was corroborated by the work of this stuff in the S. & W. Olympic pistols the pistol team took with them.

So it came to pass that at the end of a week, rifles that had not existed Monday, graced the rifle world with their presence Friday, and all this due to the foresight, and the energy and the public-spirited disposition of Messrs. Dooley, Larry Hebard and George Lewis of the Stevens plant.

It was at the end of the week therefore that the Stevens cohorts saw Jack Dooley off, sitting blissfully on top of divers strong cases containing special rifles for the American Olympic small-bore contingent.

A combination of blarney and bribery, as to which being the most effective deponent telling the tale sayeth not, got the cases as baggage on the hifalutin' Federal Express that runs to Washington, and there the relieved and wearied Jack appeared with his rifles on his way to Quantico and the team.

When the team went abroad they took the rifles with them, the only ones of the sort made since pre-war days, and still as unavailable to the general public as during the middle of the war.

These rifles were not sold to the team, they were delivered to the team captain on "memo receipt," and the following promises from the Savage-Stevens Co.

518

THE KERR ADJUSTABLE GUN SLING

Used by the U. S. Army, Navy and Marine Corps. Webbing or leather for all rifles an aid to accuracy. Sold by leading Sporting Goods and hardware dealers.
Webbing, per doz.....\$18.00
Leather, per doz.....30.00

MANUFACTURING & SALES CORP.

40 Cedar Street

New York

1. Any man winning first in an individual match with one of them, thence and henceforth owned that rifle.

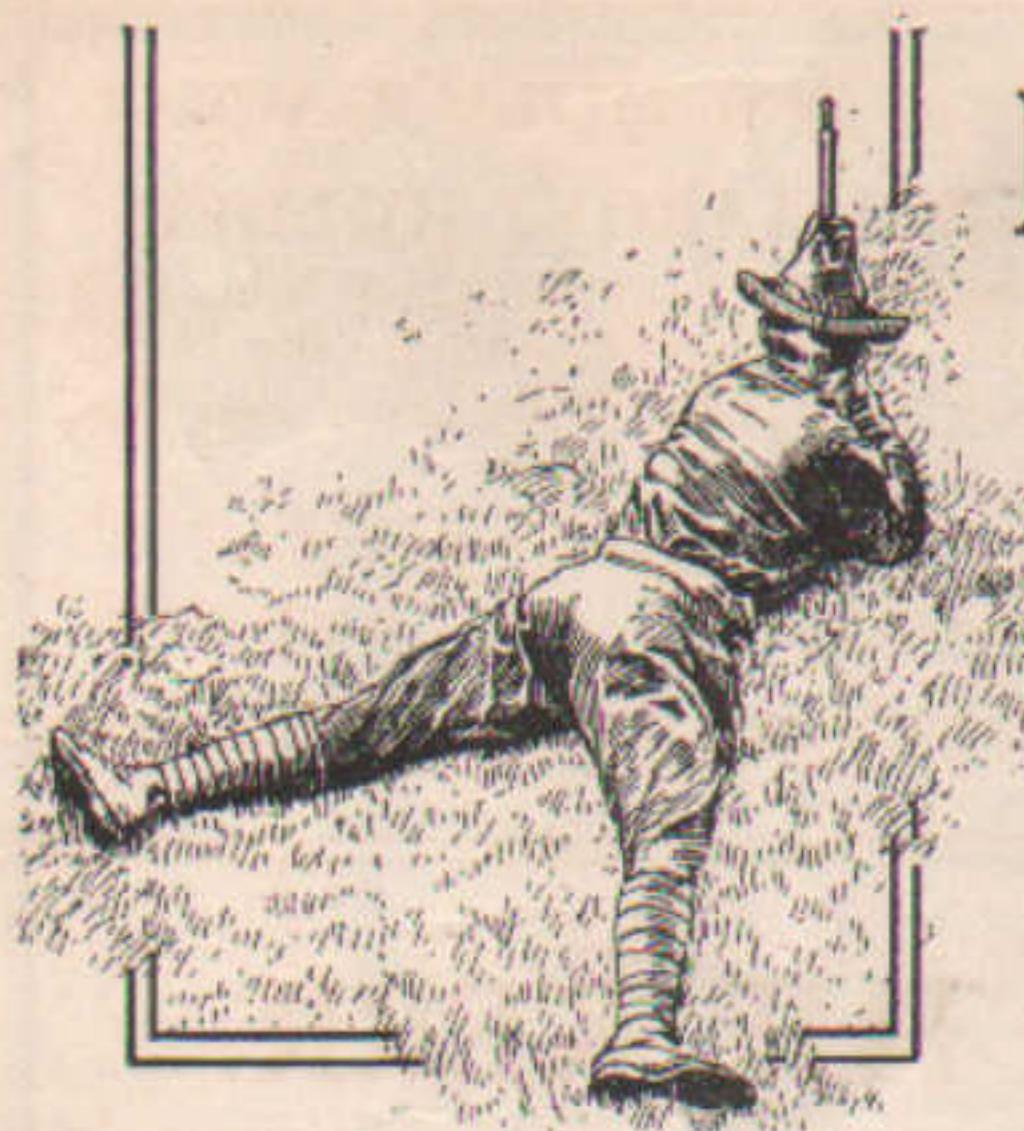
2. If the team won the team match with those rifles, the team owned them from that date.

What it cost to turn things upside down and make these six special rifles, not to mention getting out the dozen special 414's can be figured only by one of those sharks who is good at adding in the overhead, but it was a plenty.

The rifles might have been still heavier, for this special game, and would have been, had the materials been available, but they were so much better than anything available that they put the American small-bore contingent out of the automatically licked class, and moved them up to the nearly even-break division.

As the colored gentleman said when he invited the Germans to "frow sumpin ovah" and was buried the next instant by the explosion of a nine-incher—"this is what you call service."

This is not the first time Dooley, and his former companion in crime, Elliott Dill, have been concerned with the fitting out of an American international rifle team, and it is likely not the last. As long as we've got our Dooleys and our Dills, and our Hebard and Lewises, to back up such a collection of hard boiled riflemen as left Quantico for Antwerp last month, then the foreigners are likely to find that the first niche is always reserved for the Yankee rifle team.



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. The 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.

WE REGRET to announce that for the time being the services of Captain Townsend Whelen in connection with the *Loads and Reloads* column have been suspended. We hope that this will be but a temporary interruption, and that he will be able to resume his connection in the late fall.

Captain Whelen is so busy with work connected with the reorganization of the Army that he is unable to devote the time necessary for answering the many inquiries in this column. All inquiries already in will be answered. It is hoped that this service can be renewed in the late fall.

In this connection it should be mentioned that experience has proved that the answers to over three-fourths of the inquiries sent in to *Arms and the Man* can be found in Captain Whelen's book, "The American Rifle."

IN reloading for short range practice—from 100 to 400 yards—with the Springfield, should the load recommended by you in the December 1 issue be used: the regular 150 grain full patched, pointed bullet and 18 grains of DuPont No. 80 powder?

The D. M. C. quotes to rifle clubs two powders—Smokeless powder for ball cartridges, model 1906, 70 cents a pound, and Smokeless powder for calibre .38 revolver and calibre .45 pistol and *guard cartridges*, model 1906, 97 cents per pound. Is either of these the DuPont No. 80 or will either of them be as satisfactory as the No. 80 for our use? I presume the No. 80 is considerably higher in price than the Government powders but will use it if it is more satisfactory.

I cannot learn of any one who handles Mobilubricant. Even the Standard Oil Co. here does not know where I can get it. The Keystone Automobile cup grease is a very good article. Will it do to use it in place of the Mobilubricant?

I. D. B., Trenton, N. J.

Answer: I think that you will find the reduced load of 150 grains service bullet and 18 grains of DuPont No. 80 powder very satisfactory indeed. I have not tried this load beyond 200 yards, but I think you will have little fault to find with it up to 400 yards.

Relative to powder quoted in the circular from the Director of Civilian Marksmanship, the smokeless powder for ball cartridges, model 1906, is Du Pont Military Rifle Powder No. 20, or else Pyro D. G., which are exactly the same, the latter being manufactured at the Government powder mills. The smokeless powder for revolvers and pistols is the DuPont pistol powder No. 3. DuPont No. 80 powder is not sold by the Government.

With regard to Mobilubricant I think you can get it from Abercrombie and Fitch, New York. I think that the Keystone Automobile cup grease is practically identical with it and will do the work just as well.

I HAVE in the past successfully used a Ross .280 rifle, but during that time I have run up against a few hunters who have taken the joy out of life by telling me of a blow back tendency of the bolt. Hearing these stories have made me "flinch"—hesitate the fraction of a second every time I use my Ross. Does the Ross bolt ever blow back and if so what causes it? I have killed considerable game with my Ross, have never had a blow back, or a shell to stick; have found the cartridge the best killer among many. I have almost come to the conclusion to have a Jeffrey rifle remodeled to take the .280 or have a Springfield remodeled into a sporter, unless I find that my Ross is blow-back proof.

J. M. L., New York City.

Answer: You only need to know one little thing about the Ross, and then you can set your mind to rest and stop flinching when you fire it.

The Ross has one of the strongest breech actions in the world. It is perfectly safe when used correctly. One thing should be noted by every owner of the Ross, however. Take your bolt out of the receiver, and you will notice that usually the bolt head flies back, so that it has to be pulled out again to extended position before the bolt can be replaced in the receiver. When the bolt head is extended it is just possible to twist the head around the wrong way so that it flies back on the reverse twist. In this position, with the bolt head and lugs against the sleeve of the bolt, the bolt can be inserted in the receiver, and pushed home. The lugs will not turn when the bolt is pushed home, but the rifle can be fired. If fired in this condition of course the bolt will be blown straight back, there being no lugs or anything else to hold it. The rifle should have been made so that it was not possible to turn the bolt head around this way. It is not fool proof in its present condition. But now that you know it you are safe, because you will never take out the bolt and assemble it in this state. You practically have got to do it intentionally to get it back that way.

The only faults that I have had to find with the Ross is that mine have not been quite as accurate as I could hold with the ammunition I could get about five years ago. With this ammunition, also, the shells used to stick badly in the chamber, and the Ross lacked the strong compaction of the Springfield to eject and extract these sticking shells. Often with this ammunition I have had to place the butt of the rifle on the ground and open the bolt with my heel. My advice would be, when you are buying new ammunition, to always shoot about 40 rounds of it at the target before trusting it in the hunting field. If it shows a tendency to stick in this practice, do not trust

is, but look for another make of ammunition. It is largely a matter of the annealing of the brass shell.

WHAT variety of powder is it—What DuPont number—that is offered through the N.R.A. at 70 cents a pound for reloading? In ordering ten pounds of this powder, how much should be allowed for the container? Does it come in a 10-pound can or in 10 1-pound cans?

F. D. P., Earlville, N. Y.

Answer: The powder sold by the Government for reloading the Springfield rifle is what is known as "Pyro D. G." and is exactly the same as DuPont No. 20 powder. In packing it, Frankford Arsenal can put up any amount you desire as they have cans of various sizes. Would suggest your writing to the Commanding Officer, Frankford Arsenal, telling him how much you want and asking the price container will be. Then, when you hear from him, send his letter together with remittance to cover powder and container to the Director of Civilian Marksmanship.

I DESIRE to acquire a first-class big game rifle and after looking over all the catalogs and reading up on the matter I have come to the conclusion that a rifle of the model of the Model 95 Winchester in the carbine type chambered for .30 '06 Government ammunition and fitted with an ivory bead sporting front sight, folding adjustable graduated rear sporting sight and a folding peep sight fitted on tang, with sling strap, would be as near my ideal as I could possibly secure. I think if this gun could be procured in a takedown type I would be happy.

What do you think of this choice and can I procure this gun. From whom? Could you suggest any other gun that you think would suit me?

E. W. S., Warren, Ohio.

Answer: In regard to a Winchester take down carbine, Model 1895, I think the only way you can possibly obtain such an arm is to get a take-down rifle, have the barrel cut off by a good gunsmith and have the carbine forearm, band and a new front sight base fitted.

As to my opinion of your choice I imagine you want a rifle which will pack away in a small space; but you must not expect this rifle to be very accurate on account of the take down feature, neither must you expect to get very much power because the powder will not completely burn in this short barrel. Neither can you expect to increase the velocity with modern powder because all modern progress powder requires long barrels in order to burn completely. I think the take-down carbine will probably be satisfactory as far as accuracy is concerned for big game, up to about 100 yards.

Your carbine will be very much more expensive than would a Springfield rifle with a little remodeling to change it into a sporting arm and with the Springfield you would have a rifle in every way the best in the world.

PLEASE inform me on the following subject: in loading the .30 calibre, 1906 ammunition will the same primer work on the mid-range load, that we use for the full service load? Please advise if the full service load is a satisfactory game load for such game as black bear and deer; I refer to the 150 grain full cased bullet. Please advise what loading tool is the best for this calibre: to be used in a Springfield rifle. Could you advise in regard to the swagging dies for metal cased bullets that the Bond Machine Co. are manufacturing.

A. J. H., Towanda, Pa.

Answer: The same primer should be used for the full charge and the mid-range load in the Springfield rifle.

I think you will find the 150 grains for your service loads very satisfactory for bear and

TWENTY-SEVENTH ANNUAL

Inter-State Rifle Tournament

SEA GIRT, NEW JERSEY

August 30 to September 7, 1920

SEA GIRT TOURNAMENT

ASSOCIATION OF AMERICAN INTERNATIONAL
RIFLEMEN

NEW JERSEY STATE RIFLE ASSOCIATION

NEW YORK STATE RIFLE ASSOCIATION

FOR PROGRAMS ADDRESS EXECUTIVE OFFICER
SEA GIRT, NEW JERSEY



No. 6 showing leaf with Ivory triangle.



No. 6 with both leaves folded flat.

No. 6 Combination Folding Leaf Sight, Price \$2.00 (for Remington model 8, \$2.50)



No. 17 Target Front Sight, \$2.50. Reversible aperture and globe shaded by large hood.



No. 7 Windgauge Target Front Sight, \$4.50

LYMAN TARGET SIGHTS

No. 47 Stem and Disc can be used in your Lyman Combination Rear Sight, or it will be furnished complete with knurled sleeve and base (No. 52A) for \$7.00. No. 47 Stem and Disc is adjustable to 1-8-inch variation at 25 yards with a 30-inch sight base.

No. 2A is the famous Lyman Combination Rear Sight equipped with instantly detachable disc, giving two sizes of aperture. A good sight for "all-round" shooting.

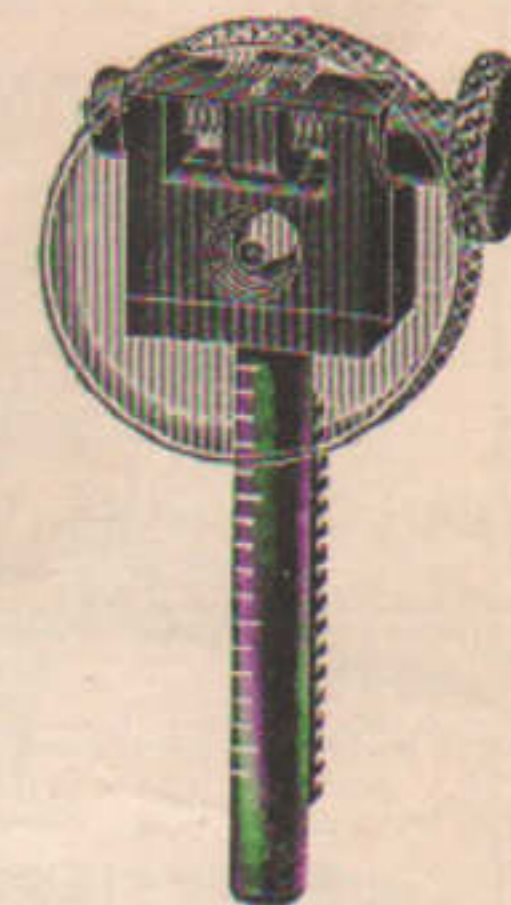
No. 6 is a desirable auxiliary sight that replaces the factory sight.

No. 7 and No. 17 are two of our best target front sights.

At your dealer's, or write us giving make, model and calibre of your rifle. Ask us for Free Book of Lyman Sights for every purpose and every gun.

LYMAN GUN SIGHT CORP.

90 West Street
Middlefield, Conn.



No. 47 Windgauge Stem and Disc, \$3.50.



No. 2A Combination Rear Sight with Disc, \$6.00.

deer. Steward Edward White used this load on his first trip to Africa with fine success. Do not however, make the mistake of making the bullet expansive by filing the point. The core may slip back and ruin your rifle.

With regard to the reloading tools: The only tools that are now being made are those lately put out by the Bond Machine Co. of Wilmington, Delaware. They are still at work on dies and metal case bullets but are having trouble with them. I think it will be several months before we can have any development with them.

SOME time ago I bought from the Government, through the N. R. A., 1,000 150 grain service bullets. Among them I found one that did not have the cannalure as usual. It was perfectly smooth like the regular 180 grain bullet. I weighed it and found it to weigh 150 grains. Are there any such bullets in manufacture now? I have read one of your articles about the cannalure in bullets and where you recommended a 150 grain without the cannalure. So I was wondering if there were any to be had since I found this one.

H. S. H., Westby, Wis.

Answer: Relative to the cannalure in 150 grain service bullet. None of these bullets have been made since about 1909 without cannalures and I do not think you can obtain any without them. The one which you mentioned evidently must have slipped by the inspector and missed the cannalure machine.

NOTICE in the April 15th number of *Arms and the Man* that among other things the Secretary of War has ordered condemned 8 mm cartridges. Will you please give me the following information regarding them:

Are they American make? Would they be adaptable to Sauer Mauser rifle? What kind and weight bullet do they contain?

L. B. C., Youngstown, Ohio.

Answer: In answer to your letter of June 8th, these 8 mm cartridges are for the French 8 mm Lebel rifle. I do not know whether they are an American make or not. They are not adapted to the Sauer Mauser rifle or to any other 8 mm rifle, except the French. They contain a solid copper boat-tail bullet. I do not think they will be of any use to you.

These Clubs have been admitted to membership in the N. R. A.:

CIVILIAN RIFLE CLUBS.

Arkansas:

Eudora Rifle Club. I. M. Worthington, Sec'y, Eudora, Arkansas; Pres., A. A. Fischel; Vice-Pres., L. B. Sims; Treas., R. B. Wofford; Exec. Officer, T. F. Flowers. 56 members.

California:

James B. Gresham Post, No. 8, Veterans of Foreign Wars Rifle Club, Los Angeles. Sec'y-Treas., Charles S. Thomas, 1400 Figueroa st., Los Angeles, Calif.; Pres., Edwin S. Steel; Vice-Pres., John Deasy; Exec. Officer A. R. Young. 14 members.

Southern Pacific R. R. Rifle Club, Oakland. Sec'y, H. R. Dallas, 1617 8th st., Alameda, Calif.; Pres. J. B. Nichols; Vice-Pres., G. H. Mahone; Treas., B. W. Sullivan; Exec. Officer, G. E. Peacock. 23 members.

Yreka Rifle Club. Sec'y, Charles R. Cooley, Yreka, Calif.; Pres., Horace V. Ley; Vice-

Pres., Robert C. Orr; Treas., Paul R. Dodge; Exec. Officer, Charles H. Orr. 20 members.

Colorado:

Empire Rifle Club. Sec'y, Henry C. Nelson, Empire, Colo.; Pres., Carl Anderson; Vice-Pres., T. M. Eversole; Treas., L. T. McPherson; Exec. Officer, Paul E. Mathews. 18 members.

Connecticut:

Chester Rifle Club. Sec'y, Herbert O. Strong, Chester, Conn.; Pres., Colton D. Noble; Vice-Pres., J. Albert Berg; Treas., Malcolm G. Brooks; Exec. Officer, William R. Back. 24 members.

District of Columbia:

Robley D. Evans Post, No. 14, American Legion Rifle Club, Washington, D. C. Sec'y, S. K. Breese, U.S.S. Sylph, Navy Yard, Washington, D. C.; Pres., H. M. Kieffer; Vice-Pres., P. F. Sokolowski; Treas., R. D. Trussell; Exec. Officer, T. J. Beerman. 12 members.

Hawaii:

Hilo Rifle Club. Sec'y, John W. Bains, Hilo, Hawaii; Pres., Major Walter V. Allen; Vice-Pres., Ernest C. Meeker; Treas., Alexander J. Williamson; Exec. Officer, Alfred P. Christian. 45 members.

Oahu Rifle Club, Honolulu. Sec'y, Eben S. Cushingam, 1215 Alexander street, Honolulu; Pres., Gustave Rose; Vice-Pres., Chas. M. Coster; Treas., David L. Conkling; Exec. Officer, P. O'Sullivan. 30 members.

Idaho:

American Falls Rifle Club. Sec'y, T. C. Sparks, American Falls, Idaho; Pres., Spencer L. Baird; Vice-Pres., C. G. Sprigg; Treas.,

Facts About Hercules Powder THAT YOU SHOULD KNOW

Nearly all riflemen have read about the Hercules win at the Official Ammunition Try-out held at Sea Girt, N. J., for the purpose of selecting the ammunition for the use of the Olympic Rifle Team. They know that the make that won the test was represented by two samples of cartridges loaded with different makes of powder that compared in accuracy as follows:

	Mean Radius at 600 Yards.	<i>inches</i>
Cartridges loaded with a Competitive Powder of latest design.....		4.10
The same make of cartridges loaded with Hercules Powder.....		3.41
Advantage in favor of Hercules.....		0.69 inches or 20.2%.

This means that the ammunition loaded with Hercules Powder was 20 per cent more accurate than its competitor at 600 yards. Not once or twice, but for 300 consecutive shots. Both lots were loaded with exactly the same weight, shape and type of bullet. They were fired from the same machine rest, under identical conditions, by one individual and in the presence of the best ballistic experts in America.

It is doubtful if any other official ammunition test on record ever proved such an overwhelming superiority in accuracy for one make of powder.

The bull's-eyes are the shots that count. Remember this when you buy ammunition.

HERCULES POWDER CO.

Wilmington 1005 Orange Street Delaware

484 OUT OF 500

THAT'S the score with which Miss Marjorie Kinder won all *championship honors* in the Third Annual Home Range American Record Match.

Miss Kinder firmly believes in

Western

22 Long Rifle Cartridges

and her confidence in them—borne from past experience—was a factor which aided very materially in the result.

Drop in at the "Western" tent and "talk it over" with our representative.

WESTERN CARTRIDGE COMPANY

Makers of the famous "Field"
Patented Steel-Locked Shell

East Alton Illinois

Floyd Stuart; Exec. Officer, Alfred M. Ley. 39 members.

Illinois:

Capital City Rifle Club. Sec'y, O. B. Cornelius, 1423 E. Division st., Springfield. Pres., E. D. Search; Vice-Pres., C. Walton; Treas., Ernest Wright; Exec. Officer, E. G. Eldred. 27 members.

Chicago Guards Rifle Club. Sec'y, Capt. Wm. B. Roberts, 3321 Calumet ave., Chicago; Pres., Frank Stewart; Vice-Pres., Winfield C. Mitchell; Treas., John H. Zedricks; Exec. Officer, Major Albert W. Ford. 35 members.

Hyde Park Post, No. 34 of the American Legion Rifle Club, Chicago. Sec'y-Treas., J. C. Grubb, 1537 E. 53rd st., Chicago. Pres., Dayton R. E. Brown; Vice-Pres., B. O. Buchanan; Exec. Officer, B. O. Buchanan. 27 members.

Illinois Reserve Rifle Club, Chicago. Sec'y, George H. Coleman, 207 W. Jackson Blvd., Chicago; Pres., William T. Church; Treas., George T. French; Exec. Officer, William T. Church. 20 members.

Lakeview Post No. 235, Veterans of Foreign Wars Rifle Club, Chicago. Sec'y, Harry W. Heiser, 3748 Herndon st., Chicago; Pres., George Hermes; Vice-Pres., Chas. H. Bolkack; Treas., Roy Kuhn; Exec. Officer, Geo. W. Greve. 12 members.

North Shore Rifle Club, Chicago. Sec'y-Treas., L. S. Coombs, care of G. H. Hammond & Co., Union Stockyards, Chicago.; Pres., A. C. Ebbesen; Vice-Pres., J. C. Rinehart; Exec. Officer, L. M. Kricke. 70 members.

Indiana:

Apperson Jack-Rabbit Rifle Club, Kokomo. Sec'y-Treas., E. S. Lindley, 1110 W. Jackson street, Kokomo; Pres., W. R. Poland; Vice-

Pres., Nelson B. McLain; Exec. Officer H. H. Crites. 77 members.

Reid Wonderly Post, No. 360, Veterans of Foreign Wars Rifle Club, Marion. Sec'y, Lawrence E. Bedwell, 1420 Euclid ave., Marion; Pres., Frank Lacing; Vice-Pres., Walter W. McGuire; Treas., John Smelser; Exec. Officer, Elzie M. Rennaker. 15 members.

Wildcate Rifle Club, Greentown. Sec'y-Treas., Irvin Miller, Greentown; Pres., Edgar Hobbs; Vice-Pres., Otto Murphy; Exec. Officer, Lloyd Landon. 29 members.

Kansas:

Burlington Rifle Club. Sec'y, J. M. Kulling, Burlington; Pres., Frank Parmely; Vice-Pres., Earl E. Nelson; Treas., O. G. Mechem; Exec. Officer, Clyde R. Terry. 108 members.

McCracken Rifle Club. Sec'y, Albert V. Norlin, McCracken; Pres., Clarence N. Peer; Vice-Pres., Ed Sweeney; Treas., Chas. Wahl; Exec. Officer, Frank Ribelein. 34 members.

Pratt Rifle Club. Sec'y, D. E. McCrory, Pratt; Pres., Fred W. Tierney; Vice Pres., Oscar Roll; Treas., Jos. W. Beck; Exec. Officer, Fred Hardesty. 54 members.

Kentucky:

Kentucky Rifle Club, Russell. Sec'y-Treas., George R. Spears, Russell, Ky.; Pres., K. L. Brinegar; Vice-Pres., Phil White; Exec. Officer, H. Moore. 16 members.

Massachusetts:

Hudson Rifle Club. Sec'y, Charles P. Tucker, Hudson, Mass.; Pres., Henry Patten; Vice-Pres., Edward P. Maguire; Treas., Norman M. Hunter; Exec. Officer, Eli C. Benway. 167 members.

Leominster Sportsmen's Assn. Rifle Club. Sec'y-Treas., Kenneth L. Morse, 41 Wash st., Leominster, Mass.; Pres., Wesley Haynes; Vice-Pres., Gerry E. Wells; Exec. Officer Harold E. Lancey. 100 members.

Liberty Rifle Club, Boston. Sec'y, E. K. Friend, 35 Congress st., Boston. Pres., H. H. Cummings; Vice-Pres., W. F. Crowley; Treas., F. A. Macdonald; Exec. Officer, C. C. Butts. 10 members.

Minnesota:

Frank Patzwald Post 178, Veterans of Foreign Wars Rifle Club, Morton, Minn. Sec'y, Earl J. Conklin, Morton; Pres., Emmet J. Oniel; Vice-Pres., Fred Ewert; Treas., Chris J. Cook; Exec. Officer, Fred Neitzel. 10 members.

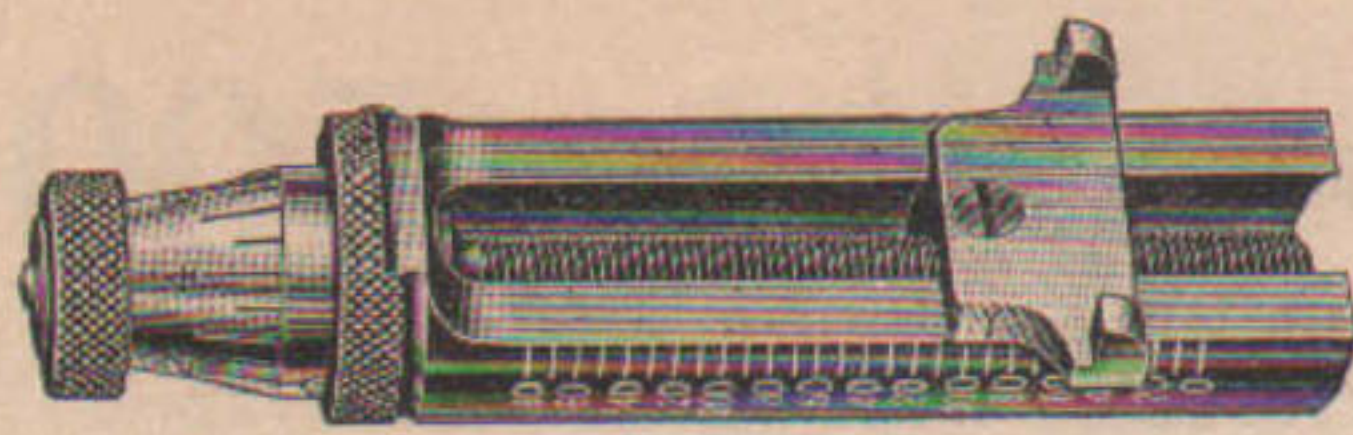
Oscar and John Soberg Post 210, Veterans of Foreign Wars Rifle Club, Lakeville, Minn. Sec'y, L. B. Miller, Lakeville; Pres., J. F. DeKiere; Vice-Pres., L. F. Birtwistle; Treas., Alfred Mallery; Exec. Officer, Alfred Moes. 12 members.

Mississippi:

Vicksburg Rifle Club. Sec'y, D. S. Wright, Jr., Clarke & Co., Vicksburg, Miss.; Pres., L. G. Powell; Vice-Pres., H. D. Priestly; Treas., Wm. Lake; Exec. Officer, A. J. Dunn. Vice-Pres., H. D. Priestly; Treas., Wm. Lake; Exec. Officer, A. J. Dunn. 52 members.

Missouri:

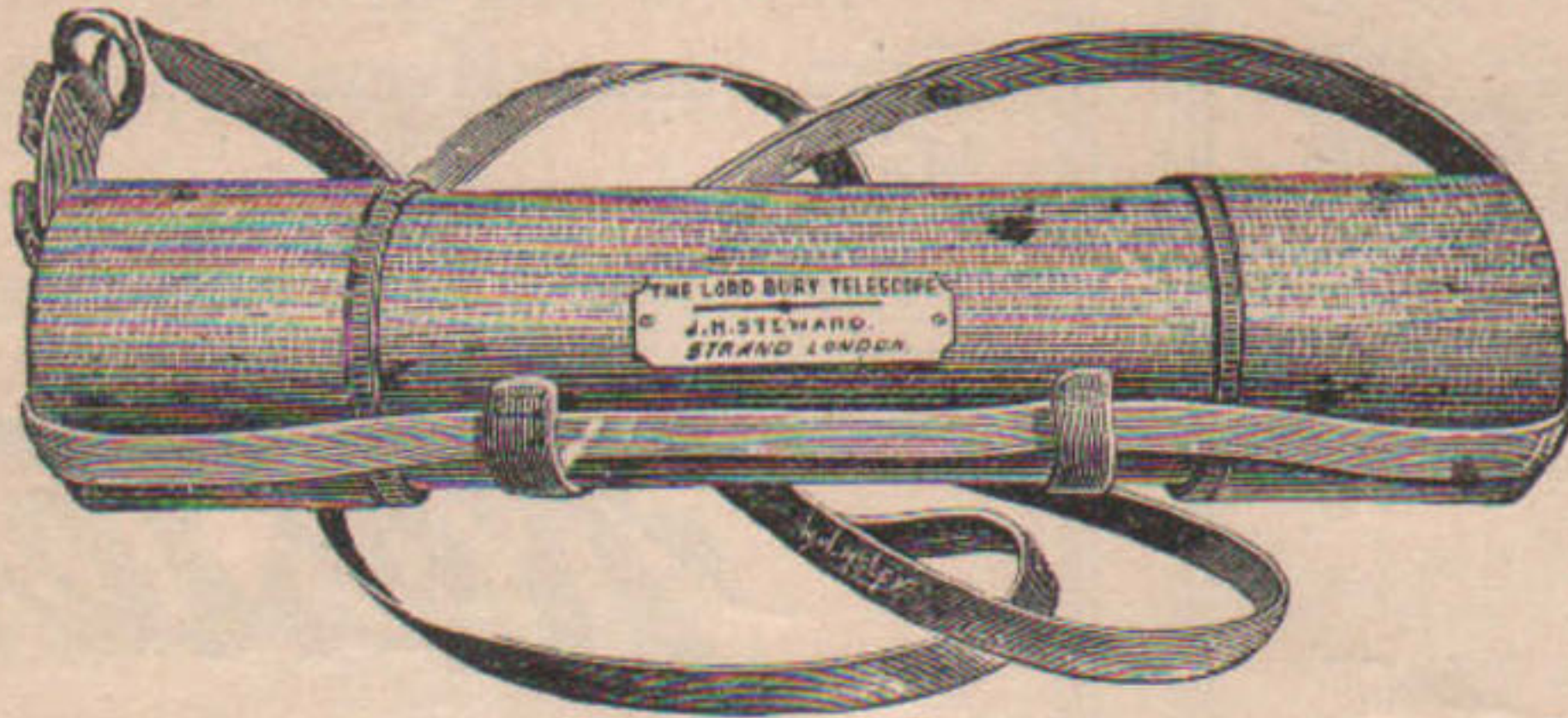
Jack Schneider Post 135, Veterans of Foreign Wars Rifle Club, St. Joseph, Mo.; Sec'y-Treas., Robert Dugdale, 612 Edmond st., St. Joseph; Pres., W. L. Kenny; Vice-Pres., Stephen A. Dorsey; Exec. Officer, Homer F. Pennington. 11 members.



The O'Hare Micrometer

Made for the Springfield Rifle, Model 1903. This micrometer has all others beaten a dozen ways; first—*it's made in America.*

I am pleased to make the announcement I am handling the most Famous Lord Bury Telescope. During the war, I was unable to secure them. There are one hundred articles that the American Rifleman requires on the rifle range that I handle at very reasonable prices.



P. J. O'HARE

Manufacturer and Importer of Shooting Accessories

178 Littleton Ave.

Send 6 cents for No. 4 Illustrated Catalogue and Price List

Newark, N. J.

Montana:

Big Timber Rifle and Pistol Club. Sec'y, W. K. Amery, Big Timber, Mont.; Pres., Will Churchill; Vice-Pres., A. Knowles; Treas., E. L. Kepler; Exec. Officer, Dr. A. P. O'Leary. 26 members.

Brockway Rifle Club. Sec'y, Charles S. O'Brien, Brockway, Mont.; Pres., Thurston P. Hofdahl; Vice-Pres., Laurence B. Larson; Treas., O. A. Moxness; Exec. Officer, Argalis Snider. 25 members.

Clyde Park Rifle Club. Sec'y, Winfield D. Wolcott, Clyde Park, Mont.; Pres., Alvin Carpenter; Vice-Pres., Chester Carpenter; Treas., Frank Wiggins; Exec. Officer, C. F. Bliles. 26 members.

Harlowton Rifle and Pistol Club, Harlowton, Mont. Sec'y, W. L. Dysart; Pres., G. T. Tallackson; Vice-Pres., R. T. Markle; Treas., G. C. Perkins; Exec. Officer, Ed. Weaver. 63 members.

Vida Rifle Club. Sec'y-Treas., Paul W. Fay, Vida, McCone Co., Mont.; Pres., Albert Huber; Pres., Kenneth Wise; Exec. Officer, Julius Ware. 17 members.

Willow Creek Rifle Club. Sec'y, A. C. Nelson, Willow Creek, Mont.; Pres., O. W. Mack; Vice-Pres., H. F. Nelson; Treas., J. A. Price; Exec. Officer, Frank Black. 24 members.

Nebraska:

Veterans of Foreign Wars Rifle Club, Lincoln, Nebraska. Sec'y, John Marriner, 2122 Euclid ave., Lincoln, Neb.; Pres., Marvin C. Hepler; Vice-Pres., A. L. Tassett; Treas., Richard J. Case; Exec. Officer, Ira D. Beynon. 35 members.

New Hampshire:

Queen City Rifle Club, Manchester, N. H. Sec'y, Wm. O. Archilles, Amoskeag, Mfg. Co., Manchester, N. H.; Pres., Wm. F. Howes; Vice-Pres., C. R. Shaw; Treas., David Anderson; Exec. Officer, Alexander Demers. 13 members.

New Jersey:

Harry J. Eckhart Post 282, Veterans of Foreign Wars Rifle Club, West Hoboken, N. J. Sec'y, John Eckhart, Jr., 725 Savage st., Jersey City, N. J.; Pres., Charles Bodecker; Vice-Pres., Charles A. Isch; Treas. Charles J. Adams; Exec. Officer, Fred Thessen. 10 members.

Joyce and Herbert Post 226, Veterans of Foreign Wars Rifle Club, Bayonne, N. J. Sec'y-Treas., Irving L. Herman, 66 Broadway, Bayonne, N. J.; Pres., Fred J. Swinney; Vice-Pres., Joseph M. Callaghan; Exec. Officer, Franklyn Stekert. 13 members.

Philip Ford Post 277, Veterans of Foreign Wars Rifle Club, Ridgefield Park, N. J. Sec'y, Fred Bruno; Pres., Arthur Mooney; Vice-Pres., Edward Flanagan; Treas., Peter J. Joyce; Exec. Officer, Fred Smith. 14 members.

Roxbury Rifle Club, Kenvil, N. J. Sec'y, Charles Tice, Kenvil, N. J.; Pres., W. M. Sequine; Vice-Pres., D. C. Weldin; Treas., W. de Crater; Exec. Officer, W. O. Myers. 38 members.

New Mexico:

Meadow City Revolver and Rifle Club, East Las Vegas, N. M. Sec'y, E. J. Maguire, P. O. Box 343, East Las Vegas; Pres., I. H. Drake; Vice-Pres., W. C. Ashcraft; Treas., A. M. Staley; Exec. Officer, I. H. Drake. 43 members.

New York:

Col. Wallace A. Downs Post 26, Veterans of Foreign Wars Rifle Club, New York. Sec'y, Harry Moran, 705 East 163rd st., New York; Pres., Mathew Lenz; Vice-Pres., E. J. LaVoie; Treas., Thomas A. Robertson; Exec. Officer, Zolten Zeisler. 10 members.

Crusaders Post 353, Veterans of Foreign Wars Rifle Club, Yonkers, N. Y. Sec'y, Thomas M. Mahoney, Yonkers; Pres., Chas. J. Casey; Vice-Pres., Philip E. Duffie; Treas., Wm. Bowes; Exec. Officer, Robert J. Guy. 14 members.

Veterans Association Machine Gun Co. Rifle Club, 23rd Reg. N.Y.G., Brooklyn, N. Y. Sec'y, Munroe Stiner, 7718 3rd ave., Brooklyn. Pres., Philip M. Kendig; Vice-Pres., George Higgins; Treas., J. B. Clark; Exec. Officer, Wm. M. Campbell. 15 members.

Ohio:

Cheviot Rifle Club, Cheviot, Ohio. Sec'y, S. Cooley, 3030 Montana ave., Cincinnati, Ohio; Pres., D. C. Cooley; Vice-Pres., A. G. Eickbusch; Treas., E. Heina; Exec. Officer, E. Baldinger. 18 members.

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—Ideal Bullet Lubricator and Sizer No. 1; bullet molds Nos. 360271, 360302, 260345. Will pay good price if in good condition, for either or all of them. R. S. McBean, 309 E. St. Clair st., Indianapolis, Ind.

FOR SALE—One B-5 Winchester Telescope Sight, excellent condition, complete with mounts, but less bases, \$15; or will trade for Krag rifle or carbine in A-1 shape. One Savage U. S. A. .22 calibre rifle, \$25.00, new. H. D. Dodge, care of Gray Tractor Co., 30th ave. and N. P. Tracks, Minneapolis, Minn.

FOR SALE—.22 calibre Armory Model Springfield with 20 adapters in perfect condition; tapped and fitted for No. 48 sight. Price \$25.00. Stevens Model 414 rifle in like condition fitted with issue sights and also Stevens wind-gauge vernier tang sight. Price \$20. 20 gauge Winchester Model 1912 shot gun in perfect condition. Price \$45.00. Burgess 12 gauge repeating shot gun in perfect condition. Price \$18.00. All of these guns are from the collection of a gun lover and will be shipped C. O. D. J. Maxwell Bullock, 242 Chestnut st., Philadelphia, Pa.

FOR SALE—Smith & Wesson revolver, .38 special, and .38 U. S. Army, swing-out cylinder, \$19.00. Stevens "Off-hand" Target Pistol, .22 long rifle, 8 inch barrel, 1 pound, 8 ounces, new; never used, \$9.00. John J. Bowman, Bowman's Corner, Lancaster, Pa.

TRADE—Will trade pre-war .45 Colt Automatic, leather belt, holster and clip pocket, 2 clips and 75 cartridges, in gun crank condition. Want star gauge Springfield or .250 Savage. C. F. Queisser, Supt., Electric Vacuum Cleaner Co., Inc., Cleveland, Ohio.

FOR SALE—Luger, 9 mm convertible pistol-carbine, holster stock, 41 shot magazine, like new—\$65.00; Luger 9 mm Navy pistol, \$45.00; Mauser 9 mm convertible carbine, new, \$55.00; Colt .25 auto-pistol, new, \$18.00; Webley & Scott .25 auto-pistol, new, \$22.00; Colt .22 auto-pistol, new, \$36.00; Springfield 1903 .22 Gallery rifle, \$20.00; Mauser 7 mm sporting carbine, ventilated rib, Lyman sights, new, \$65.00; Wm. K. Page, 15 Broad st., New York City.

FOR SALE—Winchester .22 calibre Repeater, fine condition, with genuine leather case. Guaranteed. For sale by member of D. C. Civilian Rifle Team. Priced at \$40. Quick sale at \$25. T. H. Rider, 255 Portner, Washington, D. C.

FOR SALE—One Springfield rifle, model 1903, for 1906 cartridge, O.K. condition inside and out, russet leather sling; also 163 rounds '06 ammunition made by U. S. C. Co. \$30.00 for rifle and ammunition to N. R. A. members. Also have one No 48 Lyman micrometer sight used only a few times, not attached to rifle. Will sell best offer, or what have you to trade? Send stamp with inquiry please. Clayton H. Waite, Box 588, Springfield, Vt.

CLEANING PATCHES for .30 cal. rifle, 15 cents per pkg. Cleaning Patches for .22 cal. rifle, 15 cents per pkg. Ideal Anti-Rust Ropes for all cal. rifles, revolvers, 35 cents each. Ideal Anti-Rust Ropes for all gauge shot guns, 50 cents each. Springfield Nitro Cleaner, 35 cents for 3 oz. bottle. Army & Navy Powder Solvent, 35 cents for 3 oz. bottle. SPITZER GREASER. Spare that pet rifle barrel. Handy vest pocket device for mobilubricating high power bullets. Grease on bullet only, none on shell, fingers or clothing. Nickel plated, price 25 cents each. THE IDEAL CHEMICAL CO., Wilkes-Barre, Pa.

"The Finest All-Range Cartridge I Have Ever Tried"—*Captain E. C. Crossman*

That is his opinion of the U. S. N.R.A. LONG RIFLE Lesmok cartridge after extended comparative tests at 25, 50, 100 and 200 yards, made at the Small Arms Ballistic Station at Daytona, Fla., in May, 1920.

The U. S. N.R.A. cartridge was the pioneer, and is still the leader in the long-range small-bore class, but we wished to make it equally good for all the .22 ranges so that the rifleman would not be forced to change his ammunition every time he moved from the 25-yard range to the 50, 100 or 200-yard range. This took time and patient experimenting but when our own tests showed that the "all-range" cartridge had been produced we sent samples to Daytona.

This is what Captain Crossman says:



THE U. S. CARTRIDGE COMPANY,
111 Broadway,
New York, N. Y.

Gentlemen:

I note your inquiry as to the performance of the U. S. N.R.A. Long Rifle ammunition sent down to us for test at Daytona, Fla.

In the three rifles used at the station for machine rest firing of .22 Long Rifle ammunition, this particular sample sent us gave higher accuracy than any other make at 50 and 100 yards, its superiority being particularly marked at 50 yards. At 200 yards it was "shaded" a small fraction of an inch by the special 200-yard ammunition of another make, the difference being purely a paper one. At 25 yards it was equalled by the special uncrimped, very-low velocity ammunition of a third make.

The special 200-yard stuff, however, was beaten at the lower ranges by U. S. N.R.A., while the low-velocity, uncrimped 25-yard ammunition proved useless at longer ranges. I would therefore class this particular lot of U. S. N.R.A. as the finest all range cartridge I have ever tried—and during our tests we fired from five hundred to six hundred machine rest groups with every make of ammunition on the market. It was particularly surprising to find ammunition with the velocity as high as yours, giving accuracy equal to any other special sort at 25 yards.

Recent inspection of the targets made with the special Stevens rifles turned out for the U. S. Olympic Small-Bore Team, and this same lot of U. S. N.R.A. checks this high accuracy at 25 yards.

It is the opinion of Captain Wotkyns and the writer, the two small bore "nuts" at the Small Arms Ballistic Station, that no better ammunition has been made than this particular lot of which sample was sent to us. Needless to say our tests showed that there is as much difference between different lots of ammunition of the same make as there is between individual rifles. I hope you can continue to turn out U. S. stuff as good as the lot we tried.

The uncrimped U. S. N.R.A. did not give as consistent accuracy as the regular crimped, and I should advise against putting it out.

Yours very truly,

EDWARD C. CROSSMAN.

We appreciate this letter very highly for we know that Captain Crossman is recognized as an impartial judge. When ammunition is good he says so and when it isn't he is equally frank. We regard high uniform accuracy as more important than the performance of specially loaded cartridges. Hence the ammunition sent Captain Crossman for test was not of the hand-picked order but merely represented a cross section of production when our routine factory testing showed uniform results. We believe the cartridges which formed the basis of this test were fairly representative of the general run now coming through the plant.

UNITED STATES CARTRIDGE COMPANY

111 BROADWAY

GENERAL SELLING AGENTS: National Lead Company, Boston, Buffalo, Cleveland, Chicago, St. Louis, Cincinnati; United Lead Company, New York, Philadelphia; National Lead and Oil Company, Pittsburgh; James Robertson Lead Company, Baltimore; American Smelters Securities Company, San Francisco; Hingston-Smith Arms Company, Winnipeg; John Hallam, Ltd., Toronto.

NEW YORK



Remington

TRADE MARK

WINS

Olympic Ammunition Test!

BREAKING ALL RECORDS AT 600 YARDS

At Sea Girt May 18 and 19, 1920, Remington .30 Cal. Springfield 180 grain Palma Match Ammunition won over all competitors with the finest record ever made in an official test at 600 yards. This is the same ammunition used in winning the Wimbledon Cup Match at 1000 yards last year at the National Matches at Caldwell, New Jersey.

	Mean Radius in inches
Remington 180 gr. Palma	3.41
Frankford Arsenal No. 1, 170 gr. Olympic	3.66
Remington Palma (different powder)	4.10
"Competitor A" 170 grain (Commercial Manufacturer)	4.35
Frankford Arsenal No. 2, 150 grain	4.46
Frankford Arsenal No. 3, 150 grain	4.75
Frankford Arsenal No. 4, 150 grain	4.80
"Competitor B" 150 grain (Commercial Manufacturer)	4.89
<i>(Competitors "A" and "B" are Commercial Manufacturers)</i>	

The Remington Arms Union Metallic Cartridge Company, Inc.

The Largest Manufacturers of Firearms and Ammunition in the World

Woolworth Building

New York City