THE AMERICAN RIFLEMAN'S MAGAZINE

ARMS AND THE MAN

RIFLE — AMERICA — CLUB

VOL. LXVIII, No. 8 — DECEMBER 1, 1920

Another 100-Yard Possible

This target was recently made at the Haverhill Club by Mr. Daniel G. Fox of Haverhill, Mass., in a regularly staged rifle match. Mr. Fox used:

US .22 N. R. A.

Long Rifle Lesmok Cartridges

and writes us regarding them:

"You can rest assured that I shall continue to use this very fine cartridge, as I consider it without exception to be the most accurate at all ranges. At first we thought that it was only its best at the 200-yard and over, but I am convinced after numerous tests, that it is equally as good at 25 yards, and superior to any that I have previously used."

UNITED STATES CARTRIDGE COMPANY

2201 TRINITY BUILDING **NEW YORK**

ARMS AND THE MAN

The Official Organ of the National Rifle Association of America

Volume LXVIII, No. 8 | WASHINGTON, D. C., December 1, 1920 | $3.00 a Year. 15 Cents a Copy

The Matter of Pistol Accuracy

By Captain EDWARD C. CROSSMAN

OUTSIDE of the Young America, the Bulldog, the Burglar's Friend, the Dresser-Drawer Special and the .45 automatic, the pistol or revolver will as a rule outshoot the man firing it. Because of this fact, only two people worry much as to the accuracy of the hand-gun—the truly expert shot, and the man devoid of a sense of humor.

The rest of us, observing the merry waltz of the front sight of our pet hand-gun, using up all the black spot, and oftimes some of the white in its gyrations, are satisfied that if we can only wish that pistol off when the front sight occupies some respectably approximate relation to the ten ring; the gun will do the rest.

Hair-splitting accuracy of rifle and ammunition is another thing. The fair-to-middlin' rifle shot, prone, with a good rifle, will out-shoot service ammunition, which means that his error of "see" and hold and let-off will be less than the error of the ammunition. The expert rifle shot will outshoot match ammunition. The closer rifle and ammunition approach to the error of the man, the more wonderful become the long strings of bull's-eyes. As a rule, the expert shot is shooting better even than such ammunition as Remington put up for 1920, particularly if he resorts to the telescopic sight.

The error of the man with the pistol, however, is so much larger than his error with the rifle, due to the difference in position, that only the ultra-expert can differentiate between a pistol of gilt-edged accuracy and one that shoots a group twice this size, because even the double-sized group is smaller than the expert's holding with any sort of revolver or single shot pistol worth considering. A very slight off-color condition in the pistol man, a cup of coffee too much or too little, and his shooting becomes a matter of blissful uncertainty.

It is because of this unsteadiness of position, and lack of any means for the layman accurately to determine how a pistol shoots that has permitted a few guns to "get by," where a rifle so doubtful would be on the blacklist the first season.

When, however, men of unquestionable pistol shooting ability—and a lot of them—uniformly fail to get good scores out of one sort of gun and get good scores out of another then it is a safe bet that the first gun is a long way from being as free from suspicion as the well-known wife of the equally well-known Julius Caesar ought to have been.

I am shooting now at the use of the .45 automatic at 50 yards.

For long I have been an admirer of this gun for the purpose its designers had in mind, which was not fine target work at 50 yards. It is a compact, sturdy, reliable and powerful pistol, intended for throwing a huge bullet a short distance and disabling your adversary before he can pull any rough stuff for your benefit. There may be occasional needs for its use for accurate slow fire work at extended ranges, but it is not necessary to practice at extended ranges for such occasions. If the shooter holds the gun into the 5-inch at 25 yards, it will naturally hold inside the 10 or 12-inch at 50 yards, which is all that is necessary and can be taken for granted without endeavoring to make this special target shooting course a part of the curiculum.

That is to say, so far as the error of the shooter goes, if the gun shoots into 5 inches at 25 yards, it will shoot into 10 or 12 inches at 50 yards, adding the extra two inches for failure to define the bull's-eye so clearly.

The gun, however, gives results so peculiar at the 50-yard range that there is more argument than ever for not using it outside of its practical distance, 25 yards or so.

There is on record the 50-yard shooting of the best pistol men in the country in two different matches at Perry, one of them ,the single entry, 50-yard match, in which any pistol could be used, the other, the 50-yard stage of the National Pistol, in which only the .45 automatic was permitted.

In the first, in which any pistol or revolver was permitted, the high 30 men scored 90 or better.

The second, restricted to the .45 automatic, there were just eight scores of 90 or more out of the 72 medal-winning shooters.

Conditions were good in the National Pistol Match; not the gale that struck the second day's relay of the N. R. A. Pistol.

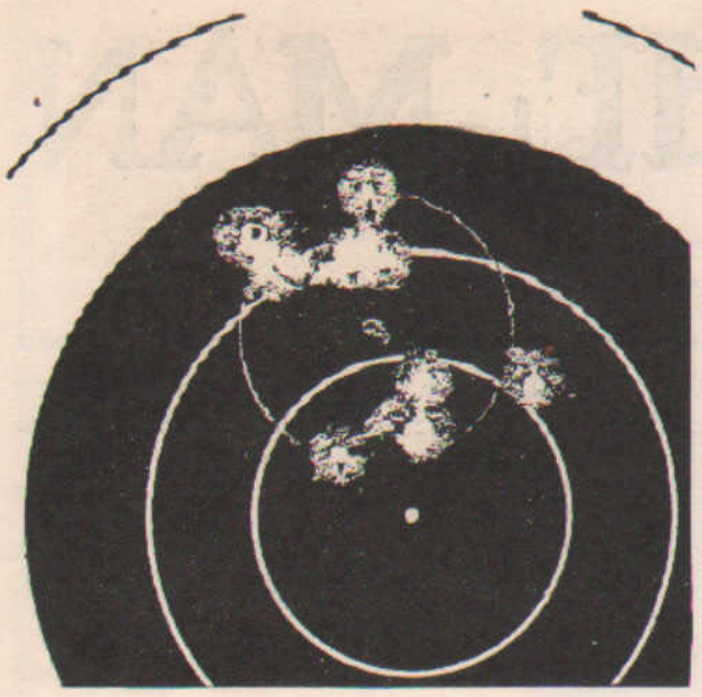
Admitting, as was probably the case, that the majority of the 90-score men in the single entry match shot .22 pistols, still there remains the fact that even a .22 must be held into the requisite small circle necessary to make 90 or more. If the same holding with the .45 automatic at 50 yards doesn't result in scores approximating those made with other guns, then there is nothing to do but pass the buck to the gun.

The .45 automatic cartridge for this year was as accurate from the Government composite rifle-pistol affair, shot in machine rest, as any .38 stuff ever submitted to the same test. Fifteen groups of 10 shots each, gave a mean group diameter at 50 yards of 2.6 inches. In detail the 15 groups measured—extreme diameter—as follows:

2.5; 2.00; 3.30; 3.00; 3.00; 1.90; 3.60; 4.40; 2.55; 2.95; 1.95; 1.80; 3.80; 2.00; 2.10.

The largest group was therefore less than 5 inches, the mean just over half of five inches, which is the size of the L Target bull counting ten. The mean radius was not given, but ought to be about .85-inch. The best shooting .38 stuff ever put through the Government machine rest test was Winchester in 1913, which scored 1.01-inch. It would appear, therefore, that the .45 automatic cartridge is in itself capable of as good shooting as the .38 Long, and probably as good as the .38 S. & W. and Colt Special.

The shooting [illegible]rical[illegible]the .45 automatic pistol, however, is something that can[illegible]e determined by the eye alone, and that, after all, with the g[illegible]n held in the hand of a pistol shooter. The sights are on the slide, the bullet is directed by a different portion of the gun, the barrel, and the two slide independently of each other. Various forms of machine rest have been evolved for the automatic pistol, some to hold it rigidly enough to keep the muzzle aligned on the same spot on the target, others arranged to permit the shooter to lay the gun by means of the sights, each shot.



Group made at 50 yards with S. & W. Olympic barrel with no screen to deflect bullets. All shots touching a 1-inch circle.

The first method begs the question, because it does not take into consideration possible differences between slide and barrel. The second method never produced anything wonderful in the group line, and is probably no better than holding the gun in the hand, with an expert of Fitzgerald's class, doing the holding.

So what the cartridge will do, and what the gun will do are two horses of different shades.

The facts seem to indicate that the automatic pistol is either of indifferent accuracy, or else that it is a most difficult arm to shoot accurately, which in the final results amounts to the same thing.

When an expert can stand up and knock out monotonous strings of 10's on the L target at 50 yards with a single shot pistol, and then can't knock out even a 90 with the automatic, it demonstrates that there is something beside human error involved.

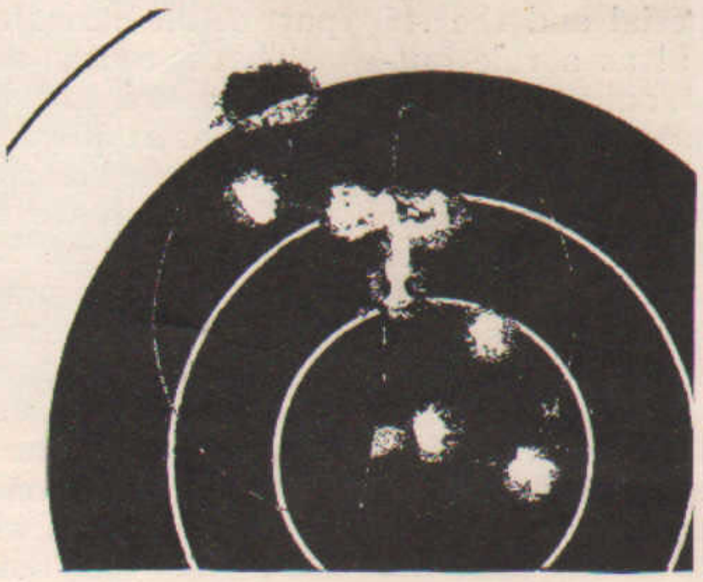
Many a good shooter in the 50-yard stage of the National had his hair and his dander rise at the sight of a sharp pointed indicator creeping up and indicating a perforation well outside of the rings, which are in themselves 26½ inches across. When a man reasonably sure of his pull, is rewarded by a three for a nine hold, then the game becomes one of horse-shoes and rabbits feet.

Wherefore any match restricted to the .45 automatic which restriction I consider unfortunate in view of the fact that the .45 revolver will be called promptly into service in the event of another war and is stored for that purpose, ought to be held to the range used for the matches of 1918 and 1919, 25 yards, which is a reasonable pistol distance, and ought to take in little slow fire. A pistol is one weapon that is shot at close range and in a hurry, and to shoot it quickly and accurately is the test of pistol marksmanship, not merely to shoot it accurately. It is not a rifle, all the time in the world is not available.

An excellent addition to the National Pistol Match would be the use of the man-figure "bobber" target at 50 yards, each hit to count five, exposure three seconds.

An excellent subtraction would be the elimination of the L Target, which has no excuse for existence save that it exists. The Standard American, familiar to all American riflemen and pistol shots as being the standard for both 50 and 200 yards for pistol and rifle, gives us a reasonable sized aiming mark, eight inches, and accuracy in scoring by use of its 3 1–3-inch, 10-ring, and an intelligent comparison of scores with what the rest of the country is doing. If it is too restricted for the verdant rookie to hit, move him up until he can hit it. Why anybody should conjure up an aiming mark of 5-inches and put it up at 50 yards for a big man killing gun like the .45 automatic, is hard to figure out. It is bad enough at 25 yards.

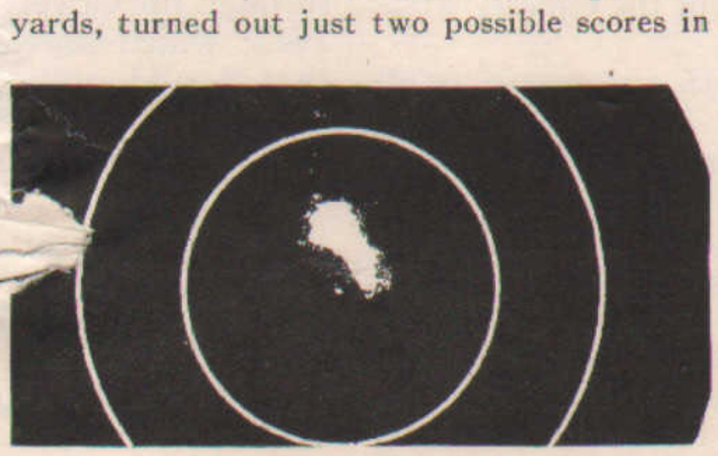
The service automatic is intended neither for shooting mosquitoes nor flyspecks. When you attempt to make it perform in a lady-like slow fire game at 50 yards, you're trying to make an elephant waltz. Both can be done,



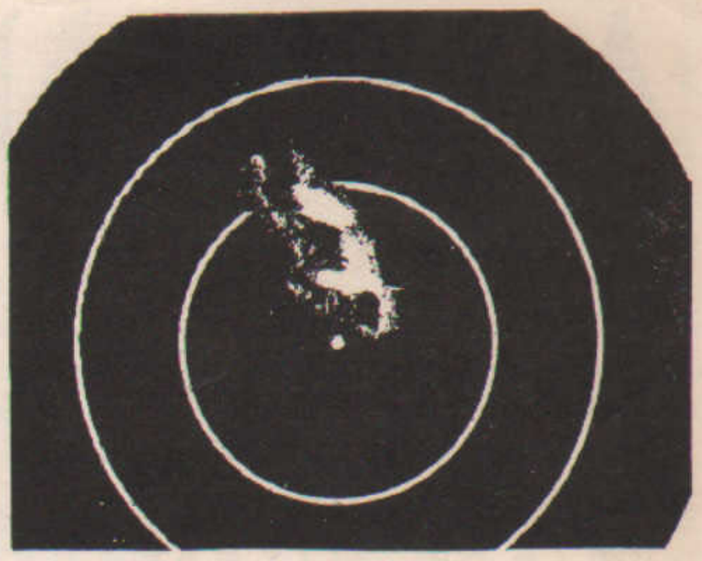
Group made at 50 yards with S. & W. Olympic barrel through 6 screens and two targets. This shows how a group is enlarged by passing through several thicknesses of paper. All shots in 1½-inch circle.

but it is hard work and the results are not worth while.

There is no occasion for two distances in any pistol match. With an arm with sights fixed and with the distance too short for any such fine stuff as wind allowance, the sole reason for having two distances is to make the bull's-eye harder to hit. If you use a bull's-eye with small counting rings like the Standard American and Olympic, you've got one that is quite difficult enough for the 25-yard distance with the service automatic pistol, even if slow fire is insisted upon for one stage. I never could see, even with larger 5-inch, 10-ring on the L target, enough possibles at 25 yards to worry anybody in a three stage match. The 1919 National Pistol, with the slow fire stage at 25 yards, turned out just two possible scores in



Group made at 10 yards with S. & W. Olympic barrel. Shots will cut circle 1–16-inch in diameter.



Group made at 20 yards with S. & W. Olympic barrel, no screen. All shots cut a circle 3–8 inches in diameter.

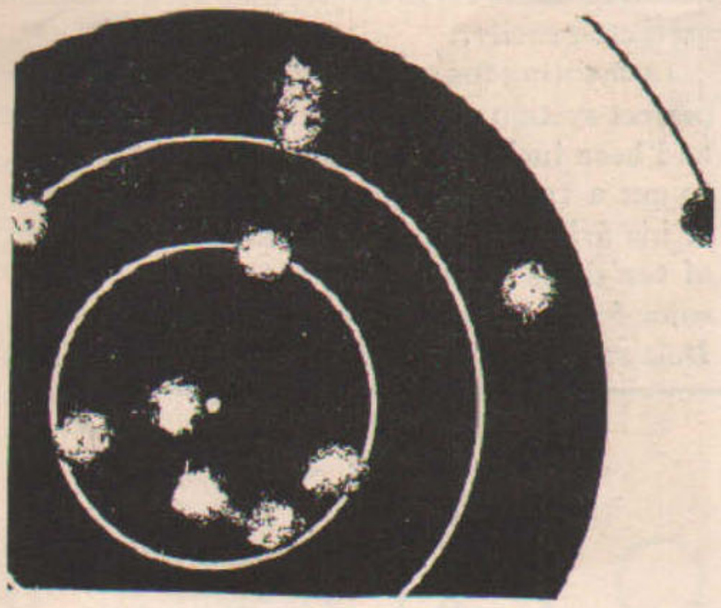
the first 72 men, and ten scores of 98 or more, which is not as bad as the 200 yard rapid fire stage of the National Rifle. Cutting this counting ring of 5 inches to the 3 1–3 inches of the Standard American target, I feel reasonably sure that we wouldn't have to worry about possibles because of the short range.

While the case against the .45 automatic pistol for 50 yard work seems proved by the scores, the .22 single shot is quite a different gun, showing, too, by its scores that the pistol man can hold better than the .45 will shoot—or can be shot, if there is a difference in the two things.

It is not to be supposed that the winner of both the N. R. A. pistol match, and the National Pistol Match is throwing away any points he can help in the slow fire stage. Yet we find the winner of the two, making less than 90, slow fire at 50 yards, with the automatic pistol in the National Pistol.

The .22 single shot pistol is one gun that emphatically out-shoots the best holder at 50 yards, which is a situation much to be desired. The American Olympic Pistol Team under Colonel Snyder consisted of men who were without doubt the best holders in this country, else they would not have been on the team. To equip them with pistols that would unquestionably out-shoot the man, the Smith & Wesson Co., up at Springfield, turned out special barrels for the .22 Smith & Wesson pistol that shot practically as well as the best of .22 match rifles. This means groups of an inch or a trifle larger at 50 yards.

These barrels, known by the makers as the Olympic barrels, were bored smaller than the regular S. & W. .22 barrel, which has been too large for certain makes of .22 ammunition, and were practically without "leade" as the British agree to call the cone forward of the portion of chamber intended for the cartridge case. A loaded cartridge, seated home in one of these barrels and withdrawn without being fired, showed the clear imprints of the lands right up to the case itself. Also the seating was not easy, and was too stiff to work in a repeating rifle or in any other form of weapon where the push-in action was not strong and positive. In the S. & W. pistol of course this is performed neatly and simply by the plain unadorned thumb, which you can shape like a cam or any other mechanical method of applying power.



It is generally believed that LONG cartridges always give poor accuracy. This group was made with LONG cartridges at 50 yards.

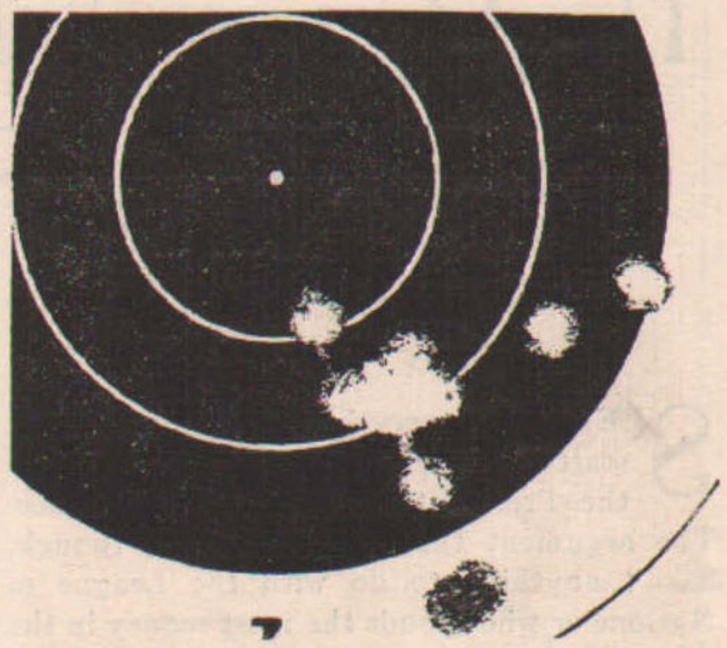
If, with this type of chamber, you changed your mind about firing the shot, and undertook to rescue the unfired cartridge, you usually got it back in three portions, case, powder, well sprinkled into the action, and then the bullet by dint of a cleaning rod.

The factory made twenty-four of these barrels, probably the best twenty-four pistol barrels ever turned out. The new Colt shot well in the Olympic matches, but it is doubtful if even this new and fine gun of the Young-horse people could show the accuracy of the special S. & W. Tubes. Inasmuch as there is no patent on the idea, it is to be hoped that brother Roy D. Jones and Victor Wesson, who got out these tightwad tubes, will keep up the good work.

A tube that uses up but an inch or so of the 10-ring at 50 yards would be just as much comfort to the poor shot, as to a Frederick or Lane, because it removes from said rotten shot's mind the dreadful uncertainty as to what put that shot out in the five ring, and he can then commence to practice and make a pistol shot of himself with the calm assurance that every shot outside of the 10-ring may be chalked down against the fellow just behind the gun.

As I've said elsewhere in this story, this also

This group was made with the same barrel at 50 yards.



Another group with the Olympic tubes at 50 yards.

may be true when shooting the .45 automatic pistol at 50 yards, but you'll have a cat-and-dog time of it making some of these pistol men believe it. Let's run in the bobber figure targets on them again and make the 50-yard stage of the match, if we insist on a two-distance event, something beside the old slow squeezing, dainty, target game. We've nearly done away with the Schuzen rifle game in this country, and with the attempt to make the military rifle ape the Schuetzen rifle with the elbow on hip and spike finger hold, now let's take the .45 automatic out of the same class, and use it as a war gun, as a big burly, rough-neck service weapon, ought to be used.

Prone Shooting at 200 Yards a Remarkable Accuracy Test

By Major TOWNSEND WHELEN

THE results of a most remarkable rifle match shot in June and July of last year at the old Walnut Hill Range of the Massachusetts Rifle Association has just come to my attention. The conditions of this re-entry match were 10 shots at 200 yards, on the Standard American Rest Target, any rifle, any sights, prone position, the best ten scores shot during the month to count. A large number of competitors entered, but the race soon centered on four men: A. O. Neidner, O. E. Gerrish, Gibbons and Kelley. The match was finally won by Neidner, the scores being as follows:

Neidner, 99-97-96-95-95-94-94-93-92-92.... 947
Gerrish, 98-96-95-95-94-94-92-91-91-91 937
Gibbons, 87-84-84-82-81-80-78-78-75-75 .. 802
Kelley, 87-86-85:79-79-78-76-76-76-68.... 790

As the match was shot from prone position at 200 yards where weather conditions scarcely entered, and as the first four contestants were all expert riflemen, it can really be regarded as a most illuminating and interesting test of rifles, sights and ammunition. Mr. Neidner used a .25 calibre Springfield rifle, with a barrel made by himself to shoot a 30-1906 shell necked down to .25 calibre. This barrel had the improved Mann-Neidner chamber. The bullet weighed 103 grains, and was made by cutting off a 117-grain ,soft point, .25–35 bullet at the point and swedging it to proper form. The powder charge was 38 grains of DuPont M. R. Powder, No. 20, giving a velocity in this special barrel of 3050 f. s. In the 100 shots fired by Mr. Neidner, he had 14 twelves and 21 elevens. It should be understood that in scoring on this target the 11's and 12's are not counted, except when shooting at rest and in this match the highest count was 10. The following are the diameters of the various rings of the Standard American Rest Target.

12-ring—1.41 inches } Counted *only* in 200
11-ring—2.33 inches } yard rest shooting.
10-ring—3.36 inches.
9-ring—5.54 inches.
8-ring—8.00 inches.

Mr. Gerrish shot his 25 calibre Mauser rifle with barrel made by Neidner. This rifle fired the .250–3000 Savage shell, and also had a Mann-Neidner chamber. The bullet was the .25 calibre, 86-grain, soft point, jacketed bullet, Winchester make, regularly used for the .25–20 cartridge. The powder charge was 34 grains of DuPont M. R. No. 20 powder. Gibbons and Kelley both used regular Springfield .30 calibre rifles with special hand-loaded ammunition. All four contestants used telescope sights.

This match shows in a very clear and convincing manner the exceptional accuracy of the Neidner .25 calibre barrels, and their superiority over the Springfield rifle which has always been regarded as our standard for accuracy. Notice that in 100 shots the Neidner barrels averaged 146 points higher than did the straight Springfield barrels, truly a most remarkable showing. For many years I have done a great amount of rest shooting at 200 yards with many Springfield rifles, and the average diameter of all the groups has been just about 5½ inches. Also of late years I have done considerable shooting with a Mann-Neidner rifle with the old type of Mann chamber and a .25 calibre 101-grain, two cylinder, base band bullet, and with a Springfield rifle with .30 calibre Neidner barrel with improved Mann-Neidner chamber. Both of these Neidner barrels have averaged just about 3½-inch groups at 200 yards. The only other barrels that I have ever seen which will do work equal to these Neidner barrels are the old Pope muzzle loading, black powder barrels, and they can be regarded as out of date today as they

(*Continued on page 9*)

The Mystery of the Missing Minute —Or the Perfect Alibi

By DONALD McK. ASHTON

SEEMS like everything these days either starts or ends in an argument. Take the Presidential election, for instance. The argument that we have here, though, hasn't anything to do with the League of Nations or who spends the most money in the campaign.

G. L. Wotkyns, Captain, late of Camp Perry, Sea Girt and "pressure barrels"; T. G. Samworth, of the DuPont Company; and yours truly, got together here a while ago on rifle telescopes and telescopic mounts. The various ways of mounting also entered into the discussion. Having nothing in particular to do, and knowing that the only satisfactory way of settling any argument was to have the point at issue proved, we went down to the range and did a little experienting on the side.

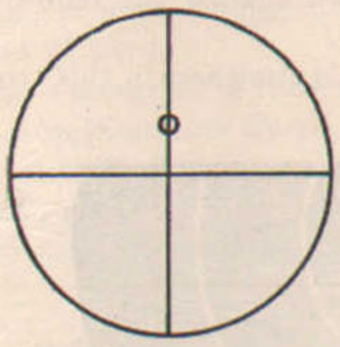
With that trusty "Springfield" that was used at Perry as a family rifle, and with a sight that was mounted wholly on the barrel, we outlined a method that was intended to show up all the errors possible in the manipulation and use of said sight. Having a Frankford rest mounted on a concrete base at our disposal, as well as an improvised 100-yard range, we decided to put up a bore sighting target at 25 yards, use bore sights in conjuntion with the telescope to check any change during firing, and in addition try out the accuracy of the rifle on the 100-yard range. By altering the rest we were able to absolutely replace the rifle time after time without any change taking place in its position. The rifle was bore sighted, and the telescopic sight brought into position so that the center lines of both barrel and sight crossed through the center of the bore sight target. Then ten rounds of service ammunition were fired, from a muzzle and elbow rest, and the rifle replaced in the altered Frankford rest. The bore sight was "on", but the cross hairs of the telescope were mounting to the heavens. Comments from the assembled multitude and a series of question marks shattered the quiet. Ten more rounds found the telescope going up, and to the left. The rest of the story will be found in the plates.

It should be noted that after cooling, the mystery was deepened by the centers of both bore and sight returning to their original position.

With all this to bother us, we found one or two other little things that were not caused by optical defects, poor construction or poor material. For instance, when the mount was tightened on the barrel, there was a variation of a minute between tightening with the fingers and with a coin. Locking the dials moved the telescope one minute to the right and one minute in elevation. The design was believed to cause these errors, and both could be corrected easily.

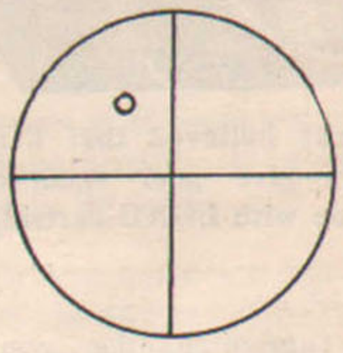
In shooting for accuracy, Samworth had the perfect system. It seems that Capt. Wotkyns had been lucky (?) enough, according to Sam, to get a two-inch group. During the course of his firing, Sammy discovered that two out of ten shots were going wide. Deducing, by some formula that he had brought down from Delaware, that these wide shots were his first

FIGURE 2



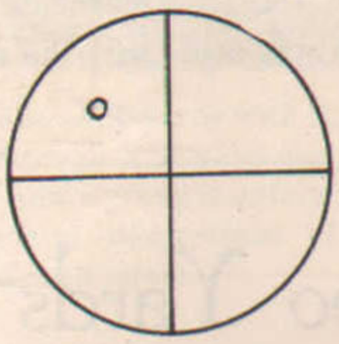
After 10 rounds, up 1.0 inches.

FIGURE 3



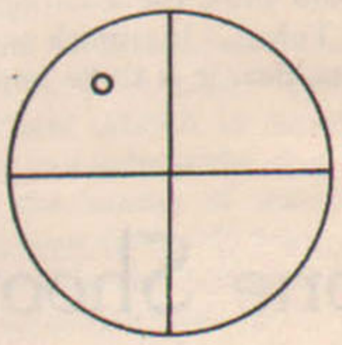
After 20 rounds, up 1.5 inches, left, 1.0 inches.

FIGURE 4



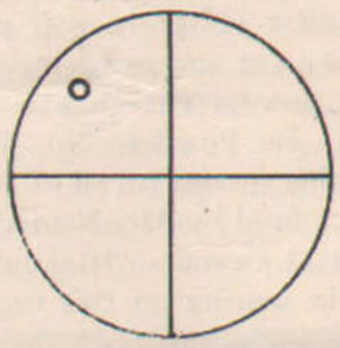
After 30 rounds, up 1.5 inches, left, 1.5 inches.

FIGURE 5



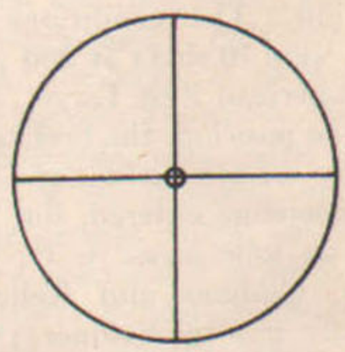
After 40 rounds, up 2.0 inches left, 1.5 inches

FIGURE 6



After 50 rounds, Up 2.0 inches left, 2.0 inches

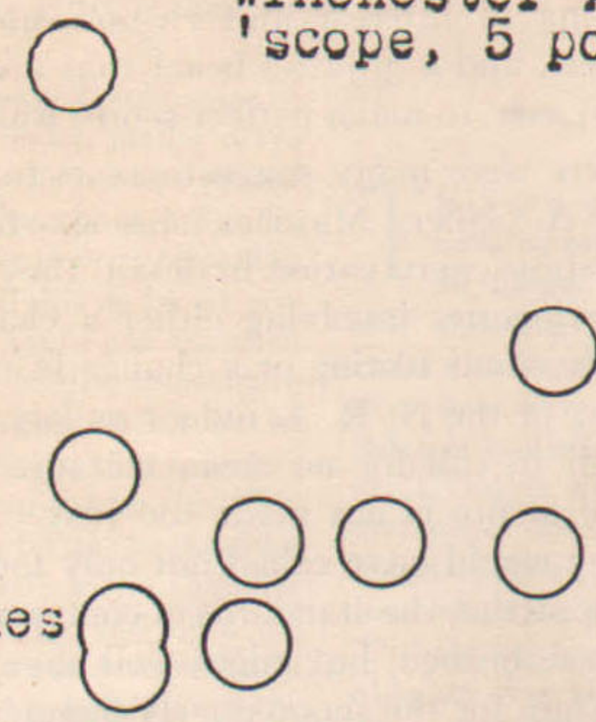
FIGURE 6-A



At start of test and after cooling.

° Represents the position of the center of telescope in relation to the center line of bore, measurements being made after firing, by placing the rifle in a Frankford rest that had been altered to insure accurate replacements. Bore sighting target at 25 yards from the rifle, and the above is drawn to scale.

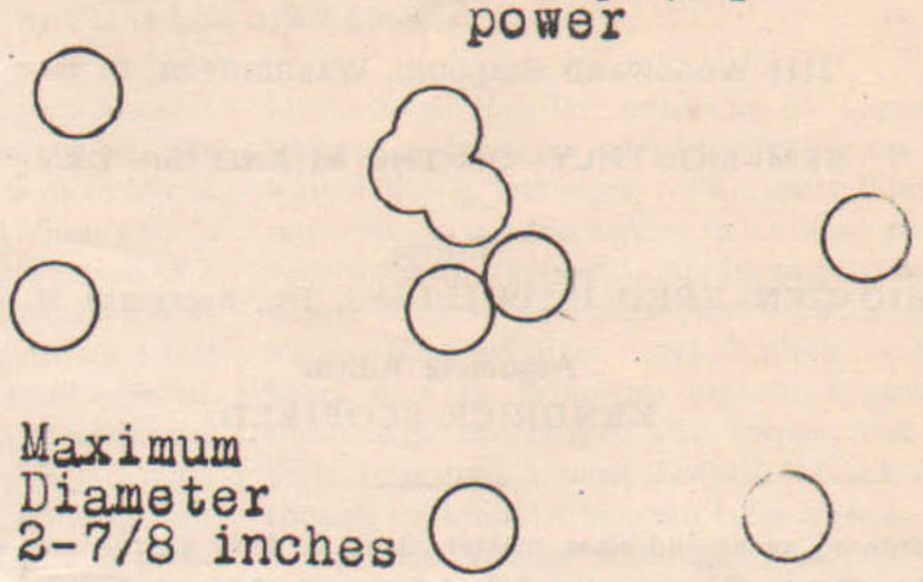
FIGURE 1



Winchester A-5 'scope, 5 power

Maximum Diameter 2-7/8 inches

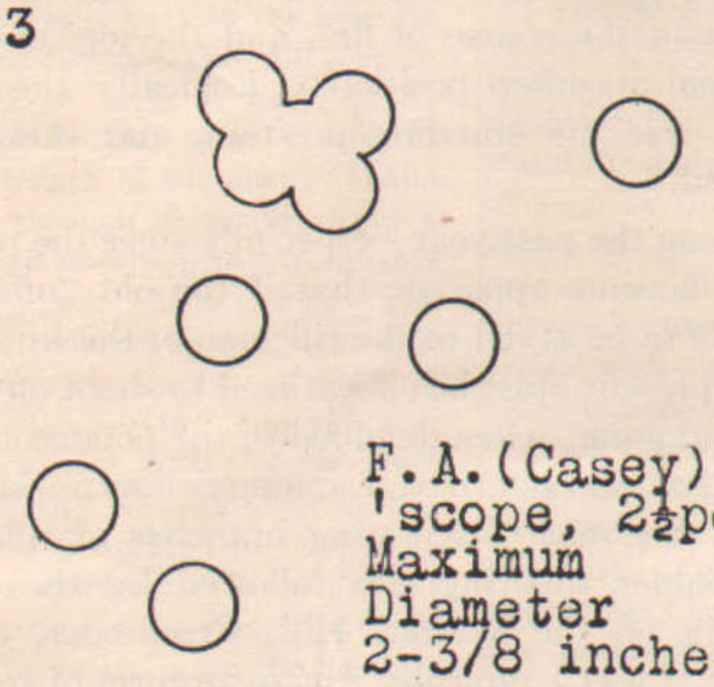
FIGURE 2



F.A. (Casey) 'scope, 2½ power

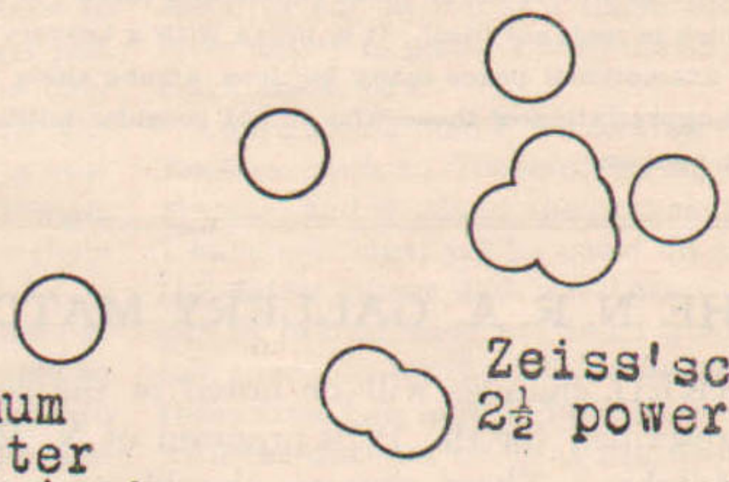
Maximum Diameter 2-7/8 inches

FIGURE 3



F.A.(Casey) 'scope, 2½power Maximum Diameter 2-3/8 inches

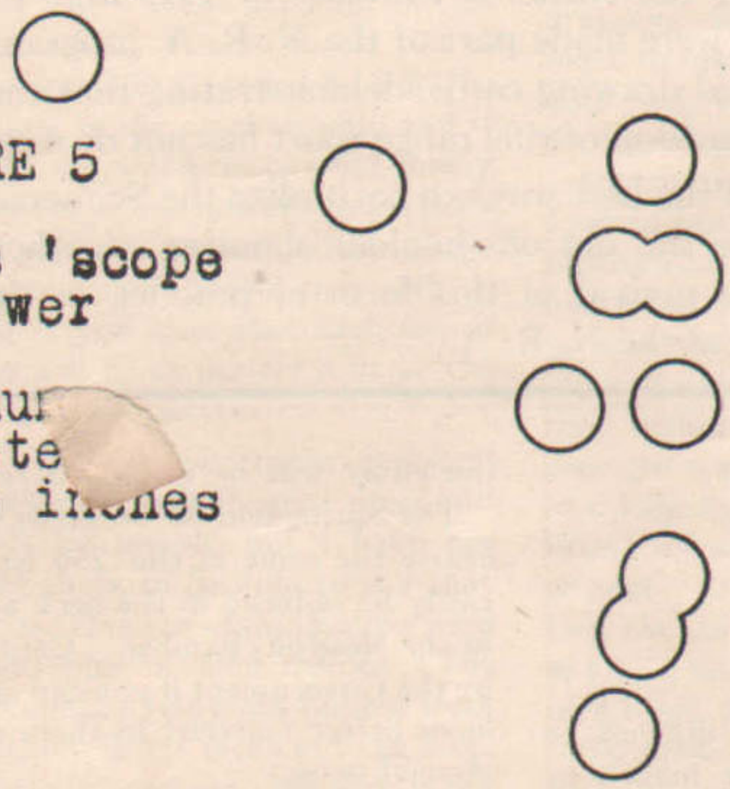
FIGURE 4



Zeiss'scope 2½ power

Maximum Diameter 2-1/4 inches

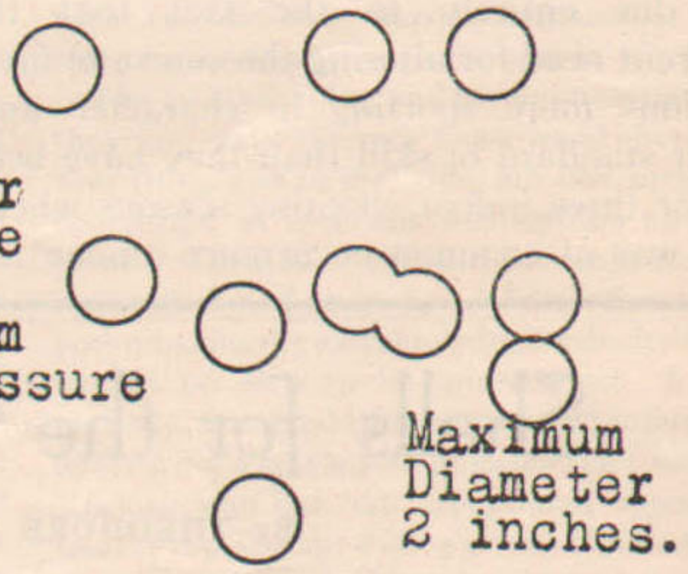
FIGURE 5



Zeiss 'scope 2½-power

Maximum Diameter 3-1/8 inches

FIGURE 6



Winchester A-5 'scope 5-power Fired from heavy pressure barrel.

Maximum Diameter 2 inches.

two, he proceeded to let drive, *into the weeds*, two shots, and then went on with his string. And not satisfied with the gilt-edge (?) groups resulting from such practise, the man kept changing his aiming point to pull up the low shots. So now we have two new axioms for accuracy shooting. 1. If you think that your next shot will be high or wide, fire it into the next county. 2. If you do not get a good group change your aiming point constantly.

The plates show some of the groups made during the afternoon. They are not labeled as to the shootee, as Samworth says that Captain Wotkyns needs the honor to maintain his rep; and the Captain says that no one would believe that Samworth could shoot anyway.

In closing for the night, ask Samworth about the trip back to camp. Seems that there was a "copper head" in the road, and Sammy had to have it for a plaything. As he got out one side of the truck to get the snake the driver got out the other to get—away. Sam got the snake, and clambered aboard a driverless car. It was after a great deal of persuasion that we were able to proceed. Proceed is good. As the man said, "If we had had a feather we'd 'a flew." Sammy says, "Driver, if you don't slow down I'll have to drop this snake to hold on, and if I do, it is sure to bite one of us." Then he was complaining the rest of the night because we were late for supper.

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.

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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.

THE N. R. A. GALLERY MATCHES

MARKED changes will be noted in the courses of fire prescribed for the 1920 program of N. R. A. Gallery Matches. These changes should meet with the approval of all riflemen who have the interest of the shooting game at heart. They were made only after the officials in charge of the match had considered the questions involved from every angle and had obtained opinions from many experienced small-bore shots. That the course was changed was due entirely to the fact that there was a very apparent need for altering the course of fire to make the competitions more sporting in character and to establish a better standard of skill than they have been during the past two or three indoor shooting seasons where the possible not only was of common occurrence among individual shooters, but among whole teams as well. This naturally resulted in a lessening of interest and enthusiasm among many of the shooters, and a growing belief that a competition in which it was so easy to make perfect scores was hardly worth while.

There were many suggestions as to means of making the N. R. A. Gallery Matches more sporting, but although these suggestions were varied in detail, they largely fell into one of two categories involving either a change in the size of the already small 10-ring or a change in the course of fire. The 10-ring of the N. R. A. indoor gallery target is already small enough to call for no mean measure of skill, providing the course of fire is not made too easy. To further reduce the 10-ring would have called not only for redesigning the target and upsetting the standards of comparison which have already been established, but might well have involved a question of eye-strain for the shooters. It therefore seemed to the match officials that the end desired would better be gained by a change in the course of fire, and the logical change was the addition of other positions. Logically the position to be added was the standing position, and this suggestion was adopted.

During the past year—especially since the past Olympiad—it has become apparent that if the old "off-hand" shooting game is to be saved to the riflemen of the future, the riflemen of the present must be encouraged to shoot off-shoulder. The off-hand game, when denuded of the ponderous paraphernalia which has characterized it among Schuetzen shots, constitutes one of the most fascinating branches of rifle shooting. As off-shoulder shooting was followed by the early American riflemen on the Walnut Hill, Creedmoor, and Union Hill ranges, it was a typically American form of sport, the sport of the forefathers of rifle practice.

During the National Matches of 1919 and 1920, off-hand matches were made part of the N. R. A. program and proved to be good drawing cards, demonstrating that the love of this particular form of rifle range sport has not died out.

One of the best ways to naturalize the Schuetzen game, and to revive the old off-shoulder shooting of other days, is to start the revival of this form of practice in the small-bore matches of the N. R. A.

Shells for the .256 Newton

By THEODORE M. CARLSON

OWNERS of the .256 Newton rifle are becoming disturbed over the discontinuation of the manufacture of this splendid arm. Mr. Newton is going to manufacture a .25 calibre instead of the .256 and claims that the new .25 will be superior to the .256. Well if it is it sure will be some rifle.

I notice in the sportsmen's magazines advertisement after advertisement offering Newtons for sale, and I presume the reason for this is as already stated, the discontinuance of the manufacture of the rifle and shells for it.

Well brother sportsman and rifle shooter my Newton is not for sale. Now let me tell you something that I have learned. In the first place you will find it very difficult to obtain shells for the .256 either loaded or empty. I did manage to get some a while back but the shells are hard and brittle, the bullets are not true to form, size or weight. Some of the shells even have wrinkles in them showing that the drawing was very carelessly done. And the price! One hundred of these bum shells cost me $16.24 including express, and if they shoot the way they look there will be no bear or deer for me this winter; but listen, I am not going to use them. I have something much better in view. If one possesses a little mechanical ingenuity he can make his own shells with a little effort, and the effort will be fun for a real rifle crank.

The Springfield 30–06 shells shells are very nearly the same as the .256 Newton and can easily be reduced in the neck and shoulder to fit the Newton chamber. Get the shells made by the Government if you can ,as they seem to have better material in them than the commercial ones.

If you possess a little bench lathe you will be right in it and if you don't you can get a machinist or toolmaker friend to make what you want for a small amount of money.

The first thing to do is to get a piece of steel about 1½-inches square and ½-inch thick, bore a 17–64-inch hole through the center of this piece and then make the hole as smooth as you can either by lapping or grinding or any method that is available, then bevel off one end of the hole to about the same bevel as the shoulder of the shell, round off all sharp edges on the bevel. This is what I call the first, or

roughing die, this can be hardened or not just as you please, should it wear a little it does not matter.

After you have this die made fasten same in a vise and with a small wooden mallet drive the muzzle of the shell into the beveled end of the die a short distance, say about 1–8-inch, next place the muzzle resizer in your reloading tool and force the shell into this as far as you can without buckling it. Again put the shell in the reducing die and reduce it some more and again put it in the muzzle resizer in the reloading tool. By alternating this way you can soon reduce the shell up to the shoulder. After the shell is reduced as far as the shoulder the next step will be to reduce the shoulder itself and this can be done by making a die with a bevel the same as the one described and with a taper hole. Drive the shell in until the shoulder is reduced down about 1–16-inch in diameter and then put it back in the first die and drive in a small distance, this will tend to upset the shoulder or bring it back to its original shape and at the same time will shorten the body length of the shell. While working the shell through these dies have a regular Newton shell near you and from time to time compare the two. After you have the shoulder and neck reduced to the right size you will have to size the shell back about 1 inch from the shoulder, and for doing this you will have to drill a hole in a piece of steel exactly the size of the Newton shell at the shoulder and drive the Springfield shells into it until they fit your chamber. Some of them require very little sizing in the body and some have to be driven in nearly up to the head.

If you do not like to tinker do not waste any time on this, as it is quite a tedious job. One can make about 5 or 6 shells per hour in this way by being careful. I have made 100 of them and out of the 100 I spolied 6 by buckling, this buckling is the chief trouble and if one wants to avoid it will have to work slowly and carefully. But if one intends to keep his Newton it will pay as these remodeled shells are good for several shots before they split or give away. After you have shot each one of these once they will be as perfect a fit as the Newton cartridges themselves.

I have also made a few copper jacketed bullets by drawing in a small arbor press and using dies made by myself, but I have not made enough of these to be able to say that they are a success. One can obtain bullets used for the English rifles of .256 calibre. The Mannlicher-Schonauer 160-grain bullets work quite well especially if one picks out the large ones; they ordinarily measure .262 but many of them run .2635 and some larger than .264.

If any sportsman or rifleman wants to keep his Newton and wants to shoot a lot without expense which only a millionaire can stand, if he will go to the trouble of remodeling the Springfield shells as here described he can shoot to his hearts content and will not need to care whether they ever make any more .256 Newton shells or not.

If any Newton owner thinks enough of this little write-up to try what I have done I will be glad to help him along.

Rifles and Game

By CHARLES A. BRAMBLE

THIS is a queer old, topsy turvy world—nothing seems just what it might be. As an instance: those who know most about rifle shooting never get, or seldom get, a chance to let off a bullet in the direction of a deer, bear or moose, while others whose knowledge of ballistics is infantile can use up a box of cartridges every week or so they care to, and never fire at anything but what carries horns or claws. On the frontier, they can get just what the store carries and nothing else. This limits the choice to cartridges of a probable pre-war vintage, in calibres such as the 44–40, 38–55, 30–30, and a few others. All the special powders such as experts use to re-load, the refined chemical dopes with which to remove fouling and metallics, are usually unobtainable. Also sights must be robust to stand the awful treatment most arms get just as soon as the clearings are left. The only solace is that in really wild country the animals are obliging enough to permit a near approach, thus allowing an inferior marksman, armed with an antiquated arm, to turn them into venison.

If we Canadians had to shoot our game at the ranges African hunters tell of we should be forced to take a lot more bacon and flour into the bush. Only this very last August and September I had ample opportunities of noting the nearness our game permits. I had no rifle and made no attempt at shooting, because I was travelling light, and engaged on more serious matters; moreover, I do not believe in dropping several hundred pounds of deer meat to take what two men can use before it goes bad, with the mercury registering from 80 degrees to 100 degrees above zero.

One morning, to be exact, that of August 13, I sat in my canoe within 75 yards of a young bull at 10.30 a. m. After a few minutes it got our wind and went off at a trot. At 2 p. m. a very large cow and her three months old calf came out of the alders and began to feed within 125 yards of my post. She too soon got a sniff of the tainted air and went off at a long swinging trot, followed by the queer little ungainly calf, the latter objecting strongly to leaving his feed. This showed that the calves have not the same acute sense of smell, and that a three months old calf can feed itself, at least partially.

To show how extremely timid moose are it may be added that though this particular moose had been hanging about the same spot all the summer, when repassed three weeks later she had not retunred nor was there a fresh track to be seen. So without even seeing man, a faint whiff of his odor had sufficed to send her to distant parts.

As for white tailed deer, we saw them at all hours of the day, and so long as we kept still and to windward could get almost as near as we liked.

But our most interesting experience was with a baby bear. This poor little fellow had evidently lost his mother quite recently, possibly in some trap left unsprung by a careless trapper. He came almost into camp and wailed like a lost soul. Two days later we ran across him again twelve miles down stream very weak and evidently about to pass to the happy land where little bears innocent of wrong-doing go after death. We have tame bears here in Winnipeg and in September their coats are ragged and brown, but this little bear had a most beautiful black coat, though naturally it was not fully furred.

Can one wonder when game is met with under such conditions that the Indian, who is not scientific and has little money to spare, prefers the old 44–40 and reloaded black powder cartridges to the best super-velocity arm on the market. The one thing he wont use if he can help it is a single shot—for he loves dearly to pump and lead and is rarely a crack marksman.

I once took a man I had hunted with in the Rockies down to Toronto, during fair week. He was, and is, about the best shot on game I have ever met, yet he could do nothing on the dotter target and was beaten day after day by raw militiamen. But I would wager a fair sum that on the hillside he would make those same lads look and feel like thirty cents with the discount on Canadian money off.

PRONE SHOOTING AT 200 YARDS A REMARKABLE ACCURACY TEST

(*Continued from page 5*)

are of no use for anything but Schuetzen work, and even for this work can hardly compete with the Neidner barrels because of their extreme sensitiveness to changes in wind.

The Neidner rifles, and the ammunition that they use, make the very finest wood chuck and deer rifles, and in fact they are fast becoming recognized as excellent weapons on all large game. Their accuracy and flat trajectory are unexcelled, and there is a falling effect which accompanies the extremely high velocity which has to be seen to be appreciated. I have recently received an extremely interesting letter from a celebrated guide in the Canadian Rockies who has had exceptional opportunities for judging the killing power of all rifles on sheep, caribar, deer, and grizzly bear. He states that the ultra high velocity of .25 calibre rifles certainly equal any other in their quick kills, if indeed they do not exceed all others. these others including such weapons as the .333 Jeffery, .318 Westby-Richards, and .280 Ross. Another statement which he makes, and I think a most important one, is that he finds that the sportsmen whom he takes out, who use the ultra high velocity .25 calibre rifles, invariably make more hits and get more game than those using very heavy rifles. He says that this is because the sportsmen as a rule are not good shots, but that they do very much better shooting with the .25 calibre rifles which are light and have light recoil, than

(*Concluded on page 22*)

"Rifles What Was"

By ALLYN H. TEDMON

FOR a long time I had heard about the great English hunter and sportsman, Sir Samuel Baker. However up to recently it had never been my pleasure to read any of his writings. I must say that I thoroughly enjoyed the reading too. Of course the ethics of sportsmen at that time seem quite out of line with our present-day efforts at game conservation, yet Sir Samuel was a good sport and carried on his hunting according to what he deemed to be as a gentleman should and believe me when one comes right down to it he deserved all he got, especially in his elephant shooting. I am not goint to tell about his hunting, what I do wish to do is to carry on to others that have not read his books something of the rifles he used. We today howl and yowl around about an eight pound rifle being heavy, we would all fall over ourselves to grab hold of a .22 cal. rifle if it should be loaded so as to kill elephant. I don't doubt and in fact have seen it advocated, that a .15 or .17 cal. rifle would find a big following. Sir Samuel, could he know this, would laugh, and laaf and laffff, for he thought a ten-bore rifle weighing a mere fifteen pounds a light rifle, that is for his shooting. His rifles were all muzzle loaders, shot black powder, and plain lead bullets, either round or conical. His hunting, a great deal of it, was done on elephant, buffalo, Sambur deer, boar, etc., in Ceylon when this island was a virgin country to the white hunter. He had in his battery of guns the following; four ten-bore double rifles, one two ounce eight-bore single barrel rifle, and one four-bore four-ounce single barrel rifle. Now any of these you will admit were real guns. His ten-bore rifle was twelve grooved and he strongly recommends this style of rifling over the two-groove style because he says the rifle thus bored is loaded as easily as a smooth-bore and this mind you, was a big thing in those muzzle loading days. The four-ounce was a two-groove rifle. He says these ten-bore rifles would carry a conical bullet of two and and one-half ounces in weight, and used them on elephant. Many used the tens in the smooth-bore, but he not only considered the smooth-bores far inferior to the rifles (in fact did not consider them), but also considered the ten-bores rather small, so had built the two and four-ounce rifles mentioned. For general shooting he used the ten-bore double rifles, but when he wanted to floor a rogue elephant or stop a charging one he always changed to his trusty old four-ounce. The two-ounce was a long barreled rifle and weighed sixteen pounds.

But let us get to the real gun, the four-ounce. This rifle was single-barreled, weighed twenty-one pounds and regularly shot twelve drams of powder and four ounces of lead. He says he often shot sixteen drams of powder, but that while the effect of the shot, expecially with a steel, pointed, conical ball, was terrific, the recoil was very severe. I should imagine it would be myself, and about one shot would have filled my desire for young cannons to the brim. Just imagine backing up a full ounce of powder with a full sized four-ounce ball in front of it. He shot mostly buffalo and elephant with this rifle.

He tells of one time when he came upon two buffalo bulls fighting and they had gotten their horns locked. In the tussle they came round side-by-side and he shot the one nearest him, through the shoulder, and to his surprise the other, after running a short distance, also fell dead. Upon examining them he found the ball had passed completely through the first bull and had lodged under the skin on the far side of the second. He always shot his elephants in the head and he says that the four ounce seldom failed to stop them and generally brought them to their knees. At one time he and his gun bearer had worked their way up to an old rogue elephant. The latter was standing out in the mud and water of one of the many prehistoric man-made lakes of Ceylon. The space between the hunters and the hunted was similar, I guess, to a muskeg swamp minus the grass. At any rate the crust over the mud would just support a man's weight. Sir Samuel had one of his ten-bores in his hands, however, as he got close up to the rogue, around twenty-five yards I believe, he took the four-ounce from the gun-bearer. The weight of the rifle added to his was enough to make him break through and there he stood, up to his waist in mud. The rogue heard him break through and turned and immediately charged. With rifle covered with mud and no chance at all to move Sir Samuel shot the brute in the head as he came on, and not only knocked him down, but killed him. He stuck to the round ball when he wanted shock.

He compares the round ball with the conical as a man run through with a rapier and a poker. The former will pass through "almost without his knowledge, but the poker will knock him down."

It was nothing for him to shoot a buffalo from end to end with the four-ounce. Now when it is considered that he generally took all his guns with him, so as to have as many shots as possible at his command, it can only be imagined how much powder and lead must have been packed by his servants. And right here think of the modern nimrod that complains of the weight of a belt full of .45–70's or even .30, '06 cartridges. Another thing to think of; the smoke, that cloud of all-enveloping smoke. Sir Samuel quite often speaks of the smoke covering the charge of an elephant and of how he shot his second barrel where he thought the elephant's head was. Especially think what a handicap this would be down in high grass or in timber. Yet we read of our modern smokeless powder rifle bearing hunters in Africa, and the real dangers they run into, and no smoke to hinder them either. His shooting was for the most part done at quite short range, in fact in elephant shooting the hunters must at times at least have been right upon the quarry when it was shot. However he made some really very long shots with both the two-ounce and the four-ounce rifles. He mentions several, I believe, that were better than 500 yards. One instance, he speaks of shooting a running buffalo, with the four-ounce, at fairly long range. The ball passed through the animal and then glanced and splashed on across the lake which was about a mile wide. Another instance, he shot a buffalo at between six and eight hundred yards. His writings are so full of instances that it is difficult to pick out the best ones, the foregoing will perhaps give one an idea as to what the "four-ounce" would do. It must be understood that he generally used the double ten-bores, but in tight places, or when attacking a rogue elephant the good old four-ounce was called into play.

One more thing that will be of interest, as Sir Samuel says "Hitting and bagging are widely different." He says, "I consider a man a first rate shot who can *always* bag his deer standing at eighty yards, or running at fifty. If a man can always bag at the distance I have named, he will constantly hit, and frequently bag, at extraordinary ranges, as there is no doubt of his shooting, and, when he misses, the ball has whizzed somewhere very close to the object; the chances are therefore, in favor of the rifle." Here is the opinion of one who killed more game than the average hundred modern hunters ever see jointly. He shot his elephant in the head, and declares that only once did he ever floor one with the shoulder shot, and ran them down on foot. He shot buffalo for practice. He shot deer and "elk" as he calls the sambur deer, but for the most part hunted these with hounds. He was a mighty hunter, he must have been a real HE man. Space here wont permit of recounting his deeds, but let me say, if the reader likes real hunting stories by a real hunter don't miss reading Sir Samuel Baker.

SHOOTING NEWS AND COMMENT

CONDITIONS for the 1921 Gallery Matches of the National Rifle Association of America have been announced from N.R.A. headquarters.

The matches will begin earlier than usual this year in order that they may be gotten out of the way of the Spring Outdoor Small-Bore shooting.

The courses of fire in several of the matches have been changed with a view of maintaining the competitive spirit of the events and of simplifying the work of keeping the records of so large a number of entrants. Here are the conditions:

Civilian Interclub Championship Matches

Eligibility.—Open to teams from rifle clubs in Civilian Class organized under the rules and regulations of the National Board for the Promotion of Rifle Practice, affiliated with the National Rifle Association of America, and in good standing.

Teams.—Five to ten competitors, the five high scores to count as team record. Competitors will be allowed to shoot only on teams representing one rifle club.

Distance.—Seventy-five feet from muzzle of rifle to target.

Number of Shots.—The match will consist of ten (10) stages; five (5) stages standing position, and five (5) prone position, alternate weeks. Each stage of the match will consist of four sighting shots and twenty shots for record, fired by each team member in the position stamped on the target, prone or standing.

Target.—The N.R.A. six-bull 75-foot gallery target. A set of ten targets will be issued for each week's shooting. Each competitor will fire four sighting shots at the sighting bull and four shots for record at each record bull on one target of each set.

Marking.—For official marking, used and unused targets of a set must be mailed, in the addressed envelope provided, the day following the close of each stage.

Positions.—Prone and standing on alternate weeks. Prone, head toward target; rifle, forearm and hand must be free from artificial support. Standing position, free from artificial support.

Rifle.—Any .22 calibre weighing not more than 10 pounds.

Use of Gun Sling.—The gun sling may be used in all positions as an auxiliary to steady the piece, in connection with one arm only.

Sights.—Any.

Trigger Pull.—Not less than 3 pounds.

Ammunition.—Any .22 calibre rimfire.

Time Allowance.—Thirty minutes for the string of twenty-four shots, taking time from the first sighting shot.

Judge and Witness.—A judge approved by the N.R.A. will act as executive officer of the match, and he must certify on each target that he *witnessed the shooting* and that all conditions of the match were complied with.

Entrance Fee.—Ten dollars for each team; one or more teams allowed to a club.

Prizes.—To the team making the highest aggregate score, the National Civilian Indoor Trophy, to be held for one year, or until the next competition, and ten bronze medals. The winning team will also receive a "Certificate of Victory," to be retained by the club.

To each competitor shooting in all of the matches and attaining a percentage of ninety or more will be awarded a Per Cent Medal.

State Indoor Championship.—When five or more teams are entered from any one State, the team with the high aggregate score will be declared the Champion Civilian Indoor Team of that State and ten bronze medals will be awarded.

Entries.—Entries will close January 15, 1921. The matches will begin the week ending February 5, 1921.

Military Unit Match

Eligibility.—Open to teams from companies, troops, batteries, battalions, squadrons, regiments, posts or ships, Army, Navy, Marine Corps or National Guard affiliated with the National Rifle Association and in good standing.

Teams.—Five to ten competitors, the five high scores to count as team record. Competitors will be allowed to shoot only on teams representing one rifle club.

Distance.—Seventy-five feet from muzzle of rifle to target.

Number of Shots.—The match will consist of ten (10) stages; five (5) stages standing position, and five (5) prone position, alternate weeks. Each stage of the match will consist of four sighting shots and twenty shots for record fired by each team member in the position stamped on the target, prone or standing.

Target.—The N.R.A. six-bull 75-foot gallery target. A set of ten targets will be issued for each week's shooting. Each competitor will fire four sighting shots at the sighting bull and four shots for record at each record bull on one target of each set.

Marking.—For official marking, used and unused targets of a set must be mailed, in the addressed envelope provided, the day following the close of each stage.

Positions.—Prone and standing on alternate weeks. Prone, head toward target; rifle, forearm and hand must be free from artificial support. Standing position, free from artificial support.

Rifle.—Any .22 calibre weighing not more than 10 pounds.

Use of Gun Sling.—The gun sling may be used in all positions as an auxiliary to steady the piece, in connection with one arm only.

Sights.—Any.

Trigger Pull.—Not less than 3 pounds.

Ammunition.—Any .22 calibre rimfire.

Time Allowance.—Thirty minutes for the string of twenty-four shots, taking time from the first sighting shot.

Judge and Witness.—A judge approved by the N.R.A. will act as executive officer of the match, and he must certify on each target that he witnessed the shooting and that all conditions of the match were complied with.

Entrance Fee.—Ten dollars for each team; one or more teams allowed to a club.

Prizes.—To the team making the highest aggregate score, ten bronze medals. The wining team will also receive a "Certificate of Victory" to be retained by the club.

To each competitor shooting in all of the matches and attaining a percentage of ninety or more will be awarded a Per Cent Medal.

Entries—Entries will close January 15, 1921. The matches will begin the week ending February 5, 1921.

Intercollegiate Gallery Championship Matches

Eligibility.—Open to teams from university and college rifle clubs organized under the rules and regulations of the National Board for the Promotion of Rifle Practice and affiliated with the National Rifle Association and in good standing. Members of teams to be in good standing in the under-graduate year and maintaining the necessary hours of work and standard of scholarship required by the institution and who have not taken a degree from any other college. Certificate to be furnished by some duly authorized authority.

Teams.—Five to ten competitors, the five high scores to count as team record. Competitors will be allowed to shoot only on teams representing one rifle club.

Distance.—Fifty feet from muzzle of rifle to target.

Number of Shots.—The match will consist of ten (10) stages, five (5) stages standing position and five (5) stages prone position, alternate weeks. Each stage of the match will consist of two sighting shots and ten shots for record fired by each team member.

Target.—The N.R.A. six-bull 50-foot gallery target. A set of ten targets will be issued for each week's shooting. Each competitor will fire two sighting shots at the sighting bull and two shots for record on each of five bulls on one target of each set.

Marking.—For official marking, used and unused targets of a set must be mailed, in the addressed envelope provided, the day following the close of each stage.

Position—Prone and standing on alternate weeks. Prone, head toward target; rifle, forearm and hand must be free from artificial support. Standing position, free from artificial support.

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SHOOTING NEWS

(*Continued from page 11*)

Rifle.—Any .22 calibre weighing not more than 10 pounds.

Use of Gun Sling.—The gun sling may be used in all positions as an auxiliary to steady the piece, in connection with one arm only.

Sights.—Any not containing glass.

Trigger Pull.—Not less than 3 pounds.

Ammunition.—Any .22 calibre rimfire.

Time Allowance.—Fifteen minutes for the string of twelve shots, taking time from the first sighting shot.

Judge and Witness.—A judge approved by the N.R.A. will act as executive officer of the match, and he must certify on each target that he witnessed the shooting and that all conditions of the match were complied with.

Entrance Fee.—Ten dollars for each team; one or more teams allowed to a club.

Prizes.—To the team making the highest aggregate score the Intercollegiate Championship Trophy and ten bronze medals. To each competitor shooting in all of the matches and attaining a percentage of ninety or more will be awarded a Per Cent Medal.

Special Prize.—J. A. Baker, Jr., and P. St. G. Bissell, Jr., two former members of the Columbia University Rifle Team, have presented a bronze figure as a special prize for the non-military college making the best record in all the matches, the trophy to remain in competition for ten years and become the property of the college winning it the greatest number of times in that period.

State Indoor Championship.—When five or more teams are entered from any one State, the team with the highest aggregate score will be declared the Champion Indoor College Team of that State, and ten bronze medals will be awarded.

Entries.—Entries will close January 15, 1921. The matches will begin the week ending February 5, 1921.

Military School and High School Matches

Eligibility.—Open to teams from rifle clubs in military schools, including those having R.O.T.C. units, and in public high schools organized under the rules and regulations of the National Board for the Promotion of Rifle Practice, affiliated with the National Rifle Association of America, and in good standing.

Teams.—Five to ten competitors, the five high scores to count as team record Competitors will be allowed to shoot only on teams representing one rifle club.

Distance.—Fifty feet from muzzle of rifle to target.

Number of Shots.—The match will consist of ten (10) stages, five (5) standing position and five (5) prone position, alternate weeks. Each stage of the match will consist of two sighting shots and ten shots for record fired by each team member.

Target.—The N.R.A. six-bull 50-foot gallery target. A set of ten targets will be issued for each week's shooting. Each competitor will fire two sighting shots at the sighting bull and two shots for record on each of five bulls on one target of each set.

Marking.—For official marking, used and unused targets of a set must be mailed, in the addressed enveloped provided, the day following the close of each stage.

Position.—Prone and standing on alternate weeks. Prone, head toward target; rifle, forearm and hand must be free from artificial support. Standing position, free from artificial support.

Rifle.—Any .22 calibre weighing not more than 10 pounds.

Use of Gun Sling.—The gun sling may be used in all positions as an auxiliary to steady the piece, in connection with one arm only.

Sights.—Any not containing glass.

Trigger Pull.—Not less than 3 pounds.

Ammunition.—Any .22 calibre rimfire.

Time Allowance.—Fifteen minutes for the string of twelve shots, taking time from the first sighting shot.

Judge and Witness.—A judge approved by the N.R.A. will act as executive officer of the match, and he must certify on each target that he witnessed the shooting and that all conditions of the match were complied with.

Entrance Fee.—Five dollars for each team; one or more teams allowed to a club.

Prizes.—To the military school team making the highest aggregate score, the Military School Indoor Championship Trophy, to be held for one year, or until the next competition and ten bronze medals.

To the high school team making the highest aggregate score, the Inter High School Indoor Championship Trophy, to be held for one year, or until the next competition, and ten bronze medals.

Each of the winning teams will also receive a "Certificate of Victory," to be retained by the club.

To each competitor shooting in all of the matches and attaining a percentage of ninety or more will be awarded a Per Cent Medal.

State Indoor Championships.—When five or more high school and five or more military schools are entered from any one State, the military school team with the highest aggregate score will be declared the Champion Military School Indoor Team of that State, and the high school team with the highest aggregate score will be declared the Champion High School Indoor Team of that State. To each of these teams ten bronze medals will be awarded.

Entries.—Entries will close January 15, 1921. The matches will begin the week ending February 5, 1921.

DETAILS of the victories won by the United States Olympic Rifle, Revolver and Pistol Teams and their trip to Antwerp have been made the subject of exhaustive official reports to the War Department. The rifle team's activities were discussed by Lieut. Col. George C. Shaw, Captain of that team; those of the hand-gun men, by Lieut. Col. O. H. Snyder, who captained the Pistol and Revolver Teams.

In addition to the official scores made by the various competing nations, the report deals with every phase of the teams activities and contains recommendations for the guidance of those who may have the task of making arrangements for future teams. Lieut-Colonel Shaw's report says in part:

"The American Team shot in eight Team Matches. It won five first, sone second, one third, and one fourth place, and as a team won 35 medals.

"In the individual matches the individual members of the team won three firsts, one second and one third place.

"In all the team and individual members won 40 medals and three bronze statuettes.

"Practically all supplies for the team were supplied by the War Department. Requisitions for rifles, ammunition and other supplies were submitted in April and by the end of May when the team practice began, nearly all supplies had been received at Quantico. Some supplies, principally cleaning materials, were delayed in delivery and the Marine Corps at Quantico furnished sufficient cleaning materials to enable the team to carry on its practice at Quantico. The delay in the arrival of the cleaning materials made it necessary to purchase some of these supplies from funds furnished by the American Olympic Committee, and to have these supplies delivered at the transport at Hoboken in order that the team would have these supplies when it sailed.

"The U. S. Magazine Rifles used in the matches were furnished from Springfield Armory and were selected by Major K. K. V. Casey. They were very satisfactory in every respect.

"The calibre .30 ammunition actually used in the Olympic Matches was the Remington U.M.C., cal. .30, with 180-grain bullet, selected after a competition held at Sea Girt, N. J., in May, 1920. This ammunition was most satisfactory in every respect.

"For the Matches for Miniature Rifles, cal. .22, the team was furnished without charge, .22 calibre rifles by the Savage Arms Co. (Stevens Rifles) and by the Winchester Repeating Arms Co.

"In the small-bore matches three Stevens rifles, one Winchester and one Pope rifle were actually used.

"The .22 calibre cartridge actually used in the Olympic Matches were U. S. Cartridge Co. Long Rifle Cartridges, cal. .22 and were furnished without charge by the U. S. Cartridge Co.

"For the Running Deer Matches, the Savage Arms Co. furnished ,without charge, Savage rifles, cal. 25, 3,000 f.s. velocity, with ammunition for the same for single shot matches.

"The Remington U.M.C. Co. furnished, without charge, Remington Auto Loading Rifles, cal. 25 and ammunition for these rifles, for use in the Running Deer Matches, double shots.

"All the rifles and ammunition used by the American Team were without doubt superior to the rifles and ammunition used by any other team and this contributed greatly to the success of the team.

"Shooting uniforms for the entire team were furnished without charge by the Sigmund Eisner Company, of Red Bank, N. J. These uniforms were very serviceable and were much appreciated by the members of the team.

"The team was furnished the following funds for expenses:

By the American Olympic Committee in the United States	$1,500.00
By American Olympic Committee, Antwerp, Belgium, through Mr. Gustave Kirby, President, American Olympic Committee, 4,000 francs, Belgian, (Exchange 12.50)	317.46
By the National Rifle Association of America, through Colonel Wm. Libbey, President, N.R.A.	1,550.00
Total	$3,367.46

"All the funds furnished by the Olympic Committee were expended except 1,350 francs (Belgian) ($107.14), which were on hand on August 17, and were turned over to Colonel William Libbey, President of the National Rifle Association of America, for payment of possible expenses of team members not fully reimbursed for expenses at Antwerp. Any balance was to be turned over to the Treasurer of the American Olympic Committee by Col Libbey upon his arrival in New York.

"The funds advanced by the National Rifle Association through Col. Libbey, the President of the N. R. A., were entirely expended except a balance of eleven (11) cents which was turned over to Col. William Libbey.

"The only outstanding obligation of the Team was a bill for about $40. for cleaning materials purchased through the U. S. Cartridge Co. This bill could not be obtained until October 20, when it was transmitted to the American Olympic Committee for payment from the surplus turned in by Col. Libbey.

"The vouchers for the funds furnished by the American Olympic Committee have been turned over to the Treasurer of the American Olympic Committee. The vouchers for the expenditure of the funds furnished by the National Rifle Association were turned over to Col. William Libbey, President National Rifle Association, for submission to the National Rifle Association.

"The funds noted above were expended by and under the direction of the Team Captain for the following purposes:

"Incidental expenses for such supplies as were not obtained on requisition from the War Department.

"Allowance for meals at Quantico, Va., to team members not furnished susbistence.

"Transportation and sleepers from Quantico to New York for civilian members of the team.

"Room and allowance for meals for all members of team at New York while awaiting sailing of transport to Antwerp.

"Subsistence on transport, New York to Antwerp, for civilian members of the team.

"Expenses of travel, Antwerp, Belgium, to Coblenz, Germany, and from Coblenz, Germany, to Antwerp and Bourg Leopold (Beverloo Camp), Belgium, for civilian team members and for other team members not entitled to mileage, and not furnished transportation.

"Allowance for subsistence at Neuweid, Germany, to all team members except those furnished commutation of rations.

"Subsistence at Beverloo Camp during the matches there for all members of the team.

"Allowance for expenses at Antwerp for Running Deer Team during Running Deer Matches and for all members of the team from the completion of the matches (August 4) until the sailing of the first available transport to the United States (August 18).

"Expenses of civilian members of team on transport, Antwerp to New York, and from New York to homes.

"Vouchers were obtained for all these expenses whenever possible.

"The vouchers for expenditures of the funds furnished by the American Olympic Committee were forwarded to the Treasurer of the American Olympic Committee.

"Vouchers for the expenditure of the funds advanced by the National Rifle Association were furnished Colonel Wm. Libbey, President, N.R.A.

"The financial arrangements for the team were not entirely satisfactory. On previous Olympic Teams all expenses of all members of the team were paid from the time the team was selected. Nothing definite was announced before the selection of the team as to the policy of the American Olympic Committee regarding the payment of expenses.

"Money was furnished from time to time only after repeated requests and after the failure to furnish expense money had caused

much dissatisfaction among the team members. On account of the piece-meal method of furnishing the money and the uncertainty of getting it, the money furnished had to be given out in small accounts and the allowance for expenses was fixed at a very low rate. It was not always practicable to actually pay the expenses of the team and in many cases an allowance had to be made to the team members for their expenses, the team members then paying the expenses as they were incurred. This allowance was made at a low rate owing to the lack of funds and as a rule the allowance was probably less than the actual expenses of the men.

"The financial policy for future Olympic Teams should be announced before the team is selected in order that team members may know just how much of their own expenses they will have to pay. The expense money for the entire trip should be available as soon as the team is selected and a Finance Office should be appointed to disburse it.

"In a mixed team, which an American Olympic Team is bound to be, there will be representatives from the Army, Navy, Marine Corps, National Guard and from Civilian Rifle Teams.

"If certain members have all their expenses paid while others are paid mileage for land travel only, or given transportation and a per diem allowance for expenses, or given transportation and commutation of rations, it will result in team members receiving different amounts for expenses, and the result will be continued dissatisfaction among team members. All should be treated exactly alike regarding expenses and sufficient funds should be available when the team is selected to finance the entire trip.

"The American competitors in the Olympic Games should be sent to those games by the U. S. Government and under the supervision of officials representing the Government. The necessary funds for the payment of expenses of competitors should be appropriated by Congress and disbursed by finance officers.

"All arrangements for the care of all competitors from the date of their selection until their return to their homes should be under proper officers designated by the Government.

"The American Olympic Rifle Team received much valuable assistance from many persons and much of the success of the team is due to this assistance. The thanks of the team are due to the following:

"To the Major General, Commandant, U. S. Marine Corps, and the Commanding General U. S. Marine Corps Rifle Range, Quantico, Va. and the officers and enlisted men of the Marine Corps at Quantico for the use of the range at Quantico Va., for the tryout and practice of the team, for pit and range details for the tryout and team practice, for cleaning materials and other supplies furnished the team for the tryout, for the team practice at Quantico, and for the use of the team in Europe.

"The skillful assistance of the pit and range details at Quantico added greatly to the value of the practice. The furnishing of cleaning materials made it possible to carry on the practice until the departure of the team for Europe.

"To Major K. K. V. Casey, and his assistants for their selection of the U. S. Magazine Rifles, cal. .30, used by the team in the Olympic Matches and for their skill in preparing these rifles for the practice of the team. The results obtained by these rifles show that no better rifles could have been obtained, and that the rifles were superior to any other rifles used in the matches.

"To the Savage Arms Company through Major J. J. Dooley, The Winchester Repeating Arms Co., through Captain W. H. Richards, The Remington U.M.C. Co., through Mr. F. J. Kahn, and the U. S. Cartridge Co., for rifles and ammunition furnished, without cost, for the use of the team.

"The winning of the Miniature Rifle (cal. .22) is due directly to the rifles and ammunition used in this match.

"The rifles furnished by the Savage Arms Co., and the Remington Arms Co., for use in the Running Deer Match were superior to any others used in these matches and the failure of the American Team to make a better showing in these matches was due to lack of practice and not to the lack of suitable rifles or ammunition.

"To the Sigmund Eisner Company, Red Bank, N. J., for shooting uniforms for the entire team. These uniforms were furnished without expense to the team and were very useful and serviceable, contributing materially to the comfort of the team.

"To the Commanding General, American Forces in Germany, and the officers and enlisted men under his command for the excellent arrangements made at Coblenz, Neuweid, and Weissenthurm, Germany, for the transportation, billetting and messing of the team and for the team practice from the time of the arrival of the team to the time of its departure to take part in the matches.

"Every assistance possible was cheerfully given by everyone from the Commanding General to the pit details on the rifle range, and this assistance made it possible for the team to obtain much valuable practice prior to the beginning of the matches.

"To Brigadier General W. H. Sage, U. S. A., and his aides for their valuable and untiring assistance at Antwerp from the time of the arrival of the team until the completion of the matches. General Sage and his assistants made all arrangements at Antwerp for quarters and messing, for transportation of the teams to the various ranges in the vicinity of Antwerp, for motor transportation from Antwerp to Beverloo, at Beverloo, and from Beverloo to Antwerp after the finish of the matches at Beverloo. This assistance was of the utmost value to the team and without it the team would have been seriously handicapped in its movements, as no arrangements had been made by the Olympic authorities for accommodations at Antwerp or for transportation of teams from Antwerp to the various ranges.

"Finally the Team Captain desires to thank all members of the team for their work in connection with the team. The success of the team depends primarily upon the efforts of the individual members and it is believed that as a rule every member of the team did his utmost to keep himself in the best possible physical condition to make the best possible scores.

"The result of all the shooting of the team was very satisfactory. In the military matches it was expected that the team would win all the matches except the Standing Match. This was done.

"In the matches for Any Rifles, it was not expected that the team would do better than third place. The team won the match and the first individual prize.

"In the Miniature Rifle Match it was not expected that the team would do better than third place or possibly second. The team won first place and individual members won all three individual prizes.

"In the Running Deer Matches it was not expected that the team would win better than third place in any match due to lack of practice on the targets used in the match. The team took third and fourth places in these matches and lost the next higher places by a very small margin.

It is believed that future teams could well be much smaller than the team of 1920. If the Running Deer Matches could be shot on the same range as the other matches one team of ten men could be selected that could do all the shooting, Military Rifle, Any Rifle, Small-Bore and Running Deer.

"If the Running Deer Matches are to be held at a separate range and at another time than the other matches then a separate Running Deer Team should be selected, but an effort should be made to have the Running Deer Rifle Matches made a part of the other rifle matches and not made a part of the Shot gun matches as was done this year.

"If the Running Deer Matches are to be included in future Olympic Games, each country should be furnished with plans, specifications and targets for practice previous to the games, as the practice should be on targets similar in every respect to those used in the matches and running at the same rate of speed.

"In the matches for Military Rifles, a country should be allowed to use the arms of its country in the manner authorized for the Army of that country. This will give any country an opportunity to show just what its team can do, firing its own arm according to the instruction of that particular country and will be a test not only of arms but of systems of firing."

In submitting his report of the Pistol and Revolver Teams, Colonel Snyder says:

"The American Olympic Pistol and Revolver Team for 1920 was organized and selected under direction of the United States Revolver Association, through the National Board for the Promotion of Rifle Practice.

"The team was selected by open competition, between seventy-five of the best pistol and revolver shots in the United States, selected from the Army, Navy, Marine Corps, National Guard and Civilian Revolver Clubs, at a try-out on the U. S. Marine Rifle Range, Quantico, Va., June 21-23, 1920.

"The team sailed from Hoboken, N. J., on the U. S. A. T. Pocohontas for Antwerp,

Belgium, on July 6, 1920 and arrived at Antwerp, July 17, 1920.

"On arrival at Antwerp we found that no arrangements had been made for pistol or revolver practice before the matches, but through the efforts of Brig. Gen. W. H. Sage, U. S. Army, who had been designated by the War Department as the American representative of the Army at the Olympic Games, we obtained permission to practice near an old Belgian fortress on the outskirts of Antwerp for a few days before going to the Rifle Range at Beverloo.

"The Team left Antwerp by motor truck on July 25 for the Beverloo Camp at Bourg Leopold, Belgium, about forty miles east of Antwerp and by making our own arrangements managed to get five days good practice before the matches proper began on August 2, 1920.

"Practically all supplies for the try-out in selecting the team were furnished by the War Department but the pistols and revolvers used by the team in the matches were either personal property or special guns made by the Smith and Wesson or Colt's Company and although we had the best ammunition that could be produced by several ammunition concerns, most of the members used special Remington U.M.C. ammunition supplied by the Remington Arms Company.

"The team was financed entirely by the U. S. Revolver Association and, as their representative and in behalf of the members of the American Olympic Pistol and Revolver Team, it is desired to express thanks and appreciation for the valuable assistance given by the Commanding General, U. S. Marine Corps Rifle Range, Quantico, Va., for the use of the Range for the try-out and the excellent assistance of the officers and enlisted men at that station for pit and range details, etc., and to Brig. Gen. W. H. Sage, U. S. Army, his aides and the officers on duty at Antwerp, Belgium, for their many courtesies in furninshing transportation, handling mail and giving valuable advice and assistance in every way possible.

"The results attained by the team in winning both Pistol and Revolver Team Matches were largely due to the excellent cooperation and individual effort of every member."

THE unofficial record at 1,000 yards made by Marine Gunner J. J. Andrews, U.S.M.C., at Quantico, several weeks ago has provoked widespread interest among service riflemen, and an account of another unofficial run at the long range has resulted. First Lieutenant Chas. K. Hughes, 1st Rgt., Arizona Cavalry sends this letter:

"In reference to the article in the November 1st issue of *Arms and the Man* wherein Marine Gunner John J. Andrews is credited with an unofficial world's record of thirty-three consecutive bull's-eyes at 1,000 yards.

"It will be recalled that at the School of Instruction held just prior to the 1920 National Matches the last five days were devoted to firing under match conditions, scores being reported to the Statistical Office, and the results being posted giving the standing of the various teams. This comes as near being 'practically' match conditions as those under which Mr. Andrews shot, and in addition were shot in competition.

"During this time 1st Sergeant Wm. J. Scheidler of the Arizona National Guard Team made a record of thirty-six consecutive bull's at 1,000 yards, using the Springfield as issued, and the National Match, 170-grain ammunition. The string was witnessed by Capt. Edw. S. Linton, team captain, Lt. Blatt, 1st Cavalry, U.S.A., instructor, and Sgt. Morse, coach, of the Arizona National Guard Team, as well as a gallery of some scores of shooters who became interested when Sgt. Scheidler's string began to run into the twenties.

"May I also call your attention to the fact that the Arizona National Guard Team is listed by *Arms and the Man* as being in thirty-first place in the last National Match, but that the marking of one shot was protested by the team captain, and the Executive Officer allowed the protest, thus putting the team in thirtieth place and in Class C.

ANOTHER new game rifle range competition is being played on the firing line of the East Orange, N. J., Rifle Club, according to Roswell M. Roper, the Secretary. The new match was shot during a recent competition with a team from the 12th Regiment, N.Y.N.G. Mr. Roper says:

"The Executive Committee of the E. O. Rifle Club has asked me to forward you the following scores and terms of the recent match, shot on our club range, against the team of the 12th Regiment ,N.Y.N.G. The match was held on October 24, and the course of fire, which you will acknowledge was rather unusual, was selected by the Captain of the 12th Regimental team. Twenty shots slow fire, prone, at the A Target, 200 yards and in rapid fire as many bull's-eyes as could be made on the D Target using battle sights, time limit, 90 seconds.

The following are the totals of the men and teams:

East Orange Rifle Club

	Slow Fire	Rapid Fire	Total
E. H. Babbage	91	60	151
Geo. A. Beardsley	91	40	131
C. E. Beers	94	20	114
A. A. Fisher	95	55	150
Y. T. Frazee	93	40	133
H. H. Gordon	93	65	158
R. A. Grosenbaugh	94	60	154
G. S. Hewitt, Jr.	91	....	91
H. A. Hillsinger	91	40	131
C. Massa	89	60	149
R. M. Roper	96	70	166
M. Sergeant	95	45	140
R. Thorne	89	85	174
J. F. Winans	79	35	114
H. S. Woodruff	93	35	128
A. L. Dick	91	55	146
	1465	765	2230

12th Regt. Inf., N. Y. N. G.

	Slow Fire	Rapid Fire	Total
Capt. H. S. Reggin	85	35	120
Capt. R. Saunders	91	25	116
A. Sgt. W. A. Grant	87	5	92
R. S. Sgt. J. Fennell	94	25	119
Sgt. T. Dougherty	88	25	113
Sgt. R. Schuman	85	30	115
Sgt. A. G. Back	85	15	100
Capt. C. D. Shrady	88	....	88
Pvt. M. Cavanagh	85	25	110
Maj. E. E. Malcolm	85	25	110
1st Sgt. J. Campbell	81	25	106
Sgt. L. Crudo	89	25	114
Sgt. H. W. Gebhardt	91	55	146
1st Sgt. A. J. Hughes	83	15	98
Maj. D. E. S. Coleman	83	35	118
Capt. W. G. Owen	90	50	140
	1390	415	1805

During the past two years our team has been very successful, having won the championship of New York and New Jersey, in the matches of the Associated Rifle Clubs at Caldwell last year, and numerous other matches with Rifle Club and Regimental teams in the metropolitan section.

MEMBERS of the Reloading Clan are finding the purchase of powder from the Government a very expensive proposition, due to the fact that the railroads take advantage of the opportunity given them by the fact that explosives cannot be sent by express to put on all the traffic will bear. Because of the almost prohibitory rates, the man who purchases powder in small quantities finds the transportation, not only eating up all he has saved through Government prices but cutting deep into his pocket as well.

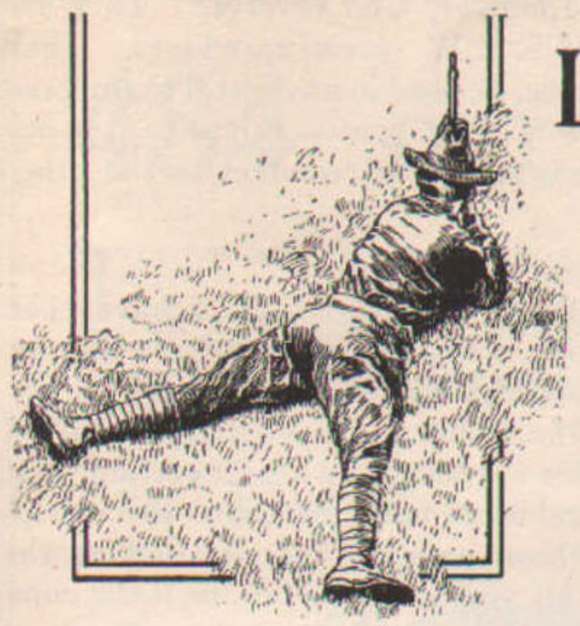
Reloaders will do well to club together in ordering explosive components either from the powder companies or the Arsenals.

Upon the subject of the purchase of powder, Colonel Stodder the Director of Civilian Marksmanship has published the following bulletin:

"On account of the excessive freight rates on powder it is not advisable to purchase powder in small quantities from the Ordnance Department as the freight charges usually amount to three or four times the cost of the powder itself, thus making the total cost more than the cost of the powder if purchased from a local commercial firm."

THE Experimental Division of the Infantry School of Arms, Camp Benning, Ga., is operating again with most of its original personnel. Capt. E. C. Crossman has returned to his post at the Camp and with him are Capt. G. L. Wotkyns, Donald McKay Ashton and a number of old-time riflemen from the enlisted personnel.

Many matters of interest to riflemen are being investigated at Camp Benning at this time and the Experimental Division may be expected to make some important reports upon small arms ballistics and infantry equipment during the coming year.



Loads And Re-loads

In this column, conducted by Lt. Col. 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.

WILL you please advise me if there is any special load that can be used with the .303 Savage, using a 150-grain bullet, to develop a muzzle velocity of 2400 to 2500 f.s. Would it be possible to use the 154-grain 8 mm spitzer in this rifle, and if so, from whom can this bullet be purchased? I believe the 10-inch twist of the .303 is adapted to the short, light spitzer. With this load, would DuPont No. 15 be the best propellant?

M. L. F., Talara, via Paita, Peru.

Answer: As far as we know all of the 150-grain, .30 calibre full jacketed pointed bullets have such a long point that they cannot be loaded in the .303 Savage rifle so as to work through the magazine. However, they can be loaded further out of the case so as to work as a single loader and very satisfactory ballistics obtained. We would recommend a charge of about 35 grains of DuPont IMR powder, No. 16, which should give a velocity of approximately 2500 feet per second.

With regard to the use of 8 mm bullets in this rifle, we do not believe that it would prove satisfactory. The groove diameter of the .303 Savage rifle is .308 inches, and the diameter of the 8 mm bullets average about .318 inches. We would prefer DuPont No. 16 powder to the 15, as the 15 is slower burning powder and is better adapted to large charges and heavy bullets.

I WANT to turn down the barrel of a Springfield. Should it be screwed out of the receiver or not? What is the best way to blue the barrel; is there danger of it warping if I use heat? Can you tell me where I can purchase checking tools? I have made some myself but they are far from perfect. What is the best method of obtaining the dull finish on a walnut stock. I want something like the new bolt action Savage. I tried to have this work done but every one is so far behind and I want to use the rifle this winter. Any information will be appreciated.

J. R. B., Austin, Texas.

Answer: Relative to remodeling a Springfield rifle. With regard to turning down the barrel, the barrel should be unscrewed from the receiver, bushings fitted at muzzle and breech accurately centered. I would caution you, however, about turning down this barrel. It should not be turned down any more than necessary to give it a good polish.

With regard to blueing the barrel and to checking the stock, I would refer you to my book, "The American Rifle," This gives detailed instructions for both these operations, which instructions are too long to give in a letter. I think that you can obtain checking tools from Fred Adolph, Genoa, N. Y.

With regard to polishing the stock with dull London oil finish: first, if the stock is an old one remove the old varnish with a varnish remover. Next, polish the stock very smooth, using several grades of sand paper. Next, wet the stock with a rag or sponge soaked in water, wetting it thoroughly, and then dry quickly over a lamp or stove. This will raise the grain. The stock should then again be polished smooth with sand paper. Continue wetting, drying, and sandpapering until the grain no longer rises when it is wet and dried, Then finally sandpaper very smooth and go over again with crocus cloth to get a perfectly smooth finish and one which will not fuzz up when it becomes wet with rain or perspiration. Having done this, start thoroughly oiling the stock with a mixture of three parts of raw linseed oil to one of turpentine. Put this on the stock night and morning until the stock will no longer absorb any more oil. At first the oil will all dry in through the twelve hours. It will take from one to two weeks before the stock ceases to absorb oil. Then, using the same mixture of oil put on a very heavy coat and let it stand for two or three days, until it becomes gummy or sticky. Then polish right down to the bone with a piece of burlap or old carpet. Next, give one more coat of linseed oil and rub it in hard with the hand, using lots of elbow grease until the stock is again dry. Finally, polish the stock with parafine oil daily for a couple of days and you will get the finish desired. It is hard to obtain the real dull London oil finish on American walnut stock unless it is very close grained; but an imported stock should show up with a beautiful finish with this treatment.

WOULD you consider it safe to use smokeless shells in an old 10-guage Remington gun, apparently in good condition. The gun is No. 645, Patents of '71 and '72, Hanimer type?

A. H. T., Emblem, Wyo.

Answer: In reply to your inquiry as to whether it is safe to use smokeless shells in a 10-gauge shotgun made by E. Remington Sons, I would state that if this shot gun is in good condition I would consider it perfectly safe to use any standard factory 10-gauge load with smokeless powder.

IS DuPont making a No. 17 powder, or is it a mistake for No. 17½? I have 2 cans of No. 16 and will get proper scales for weighing. Have you any data on the largest amounts which would be safe in the Savage 1920 behind the 100-grain? Behind the 110-grain? Could I not safely take data given in "The American Rifle" under .25 Rem. for 101-grain pointed bullet and work up slowly to not more than 38 or 40 grains?

Have you any information about B.S.A. Saftipaste for cleaning high-intensity rifles? I use it exclusively in my .22 with Lesmok and just fill the bore and leave it until the following week, and the bore is perfect after wiping out for inspection. So far, I have first cleaned the .250 with ammonia and greased, after drying, with Saftipaste. I have not dared to omit the ammonia swabbing lest the paste might not get under the metal plating.

I found 12 grains No. 80 a most pleasant load behind the 87-grain S. P. bullet of Remington make. It required elevation to the fourth step of the Savage factory rear sight, with Lyman Ivory bead front, and my five sighting shots struck just above tip of bead, 100 yards.

Glad Western is getting into game. Would not own a rifle for which I could not get components of ammunition.

M. D. M., Akron, Ohio.

Answer: No. 17 powder is practically the same as No. 16. The two powders are identical, the faster burning lots being numbered 17, and the slower burning lots 16. Using your No. 16 powder I would not use a charge exceeding 34 grains with the 110-grain bullet, or 36 grains with the 100 grain bullet.

Relative to the B.S.A. Saftipaste for cleaning high intensity rifles. Please understand the problem that you have. The only powder fouling is a slight ash which is easily removed with one dry patch. The "sticky powder fouling" is all a myth. The primer fouling is what causes the trouble. The combustion of the chlorate in the priming composition covers the entire bore with potassium chloride. When this same absorbs moisture from the air it is a very active rusting agent on steel. It will absorb moisture as soon as the barrel gets cool on a damp day, or when the humidity rises at night on a dry day. If you liberally coat the bore with Saftipaste immediately after firing the chances are you will protect the potassium chloride from moisture, and this will prevent the rifle from rusting as long as the Saftipaste provides a perfect protection. The potassium chloride will not be removed, however, and will be there to start rust as soon as it absorbs moisture.

With the .250–3000 Savage rifle you are using bullets jacketed with gilding metal or with Western non-fouling alloy which is Practically gilding metal with a little tin incorporated. Either of these are excellent

jackets. Perhaps the Western alloy is a little the best as it contains tin and zinc. Neither will give lumpy metal fouling, and only a very thin coating of copper. I should say that a most perfect method of cleaning would be to swab the bore with patches wet with 28 percent ammonia water until scarcely any blue showed. I think that the swabbing should continue for at least five minutes to be sure that all the potassium chloride is washed out. Perhaps you should use about ten patches saturated with the ammonia, swabbing with each about 30 seconds. Simply keep the patch moving back and forth through the bore so as to distribute the ammonia water all over the suface and keep it wet with no tendency to evaporate dry in spots. Then thoroughly dry the bore, and finally oil it or cover it with any good rust preventing grease —Saftipaste if you like. I am inclined to think that Saftipaste is one of the best greases because it is slightly hydroscopic.

If you find it inconvenient to give the bore this thorough cleaning immediately after firing than coat the bore with Saftipaste, swabbing it in plentifully, preferrably on a brass brush, and it will almost surely protect the bore for several days until you can give it the necessary thorough cleaning.

At any time that you are unable to get ammonia water for the thorough cleaning, simply use water instead. Simply wetting the patches with water works all right, but the mose efficient method of water cleaning is undoubtedly to have a special funnel, and to pour boiling water through the bore for five minutes. The water cleaning is a good thing to know about when one is far away in the wilderness and cannot get ammonia.

I am glad that you found the 12 grains of No. 80 a good one. I have had most satisfactory results with it. The accuracy is almost too good to be true. I have recommended to the Savage Company that they put this load out as the standard reduced load. It shoots as well in my bolt action rifle as does the .22 long rifle cartridge in a small-bore match rifle.

IN shooting the rapid fire at 200 and 300 N.R.A. Militia course, what is the time allowance for the Krag and Springfield?

Are any sighting shots allowed at 300 or 500 yards slow fire?

Are the .38 calibre revolver cartridges for sale by the ordnance Dept. for use in the so-called .38 special?

K. S. H., Lansing, Mich.

Answer: In shooting rapid fire at 200 and 300 yards for organized militia, Small Arms Firing Manual of 1913 states the time limit for ten shots at 200 yards is one and a half minutes and at 300 yards, two minutes. There is no difference between the time limit for the Krag and Springfield rifles. The time limit is ample for the Krag.

No sighting shots are allowed at 300 and 500 yards, but two are allowed at 600 yards.

The .38 calibre revolver cartridges for sale by the Ordnance Department through the Director of Civilian Marksmanship are for the .38 calibre military Colt revolver. They are not the .38 S. & W. special cartridges. They can, however, he used in any pistol chambered for the .38 S. & W. special cartridge, but are not as accurate or as powerful as the other cartridge.

A WORD of advice please. I have been wanting a heavy barreled S. S. rifle for service cartridge for test loads and for our winter off-hand 200 yards shooting (and try a scope). Do not seem any nearer getting what I want, and have been interested in descriptions of those pressure barrels used at the matches this year. Please tell me if the common rifle crank would stand any chance of getting one of those guns.

I have a new Springfield, secured through Club last spring; but the secretary, I believe, is in line for a new one and I could manage a transfer that way if possible to buy.

I noted what you said in a recent number of *Arms and the Man* as to the 25–35 cartridge in a made over rifle on a military Sharps-Borchardt action. There is a Sharps-Borchardt rifle here that is in fine shape, was made to order, and made a trip to South Africa in its day. The cartridge is a humdinger, .45 cal., and from the length of shell and of the patched bullet would judge it used 100 or 120 grains of powder. Would this action be strong enough for the service cartridge? I like the 25–35 well enough, but have outfit on hand for Springfield cartridges.

F. S., Spokane, Wash.

Answer: Under the law, life or annual members of the National Rifle Association can purchase rifles, ammunition, and target materials, for their own use, from the Ordnance Department. After you have become a member of the N.R.A. either life or annual, you should then address the Director of Civilian Marksmanship, 1115 Woodward Building, Washington, D. C., relative to purchasing arms, as the National Rifle Association does not handle this matter.

I am sure that the Director of Civilian Marksmanship would do his best to get you a rifle with one of the heavy pressure barrels. I think that there would be no trouble about this, but cannot cay for certain; nor do I think he can say until he has put the matter up to Springfield Armory. These rifles have a 24-inch barrel which is practically the same thickness from breech to muzzle as the thickness of the forward part of the receiver. In stocking such a rifle the usual practice is to discard the handguard and to cut the stock off just in front of the lower band, making it similar to a carbine stock. No sights could be furnished for this rifle, and you would have to either sight it with a telescope sight or place a Lyman receiver sight on the receiver and make a special front sight for the rifle when you receive it.

With regard to fitting a high power barrel to the Sharps-Borchardt action, this has been done a great many times, but always it is necessary to make a new breech block and firing pin, as the material used in the old breech block and firing pin are not sufficiently strong for the high breech pressure. There are several gun makers who understand this work. If you wish to use a rimless shell, like the 30–1906, with this action, it will require some nice work by a gunsmith who knows his job to fit the extractor so that it will operate with this rimless shell.

IN regard to filing off the points of 150 and 175-grain Peters hollow base sharp pointed bullets, for the purpose of increasing the killing power on big game, do you regard this as good practice, or do you think that there is any possibility of blowing the lead core out of the jacket and leaving the jacket in the bore to burst the barrel, or worse, at the next shot?

Can you tell me the price of .22 Springfield barrels and receivers, also the price of the .22 adaptors or cartridge holder?

Does the use of these adaptors injure the nose of the firing pin for use with the .30 cal. service cartridges?

Do you think it advisable to grease the 150-grain service bullet when used with loads giving less than 2000 f.s. as would be developed with 17 grains of DuPont No. 75?

G. R. H., Richmond, Ind.

Answer: I regard the filing off of the point of full-jacketed bullets to make them expansive, as a very dangerous practice. I think that it is only a question of time when a core will blow through, leaving the jacket in the bore, and at the very least the next shot will completely ruin the barrel.

The .22 calibre Springfield rifle for the .22

short cartridge, using the cartridge in an adapter or holder, is no longer manufactured. No more are on hand. The use of the adapters in this rifle dulled the firing pin (striker) and they had to be constantly replaced.

I do not think it is necessary to use grease on jacketed bullets when used in reduced loads, or any load under 2,000 f.s. At the same time the grease will do no harm if it is thinly and evenly applied, and may make cleaning a little easier. I do not bother with it when using reduced loads.

WHICH of the following powders are best for the regular service load in the Springfield; DuPont, No. 20; Hercules, No. 300; DuPont, No. 15; or Hercules, No. 308? I want to know which is the most accurate and the cleanest to use.

Do you think that the 170-grain, gilding metal jacketed bullets are better than the present service bullet? It seems to me that they would be less ware on the bore of the rifle as I do not think that they are quite as hard as the cupro-nickel jacketed.

Why does not DuPont sell the public the No. 15½ powder? Is the 15½ better than the No. 15? I like the No. 15 well but think that it could be improved some yet, and no doubt will in time.

Are there any pointed 220-grain S. P. bullets made for the 1906 ammunition?

A. E. A., Fullerton, N.D.

Answer: Hercules No. 300 powder is practically the same as DuPont, Nos. 16 and 17. It is a nitro-cellulose, progressive burning powder.

Hercules, No. 308 powder is practically the same as DuPont, No. 20, or Government Pyro D.G. It is a nitro-cellulose, regular burning powder.

The No. 308 powder will probably give you the better accuracy and less erosion, while the No. 300 will give slightly increased velocity within permissable pressures.

It is my personal opinion that the 170-grain gilding metal jacketed bullet is quite superior to similar bullets jacketed with cupro-nickel. In preliminary tests at Frankford Arsenal, leading up the official National Match test, the gilding metal bullets shot better than the cupro-nickel bullets, although they did not quite do so in the official test. Gilding metal bullets do not shoot well in rifles which contain any cupro-nickel fouling. The bore of the rifle should be repeatedly and well cleaned with ammonia before starting to use gilding metal jackets. It is best to use a rifle which has never been fired a round with cupro-nickel bullets. Gilding metal bullets do not deposit metallic fouling in lumps in the barrel, they shoot better than cupro-nickel bullets in barrels that are a little over size. Also they probably cause less friction in the bore of the rifle. I believe that gilding metal is the jacket material of the future, but some little experiment and study will have to be made with it before it entirely supersedes cupro-nickel, and some of the less progressive companies will probably be very slow to change their standards.

The DuPont Company is about to place No. 17½ and No. 15½ powders on the market. You will find that No. 15½ powder is very much superior to the old No. 15, which is about obsolete.

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I AM having specially loaded some shells for my Springfield rifle to be used on moose. This load will be 50 grains DuPont, No. 15, with 220-grain soft nose point bullet and has a velocity of 2385 f.s. and a trajectory of 5¾ inches at 100 yards. They will be inspected and measured bullets, individual weighed, etc. I would like to have your opinion regarding this load.

I am very much interested in the zero elevation as explained in your book "The American Rifle," and while I understand that it varies with each load and gun, I am wondering if you could tell me approximately what it would be for my 1903 Springfield for the above heavy load as well as for the standard Government cartridge with the 150-grain jacketed bullet.

I have my Springfield equipped with a combination Lyman 103 sight mounted on the cocking pin with micrometer covering both windage and elevation, and I am delighted with it. What I have got to do now is to get the sights adjusted properly but cannot do this until we get the range a little further developed.

J. G. M., Erie, Pa.

Answer: Regarding the 220-grain load for moose, I do not think that you can get a better load for moose. That load is a bone smasher, and will do excellent work. If you don't get your moose you need not blame the load. I have fired loads similar to this in test, and the sight setting in my Springfield was the same as for the regular Government 150-grain load. The heavy bullet causes a flip which is approximately the same as for the light bullet at higher velocity. This depends a lot on the individual gun, however, and you certainly should target your rifle carefully on the range with this load.

The next time that you have this ammunition loaded up you had better specify DuPont No. 15½ powder, and the 220-grain, soft point, gilding metal jacketed bullet made by the Western Cartridge Company. I think that these components are just a little better than those you mention, more modern, etc., but if you already have the ammunition loaded

it certainly would not pay you to delay or to go to any trouble to change.

I am glad that you like your new Springfield, and the Lyman No. 103 rear sight on the cocking piece. I think that you will like it still better when you get to using it in the woods.

I HAVE before me two shells, 30–06, Springfield and .256 Newton. I have read articles in regard to neck clearance so I thought I would measure up a few shells to satisfy myself.

I took a new loaded 30–06 and measured neck of shell finding it to be .337. I then measured a few fired shells and found them to be .340 to .3405 or a clearance of .003 to .0035.

Next I took Newton shell made by Remington Arms Co., which are somewhat thinner than those made by Newton Co. Measuring loaded shell I found it to be .289 and then fired shell, and found .298, or .009 clearance.

Having a shell resizer I resized some Springfield shells to .256, taking care not to buckle and fired them in my Newton and again reloaded. The fired shell measured .298 and .256 (load in resized Springfield shell) measured .296 to .297, giving clearance of .001 to .002. Some resized Remington 30–06 gave clearance of .0035 inches.

Why the Remington people made the 30–06 shell so much thicker than the .256 Newton, I don't know, but I do know that I had many of the Remington shells split in my .256 and have yet to have resized Springfield split. I am going to try and test both shells out for accuracy but would like to know whether you would advise reaming out brass of resized shells to give same clearance as Springfield or keep the closer clearance.

H. T. O., Buffalo, N Y

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Answer: I note your measurement of new and fired shells in the Springfield and .256 Newton. Generally speaking I think that you will find that a clearance of .003 to .004 will work best in the Newton rifle. Much depends upon the chamber, and it is hardly possible to make a positive statement. I think that if you get the tolerance down as small as .001-inch you are liable to have trouble with high pressures in the Newton, while if the tolerances are very large, poor accuracy will result, and much gas cutting or erosion.

The Government specifications for the Springfield shell are very close ,and the Government inspections very rigid. I think that most of the arms companies put through their trade lots of Springfield shells at the same time that they manufacture for Government

contracts. At any rate I have always found that Springfield shells, both of Government contracts, and sporting commerical manufacture, run to a very much closer standard than any other makes of shells. As a rule, not so much pains are taken in making sporting cartridges, and the various manufacturers have not standardized on sporting shells and chambers as the Government has.

I think that the splitting of the necks of shells is not caused by the tolerance at the neck, but rather by the character of the brass used, and by the annealing. I seldom have any Frankford Arsenal 1906 shells split, having fired many fifteen to thirty times. But other makes split quite regularly.

It seems to have been pretty clearly demonstrated by long practice that with commercial chambers a tolerance of .003 to .004 is about as close as we can go and not get increased chamber pressure. Rifles with commercial chambers, or military chambers should not be confused with those made by Neidner having perfect chambers of the Mann-Neidner type, using special bullets, and shells reamed to exact fit. With the Mann-Neidner chamber you can do things that you do not dare to do with the regular commercial chamber, as the two are entirely different in both design and accuracy of workmanship.

In such cases as you have outlined there is no royal road to determine in advance what the results will be. You should start as though you had a new rifle, and when you vary the tolerance work up your powder charge a grain at a time, noting results, both as regards pressure and accuracy. As you decrease the tolerance you burn more powder behind the bullet, slightly increasing the pressure and velocity. Sometimes you get to a point where a decrease in tolerance with a normal powder charge gives you almost dangerous pressures, blowing out primers, and generally causing lots of trouble. This can be avoided, however, in experiment, if you will start with about five grains less powder when you monkey with small tolerances, and work up grain by grain.

PRONE SHOOTING AT 200 YARDS A REMARKABLE ACCURACY TEST

(*Concluded from page 9*)

they do with the heavier rifles. There is not that tendencey to flinch. He states that sportsmen using heavy rifles, who are not experienced riflemen, almost invariably miss everything through flinching.

Personally I have had no experience with these high velocity .25 calibre rifles on game, except that I have killed a few deer in Panama very neatly with the .250–3000 Savage rifle. It would be very interesting to hear from other sportsmen of the result on game of other .25 calibre high velocity rifles using heavier bullets. I understand that when Mr. Neidner finally gets going in his new factory, which will not be for two months yet at least, that he intends to make these .25 calibre barrels to fire either 87,100, or 110-grain bullets, and that the muzzle velocity with the heavier bullet will be well over 3,000 feet per second, and further that no barrel will be put out which makes over 4-inch groups at 200 yards. Truly we are in an age of progress and surprises.

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

CIVILIAN RIFLE CLUBS

Kansas:

Pratt County Rifle Club, No. 2, Pratt County, Kansas. Sec'y. Elmer Kuehman, R.F.D., Pratt, Kansas; Pres., Frank Sowers; Vice-Pres., Hary Rose; Treas., Forest Kerne; Exec. Officer, George Simpson. 25 members.

Kentucky:

McRoberts Rifle Club, McRoberts, Letcher Co., Ky. Sec'y, Orbin Brummette, McRoberts, Ky.; Pres., James D. Hale; Vice-Pres., Henry Robertson; Treas., Ben Bentley; Exec. Officer, Leonard D. Nickols. 22 members.

New Jersey:

Pershing Rifle Club, Toms River, N. J. Sec'y, Milton Wilber Pershing, Toms River, N. J.; Pres.,; Harry Forcanser Vice-Pres., Everett Seaman; Treas., Charles Brahn; Exec. Officer, William Gifford. 10 members.

New York:

Strykers Lane Rifle Club, New York, N. Y. Sec'y, John Moran, 794 9th ave. N. Y.; Pres., Wm. Waldmire; Vice-Pres., Edward Roberts; Treas., James B. Covill; Exec. Officer, William Weston. 14 members.

Palmyra Rifle Club, Palmyra, N. Y. Sec'y., William H. Saunders, Palmyra, N. Y.; Pres., Henry W. Griffith; Vice-Pres., J. Jenner Hennessy; Treas., Ralph D. Bennett; Exec. Officer, Dr. C. C. Nesbitt. 14 members.

North Carolina:

Wilson County Rifle Club, Wilson, N. C. Sec'y, Mose Parker, 126 Pender st., Wilson, N. C.; Pres., Priv. Charlie Austin; Vice-Pres., H. D. Coaley; Treas., Edgar Smith, Exec. Officer, Albert Covington. 15 members.

Tennessee:

Humboldt Rifle Club, Humbolt, Tenn. Sec'y, J. R. McFarland; Pres., Theo. C. Stehr; Vice-Pres., Charlie Albright; Treas., Ed. Stobaugh; Exec. Officer, O. S. Herndon. 11 members.

Utah:

Redmond Utah Rifle Club, Redmond, Utah. Sec'y, A. C. Willardsen; Pres., Alvin Christensen; Vice-Pres., Olaf Anderson; Treas., Francis Poulson; Exec. Officer, Leo Christensen. 11 members.

Wisconsin:

Solon Springs Rifle Club, Solon Springs, Wis. Sec'y, Walter J. Posey, Box 166, Solon Springs; Pres., Harry Marsh; Vice-Pres., Nicholis Lucius, Jr., Treas., Joseph Waterbury; Exec. Officer, Bruce Coleman. 29 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.

FOR SALE—9 mm Mauser, set trigger, cheek piece, sling swivels, quick detachable top mounts and a four power Gerard telescope, open sights can be used with telescope on. Brand new and never shot. Price, $100.00. Mont. L. Metzler, 1211 Albert st., New Castle, Pa.

FOR SALE—Colt's .22 automatic target pistol. Brand new and in perfect condition. Refitted with Partridge sights, brass rod and russet leather holster included. Price, $35.00. F. D. Elwell, Moraine National Rifle Club, care of The Delco, Dayton, Ohio.

FOR SALE—8 mm Mauser Bolt Action; stock altered to sporting, $38.00. Winchester single shot take-down musket, .22 long rifle, Lyman No. 17 and No. 52 -A sights, like new, $35.00. Kirkwood Bros., Inc., 23 Elm st., Boston, Mass.

FOR SALE—Single shot musket, .22 long rifle in perfect condition, equipped with A-5 scope, sling, M.R.V. peep rear sight globe front, spirit level, shotgun butt, metal butt plate, $55.00. George Munson, 59 Henry st., New Haven, Conn.

FOR SALE—Stevens Armory Model 414, .22 rifle, brand new specially selected barrel, never shot, mounted with new 438 Stevens scope. Both in finest condition. $35.00 for the two. Will send C.O.D. subject to inspection. H. S. Jones, Jr., 1913 Third ave., Birmingham, Ala,

FOR SALE—Winchester S.S. .32 Win. Spl., Lyman 52-A rear and aperture front sights, extremely accurate, reasonable price. V. R. Olmstead, 36 Park st., Montclair, N. J.

FOR SALE—Neidner-Springfield single shot target rifle for .22 L. R. cartridge, new condition, extremely accurate, Winchester scope blocks, stock channeled and receiver tapped for Lyman No. 48 rear sight, $60.00. One very fine rifle range telescope, 40 power, brand new, $35.00. Five hundred rounds 1920 National Match M. '06 ammunition, 170-grain bullet, No. 17½ powder, $40.00. R. S. Tichenor, Princeton, Ind.

FOR SALE—One .22 cal. automatic pistol never fired, $35.00. One .45 automatic pistol M-11, absolutely new. Never fired. Back and front straps checked, trigger checked, light pull. Special outfit. Cost $50.00, take $45.00. Splendid weapon. About 1,000 Springfield 30–06 shells. Fired once, all in same rifle. $5.00 for the lot. About 1,000 .45 automatic empty shells, fired once, $3.00 for the lot. T. C. Barrier, Box 52, Statesville, N. C.

WANTED—75 Government loaded Krag cartridges. State price, condition, and date of loading. Chas. N. Cox, Patagonia, Ariz.

WANTED—N.R.A. and National Match editions of *Arms and the Man* for all years previous to 1915. Malcolm F. Partridge, 104 Mt. Auburn st., Watertown, Mass.

FOR SALE—Highest grade Daly 3 barreled gun, 16-gauge x 25–35 rifle. 28-inch barrels, full choke, Stock 14 x 2¾ x 1¾. New condition. Price $150.00. Niedner remodeled Mauser (short action) rifle for the .35 Remington cartridge, 21-inch barrel, checked pistol grip stock with cheek piece. Lyman sight on bolt. Sling swivels. New $80.00. A very accurate 6 3–8 pound rifle. Major T. D. Sloan, 41 West Kirke st., Chevy Chase, Md.

WANTED—S. & W. old model 44 Russ 6½ target sights, single action, in perfect condition. Also a pistol for same ammunition. Also Ideal tool for .44. Dr. Shaw, 5538 West Chicago Ave., Chicago, Ill.

WINCHESTER

1866 — 1920

.30 Winchester Cartridge

.32 Winchester Special Cartridge

Winchester Model 94 Repeating Rifle

WHY YOUR WINCHESTER GETS GAME

BEFORE you are permitted to purchase and fire it, your Winchester Rifle is tested more severely than most hunters realize.

As soon as it is bored, the barrel must pass the Provisional Proof Test, in which a powder charge two or three times the normal strength drives a bullet one-third heavier than that which is standard.

This test proves that the steel can stand more than the strain of the regular load.

Smoothness, rapidity, and certainty of loading, firing, and ejecting, are tested just as rigidly, with standard ammunition. The rifle is worked and fired both slowly and rapidly by an expert trained to detect any fault. It must perform perfectly or it is rejected.

Then the Definitive Proof Test, which is officially accepted by the British Government in lieu of any other test, is applied. In this test your Winchester fires a charge of 25 to 40 per cent in excess of the normal one.

After all these shooting tests, ranging up to hundreds of shots, your Winchester goes to the range for actual target shooting, where the sights are correctly set and accuracy at distances up to 200 yards is proved. Here again the most exact requirements must be met.

The rifle which has passed these rigorous trials deserves the highest mark in the gift of a supergunsmith, and this is it: You will find it on every Winchester barrel and receiver—the proof mark of *dependability*.

Think what it means to you to have this Winchester proof mark on your rifle in that critical moment when game is either to be bagged or lost. To have a rifle which *you know is more than equal to its task.*

Whether your game be squirrels or moose, woodchucks or grizzly bears, coyotes or caribou, white-tail deer or big-horn sheep, there's a tested Winchester for your use which you can trust.

In deer rifles the variety is abundant—a half dozen different models, each made in various styles and suitable calibres. If you have no preference, we suggest the popular Model 94, shown above, of .30, .32 W. S. .32-40, or .38-55 calibre.

Consult your local hardware or sporting goods dealer. If he does not tell you all you wish to know, write to us for detailed information, including the best Winchester Ammunition to use. Mention the kind of game you are interested in.

WINCHESTER REPEATING ARMS CO. ··· NEW HAVEN, CONN., U. S. A.

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Among the elements that go to make up accuracy in ammunition, none is more important that the bullet itself. Even though all other component parts of the cartridge be properly constructed, a bullet which is imperfect in the slightest degree will eliminate all chance of perfect results.

The bullets in Peters Ammunition are not only right in calibre and other external characteristics, but they are right inside. They are made of metal of special composition, and produced by a Peters method which insures *even density throughout*. In shooting this means that when the bullet leaves the rifle barrel it will rotate about its axis and will have no tendency to revolve about a center which is not the exact center of the bullet. In Peters bullets, the center of gravity is located on the axis, or center of spin. The metal is evenly balanced about this lateral axis. Peters bullets do not wobble—they travel straight to the mark.

A bullet of this kind properly seated means bullet accuracy that is essential to good shooting.

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