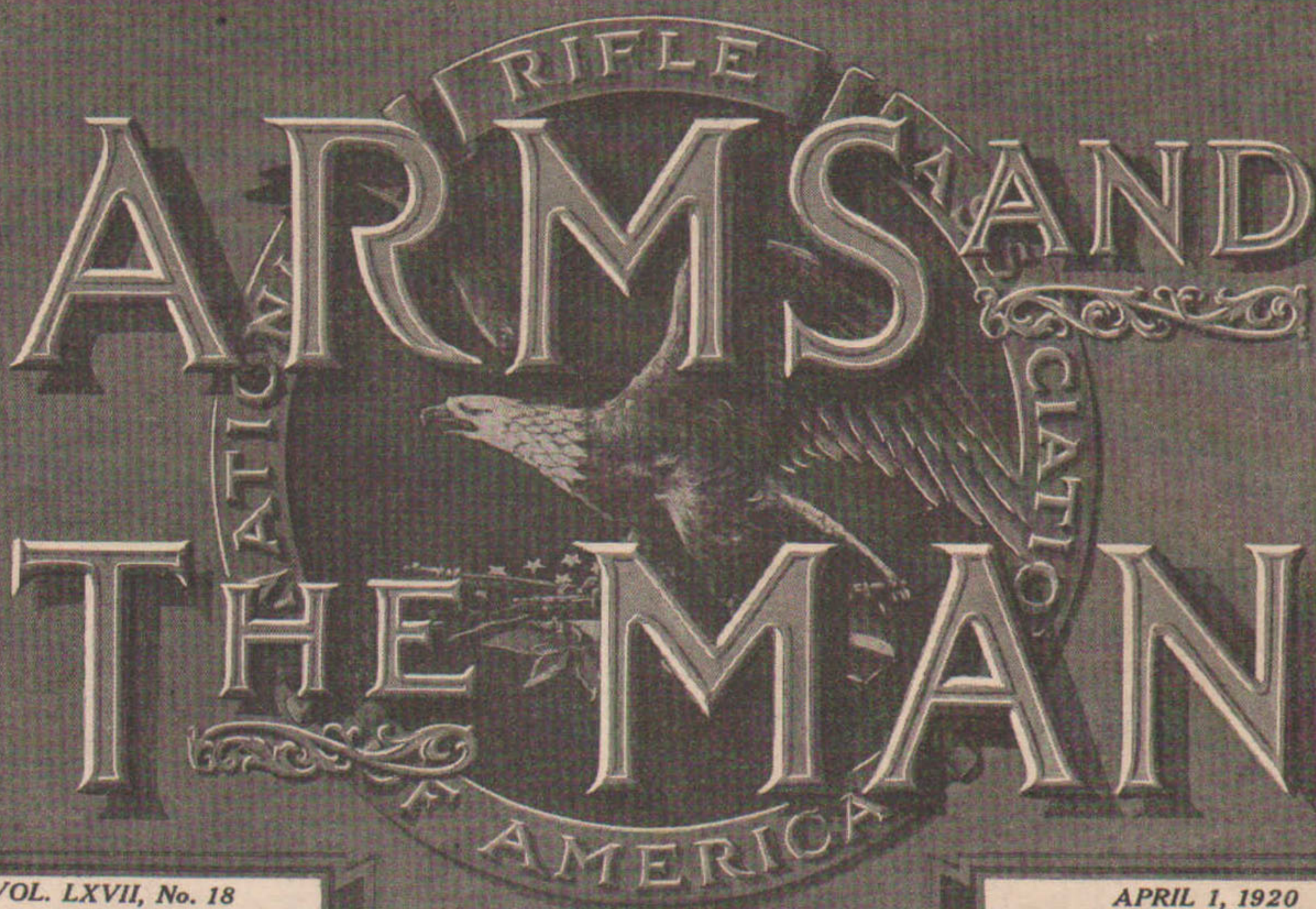


# THE AMERICAN RIFLEMAN'S MAGAZINE



VOL. LXVII, No. 18

APRIL 1, 1920



## *When You Buy N. R. A. Cartridges Look for the Make as Well as the Name*

During the war, we developed a Long Rifle Lesmok cartridge of unprecedented accuracy at ranges of from 50 to 250 yards.

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The U. S. 22 N.R.A. is the original 22 Long Rifle cartridge developed for long range work. We are convinced it has not been equalled. We do not think it is likely to be equalled. If it can be improved upon, you may be sure we will do the improving.

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Woolworth Building New York City



# ARMS AND



# THE MAN

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## Hunting Hitting: Experiences and Experiments With Unexpected Outcome

By JOHN LYNN

HE was fresh from a Chicago office when he came to board at Alec Hoover's place at the beginning of turkey season. He was also true to office form—tired, nervous and white from too much indoors. In spite of it all he taught us some lessons about rifle shooting before winter set in, showing what good woods shooting really consists of and what education is based on.

The story properly begins with the day after Brady arrived (that proved to be his name, after inquiry.) A forest fire broke out near Hoover's and he helped to fight it. As the successful crew was returning through the smokefilled woods, a turkey slanted through a break in the tree-tops, toward an open spot just ahead of us. As it neared the ground, partly folded its flat-spread wings and dropped long legs to touch the earth, we saw it was a big young gobbler. It stood as motionless as a tree for seconds.

Brady fumbled his rifle, swung it to his face, pulled the trigger without result, and flinched, then lowered the butt and cocked the forgotten hammer, and finally overshot the big bronze bird just as it jumped into the air.

He was genuinely upset by the miss. The onlookers seemed to see in it only the blundering of a dude hunter, but he tried to tell them something else.

"I used to be able to hit them. But maybe I'm getting too old. I've forgotten how, anyway."

Old Hoover lives on a sort of farm on top of a mountain a mile or so from our little post office and station and he has observed and digested a fact or two about hunters and guns during his lifetime with them. He called attention to the new hunter in this way:

"I knowed as soon as he started for the woods behind the house that he was no common sport, just from the way he handled his gun."

After we became acquainted it developed that Brady originally hailed from the Canadian line in Vermont. He had left his native mountains years ago. Business and city life had swallowed him, but hunting and shooting desires refused to down. He came to our woods now to indulge these old pleasures for six solid weeks, with shotgun and two rifles—and old 30-40 Winchester carbine and a new 25-35 Savage.

The day he missed the turkey Brady scandalized old Hoover by staying out of the woods entirely, and wasting a hundred cartridges. The miss was sticking in his craw to such an extent that he couldn't enjoy ordinary hunting. Hoover reported in the evening that Brady had fired "like a perfect dam fool" at clods of earth, stumps, trees and posts, sometimes close up and again a quarter of a mile away, or in between.

To a question asked him when he next appeared at the post office, he replied:

"I'm trying to resurrect my shooting. We used to have

a system that every fellow in our old crew had to graduate from before he could come into the camp."

"It must be quite a course of study," someone suggested with a hint of sarcasm in his tone, "to take a hundred good cartridges and a whole day's work."

"A day!" exclaimed Brady. "A month is little enough to get somewhere. Haven't you fellows been shooting rifles round here? You surely know what it takes to make a good rifle-shot? One day's results hardly make a beginning. You can no more than adjust your sights temporarily as the first day's work."

We wondered a little if he was not a hot-air merchant, but agreed to wait judgement and watch what he did. In the days following, only a few shots were heard about Hoover's. The old man said Brady brought in a few squirrel and now and then a rabbit, but seemed to have given up turkeys. One morning he was seen in the woods throwing his rifle to his face time after time. He kept it up so unreasonably long that the watcher was drawn to approach and ask why.

"Ever study anatomy?" Brady asked.

"No."

"Well, you have been sore after some unusual exercise. The facts are that nearly every particular thing we do requires its own particular muscles—of course not all new muscles for every job, but one or two new ones or separate ones. If you don't keep doing a job, the muscles that belong to it live a retired life and go on the bum—sweeny away. They get weak, slow and uncertain. That is why a man who is "strong" with an axe may find that walking or shoveling or running a typewriter tires him out. Get the idea?"

"Yes, but—"

"When I throw up this rifle I'm not paying much attention to the sights, although I glance through them occasionally to see that my holding is right. What I'm after is to build up my rifle muscles that have gone to the bad through lack of use."

"Just to make it plain to you: That first day, when Hoover first found out I was 'crazy,' my arms and shoulders ached after only ten throws. The movement looks easy, but takes effort. Twenty-five throws were my absolute limit without stopping for rest. I've got up to forty now, but ought to be good for a hundred or five hundred without much tiring. And until I can do that much I'm not capable of throwing a rifle up for a game shot in the woods with enough control to eliminate lost motion. The sights will not go direct to the spot and stay there."

"It seems like a lot of hard work," the questioner stated.

"That's it exactly. Hard work. About an hour a day, or two hours if you feel like it. Say five hundred throws or more a day. If that is kept up for a month you begin to know the feel and hang of your gun."



Brady kept up his "physical culture" faithfully day after day. In addition he got to shooting at cans in the air now and then, and he tied a string to a high limb of a chesnut tree and swung an old axe head to shoot at as it moved back and forward near the ground. He would also turn quickly and snap-shoot at some stone spot on a post or tree.

"The result is hardly worth the amount of work and time used to get it," someone suggested.

"It's worth a lot to master a rifle" he replied. "Any man can feel better inside if he knows he has hold of the skill to put bullets where he wants them, and to do it on time. It is not the game you get by means of the skill, but having the ability, that counts."

He paused, and then continued: "You know how you spend time and work climbing the hills day after day on deer and bear hunting. Well, what I'm after is the satisfaction of doing my part in that few seconds when I catch up with the game after all that waiting. Then, again, it is said that once or more often in every person's life there is an emergency in which he can save himself or someone else with a bullet—if he has the skill."

"Why not use that 25-35 Savage for a change," was next asked.

"I'm a one-gun man, for reasons," he smiled.

"What reasons?" the questioner persisted. "Is the other rifle no good?"

"No good! That 25-35 is the slickest little turkey and deer gun you ever saw. It shoots as well as I can reach out and touch your watch chain with my finger. No, I use the 30-40 because I use it."

As the man looked puzzled Brady continued. "That's why, exactly. This thing of making a woods shot out of a man is based on three main principles.

"First, use a gun that fits you, and be a one-gun man with it.

"Second, carry in your own body the muscle and nerves ready developed for their work.

"Third, have a knowledge of the particular game to be shot—know what to expect in size, shape (when running), color and movements.

"We are talking of the first principle now. I use my old 30-40 because the look of its bead and the position of the rear peep are entirely familiar to me. I can line them up in the dark, just as I can put my hand on my old bed post at home in the night. I know exactly how weak the old spring is behind that old smooth trigger, and how much room there is for my thumb. My butt plate edges have grooves worn for themselves in my shoulder. I know the precise feel against my cheek of that little lump on the stock. The weight and balance are old stories, and I know just how far away the muzzle is.

"If I'd change guns I'd lose most of these "feels" and intimacies. I'd be lost to a certain extent. You can't change and be as good as before, for a long time. No one can, although many believe they can,—its like discipline in the army. In an emergency like shooting moving game, you do the thing you've been in the habit of doing, right or wrong.

"This rifle looks old" was next suggested. "What will you do when it wears out?"

"It's about gone now—the barrel, I've had it a long time and often neglected it. I have sent for a new barrel. For real hunting only finest accuracy is good enough when you know the difference. Want to see me put it on when it comes?"

"Yes, but I thought that new barrels had to be fitted at the factory."

"They do. That is, the job had better be done there. But a man *can* make the change if he knows how."

Brady and the questioner went for groundhogs that evening. Brady had the luck of seeing them. He walked up on two to within 30 yards. Although he got plain views of them they skipped into their holes before he was ready to fire. He was as much chagrined as when he missed the turkey.

"Thought better of myself than that," he admitted. "I can't say what I expected those chucks to do, but somehow I was waiting for a better shot. And they looked grayer than I expected to see them."

Presently he exclaimed.

"You couldn't get a better demonstration of the third principle mentioned. I used to know what groundhogs would do next and when they would do it, but I'll have to brush up some before I can expect to catch them every time. Get familiar with size, shape, color and movements to be expected, you know."

One day the new barrel arrived. Brady proceeded to put it on. The old one was unscrewed by wrapping half-inch rope on it from muzzle back to breech, with a loop in the end through which a four-foot length of six-inch pine board was put as a lever. The action was held, by thrusting the end of another pine board into the open receiver. It took two men twisting in opposite directions to start the barrel and to seat the new one, but there was no real difficulty on account of the powerful leverage and grip. The extractor cut in breech was a little tight, and was enlarged a little with a cape chisel. A mark on the barrel and another on the receiver indicated the exact position to which the barrel had to be turned. The job was done, ready for verifying the sight adjustment, within an hour.

With the new barrel Brady proceeded, during following days, to check sight elevations for different ranges by shooting. He finally cut a mark on the stem of his peep sight for each hundred yards up to five hundred. Not satisfied, however, he "wasted" a good many shells in shooting by holding above the more distant targets, in order so he said, to learn at what range he would have to hold over one width of a turkey, and where two widths. He doped out how much space his bead hid. Most of his time was spent in the woods. He explained that while he wanted to kill a little game now, since this was open season after all, he really felt he was training for the actual hunting of a little later, when bigger things than rabbits might be shot, and that now it was desirable to become familiar with the appearance of bead outlined against hair and fur. It was plain to us all that he was elim-

inating guess work from his shooting. Old Hoover said it was all of no use, however, because a man either can shoot or he can't, and he might as well go into the woods at once, taking luck as it comes.

When deer season opened Brady had several other chances to point out why principle three was important. Boyd, a beginner on a crossing, saw no deer go by, although "two large brown shepherd dogs, with white tails up, went by."

The next day Richards, an old hunter, had one good glimpse of a red fox at short range in the brush. He stopped the vital instant to adjust his mind to what the thing was, and it got away without a shot fired.

"You've got to have a picture in your mind in advance, of what to expect—size, shape, color, movement." That evening Brady reminded him. "There is no time for meditation after you see game." Young Boyd didn't know anything about a deer, and you, Richards, were like me with the groundhogs that time. You wasn't expecting such a quick slide out of sight."

Further hunting multiplied examples. One of the crew mistook a bear for a man within 60 yards at that. Its running shape was unfamiliar. Another let three deer travel across 100 yards of open ground in plain sight, but did not shoot because he anticipated a closer shot which did not materialize owing to the deer suddenly dropping down a gully and round below the crest of a rise. This man did not include tricks of game's movement in his calculations. Another fellow missed a nice spike buck, "because I had an idea the thing could not get up and get clean out of sight so quick," he said, while Brady remarked:

"Movement—learn your game's movements."

A man on a good crossing at a hollow had a chance at a buck that crossed 250 yards below. It looked so small at that distance, he reported, that there was no use in shooting—"hardly bigger than a hand." It was shape and size that were unexpected in this instance.

Finally one day Brady himself let a big buck get away at close range in the brush because he fired through the tail as it quartered away. His mental picture of shape was off center, he said.

Old Hoover came along one day, long hair, old 44 Winchester and all, and listened to someone discuss the three principles. He already had expressed his hearty disgust with number one and two in this wise:

"Any man kin hold any gun on his game if he hain't nervous and kin see the sights."

Now it was number three that got his goat.

"Anyone fool knows what a deer looks like and jumps like if he ever seen one," the old man declared, "an if you onst git the idee, you never forgit."

"I had it all down pat once, in Vermont," Brady replied, "but I'm having to learn over again. Do you think you can hit 'em every time?"

"Well I kin if they stand still," Hoover meant this as a joke, but Brady didn't smile.

(Continued on page 12)



# Experiments With a Newton Rifle

By CHARLES W. GRAHAM

I WAS tempted to write this detailed description of the experiments I conducted during the last summer with a Newton .256 Rifle in the hope that some other rifle enthusiast will thereby be induced to take up his rifle and through experiment add to the knowledge and pleasure derived from a study of rifle ballistics, and will record the results of his experiments for the benefit of other amateur riflemen.

My experiments are perhaps somewhat amateurish to the skilled experimenter, but are I think, such as any amateur would be glad to know about and I hope I will lead others to experiment along similar lines and induce them to tell us of the results they obtain.

Take a journey with me to the old country place on which I reside in the hills of northern New Jersey. There nestling in a small grove of giant pines and massive sugar maples is a fine old farm house. Around this old farm house is an orchard of a hundred or more trees in varying stages of preservation, and surrounding the farm lands are a series of hedge rows and old fashioned rail fences giving an air of abandon and freedom to the old place that is quite inviting and restful.

I think the coming of the great war was responsible for reviving in my breast the desire to again enjoy the companionship of a trusty rifle. In years gone by I derived great pleasure from rifle ballistic experiments and target shooting, and as the memory of these past pleasures kept recurring to my mind they just naturally created a new desire which grew and grew, until one day last spring, 1919,

I gleefully came home with a brand new Newton .256 Rifle and informed the boon companion of my heart, friend wife, that inasmuch as the next day was my birthday this was her present to me to commemorate the occasion, and, good sport that she is, she expressed great satisfaction in having selected a present that was so near to my heart's desire.

Thus began anew the pleasures of days gone by and they were entered into with all the joy and expectancy of an enthusiast.

One of the first requisites of rifle experiments is a suitable range, so located that shooting is safe for the neighbors and so situated that experiments can be conducted under any and all weather conditions.

A hundred yard range was finally selected that appeared to be ideal. There was a strip of straight open ground just back of the house along the edge of the orchard that led directly to a projecting stone wall extending out from the barn lot, this stone wall was used for an abutment to catch the bullets. One hundred yards was accurately measured off, and an old door salvaged from the farm lot served as a carrier for the targets and was set up against the wall and secured in place.

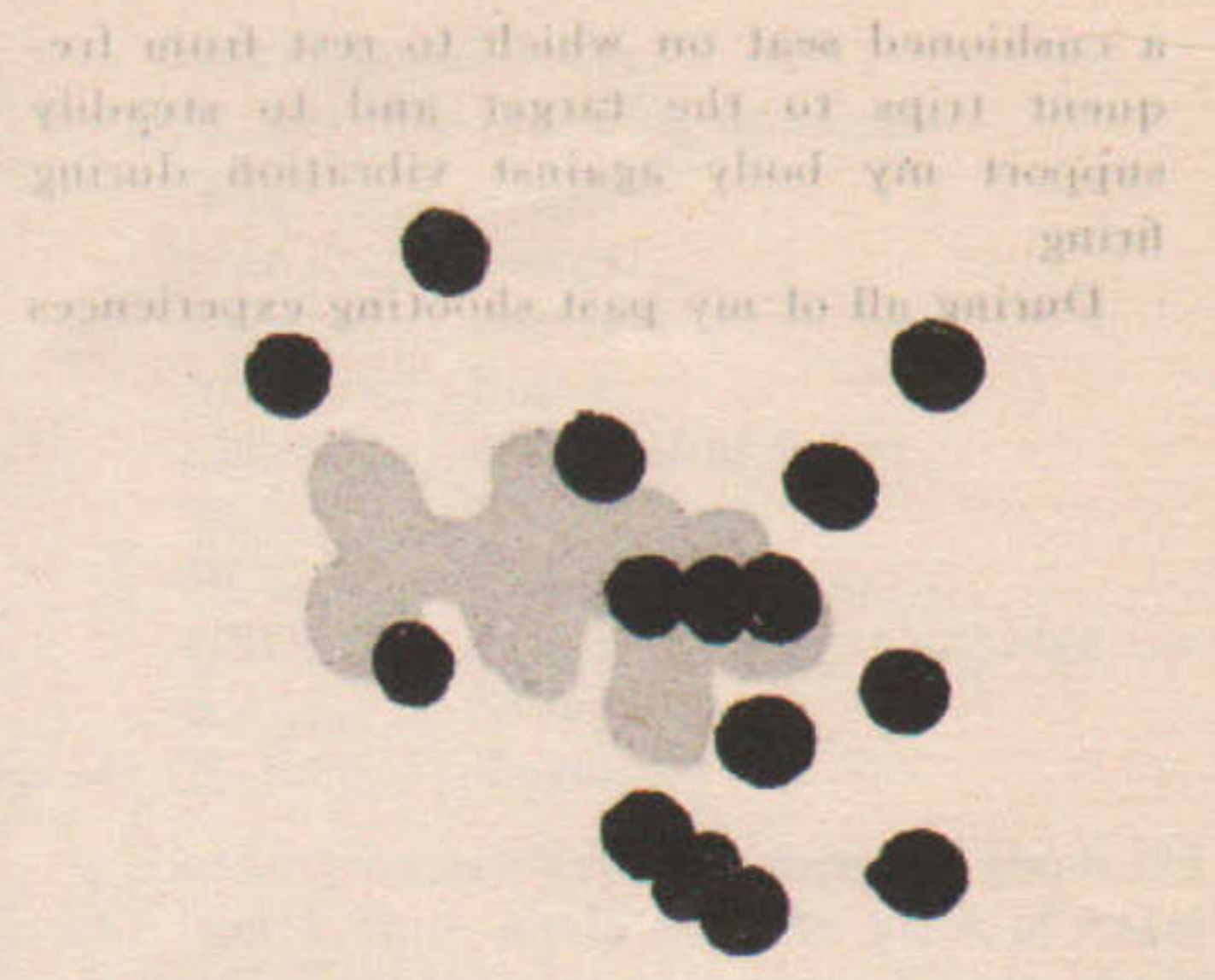
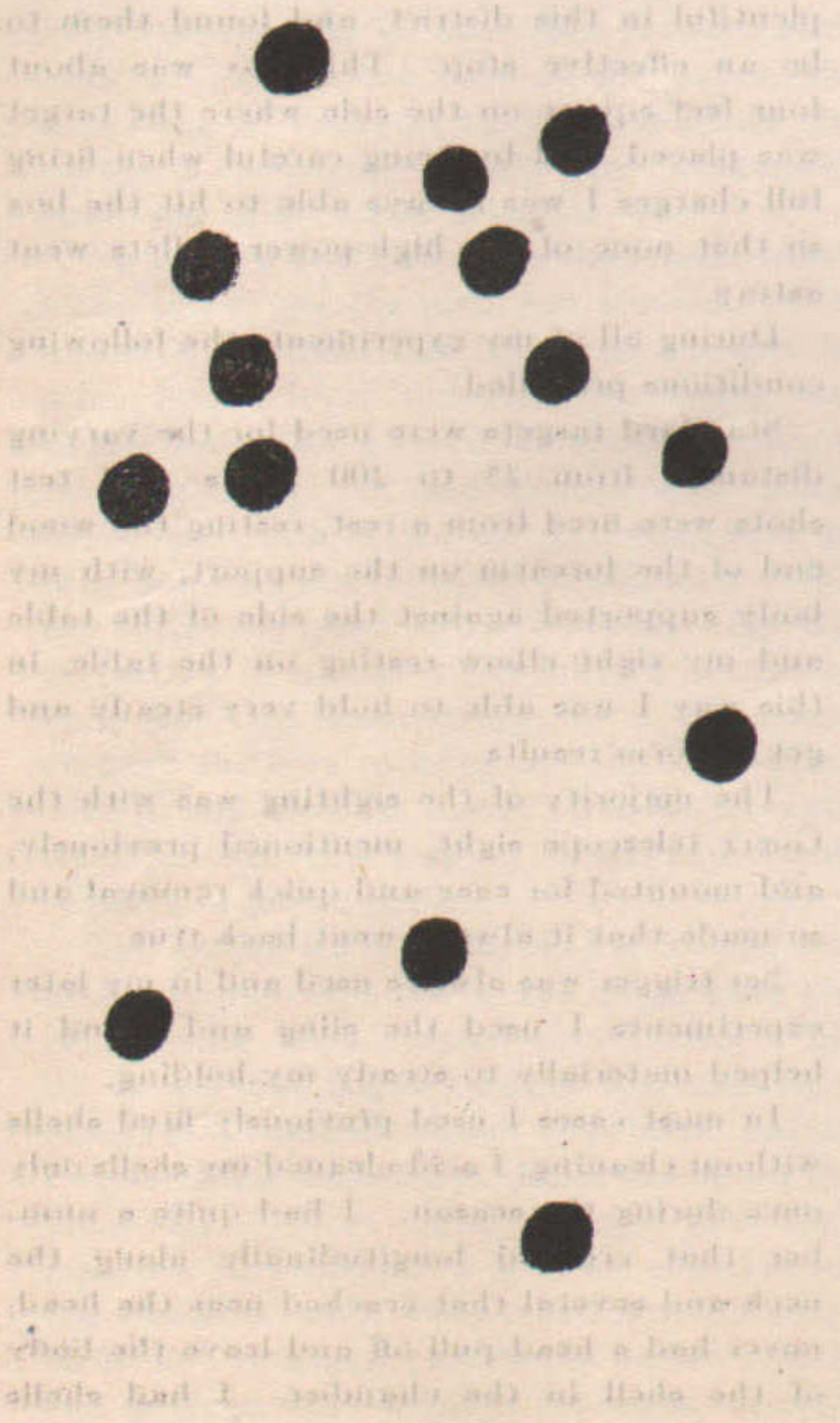
As these experiments were for determining the most accurate and reliable loads for this particular rifle, including both light and heavy loads, a suitable rest for the rifle was necessary as well as a rest for the shooter.

Not then knowing the most desirable kind of rest for the purpose a box of suitable height was found in the barn and transported to the shooting line, was rigged up with a rest for the rifle and a seat at the side for the shooter.

The first experiments were with factory ammunition and were anything but encouraging, the bullets persisted in going everywhere but in the center of the target where they were supposed to go. This erratic shooting was attributed to the open sights, I never was able to shoot well with open sights, so a peep sight was added to the outfit and somewhat better results were obtained, but still they were far from satisfactory, and the groups at one hundred yards were what they should be at two hundred.

With this rifle was purchased a Goerz

No. 16 powder shot with good uniformity. A group of 100 yards, 15 shots, No. 16 powder, 46 grains, Newton 129-grain bullet, .264 diameter.



A target made at 50 yards, 10 shots, 20 grains No. 18 Powder, 86-grain Winchester bullet, .268 diameter.

Telescope Sight magnifying 2 3/4 times, but without mounting, so I decided that in order to get the best out of these experiments it would be necessary to mount the telescope on the rifle. After considerable labor making mounts the scope was finally in place and my shooting improved at once. From then on the scope was used almost exclusively for all experiments.

The next necessity that became apparent was a reloading outfit, so a reloading tool was procured from the Newton Arms Corp. with the necessary accessories and from then on my shooting improved still more.

About this time I noticed that the bullets were gradually boring holes through the stone wall and would soon have it completely disintegrated, this condition necessitated finding another range.

Ever since beginning these experiments I realized the desirability of having at least a two hundred yard range, but had been unable so far to find a stretch of ground that seemed available, but by persistent search I soon found a stretch that was ideal except in direction.

There are two orchards on the farm, one back of the house and another back of the barn. Abutting the lower edge of this latter orchard is a pasture comprising several acres, in one corner of which stands an old apple tree and looking off in a southerly direction I found a stretch of ground that proved to be an ideal two hundred yard range. Measuring from the old apple tree the range went diagonally across the pasture over the top of a brush hedge and ended just in front of a clump of woods on a slight bluff.

This woody spot is just on the edge of one of the busy little streams I spoke of, and whose tumbling and bubbling waters are continually rushing on in eager endeavor to join in turning the wheels of a small industry where they grind and saw for the necessities of the little village of Saddle River.

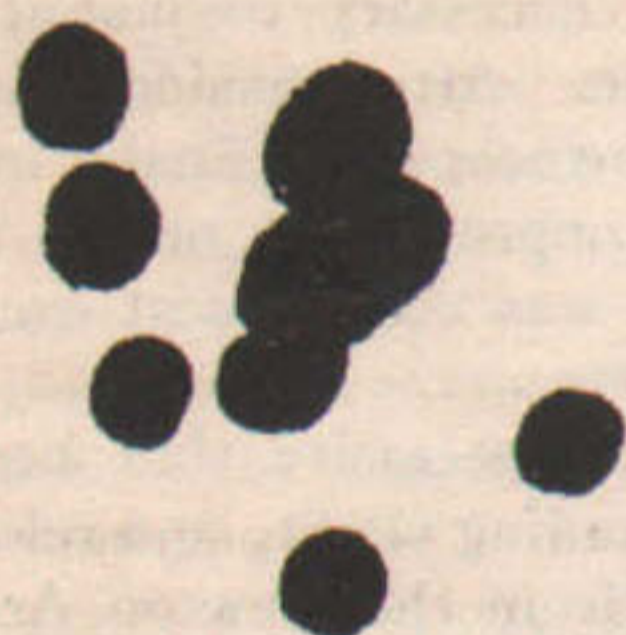
At the old apple tree I erected a 10 by 12 tent fly to protect from a too warm sunshine, a gusty wind or a drenching shower. Under this tent I erected a solidly constructed base on which I placed a walnut top resting on adjusting screws for leveling and at the side

LAST SHOT



a cushioned seat on which to rest from frequent trips to the target and to steadily support my body against vibration during firing.

During all of my past shooting experiences



"Targets 9, 10, 11 and 12 were a surprise to me since the groups were so much better than I made before." Four groups, 10 shots each, 30 yards, 13 grains, No. 80 powder, 86-grain Winchester bullet, round corner base, .266 diameter.

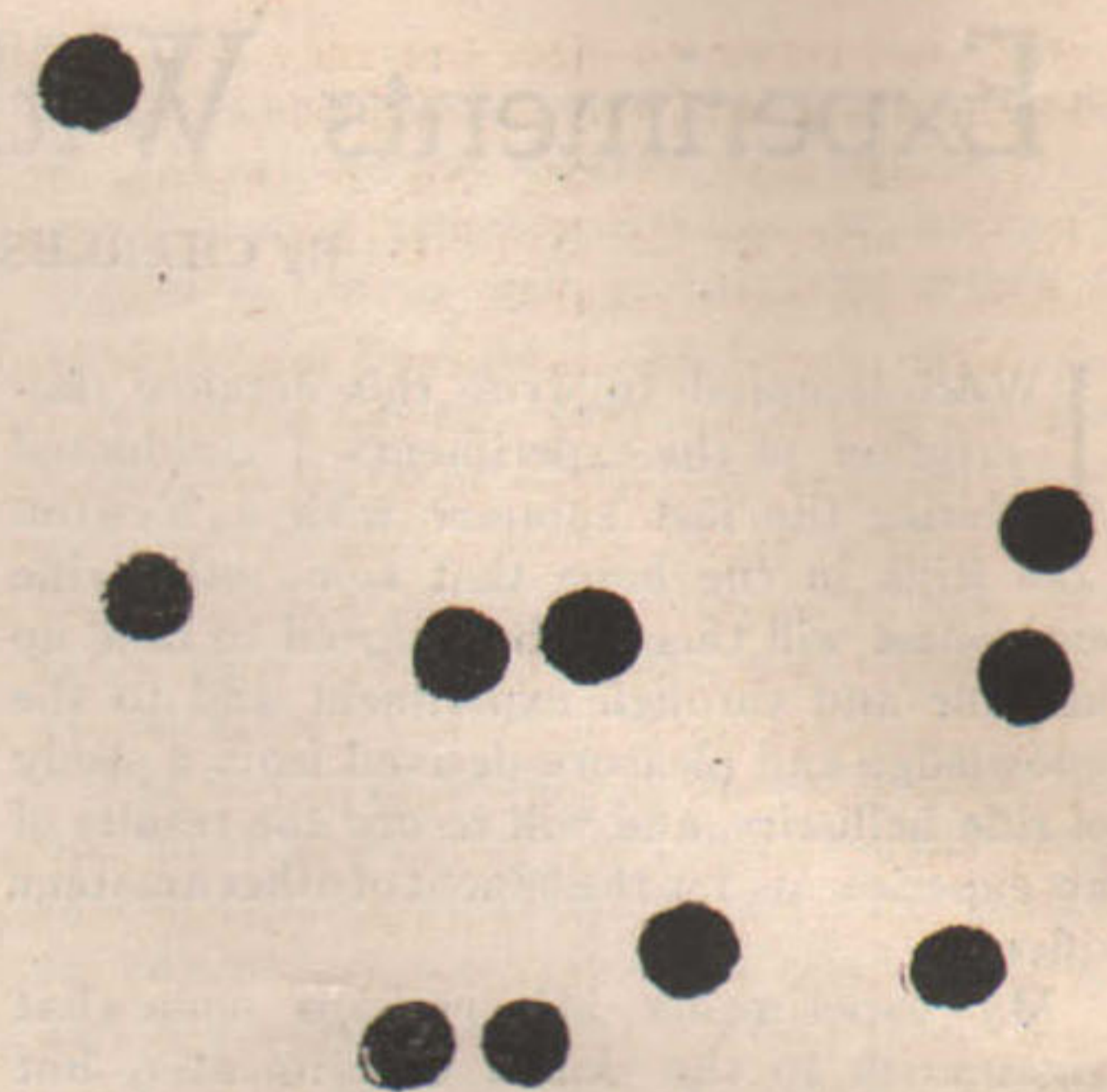
I shot left-handed and when I became the proud possessor of a Newton rifle I realized the desirability of becoming a right-hand shooter, as the awkwardness of a left-hand man manipulating a bolt gun did not particularly appeal to me, so I determined to learn to shoot right-handed. This change in my shooting methods was probably responsible for much of my early erratic shooting, but since all of the shooting was from a rest I did not find it particularly hard to adapt myself to the new position and kept at it diligently until now it seems the most natural of the two.

While my Newton rifle has turned out to be a very accurate and efficient weapon, I found it necessary to make numerous detail changes before it performed to my entire satisfaction. One of the first deficiencies that came to my notice was an inclination to shoot to the left, but after repeated adjustments of the front sight I finally brought it around to shoot where aimed, but in doing so had to move the front sight so far to the left that it was almost out of the sight slot. It was quite a while before I discovered just what was the cause of this condition, after puzzling over it for some time I noticed that the left side of the wood forearm was resting tightly against the barrel while the right side was free of any bearing, this I thought was the cause and I believe it was, for as soon as I relieved the forearm at this point and removed all bearing of the wood on the barrel I had to readjust the front sight and bring it back to almost a central position. This caused me to investigate the fit of the forearm thoroughly and I found that it did not have a uniform bearing on the barrel at all, so I decided to eliminate all contact between the barrel and forearm, leaving the barrel supported only by the receiver.

After this change my groups began to grow smaller and I noticed much more consistent shooting. I made some very good targets before relieving the forearm but I could not repeat loads and get uniform targets, but after this change I could reload previously accurate loads and get good targets most every time.

Another change that seemed to improve the shooting was squaring the end of the barrel. My barrel was crowned the same as most barrels made at the present time, this in itself is all right, but after crowning the end of the bore appeared to have been beveled with a fine file as the beveling was uniform over the lands and around the grooves, which is an impossible operation with a counterbore or beveling reamer. I happened to have a facing counterbore of just the right shape and only needed a brass pilot snugly fitting the bore to make it just the tool for facing off the end of the barrel just inside the crown, this tool I manipulated by hand and found no difficulty in easily taking off the necessary metal to give a square face right at the bore and leave the original crown just outside, so that now I have a square face at the bore and a crowned outer area to protect the bore.

This change also improved the shooting but not to the same extent as relieving the barrel



Ten shots, 100 yards, 26 grains, No. 18 powder, 86 grain Winchester bullet, .266 diameter.

from the forearm. After this change, however, I made some of the best targets at 200 yards I have ever made, the best measuring about five inches, that is, all shots were within a five-inch circle, these with hand loaded ammunition using accurately weighed charges of Du Pont No. 16 powder.

Most of my shooting was with light loads as I was particularly anxious to find suitable light loads for the Newton rifle, as it is of little use in a densely populated district without light loads, the full loads being extremely dangerous to shoot unless a suitable background is provided to always catch the bullets.

The realization of this danger was uppermost in my mind when I laid out my 200-yard range. To surely stop the bullets from the high-power loads I procured a large box and placed it at the 200-yard butt; this I filled with nigger heads, the large round stones so plentiful in this district, and found them to be an effective stop. This box was about four feet square on the side where the target was placed, and by being careful when firing full charges I was always able to hit the box so that none of the high-power bullets went astray.

During all of my experiments the following conditions prevailed:

Standard targets were used for the varying distances from 25 to 200 yards. All test shots were fired from a rest, resting the wood end of the forearm on the support, with my body supported against the side of the table and my right elbow resting on the table, in this way I was able to hold very steady and get uniform results.

The majority of the sighting was with the Goerz telescope sight, mentioned previously, and mounted for easy and quick removal and so made that it always went back true.

Set trigger was always used and in my later experiments I used the sling and found it helped materially to steady my holding.

In most cases I used previously fired shells without cleaning; I acid-cleaned my shells only once during the season. I had quite a number that cracked longitudinally along the neck and several that cracked near the head, never had a head pull off and leave the body of the shell in the chamber. I had shells



stick and refuse to eject but they were easily bumped out with the cleaning rod.

I used both UMC No. 9 primers and U. S. Cartridge Co. No. 8 primers and found them both quite reliable.

After careful measurement I found the bore of my rifle to be .2572 and the bottom of the grooves .269, the rifling being of the Newton concentric type, wherein the grooves are formed of segments of circles having a radius somewhat less than the radius of the bore. The chamber neck measures .294 at entrance to bore and .295 at beginning of taper.

I made swages for sizing the commercial .25 caliber bullets to suitable diameters for the Newton rifle, these swages I made of tool steel but did not harden them, so that I could easily change them for slightly larger sizes and frequently different shapes, with these I made bullets varying in diameter from about .2615 to .269, having varying lengths of bearing surface on the lands, having various shaped bases, various shaped points, and I made some bore diameter bullets having gas check base bands. Most of the bullets experimented with were metal cased, some soft point but most of them full cased.

From the UMC Co. I procured Savage

87-grain and their own 101-grain bullets; from the Winchester Co. I procured 86-grain and 117-grain full metal patched; from the Newton Co. 100-grain full metal patched and the 129-grain soft point, and from Evans of Buffalo I procured some 117-grain soft point, all of which gave good results under some conditions.

For quite a while I used Molilubricant but finally discontinued its use as I thought it caused erratic shooting unless it was distributed very uniformly and carefully over the point of the bullet. I used the spitzer greaser quite extensively but was never satisfied with the way it distributed the lubricant. I also tried other lubricants but did not come to any definite conclusions as to whether a lubricant was desirable for light loads or not. I think it is for full charges but intend to experiment further before adopting any fixed policy.

In tabulating the data accompanying each target I have placed it in the following order:

- Date.
- Distance.
- Number of shots.
- No. of Du Pont powder.
- Quantity of powder.
- Weight and make of bullet.

Diameter of bullet.

And used the following symbols:

- Yds.....yards.
- pow.....powder.
- grs.....grains.
- bul.....bullet.
- diam.....diameter of bullet.
- N.....Newton.
- W.....Winchester.
- UMC.....Union Metallic Cartridge Co.
- S.....Savage.
- E.....Evans.

The targets are average, some of them are the best I have made but the most of them are no better than many others I have made with the same loads and under the same conditions.

I secured rather the best results with No. 80 powder, it seemed to ignite faster than the progressive powders and did not make so much noise. This, of course, in light loads.

Some of the best targets I secured were made with No. 80 powder in 13-grain charges, but I discovered after shooting these loads for a time that they would all be hang fires if I pointed the rifle down and then carefully

(Continued on page 9)

## Home Gunsmithing Points

By VAN ALLEN LYMAN

(Broken Shell Extraction in Rifles and Revolvers)

IT WAS a 30-30 solid frame rifle and a standard make of shell, a most perfectly respectable combination. Had it been otherwise the result might not have been unexpected, but as it was: "Oh, why did they do such a thing?" For, one week out on a lone hunting trip a war time product shell blew off just at the base of the bullet, the little ring of brass being expanded into the breech of the barrel, while the rest of the shell came out in the usual manner.

No broken shell extractor had been taken along but to get the piece out seemed at first a simple matter. The breech of the gun a solid frame lever action, remember, was bumped on the ground to shake it down. Nothing doing. A field cleaner with bristle brush was then drawn through backward to take out that piece. Exit field cleaner O. K. but shell neck unmoved. A trip to camp, the extraction of a lead bullet from a miniature load and the hammering of it backward through the bore to bring out the obstruction with it was the next move. The bullet went through but the ring of shell came not. Anxiety began to gather.

The button tip of a marble jointed rod was then riveted over until it was larger than the rifle barrel, then dressed down with a file till it was but slightly larger and this tight brass plug forced down the oiled barrel. Result, a fine impression of the rifling on the plug, but it went right through that shell mouth which seemed to have an affection for the chamber and was, of course, as large inside as the largest part of the barrel. After two or three more fruitless attempts, descrip-

tion of which space forbids, camp was struck and the trip ended. A simple little shell extractor would have come in good here, but it's the only time the writer ever did get caught in the woods with a broken shell in the gun. Such accidents are very rare with new ammunition.

Once home, and with tools available, that bit of shell was extracted in about three minutes. A five-sixteenths inch standard plug tap such as used by machinists was dropped into the chamber and forced firmly into the shell by repeated slight blows on it with the breech bolt. Steady pressure then applied from the muzzle with the cleaning rod brought out the tap and with it the shell without the least trouble whatever. Owing to the small opening in the rifle's receiver it was impossible to turn the tap with a rotary motion without making a special wrench to do it, so the experiment of driving it straight in was tried. It was expected that it would strip back but in this case it held perfectly.

An investigation into the relation of five-sixteenths inch and .30 caliber is worth while. Five-sixteenths expressed decimally is .312 inch. Now, a .30 caliber bullet is usually .308 inch and the inside of the mouth of the shell the same. This means that a five-sixteenths inch tap can be screwed into a .30 caliber shell mouth and will cut into the brass .002 inch everywhere, or a little less if the shell be expanded. The little groove it cuts may be no deeper than the thickness of a piece of newspaper but the total length of the groove multiplied by the number of threads

gives an amply secure hold for removing a stuck shell.

The practical application is that a five-sixteenths inch tap is larger than the inside of a .30 caliber shell muzzle but smaller than the outside and that if a tap is screwed into a broken shell from the rear both can be easily knocked out together without injury to the rifle. A five-sixteenths inch bolt, if tapered slightly on the end to facilitate entrance would probably answer almost as well. With rifles where the breech of the barrel is accessible, as in Winchester and Savage take-downs, it is simplicity itself to use a common tap. With bolt actions a tap with a long handle or extension stem is required. With closed in actions like the non-take-down lever action rifles one can hammer a tap in carefully and then give it a partial turn with pliers or small wrench to give the teeth a hold. Why not a broken shell extractor in the first place? By all means, if you have one, try it. But shell extractors sometimes slip and fail to extract, and the old reliable tap works every time.

On several occasions I have had to remove from revolver cylinders shells from which the heads had been blown off, leaving the cylindrical part of the shell expanded into the chamber. They were the tight ones, of course, that the owners couldn't get out themselves. Such shells always yielded easily to a round file of proper size screwed into the shell from the base end, then driven back carrying the shell with it. For .38 caliber an even easier way is to use a No. 4 size "Easy Out" made by the Cleveland Twist Drill Company, of Cleveland, Ohio.

The revolver shells mentioned, of which the heads let go, were shells that had been resized and necessarily somewhat strained in the operation, also shells which had been several times reloaded with smokeless powder,



# ARMS AND THE MAN

1111 WOODWARD BUILDING, WASHINGTON, D. C.

SEMI-MONTHLY—ON THE 1st AND 15th DAY

Editor

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

Associate Editor

KENDRICK SCOFIELD

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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 BENEFIT OF ARMY SERVICE

REGARDLESS of his station in life or the educational advantages he may or may not have enjoyed, an enlistment in the Regular Army offers many advantages to every young man.

For success in life every man needs a foundation of sound physical health, neatness, character, reliability, initiative and willingness to assume responsibility as a basis on which to apply his education or special training. The Army offers to every young man the opportunity to develop all these qualities to an unusual degree.

Without robust health, his physical limitations prevent him from applying his knowledge and ability to the full extent of his possibilities. Without the qualities of character, reliability, initiative and sense of responsibility he must fail in life, however highly he may be educated or how skillful he may be in his trade or profession. Unless he has education and the specialized training required for his chosen life work, all the energy and steadfastness in the world will not bring success.

The physical benefits of Army training are so well known since the World War that they need little emphasis. Nearly every one has a brother or a cousin or knows a "boy next door" who came back to find that he could no longer wear his pre-war civilian clothes. The wholesome outdoor life, regular exercise, good food and physical training had changed him, made another man of him.

The nature of his life and duties tends to develop the other qualities mentioned to a high degree. The first impressions of a recruit are calculated to foster his responsibility and reliability. He is required to keep his rifle and equipment always in perfect condition, his clothes neat and clean, and his particular portion of the barracks in perfect order.

As he progresses in instruction and experience his responsibilities increase and he is constantly called on to a greater degree to exercise initiative and to carry out instructions with exactness. While still a private he is, during his period

on guard, solely responsible for good order, the protection of government property. His orders as a sentinel must be obeyed by all persons in the military service, regardless of what their rank may be.

As he progresses through the grades of Corporal and Sergeant his responsibility for his squad and platoon constantly increases. In learning how to carry out orders he has learned how to give them, and to see that what he requires is done. The sense of authority thus developed makes him a leader of men and one whose leadership is instinctively accepted by others.

Loyalty, responsibility and initiative are the principles on which all armies are founded. In few other occupations are these qualities developed in such a high degree. The Army "graduate" is fitted by his training to take his place as a more useful citizen and a better American.

To the man who has been unable to complete his education or who wants special training along some particular line, the Army offers great opportunities. The slogan "Earn While You Learn" has been widely used in connection with Army Educational and Vocational Training facilities and well expresses the chances offered to an ambitious young man.

Every post has well organized schools for the teaching of common school branches, and high school subjects are given at all the principal posts. Several schools have been established in which the soldier is given an opportunity to prepare under West Point graduates for entrance to the United States Military Academy at West Point, and numerous appointments to the Academy are made from the ranks of the Army every year. During the time he is thus fitting himself to be a more useful and productive citizen the soldier is well paid instead of being required to pay for his own education or to accept small wages as an apprentice. His monthly pay is not less than thirty dollars a month in addition to all his clothes, board and other living expenses and medical attention. Few young men just starting out in life can show this amount clear at the end of the month after paying his living expenses and buying their clothes. Thirty dollars is the lowest rate and increases substantially with length of service and promotion.

"All work and no play" is no more the policy in the Army than it is elsewhere, and ample provision is made for the soldiers entertainment and amusement. All sorts of athletic games are encouraged and the necessary equipment supplied at government expense. Every post has its Service Club, open to every man without cost and provided with games and reading and lounging rooms. Club rooms are also maintained by most companies where similar facilities are provided within the Barracks. Nearly all posts have their Liberty Theatres with regular motion picture programs and frequent plays by both amateur and professional talent.

To sum up, the Army offers a man an unusual opportunity for physical improvement and the development of those general qualities which make for good citizenship and success in life. If he wants more education or desires training in some special subject or trade, he has full opportunity to obtain them. During this time he is well cared for, generously paid, and not only allowed but encouraged to indulge in interesting and wholesome amusements. His life is well balanced and at the expiration of his enlistment he is well fitted to take his place as a better and more useful member of society.



# The Outdoorsman-Box-for-All

Being the fourth of a series of talks for the Out-of-doors Man

By CAPT. FRANK WINCH

S AID a brother sportsman, "Half of my fishing gear each year is lost, either through rust or neglect; the other half can seldom be found when wanted."

Were I to call this sportsman by name I would introduce him to you as "Mr. A. Legion," and where he both hunts and angles his troubles multiply because of the increased impedimenta of guns, shells, and the cleaning what-nots that go to make a sportsman's complement of things necessary.

For season upon season, when the trout days found their end, my lines, hooks, reels, rods, fly hooks and the various et ceteras were dumped into odds and ends corners of the attic or left to mould in the fishing coat pockets. In turn the same treatment would be handed to my guns after a hunting season. Result, sundry and various trips to the sporting goods dealer each season for the replacement of articles ruined through sheer neglect and indifference.

The continued expense and annoyance suggested a remedy. I would buy me a box or a trunk or build a new room on my house to care for these precious implements of the outdoorsman's craft. I wanted something to act as a receptacle for the fishing outfit when I was hunting, and the hunting outfit when I was fishing. A search through the sport dealers' catalogs offered but slight hope. In one place the box was too short or too shallow or too long or too thin or too heavy or too light; in one point they all struck one sound note of harmony—they were too expensive.

## Experiments With A Newton Rifle

(Continued from page 7)

raised it to a level just before firing since then the powder would be mostly up next to the base of the bullet and not close enough to the primer to permit of instant ignition.

After experimenting with gradually increasing loads I found that the .256 shell required at least 18 grains of No. 80 powder in order to remove all possibility of hang fires, but with the time at my disposal I could not follow the experiments far enough to get this load to shoot as accurately as the 13-grain load but see no reason why it will not shoot as accurately as I think it is simply a matter of finding the correct diameter of bullet, the proper length of bearing on the lands, the depth to seat the bullet in the shell and the best neck clearance in the chamber. In my experiments I found that all of these conditions must be in harmony with the powder charge to get the best results.

No. 18 powder shot very accurately indeed, as the targets will show, but the most accurate loads would all be hang fires if the rifle was pointed down and then carefully raised to a shooting level just before firing and I did not have time this last fall to find the minimum

Then a visit to the carpenter shop, my plans were studied and the estimate given staggered the pocketbook. There was one recourse left—make it myself, and to you fellow knights of the rod and gun are inscribed the result of that determination. A sportsman-box-for-all, home-made, inexpensive, durable, complete and satisfactory, and as far as I can perceive quite unlike anything that has appeared on the sport dealers' counter. My box has stood the test of service for two years, it has been expressed from point to point covering several thousand miles, knocked about in camp, withstood the soaking rains of spring and comes up serenely through a coverlet of northern snows.

It will accommodate everything that you need for a four-week fishing trip, a week end or a season's hunt for birds or big game, and the cost \$3.50, not counting your own labor.

The material is bass wood, 1 $\frac{1}{4}$  inch thick. The dimensions, 41 inches long, 10 inches wide, and 12 inches high. The latter made in two parts, 9 inches for the box and 3 inches for the top or cover. I had the lumber cut to proper measurements at a carpenter shop, at a total cost including boards, for \$2.75. The boards being rough dressed, I finished by using 5 cents worth of No. 0 sandpaper.

Setting the bottom board of the box on a bench, smear a stream of glue along the four edges and on this set the sides, making a temporary fit by tacking through with light nails. The top is fashioned in the same manner. After setting for several hours the

load of this powder that could be used and that would not be a hang fire.

No. 16 powder in light loads showed the same tendency to hang fire and I think it will require at least 35 grains or more to eliminate hang fire completely so that it is not suited for light loads.

No. 75 powder seemed to shoot very accurately but I did not get a chance to test it for hang fire.

The targets submitted herewith were all shot for group and, of course, elevations had to be changed for the various loads and sometimes lateral adjustment as well, so I made no attempt to indicate the point of aim for the various targets. Some of the groups were high and some were low and some on one side or the other, but this was of no consequence so long as the group was well within the confines of the target, as a matter of fact I could easily adjust the sights after one shot to bring the group somewhere near center.

Targets Nos. 7 to 12 were somewhat of a surprise to me since they were so much better than any I had made before, while the distance is only 30 yards I think the grouping is very good. I would mention that these groups were shot in the barn and were free from wind deflection, which probably partly

glue hardens, then make the joints solid by using one-half inch flat head wood screws. The corner plates come from the 5-and-10 cent store, as did the handles on each end. An old strip of canvas tacked over each corner helps make it waterproof.

There are three trays. These are made from the sidings of a shoe packing case and covered with grain sacks, each end of the tray having a slotted upright 3 inches high which makes for a support for the next tray and also a hand grip to remove same. The box with trays weighs about seven pounds when finished.

An inventory of the box as it stands before me now with the fishing paraphernalia laid away for the winter shows this list of contents: Four rods, landing net, two fly books, three packages of line, folding lantern, hand axe, six candles, four floats, bottle of mosquito dope, pipes and cans of tobacco, bungalow slippers, pair of waders, fishing vest, first-aid kit, pocket tool kit, several packages bait, hooks, scissors, flash lamps and batteries, dehydrated food, fish scales, compass, assortment of casting plugs and spoons, canvas rod cases, a rifle, bottle of glue, rod varnish, mending tape, a fishing coat, cap, and gloves.

For the hunting trip the trays are stripped and box emptied. The following then are packed in: Two shotguns, 500 shells, hand axe and compass, a rifle, thermos bottle, cook stove, gloves, knife, coat, cap, change of underwear, raincoat and other duffle.

Anyone who can drive a nail halfway straight with a 5-and-10 cent store hammer can make a similar box. It is not only an ornament for the den, but the most practical contrivance I have run across in many years. It will Hooverize your sporting goods expense account.

accounts for the closer grouping, but this is not the only reason as I had been shooting other loads in the barn and did not get these results until I made a slight change in the shape of the base of the bullet and all of the targets I made with this bullet and powder charge showed this closer grouping.

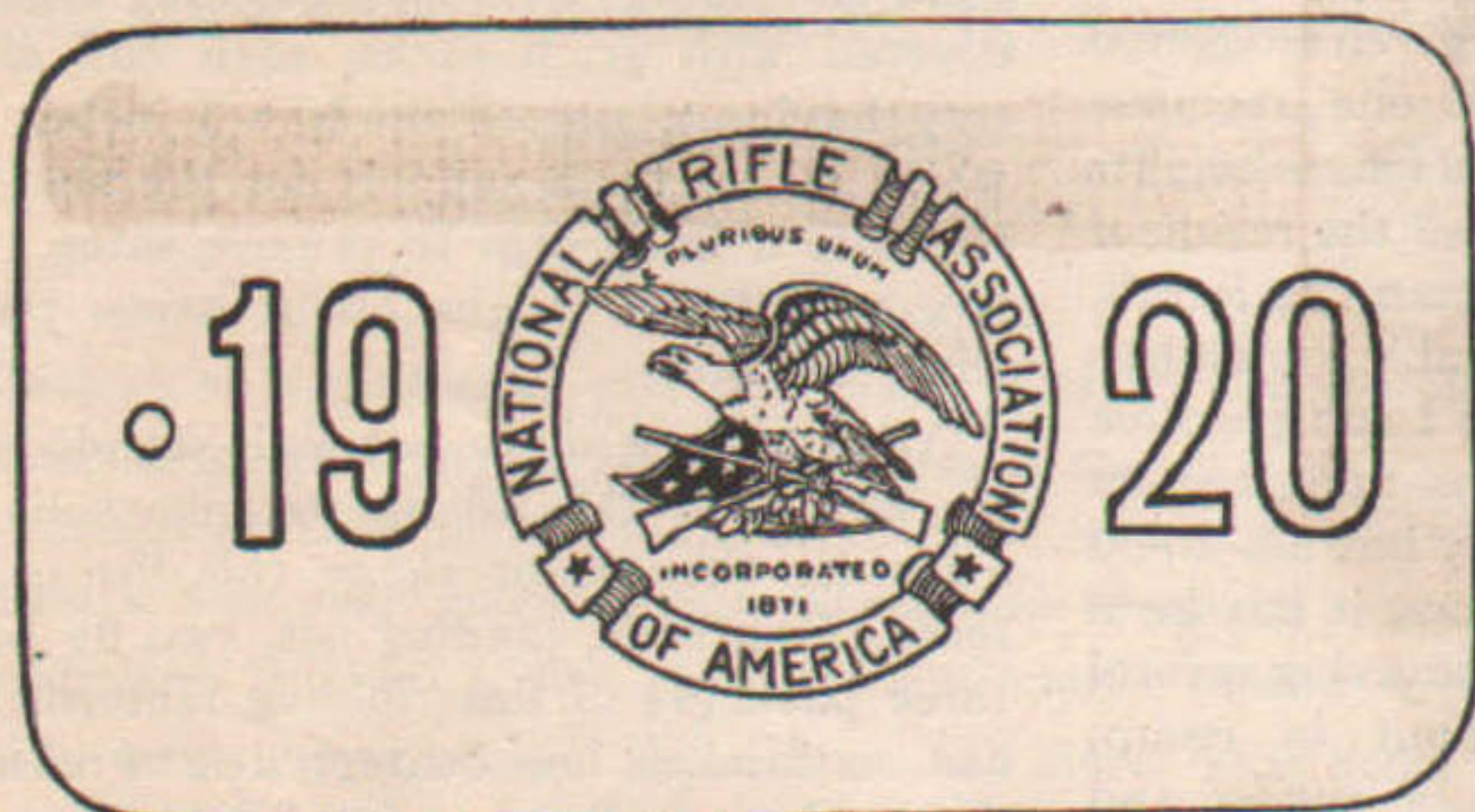
All of the light weight 16 and 18 powder charges were fired without hang fire because in shooting at target I always used the rifle as a single shot and rested the butt on my knee when reloading so that unknowingly I always had the powder right close to the primer and always had instant ignition.

At times I used to have hang fires which I naturally blamed on a poor primer, but which I now believe was due to times when I happened to point the rifle down just before firing.

I never was able to get good targets at 200 yards with No. 15 powder and the regular Newton 129-grain bullets, and did not have time to experiment enough to find out why. I tried charges from 45 to 49 grains, the latter filling the shell, but some of the shots always went wild. No. 16 powder shot with wonderful regularity and I always got good targets if I did my part, and besides it is a very clean and pleasant powder to shoot; I am speaking now of full loads where I used 44 to 46 grain



## Rifle Club Membership Cards



**T**HIS size and cut of membership card, seal and year tinted in rifle green, makes an attractive and valuable credential for club members when black print is used over the tint. Many rifle clubs used cards of this pattern in 1919. More should take advantage of their possibilities in 1920.

The cards are sold to rifle clubs at the low price of \$1.00 the hundred.

**ARMS AND THE MAN**  
WASHINGTON, D. C.

## Hercules Rifle Powders

### WILL WIN FOR YOU

**D**URING 1919 Hercules Military Rifle Powders were used by the winner of the Wimbledon Cup, the most important 1000-yard individual rifle match. They were also used by the winners of first and second places in the Members Matches, the most important 600-yard individual match, and by the winner of the 500-yard miss-and-out Swiss match. The latter made 58 consecutive bull's eyes on a 16 inch center.

Hercules Military Rifle Powders enabled Americans to win all of the high 20 places in the individual championship and were used by the A. E. F. Team in winning the team championship at the Inter-Allied Games.

Prepare for the 1920 National Matches by having your ammunition loaded with Hercules Military Rifle Powders.



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charges with the 129-grain bullets: and believe me, these bullets did annihilate the "nigger heads" in the box used as a bullet stop, of which I spoke a little while back.

These bullets, driven by 46 grains of 16 powder seemed to get to the 200-yard target before I would hear the report of the rifle and with such force that they broke the rock up into small pieces. It seems to me that this rifle has power enough to kill anything that walks.

To my mind it is the ideal rifle, for in one arm you seemingly have enough power to kill the largest game and by loading with light charges you can reproduce almost any of the light charge hunting cartridges in the small calibers and from my experiments I believe a light load can be found that will shoot at the same elevation and windage at 50 yards as the full load shoots at 200 yards, this would be a fine combination, enabling one to carry several full loads in the magazine as a reserve and use the rifle as a single loader with the light loads, he would then be equipped for any emergency.

The only difficulty with this plan at present is that the majority of shooters might object to the work involved in swaging the commercial .25 caliber bullets to a proper diameter, but if they are at all mechanical this is only an added pleasure to the real rifle enthusiast and is not at all a difficult or disagreeable task. Personally, I take great pleasure in this kind of work, and find it adds greatly to

the pleasure and satisfaction when desired results are obtained. I think the Newton Arms Corp. is about ready to make 100-grain bullets that will be ideal for light loads and also heavy enough for full loads that will be quite effective on medium sized game.

I have loaded and fired quite a number of cartridges using the Remington 101-grain bullet and 44 grains of No. 16 powder and found them very powerful indeed, and would not hesitate to shoot quite large game with them. I think such a load is considerably more powerful than the 250-3000, and according to the reports in the sporting papers they are killing almost every kind of animal that walks.

I have made targets made with bullets varying in diameter from .2615 to .268 and I will say I have obtained good targets from every size I have tried, some of course better than others, but I have not experimented in a systematic manner to determine just the best diameter for each of the powder charges used. For a while I thought a diameter of .266 gave the best results of any size used but after getting good targets from other sizes I am still in doubt about the best diameter. What I intend to do when I get the time is to make up a hundred bullets of the different diameters—using probably the 86-grain Winchester full metal patched bullet—and using 18 grains of No. 80 powder, and find out by actual targets just which diameter is best for a light load. But the best diameter for my

rifle may not be the proper one for another Newton 256, although I don't think it will be far off.

Many questions will no doubt arise in the minds of readers as to just how the details of these experiments were carried out.

The swage used is of my own design and construction and is very adaptable to this kind of experimenting and is of easy and simple construction for anyone having a small foot-operated or a power lathe.

The making of the reamers for reaming out the swages is also comparatively simple when worked out in the proper manner.

These features are, however, subjects for a further paper which I will gladly furnish if the editor cares to publish the matter.

### ATTENTION RIFLE CLUBS

SOLVOL in one quart cans. Just the right size for use on the gallery cleaning rack. A trial can will be sent, postage paid, upon receipt of \$1.65.

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### Black Diamond Gun Grease

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

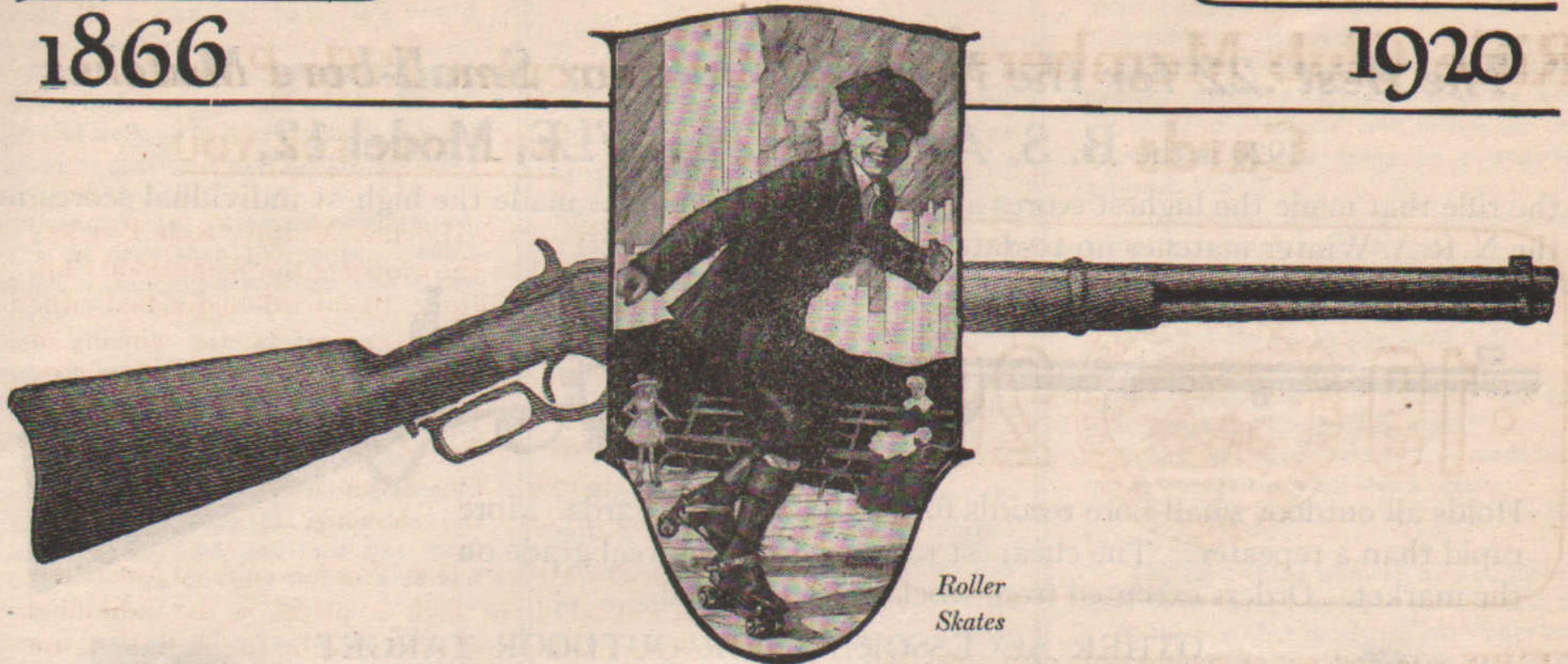
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# WINCHESTER

1866

1920



*Roller  
Skates*

## NEW PRODUCTS AND RETAIL STORES

*by* J. E. OTTERSON

PRESIDENT, WINCHESTER REPEATING ARMS COMPANY

**F**OR fifty-three years the Winchester Repeating Arms Company has made and marketed arms and ammunition.

During this half century the Winchester Company has endeavored sincerely to give every customer, large or small, the finest merchandise it could make.

And it has tried to deal fairly in all ways with every patron.

Winchester now enters two new fields of effort:

First, the making and marketing of Winchester Cutlery, Tools, Fishing Tackle, Skates, Flashlights, and other new products.

Second, the selling of Winchester products through Selected Dealers and the operation of Winchester Retail Hardware Stores.

We believe that the manufacturing personality which has built world-wide respect for Winchester Guns and Ammunition will produce a character in Cutlery, Tools, Fishing

Tackle, etc., that has not been offered the public heretofore.

And we believe that Winchester organization methods applied to Winchester Hardware Stores will develop a retail service unprecedented in the merchandising of hardware and sporting goods.

This new Winchester plan is one of the largest undertakings in the history of American business. Its object is economic: To manufacture hardware and sporting goods in volume and fully up to the finest traditions of Winchester, and deliver them to the consumer at the lowest possible cost.

We hope and believe that this plan will benefit the American public; likewise all of our competitors, be they jobbers, retailers, or manufacturers.

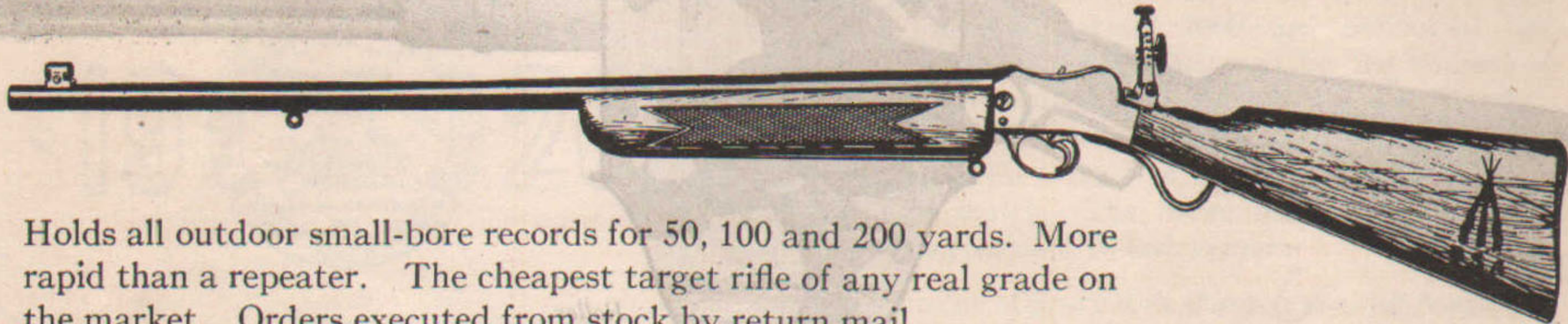
The **WINCHESTER** Sign is appearing on the leading retail hardware stores. This sign will be found to stand for the same sincerity which for half a century has enriched the name Winchester throughout the world.



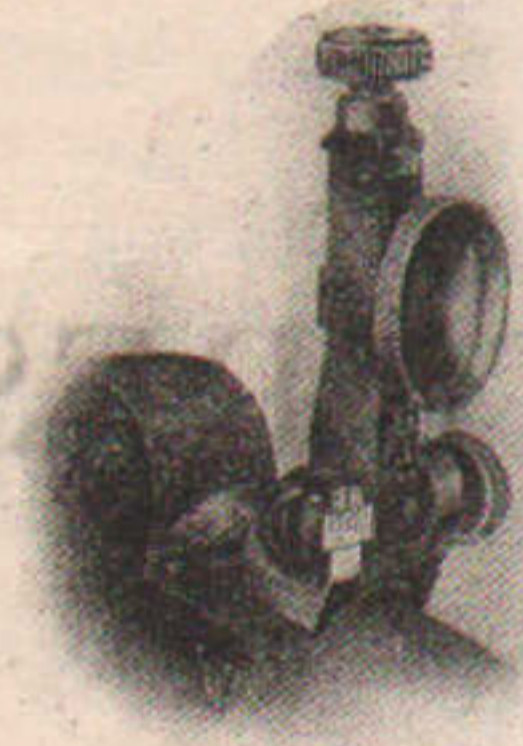
## The Best .22 for the N. R. A. Outdoor Small-bore Matches

1920 is the **B. S. A. MATCH RIFLE, Model 12,**

the rifle that made the highest scores at Caldwell 1919, and has made the highest individual scores in the N. R. A. Winter matches up-to-date.



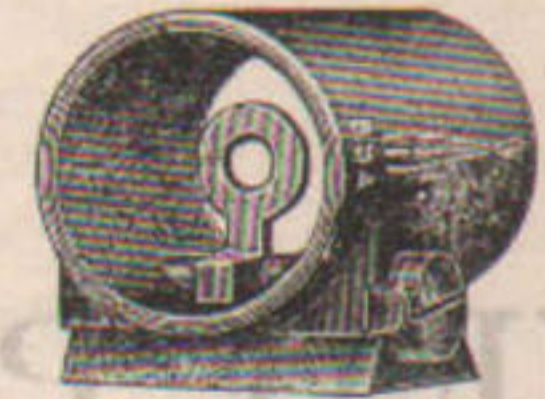
Holds all outdoor small-bore records for 50, 100 and 200 yards. More rapid than a repeater. The cheapest target rifle of any real grade on the market. Orders executed from stock by return mail.



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

**OTHER ACCESSORIES FOR OUTDOOR TARGET SHOOTING.** "The "Shootwell" Target spotting telescope, will show a .22 shot hole in the black at 100 yards, invaluable for outdoor and indoor target practice.

Celluloid covered steel safety cleaning rods with ball-bearing handles and patent long contact jags.



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

**B. S. A. SAFTIPASTE**

## The Production Equipment Company

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Sole Agents for the United States

NEW YORK CITY

### HUNTING HITTING

(Continued from page 4)

"Could you hit a rabbit with that rifle at fifty yards" he asked.

"A sitting rabbit. Every time at a hundred steps." Hoover declared.

It was an off day for hunting, the brush ice covered and no tracks to be found.

"A little noise won't hurt today," said Brady. "Suppose we try. Bet you five, Hoover, you can't hit a rabbit half the time at 100 yards sitting still."

And so they went at it. The game pole carried several frozen rabbits. Brady bent one into a crouching position, with back bowed up, stepped off a hundred yards and propped it in very plain sight on a log. Its brown fur showed up against the snow like a double-size bullseye, exaggerating its bigness. It looks as though a man couldn't well miss it.

"Ten shots, Hoover," Brady announced.

"Hum," said the old man. "Five dollars! No objection if I shoot at that knot on the tree there first, to test my ammunition an' sight." The tree was about 40 yards away.

"None whatever. It is all up to you to fix your rifle and load it exactly as you know best, before you begin. Take an hour if you need it. The only requirement in this match is to hit the rabbit five times in ten." Brady liberally removed all limits.

The 44-40 cracked. Bark flew off the knot. "My rifle's all right," Hoover announced, shaking it affectionately. "But I just wanted to make double sure. No use risking that five dollars of mine."

Then Hoover stepped to the hundred yard distance mark in the snow.

His first shot went low. That could be seen from the snow kicked up. His next left no visible result, nor the third. He turned to Brady.

"Them bullets is goin' right in the middle of 'im," he announced, with an eye screwed up in a wink. "Get your five ready, Brady."

One of the hunters nudged another and whispered excitedly: "They are going high. I saw the snow move away beyond!"

Hoover finished his string of ten shots. "Give me the Five, Brady, I've got eight or nine holes in your dang rabbit."

Brady pulled out his pocket book, selected a five-dollar bill, smoothed the wrinkles out of it, but when Hoover was beginning to reach for it, said:

"Let us get the rabbit. I'd like to count up to five of your bullet holes before you sell them to me."

"Sure Mike," Hoover answered, and danced off ahead to get it, more like a boy than he had for forty years. "Here you are," he said, as he picked up the rabbit and turned it over. Then his chin hunched down along his breast

and his shoulders humped themselves worse than ever. The rabbit had just one hole in it, where a 44 bullet had plowed through a rump. All the rest of the shots had missed. No one said a word.

"I hain't got the five dollars with me," he finally said in a low voice, "but I'll let you take it off your board bill, Mr. Brady."

"Cheer up, Hoover." Brady then said. "You were up against a stiff proposition. It looks so easy. And few men get away with what you tried. Let us watch some of the rest of these fellows try it."

A man stepped up with a sporting Springfield, confident of tearing the rabbit to pieces. He hit it three times, and his look of puzzlement was greater than Hoover's. Another hunter with the same cartridge in the 95 Winchester hit another rabbit four times. Two other with 32 Specials and 32-40s failed to hit it at all. A man with a 25-35 single shot rifle hit it seven times.

It wasn't that they scattered their shots. Back of the rabbit, or in front of it, a man usually would plow the snow out of a respectable furrow with several bullets. It was just that they did not know precisely where to hold on this deceiving object at that distance.

"Now that you've all proved you can not depend on yourselves to hit a rabbit," Brady suggested, "let us try something bigger—try a deer, a wooden one."



"Standing still!" someone exclaimed. Anyone could hit a standing deer. It's just a waste of ammunition."

"Well, maybe," Brady admitted, "To make the trick a little harder, we'll set the deer off a ways, and walk up to it as we shoot. What do you say to putting it over among the brush on the side of that hill?"

"Too near," the objector maintained. "That is no more than 300 yards. I could almost hit a standing deer there with a bow and arrow."

Brady grinned, but continued. "Then suppose we shave off the edges of our deer, where a hit wouldn't count for much anyhow, and make him only as big as the vital parts of that four-prong hanging on the pole."

A couple of boards were nailed together, to form a shape roughly like that of the deer, but only eight inches high and four feet long. The legs were two or three inches wide and the proper height.

When it was placed over on the hillside, 300 yards away, it blended somewhat with the leaves. It could not be seen conspicuously, although there was no trouble in defining it. In fact, it looked just like a little deer, color and all.

"Come on now, you target shooters," Brady exclaimed when he got back. "Prove that your skill on the range is of some practical use in the field. Imagine that deer is a boche jumping out of a hole to shoot at you, and try to beat him to it. Or imagine it is a live deer that knows you have buck fever and stands still to accommodate you.

"Every fellow take ten shots. Shoot one as you stand on this mark," (he made one with his foot) "then walk toward the deer and shoot again every 25 steps. You finish up within 50 yards of the deer."

Here he reached to a maple clump and cut off several small switches with his pocket knife, and began to cut one of them into two-inch lengths, a proceeding the others eyed with curiosity.

"How about sight adjustment?" the chronic objector questioned. "A fellow can't do much at 300 yards without raising his sight."

"Help yourself, my boy. Help yourself. Adjust your sights and do it carefully—or leave them alone. Also adjust your suspenders, your cap, and tie your shoe. It's simply up to you to do the best you can toward hitting that deer up there. The deer stands still for the purpose, which is something you will never be likely to get one to do again. You do just as you would if you had this chance at a live deer—that you could take home whole if you hit, but which would run away after you fired your ten misses."

"What's them little sticks for?" asked old Hoover.

"You'll all be putting seven or eight holes into that wooden deer. These are for plugs. Want to bet another Five you can put more than eight holes in it," finished Brady, invitingly.

Hoover grinned a little painfully.

The first man at the mark in the snow had the '95 Winchester for the '06 cartridge. It was fitted with a Marble Improved front bead sight, which has the bead mounted on the

#### NOTICE

Difficulty in obtaining labor and the slowness of the mails have operated to delay the delivery of the past few issues of ARMS AND THE MAN.

The editorial staff is doing all it can to insure the prompt appearance of the paper, in such time as will permit its delivery on publication dates.

Subscribers are requested to permit a reasonable time to elapse before writing to this office, but in every case of failure of the paper to reach a subscriber this office will gladly forward missing numbers wherever possible.

—The Editors.

upper edge of a ring. You can see through, under as well as over it.

This fellow did his sight adjusting in his head. "She falls 15 inches at 300 yards" he advised himself aloud, "and, (taking a squint through the sights at the deer) that space is covered by about half the width of my bead. I'm going to hold with the under edge of the bead at the top of the legs. "Well," he turned back for an instant, "I'm ready. Let's go."

He fired two shots that kicked the snow a couple of feet in front of the deer. A third bullet sent back a distinct rap of wood. The shooter then turned.

"They are going just right now. Nerves are steadied—slack taken up."

The remaining seven shots seemed to strike the snow right in line beyond the deer.

"Look for eight holes in 'im, boys," the shooter boasted as he opened the lever to take out the last empty.

They all went up to look. One little hole in a front leg and one more on the body was all there were! The bunch roared.

"And I was so sure," the shooter said.

"Three of those shots were fired within 160 yards range. The thing is harder to hit standing still than running, because a fellow wobbles off it if he waits to sight. The quicker you shoot the better you are off. These bullets all went over. Let me try again. I can pull them down."

At the second trial he hit the wooden deer five times.

"After I'm in the woods a few days I can do it better," he told Brady.

"Certainly," was the reply. "You get something of those three principles rubbed into you whether you try or not."

Brady shot next. He adjusted his sight for 200 yards, fired the first three times from

sitting position, and they found he had seven bullet holes to his credit.

Old Hoover followed.

"If I'd see a deer, I wouldn't take time to monkey with my sights. I'd shoot 'im on the spot," he declared, and before the others knew what he was doing he whanged one across at the hill.

"Right spirit, old timer," someone called, hurrying to catch up with him.

Hoover passed on along the line of march toward the deer, and shot again.

"I'm getting off to the right side," he remarked.

At the next shot he exclaimed: "Off to the right again, by the holy lightnin'!"

"Low!" he yelled "twenty-five yards further on, as though the word was a curse.

At the 200 yard shot he turned to Brady in disgust.

"The dang thing went high" and looked at his rifle as though seeing it for the first time.

At the next shot Brady called: "That looked like a good one." Old Hoover, at last down to a familiar distance, finished shooting without more talk. It was then found he had put two good bullet holes in the body and two in the legs more by luck than good shooting.

The Springfield man tried himself and his gun next. He afterward confessed that he began shooting with a private opinion he could make the work of the others look sick. His first bullet kicked the snow away low.

"I didn't take up the trigger creep," he explained sheepishly. "Alibi Number 1," mimured Brady, and got a cold look in payment.

Thereafter the man shot slowly, taking five or ten seconds to aim each time. Hoover fumed about it in an undertone, but Brady explained that his was a special deer, guaranteed not to run. At the finish of the string five new holes only were there in spite of all the care taken.

Three greenhorns tried following this. Two failed to connect at all. The other one struck the wooden deer twice. It was perfectly evident from the way the snow was kicked up all round the deer by their bullets that a man wholly untrained in head and muscles has nothing but pure luck to depend on for a hit. His striking points are like those of a shotgun pattern with many holes in it big enough to let the game through.

Brady's method of training himself made a lasting impression on us. After we got well acquainted we used to talk about enough it to reveal that he had given rifle shooting much thought while he was in the city. The secret of all good shooting, and good battle rifle fire too, he would maintain, lies in the three principles:

As he would briefly summarize them, a man first had to get thoroughly familiar with his gun, even to the point of possessing a mental picture of the looks of the front sight on all sorts of objects, and at the different elevations he decided to use for useful ranges.

Second, the most vital article of equipment a man can take along on a hunting trip or into a battle is a set of special shooting muscles and nerves which he has developed into work-



ing condition. Few earn them. They mean more toward success than the best sights or more than a good rifle, although it is the skillful shot who is best able to avail himself of the advantages a good gun has over a poor one.

Third, a man must know what to look for in size of game, shape, color and what it will likely do—know the looks of the game and read its mind. Most hunters lose shots by permitting themselves to be surprised into wasting time before shooting. Beginners take minutes untangling their ideas of shepherd dogs and deer, and many other wierd combinations. The parks and zoos should be visited more by those who do not live in the woods.

The average hunter, Brady would repeat, fires no more than a dozen shots a year anywhere else than on a regular range, which he can check results from. He is a stranger to the game he plays. Brady was sarcastic about army methods.

The army folks still live in the stone age, he insisted. They stand a man in a row of other men, and make him "Port," "Present," "Right Shoulder," and "Order" his "arm," or occasionally "load magazines." In addition some of them are permitted to squirt a hundred or so bullets at paper targets, but many men were sent to the firing line without even that. Most of the manual of arms motions are absolutely useless from a shooting standpoint. What a soldier needs is to throw his rifle to his shooting eye five hundred times a

day for a year, meanwhile shooting enough every week to learn where his bullets go—and do most of his shooting at boches dodging from on shell hole to another in no man's land, as near as the real thing can be reproduced. If that were in books instead of, or in spite of, some of the material there now it will make soldiers that are deadly to the enemy first and pretty saluters afterwards.

Among our hunters it has been the young-

sters who were preparing for a trip in the enthusiasm of youth who have benefitted most from Brady's sort of training. Yet few of the older hunters have failed to improve under it. A small number, however, found that dignity prevented them admitting in public they were not dead shots without further practice. They had to go to the extra trouble of doing practice over behind the hill, with no one about at the time.

## With the Small-bore League

At the close of the sixth week's shooting in the N.R.A. Gallery Matches, the Quinnipiac Rifle Club of New Haven, Conn., is leading a field of nearly 150 civilian teams. During six matches the New Haven boys have dropped only nine points, and their total is now 5991. The Quinnipiac boys are setting a hard pace, especially when there is considered the fact that in two of the matches of the series, the fourth and sixth, this team turned in perfect scores.

The standing of the clubs at the close of the Sixth Week's Shooting Shows:

### CIVILIAN CLUBS

	<i>Club Total Sixth Week.</i>
1. Quinnipiac Rifle & Revolver Club, New Haven, Conn. 4th week, 1000; 5th week, 998; 6th week, 1000.....	5991
2. Lakewood Rifle Club, 1st Team, Lakewood, Ohio. 999; 998; 1000.....	5984
3. Denver City Rifle Club, Denver, Colo. 997; 996; 999.....	5982
4. Bridgeport Rifle Club, Bridgeport, Conn. 991; 998; 996.....	5971
5. Bangor Maine, Rifle Assn., Bangor, Me. 998; 994; 996.....	5968
6. Ordnance Rifle Club, Washington, D. C. 994; 992; 997.....	5960
7. Lynn Rifle & Revolver Club, Lynn, Mass. 993; 993; 991.....	5955
8. Birmingham A. C. Rifle Club, Birmingham, Ala. 993; 987; 995.....	5948
9. Butte Indoor Rifle Club, Butte, Mont... 991; 993; 990.....	5944
10. Remington UMC Rifle & Gun Club, Bridgeport, Conn. 988; 992; 997.....	5941
11. Philadelphia Rifle Association, Philadelphia, Pa. 993; 990; 994.....	5935
12. Brattleboro Rifle Club, Brattleboro, Vt. 984; 990; 993.....	5934
13. Arlington Rifle & Pistol Club, (1st Team) Arlington, N. J. 988; 996; 993.....	5930
14. St. Paul Rifle & Pistol Assn., St. Paul, Minn. 990; 991; 992.....	5927
15. Corvallis Rifle Club, Hamilton, Mont. 994; 989; 990.....	5926
16. Haverhill Rifle & Gun Club, Haverhill, Mass. 992; 981; 981.....	5922
17. Olympic Pistol & Rifle Club, San Francisco, Calif. 984; 991; 995.....	5921
18. Boston Rifle & Revolver Club, Boston, Mass. 982; 981; 993.....	5918
19. Hillsboro Rifle Club, Hillsboro, Ohio. 990; 984; 989.....	5915
20. Auburn Rifle Club, Auburn, N. Y. 988; 988; 985.....	5913
21. Brooklyn Rifle Club, Brooklyn, N. Y. 983; 985; 986.....	5905
22. Jacksonville Rifle Club (1st Team) Jacksonville, Fla. 990; 986; 987.....	5903
23. Irving Park Rifle Club, Chicago, Ill. 981; 983; 989.....	5900
24. Chicago Rifle Club, Chicago, Ill. 982; 985; 984.....	5893
25. Centennial Rifle Club, Chicago, Ill. 977; 981; 982.....	5889
26. Commonwealth Edison Rifle Club, Chicago, Ill. 987; 978; 987.....	5888
27. Los Angeles Rifle & Revolver Club, Los Angeles, Calif. 982; 987; 980.....	5886
28. Pentwater Rifle Club, Pentwater, Mich. 984; 987; 982.....	5688
29. Victory Rifle Club, Amsterdam, N. Y. 985; 991; 992.....	5880
30. San Diego Rifle Club, San Diego, Calif. 978; 987; 987.....	5879
31. San Francisco Tel. Rifle Club, San Francisco Calif. 978; 981; 983.....	5876
32. Wisner Rifle Club, Wisner, Neb. 977; 983; 981.....	5875
33. Middletown Rifle Club, Middletown, N. Y. 977; 976; 990.....	5873
34. Rogers Park Rifle Club, Chicago, Ill. 977; 975; 989.....	5873
35. Bucyrus Rifle Club, Bucyrus, Ohio. 990; 985; 992.....	5868
36. Salt Lake Rifle & Revolver Club, Salt Lake City, Utah. 975; 979; 980.....	5867
37. Concord Rifle Club, Concord N. H. 985; 982; 976.....	5866
38. Jacksonville Rifle Club, (2nd Team) Jacksonville, Fla. 981; 984; 975.....	5863
39. Manchester Rifle & Pistol Club, Manchester, N. H. 983; 988; 973.....	5862
40. Robbins & Myers Rifle Club, Springfield, Ohio. 979; 979; 981.....	5859
41. Dayton YMCA Rifle Club, Dayton, Ohio. 975; 975; 977.....	5859
42. Roberts Island Rifle Club, Stockton, Calif. 979; 982; 986.....	5856
43. Worcester Pistol & Rifle Club, Worcester, Mass. 984; 976; 983.....	5851
44. Norwalk Rifle Club (1st Team) Norwalk, Conn. 973; 977; 982.....	5850
45. Reed Indoor Rifle Club, Springfield, Ohio. 980; 975; 968.....	5847
46. Minneapolis Rifle Club, Minneapolis, Minn. 962; 973; 975.....	5844
47. Hawthorne Rifle Club, Chicago, Ill. 979; 973; 968.....	5842
48. Towanda Rifle Club, Towanda, Pa. 977; 980; 981.....	5842
49. Business & Professional Men's Rifle Club, Boston, Mass. 968; 980; 980.....	5839
50. Beaver Rifle Club, Beaver, Pa. 968; 980; 982.....	5838
51. Joliet Rifle Club (1st Team) Joliet, Ill. 971; 977; 969.....	5832
52. Claremont Rifle Club, Claremont, N.H. 983; 976; 983.....	5830
53. Grand Forks Rifle Club, Grand Forks, N. D. 977; 972; 981.....	5827
54. Arlington Rifle & Pistol Club (1st Team), Arlington, N. J. 967; 982; 973.....	5824
55. Lakewood Rifle Club (2nd Team) Lakewood, Ohio. 976; 983; 980.....	5824
56. University of Chicago Rifle Club (1st Team), Chicago, Ill. 969; 984; 980.....	5817
57. Rochester Rifle Club, Rochester, N.Y. 964; 975; 969.....	5805
58. Scott Rifle Club, Scott, Arkansas. 970; 982; 964.....	5797
59. Huntington Rifle & Revolver Club, Huntington, W. Va. 974; 969; 974.....	5769
60. Covington Rifle Club, Covington, Va. 973; 972; 976.....	5795
61. Rumford Rifle Club, Mexico, Me. 962; 976; 957.....	5790



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62. Lakewood Rifle Club, Lakewood, N. J. 956; 968; 967.....	5788
63. Ridgeville, Rifle Club, Evanston, Ill. 967; 963; 958.....	5781
64. Miami Rifle Club, Cincinnati, Ohio. 982; 969; 979.....	5774
65. Citizens Rifle & Revolver Club, Rochester, N. Y. 968; 971; 950.....	5774
66. Peekskill Rifle Club, Peekskill, N. Y. 963; 952; 963.....	5767
67. Elmira Rifle & Revolver Club, Elmira, N. Y. 954; 970; 964.....	5766
68. Mound City Rifle Club, St. Louis, Mo. 962; 958; 951.....	5746
69. Saginaw Rifle Club, Saginaw, Mich. 948; 963; 968.....	5747
70. Detroit Rifle & Revolver Club, Detroit, Mich. 951; 967; 951.....	5736
71. Altoona Rifle Club (1st Team) Altoona, Pa. 954; 953; 966.....	5735
72. Moraine National Rifle Club, Dayton, Ohio. 959; 937; 951.....	5714
73. Norwalk Rifle Club (2nd Team), Norwalk, Conn. 965; 978; 959.....	5714
74. Wewoka Rifle Club, Wewoka, Okla. 927; 962; 965.....	5707
75. Roundup Rifle & Pistol Club, Roundup, Mont. 948; 940; 961.....	5706
76. Joliet Rifle Club (2nd Team) Joliet, Ill. 952; 952; 956.....	5705
77. Chibridge Rifle Club, Greenville, Pa. 956; 948; 948.....	5680
78. East Saginaw Rifle Club, Saginaw, Mich. 944; 954; 960.....	5669
79. Hoosier Rifle Club, Indianapolis, Ind. 956; 955; 959.....	5669
80. Chicago Engineers Rifle Club, Chicago, Ill. 943; 956; 937.....	5664
81. University of Chicago Civilian R. C. (2nd Team), Chicago, Ill. 952; 948; 938.....	5642
82. Paterson Rifle Club, Paterson, N. J. 952; 955; 946.....	5633
83. Joliet Rifle Club (3rd Team), Joliet, Ill. 948; 946; 951.....	5629
84. Shawnee Rifle & Revolver Club, Lima, Ohio. 952; 953; 960.....	5627
85. Minneapolis Marine Rifle Club, Minneapolis, Minn. 940; 965; 941.....	5626
86. Du Pont Rifle Club, Flint, Mich. 943; 945; 949.....	5619
87. Altoona Rifle Club (2nd Team) Altoona, Pa. 951; 940; 930.....	5611
88. Albion Rifle Club, Albion, Ind. 947; 946; 955.....	5609
89. Niagara Falls Rifle Club, Niagara Falls, N. Y. 943; 939; 945.....	5603
90. Nemadji Rifle Club, Superior, Wisconsin. 932; 942; 952.....	5601
91. Varnum Continentals Rifle Club, E. Greenwich, R. I. 948; 963; 962.....	5599
92. Interwoven Rifle Club, New Brunswick, N. J. 940; 942; 945.....	5588
93. Superior Rifle Club, Superior, Wis. 933; 940; 952.....	5576
94. Cromwell Rifle Club, Cromwell, Ind. 916; 949; 949.....	5572
95. Berkeley Defense Corps Rifle Club, Berkeley, Calif. 941; 943; 941.....	5564
96. Lamar Rifle Club, Lamar, Colo. (4th Team). 926; 929; 942.....	5554
97. Lamar Rifle Club, Lamar, Colo. (1st Team). 915; 936; 958.....	5553
98. Liberty Rifle Club, Dubuque, Iowa. 934; 939; 928.....	5552
99. John Forrester Rifle Club, Pittsburgh, Pa. 947; 951; 915.....	5541
100. Lamar Rifle Club (2nd Team), Lamar, Colo. 924; 925; 927.....	5489
101. Cazenovia Rifle Club, Cazenovia, N. Y. 893; 922; 908.....	5467
102. Eclipse A. A. Rifle Club, Franklin, Pa. 898; 928; 924.....	5433
103. New Bedford Rifle Club, New Bedford, Mass. 912; 909; 879.....	5384
104. Camden Rifle Club, Camden, N. J. 897; 898; 910.....	5329
105. Nevada City Rifle Club, Nevada City, Calif. 849; 865; 904.....	5291
106. Groton Rifle Club, Groton, Mass. 885; 871; 888.....	5207

107. Watertown Rifle Club, Watertown, Mass. 889; 852; 867.....	5107
108. Ottumwa Rifle Club, Ottumwa, Ia. 839; 965; 917.....	5065
109. Co. G. Rifle Club, Springfield, Mass. 806; 826; 870.....	4819
110. Atlanta Rifle Club, Atlanta, Ga. 926; 376; 378.....	4496
111. Mt. Washington Lyceum Rifle Club, Pittsburgh, Pa. 644; 847; 900.....	4261
<b>6th Match Missing.</b>	
Marion Rifle Club, Marion, Ohio. 990; 997.....	4972
Warren Rifle Club, Warren, Pa. 986; 986.....	4932
Santa Fe Rifle Club, Santa Fe, New Mex. 984; 983.....	4920
East Orange Rifle Club, E. Orange, N. J. 979; 983.....	4887
Fremont Rifle Club, Fremont, Ohio. 975; 981.....	4871
Franklin Rifle Club, Franklin, Pa. 986; 971.....	4855
McKean County Rifle Club, Bradford, Pa. 962; 973.....	4852
Fort Wayne Rifle & Revolver Club, Ft. Wayne, Ind. 973; 971.....	4846
Riverside Rifle Club, Riverside, Calif. 975; 971.....	4836
Des Moines Rifle & Revolver Club, Des Moines, Iowa. 969; 971.....	4819
Providence Revolver Club, Providence, R. I. 954; 960.....	4807
Needles Rifle & Revolver Club, Needles, Calif. 952; 957.....	4699
Lamar Rifle Club (3rd Team), Lamar, Colo. 936; 959.....	4668
Yellowstone Rifle Club (2nd Team), Billings, Mont. 939; 949.....	4634
Yellowstone Rifle Club (1st Team), Billings, Mont. 927; 947.....	4610
Commencement Bay Rifle Club, Tacoma, Wash. 910; 906.....	4562

<b>5th and 6th Matches Missing</b>	
Madison Rifle Club, Madison, Wis. 981.....	3898
Onondaga Rifle Club, Syracuse, N. Y. 905.....	3697
Grass Valley Rifle Club, Grass Valley, Calif. 933.....	3626
Military Service Rifle Club, Elizabeth, N. J. 912.....	3624
<b>4th, 5th and 6th Matches Missing.</b>	
Danbury Rifle Club, Danbury, Conn. 1st week, 943; 2nd week, 973; 3rd week, 979.....	2895
National Capitol Rifle Club, Washington, D. C. 957; 960; 976.....	2893
Marine Corps Civilian Rifle Club, Springfield, Mass. 956; 950; 972.....	2878
Lawrenceville Rifle Club, Lawrenceville, N. J. 955; 948; 967.....	2870
Ancon Pistol & Rifle Club, Balboa Heights, Canal Zone. 945; 946; 942.....	2833

<b>3rd, 4th, 5th and 6th Matches Missing.</b>	
Forest Service Dist. One Rifle Club, Missoula, Mont. 1st week, 957; 2nd week, 989.....	1945
Ridgewood Rifle Club, Ridgewood, N. J. 954; 961.....	1915
Ewa Rifle Club, Ewa, Hawaii. 882; 880.....	1702
<b>2nd, 3rd, 4th, 5th and 6th Matches Missing</b>	
Tacoma Rifle & Revolver Club, Tacoma, Wash. 1st week, 956.....	956
196 C. H. D. R. Rifle Club, Tonawando, N. Y. 894.....	94
Rupert Rifle Club, Rupert, Idaho. 613.....	513
3 clubs not reported. 1 club withdrawn.	

<b>COLLEGE RIFLE CLUBS</b>	
	<i>Club Total Sixth Week</i>
1. Norwich University Rifle Club, Northfield, Vt. 4th week, 992; 5th week, 995; 6th week, 996.....	5936
2. University of Pennsylvania Rifle Club, Philadelphia, Pa. 984; 993; 990.....	5915
3. Worcester Polytechnic Rifle Club, Worcester, Mass. 970; 984; 980.....	5832

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4. Columbia University, New York City. 961; 976; 980.....	5823
5. Massachusetts Agricultural College Rifle Club, Amherst, Mass. 967; 979; 978.....	5808
6. Dartmouth College Rifle Club, Hanover, over, N. H. 955; 982; 992.....	5804
7. University of Pennsylvania R. C., Freshman, Philadelphia, Pa. 956; 977; 958.....	5763
8. Princeton University, Princeton, N. J. 963; 966; 969.....	5759
9. Iowa State College Rifle Club, Ames, Iowa. 931; 960; 964.....	5625
10. Lehigh University Rifle Club, So. Bethlehem, Pa. 923; 924; 926.....	5570
11. University of Maine Rifle Club, Orono, Maine. 891; 925; 924.....	5417

<b>6th Match Missing.</b>	
Massachusetts Institute of Technology Rifle Club, Cambridge, Mass. 4th week, 987; 5th week, 982.....	4857
Massachusetts Institute of Technology R. C. Freshman, Cambridge, Mass. 965; 933.....	4691
University of California Rifle Club, Berkeley, Calif. 948; 944.....	4668
University of Washington, Seattle, Wash. 922; 880.....	4552
Cornell Rifle Club, Ithaca, N. Y. 881; 896.....	4355
Ferris Institute ROTC Rifle Club, Big Rapids, Mich. 696; 745.....	3483

<b>5th and 6th Matches Missing.</b>	
Syracuse University, Syracuse, N. Y. 4th week, 981.....	3924
Bowdoin College Rifle Club, Brunswick, Me. 965.....	3780

**NO MATCHES REPORTED**  
No Matches Reported.

Leland Stanford Jr. University, Stanford, Calif.



**MILITARY SCHOOL RIFLE CLUB**

	<i>Club Total Sixth Week</i>
1. St. John's Military Academy, Delafield, Wis. 4th week, 997; 5th week, 996; 6th week, 997	5972
2. Culver Military Academy, Culver, Ind. 978; 993; 989	5923
3. Western Military Academy, Alton, Ill. 969; 983; 972	5655
4. Bordentown Military Institute, Bordentown, N. J. 923; 935; 940	5537
5. Tennessee Military Institute, Sweetwater, Tenn. 912; 923; 914	5533
6. Castle Heights Military Academy, Lebanon, Tenn. 954; 947; 940	5500
7. Northwestern Military & Naval academy (1st Team), Walworth, Wis. 940; 931; 934	5493
8. Northwestern Military & Naval Academy (2nd Team), Walworth, Wis. 843; 869; 981	5178
9. Nazareth Hall Military Academy, Nazareth, Pa. 588; 691; 713	3575

**6th Match Missing.**

Tabor Academy, Marion, Mass, 4th week, 846; 5th week, 842	4186
Morgan Park Military Academy, Morgan Park, Chicago, Ill. 584; 664	3069

**5th and 6th Matches Missing.**

New York Military Academy, Cornwall-on-Hudson, N. Y. 4th week, 956	3847
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**4th, 5th and 6th Matches Missing.**

Army & Navy Prep. School, Washington, D. C. 1st week, 939; 2nd week, 944; 3rd week, 917	2800
St. John's School, 1st Team, Manlius, N. Y. 803; 864; 891	2558

**3rd, 5th and 6th Matches Missing.**

St. John's School (2nd Team), Manlius, N. Y. 1st week, 932; 2nd week, 844; 4th week, 855	2531
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**2nd, 3rd, 4th, 5th and 6th Matches Missing.**

Miami Military Institute, Germantown, Ohio. 1st week, 830	830
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**No Matches Reported.**

Albany Academy, Albany, N. Y.  
Kentucky Military Institute, Lyndon, Ky.  
Missouri Military Academy, Mexico, Mo.

**HIGH SCHOOL RIFLE CLUBS**

	<i>Club Total Sixth Week</i>
1. Central High School, Washington, D. C. 4th week, 994; 5th week, 992; 6th week, 997	5959
2. Business High School, Washington, D. C. 994; 985; 989	5919
3. Jamaica High School, Jamaica, New York City. 972; 974; 981	5821
4. Evanston Township High School, Evanston, Ill. 961; 953; 970	5729
5. Ridgewood High School, Ridgewood, N. J. 946; 950; 951	5687
6. Springfield Tech. High School, Springfield, Mass. 953; 942; 949	5635
7. Commercial High School, Brooklyn, N. Y. 948; 928; 933	5540
8. Crosby High School, Waterbury, Conn. 930; 921; 915	5509
9. Watsonville Union High School, Watsonville, Calif. 929; 919; 925	5495
10. Tempe Normal School, Tempe, Ariz. 912; 915; 905	5453
11. Iowa City High School, Iowa City, Iowa. 891; 877; 868	5295
12. Lewis and Clark High School, Spokane, Wash. 872; 852; 880	5211
13. Bonita Union High School, La Verne, Calif. 845; 852; 875	5116
14. Erasmus Hall High School, Brooklyn, N. Y. 832; 840; 768	4910
15. Sacramento High School (1st Team), Sacramento, Calif. 381; 536; 512	2356
16. Sacramento High School (3rd Team) Sacramento, Calif. 338; 245; 237	1672

**6th Match Missing.**

McKinley Manual Training School, Washington, D. C. 4th week, 974; 5th week, 988	4893
Davenport High School, Davenport, Iowa. 958; 923	4738
San Jose High School, San Jose, Calif. 871; 846	4191
Red Bluff Union High School, Red Bluff, Calif. 798; 853	3961
Orland Joint Union High School, Orland, Calif. 716; 656	3563

**5th and 6th Matches Missing**

Western High School, Washington, D. C. 4th week, 957	3813
San Bernardino High School, San Bernardino, Calif. 767	2868

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

Eastern High School, Washington, D. C. 1st week, 921; 2nd week, 919; 3rd week, 936	2776
Pomfret School, Pomfret Centre, Conn. 785; 737; 783	2305

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

Dinuba Union High School, Dinuba, Calif. 1st week, 867; 2nd week, 856	1723
Roseville Union High School, Roseville, Calif. 724; 756	1480
Citrus Union High School, Azusa, Calif. 610; 661	1271
So. Pasadena High School, Los Angeles, Calif. 550; 548	1098
Boy's High School, Brooklyn, N. Y. 297; 252	549

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

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

**3rd and 6th Matches Missing.**

Richmond Hill High School, Richmond Hill, N. Y. 4th week, 594; 5th week, 691	
Sacramento High School, Sacramento, Calif. 142; 361	

**5th Match Missing.**

Lawrenceville School, Lawrenceville, N. J. 4th week, 954; 6th week, 957	
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**No Matches Reported.**

Eureka High School, Eureka, Calif.	
Fresno High School, Cadet, Fresno, Calif. (2 Teams.)	
San Rafael High School, San Rafael, Calif.	
Shasta Union High School, Redding, Calif.	

**Clubs Withdrawn.**

Bridgeport High School, Girls, Bridgeport, Conn.	
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**MILITARY UNITS**

	<i>Club Total Fourth week</i>
1. Officers' Rifle Club, Camp A. A. Humphreys, Va. 3rd week, 945; 4th week, 950	3788
2. Service Rifle Club (2nd Team), Accountink, Va. 542; 180	2519
3rd, 4th, 5th and 6th Matches Missing.	
Service Rifle Club, Camp A. A. Humphreys, Va. 1st week, 786; 2nd week, 342	1128

**CIVILIAN CLUBS**

**Match No. 4, Ten High Teams**

	<i>Club Total</i>
1. Quinnipiac Rifle & Revolver Club, New Haven, Conn. A. A. Clouet, 200; Wm. Breuler, 200; P. E. Littlehale, 200; F. J. Haas, 200; August Klocker, 200	1000
2. Lakewood Rifle Club, (1st Team), Lakewood, Ohio. M. M. Foster, 200; W. C. Andrews, 200; R. L. Rowe, 200; E. E. Tindall, 200; Frank C. Fry, 199	999

3. Bangor Maine Rifle Association, V. H. Somers, 200; Chas P. Allen, 200; W. L. Somers, 200; E. M. Sylvester, 200; S. S. Chilcott, 198	998
4. Denver City Colorado Rifle Club. L. G. Fridy, 200; H. W. Beck, Jr., 200; T. B. Watters, 199; T. H. Smith, 199; Chas. E. Younkman, 199	997
5. Ordnance Rifle Club, Washington, D. C. O. M. Shriver, 200; L. Neusslein, 200; F. C. Johnston, 199; R. C. Stokes, 198; J. J. Gordon, Jr., 197	994
6. Corvallis Rifle Club, Hamilton, Mont. C. M. Barnes, 199; Rupert Wayland, 199; B. C. Lee, 199; C. Dale, 199; C. E. Maguire, 198	994
7. Lynn, Massachusetts Rifle & Revolver Club. Chas J. Fisk, 199; A. L. Neagles, 199; C. C. Richardson, 199; John L. Steubesand, 198; F. H. Bowman, 198	993
8. Philadelphia, Pennsylvania Rifle Association. Chas. H. Johnson, 200; Capt. Dillin, 200; S. N. Keefauver, 198; J. Geo. Schnerring, 198; Mrs. S. N. Keefauver, 197	993
9. Birmingham, Alabama A. C. Rifle Club. T. K. Lee, 200; A. F. de Funiak, 199; H. S. Jones, 198; J. P. McCarty, 198; F. C. de Funiak, 198	993
10. Haverhill, Massachusetts Rifle & Gun Club. L. H. Clough, 200; R. L. Turner, 199; J. M. Aman, 198; D. G. Poe, 198; J. S. Clish, 197	992

**COLLEGE RIFLE CLUBS**

**Match No. 4, Ten High Teams.**

	<i>Club Total</i>
1. Norwich University, Northfield, Vermont. R. K. Shaw, 199; H. W. Tyler, 199; W. G. Smith, 198; P. M. Martin, 198; J. Wesley Joslyn, 198	992
2. Massachusetts Institute of Technology, Cambridge. S. J. Powers, Jr., 199; J. R. Perkins, 198; V. E. Whitmon, 198; G. G. Kearful, 196; G. E. Dean, 196	987
3. University of Pennsylvania, Philadelphia. W. P. Brines, 199; E. I. Bensen, 198; J. B. Cooley, 196; P. D. Ten Broeck, 196; J. R. Byrne, 195	984
4. Syracuse University, Syracuse, N. Y. R. K. Day, 200; R. W. Woodworth, 197; F. S. White, 196; H. R. Spelman, 194; H. T. Fans, 194	981
5. Worcester, Massachusetts Polytechnic Inst. O. H. Dodkin, 197; J. L. Marston, 195; R. W. Cushman, 194; I. R. Smith, 192; R. M. Eldred, 192	970
6. Massachusetts Agricultural College, Amherst. R. D. Tillson, 197; P. L. Robinson, 194; R. B. Lambert, 194; Stuart Main, 191; H. E. Wentsch, 191	967
7. Bowdoin College, Brunswick, Me. H. S. Ingraham, 200; Edw. H. Ellens, 194; J. W. Hone, 193; A. M. Benton, 191; M. W. Hurlin, 187	965
8. Massachusetts Institute of Technology, Freshman, Cambridge. T. M. Bumiller, 195; L. W. Coddington, 195; W. F. Potter, 194; I. J. Silverman, 193; O. D. Tenney, 188	965
9. Princeton University, Princeton, N. J. D. E. McWilliams, 195; R. W. Speir, 194; W. E. Benna, 193; R. Hopinson, 191; A. H. Van Alen, 190	963
10. Columbia University, New York City. L. R. Condon, 197; F. B. Morell, 193; J. F. Krenninger, 192; Ralph Kerr, 190; J. B. Hawkes, 189	961

**MILITARY SCHOOL CLUBS**

**Match No. 4, Ten High Teams**

	<i>Club Total</i>
1. St. John's Military Academy, Delafield, Wis. G. T. Campbell, 200; Geo. Greene, 200; A. H. Lorimer, 200; A. V. Purinton, 199; T. E. Ibberson, Jr., 198	997



2. Culver Military Academy, Ind. R. P. Hoffman, 198; D. H. Frazer, Jr., 197; K. Whitehead, 195; C. G. Godwin, 194; H. G. Morgan, 194.....	978
3. Western Military Academy, Alton, Ill. J. I. Kincke, 197; R. L. Shelton, 195; J. Herrin, 194; S. Roberts, 193; R. B. Reed, 190.....	969
4. New York Military Academy, Cornwall-on-Hudson, N. Y. L. S. Kent, 195; C. X. Mathews, 193; G. C. Hodgkins, 190; H. E. Greene, 189; A. L. Wagner, 189.....	956
5. Castle Heights Military Academy, Lebanon, Tenn. Hoyt Chick, 194; N. W. Simons, 191; Jas. L. Armstrong, 191; E. D. Lanford, 190; M. Bacon, 188.....	954
6. Northwestern Military & Naval Academy, Walworth, Wis. (1st Team) T. Winston, 192; R. H. Mayer, 189; G. D. Sawyer, 187; W. W. Baker, 187; W. J. Orr, Jr., 185.....	940
7. Bordentown Military Institute, N. J. Walter Veit, 188; M. R. Rollins, 186; W. B. Leavens, 185; D. M. Eichelberger, 183; J. S. Renard, 181.....	923
8. Tennessee Military Institute, Sweetwater. J. P. Hobson, 184; R. Hunt, 183; J. D. Lincoln, 183; J. M. Crow, 181; L. T. Starbird, 181.....	912
9. Tabor Academy, Marion, Mass. E. Lacy, 174; R. Potter, 171; C. H. Luce, 169; C. D. Stearns, 167; P. C. Price, 165.....	846
10. Northwestern Military & Naval Academy, Walworth, Wis. (2nd Team) J. F. Jennings, 180; J. B. Schuster, 172; J. H. Harlow, 170; V. M. Gail, 161; W. M. McHattie, 160.....	843

**HIGH SCHOOL RIFLE CLUBS**

**Match No. 4, Ten High Teams.**

1. Central High School, Washington, D. C. Claude Hudspeth, 200; A. H. Elliot, 200; M. H. Stow, 198; T. H. Rider, 198; F. W. Artois, 198.....	994
2. Business High School, Washington, D. C. Geo. A. Anadale, 200; G. R. Trimble, 200; S. Middleton, 199; E. R. Hands, 199; C. Sincell, 196.....	994
3. McKinley Manual Training School, Washington, D. C. Jos. Wrenn, 198; A. G. McNish, 197; R. L. Speer, 194; F. L. Ghormley, 194; R. H. Woodward, 191.....	974
4. Jamaica High School, N. Y. City. L. D. Bates, 198; Kimball Gray, 195; Jack Eldert, 195; Edward Muller, 193; George Smith, 191.....	972
5. Evanston Township High School, Ill. M. B. Gamet, 196; Geo. Olmstead, Jr., 194; R. Waring, 192; R. J. Harper, 191; John E. Kamper, 188.....	961
6. Davenport High School, Iowa. R. W. Ballard, 193; Philip Allen, 193; Alvord Boeck, 192; A. W. Rorison, 191; Jack Harper, 189.....	958
7. Western High School, Washington, D. C. J. P. Roberts, 194; H. Shantz, 193; Fred Tschiffely, 192; Wm. T. Brown, 188; F. Birch, 188.....	955
8. Lawrenceville School, New Jersey. F. W. Taylor, 196; H. J. Boulton, 191; R. A. Blow, 190; L. Hutchinson, 189; P. R. Hepburn, 188.....	954
9. Springfield Tech High School, Massachusetts. K. W. Woodworth, 194; G. A. Bliss, 193; H. Smith, Jr., 190; J. A. Johnston, Jr., 188; M. Johnston, 188.....	953
10. Commercial High School, Brooklyn, N. Y. Wm. Nettleship, 197; D. Zimmerman, 189; David Goodfellow, 189; I. Rothenberg, 187; D. Rosenberg, 186.....	948

**CIVILIAN CLUBS**

**Match No. 5, Ten High Teams**

1. Quinnipiac Rifle & Revolver Club, New Haven, Conn. W. H. Richard, 200; P. E. Littlehale, 200; F. J. Haas, 200;	
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A. A. Clouet, 199; William Breuler, 199.....	998
2. Lakewood Rifle Club, (1st Team), Lakewood, Ohio. W. C. Andrews, 200; Frank C. Fry, 200; J. R. Humphrey, 200; J. R. Humphrey, 200; M. M. Foster, 199; Wm. C. Miller, 199.....	998
3. Bridgeport Connecticut, Rifle Club. W. W. Naramore, 200; C. B. Naramore, 200; C. W. Vanstone, 200; R. E. Rose, 199; C. W. Kuhne, 199.....	998
4. Marion, Ohio Rifle Club. M. E. Carroll, 200; G. C. Whaley, 200; E. W. Imbody, 199; Fred Morrison, 199; Ray Williams, 199.....	997
5. Denver City, Colorado Rifle Club. L. G. Priddy, 200; D. C. McConaughy, 200; R. E. Ladwig, 199; T. H. Smith, 199; T. B. Watters, 198.....	996
6. Arlington, New Jersey, Rifle & Pistol Club, (1st Team). LeRoy N. Frazee, 200; R. H. Greene, 199; W. J. Coons, 199; Wm. Moock, 199; Chas. A. Tilley, 199.....	996
7. Bangor, Maine, Rifle Association. V. H. Somers, 199; S. S. Chilcott, 199; L. W. Somers, 199; W. S. Belding, 199; O. T. Bradford, 198.....	994
8. Lynn, Massachusetts, Rifle & Revolver Club. A. L. Neagles, 200; F. G. Watson, 199; Chas. J. Fisk, 198; Wm. T. Abbott, 198; F. H. Bowman, 198.....	993
9. Butte, Montana, Indoor Rifle Club. Jack Derville, 200; J. C. Yob, 199; Roy F. Leighton, 199; Jack West, 198; Harry Overand, 197.....	993
10. Ordnance Rifle Club, Washington, D. C. H. C. Esprey, 200; A. M. Morgan, 198; L. Nuesslein, 198; W. R. Stokes, 198; C. D. Perkins, Jr., 198.....	992

**COLLEGE RIFLE CLUBS**

**Match No. 5, Ten High Teams.**

	<i>Club Total</i>
1. Norwich University, Northfield, Vt. Jas. F. Loughlin, 200; H. W. Tyler, 200; P. M. Martin, 199; G. Zwart, 198; J. Wesley Joslyn, 198.....	995
2. University of Pennsylvania, Philadelphia. Frank S. Haak, 200; H. R. Robertson, 199; J. R. Byrne, 198; Penrose Marquette, 198; E. I. Bensen, 198.....	993
3. Worcester Polytechnic Institute, Mass. O. H. Dodkin, 200; R. W. Cushman, 198; E. L. Thayer, 196; I. R. Smith, 196; R. W. Perry, 194.....	984
4. Dartmouth College, Hanover, N. H. J. F. Inghram, Jr., 198; B. Helmer, 198; F. D. Johnson, 197; E. H. Johnson, 195; H. W. Reed, 194.....	982
5. Massachusetts Agricultural College, Amherst. Stuart Main, 198; M. F. Webster, 197; H. E. Wentsch, 195; R. D. Tillson, 195; R. H. Sanderson, 194.....	979
6. University of Pennsylvania, Freshman, Philadelphia. G. E. Cowden, 198; J. D. Conwell, 197; S. F. Lilley, Jr., 197; L. H. Brown, 194; L. Hoodley Sellers, 191.....	977
7. Columbia University, New York City. Edgar N. Smith, 199; W. P. Schweitzer, 198; Ralph Kerr, 195; J. B. Hawkes, 193; J. F. Krenninger, 191.....	976
8. Princeton University, Princeton, N. J. R. Hopkinson, 199; W. G. Wells, 196; H. Page, 192; W. E. Benna, 190; W. Thomas Thach, 189.....	966
9. Iowa State College, Ames. W. J. Barans, 193; W. H. Ruppel, 192; R. H. McAlpin, 192; Carl L. Campbell, 192; John E. Hiland, 191.....	960
10. University of California, Berkeley. K. B. Clark, 193; M. M. McIntire, 190; Thos. M. Hagel, 190; H. Hardison, 186; C. F. Johnson, 185.....	944

**MILITARY SCHOOL CLUBS**

**Match No. 5, Ten High Teams.**

	<i>Club Total</i>
1. St. John's Military Academy, Delafield, Wisconsin. John Christ, 200; G. T.	

Campbell, 199; George Greene, 199; T. E. Ibberson, Jr., 199; A. H. Lorimer, 199.....	996
2. Culver, Indiana, Military Academy. A. W. Walter, 200; K. Whitehead, 199; H. G. Morgan, 199; G. R. Colcord, 198; H. A. Farland, 197.....	993
3. Western Military Academy, Alton, Ill. J. I. Hincke, 199; K. G. Littledale, 198; R. L. Shelton, 197; S. Roberts, 195; E. V. Diesing, 194.....	983
4. Castle Heights Military Academy, Lebanon, Tenn. W. B. Glasscock, 193; M. Johnston, 191; W. L. Ball, 191; James L. Armstrong, 188; N. W. Simons, 184.....	947
5. Bordentown, New Jersey, Military Institute. J. B. Ellis, 190; W. B. Leavens, 190; Walter Veit, 189; D. M. Eichelberger, 184; Wm. H. Slep, 182.....	935
6. Northwestern Military & Naval Academy (1st Team), Walworth, Wis. A. H. McNab, 188; S. M. McGough, 188; W. W. Baker, 186; L. Kirk, 185; W. J. Orr, Jr., 184.....	931
7. Tennessee Military Institute, Sweetwater. A. A. Ferrell, 193; R. Hunt, 185; J. P. Hobson, 183; J. D. Lincoln, 182; J. M. Crow, 180.....	923
8. Northwestern Military & Naval Academy, (2nd Team), Walworth, Wis. J. H. Harlow, 183; W. M. McHattie, 176; V. M. Gail, 174; W. G. Kerper, 171; J. C. Dawson, 165.....	869
9. Tabor Academy, Marion, Mass. C. H. Luce, 179; H. G. Curran, 177; Stephen Heard, 174; R. Potter, 161; P. C. Price, 161.....	852
10. Nazareth Hall Military Academy, Nazareth, Pa. A. David Thaeler, 166; G. W. Coleman, 137; O. A. Luckenbach, 133; W. R. Embleton, 130; J. B. Blockenschafer, 125.....	691

**HIGH SCHOOL TEAMS**

**Match No. 5, Ten High Teams.**

	<i>Club Total</i>
1. Central High School, Washington, D. C. H. Everett, Jr., 199; J. R. Greeley, 199; M. H. Stow, 198; F. W. Artois, 198; A. H. Elliot, 198.....	992
2. McKinley Manual Training High School, Washington, D. C. J. M. Barry, 199; A. G. McNish, 198; F. L. Ghormley, 198; Joseph Wrenn, 197; R. L. Speer, 196.....	988
3. Business High School, Washington, D. C. E. R. Hands, 198; Wm. J. Barrows, 197; S. Middleton, 197; G. R. Trimble, 197; C. Sincell, 196.....	985
4. Jamaica High School, New York City. L. D. Bates, 198; Kimball Gray, 196; R. Benning, 194; Jacob Rapelje, 193; G. Vorburgh, 193.....	974
5. Evanston Township High School, Ill. M. B. Gamet, 194; Geo. Olmstead, Jr., 193; R. B. Dickson, 192; John E. Kamper, 88; John Danner, 186.....	953
6. Ridgewood High School, N. J. P. Meigs, 3rd, 194; H. Rouchere, 193; Bradford Simpson, 190; P. Zabriskie, 189; F. S. Willard, 184.....	950
7. Springfield Tech. High School, Mass. J. A. Johnston, Jr., 194; T. Lovett, 188; M. Johnston, 187; A. A. Bliss, 187; H. Ackerman, 186.....	942
8. Commercial High School, Brooklyn, N. Y. William Nettleship, 194; David Goodfellow, 190; D. Zimmerman, 188; I. Rothenberg, 179; Theo. Berg, 177.....	928
9. Davenport High School, Iowa. Alvord Boeck, 192; Roland Schmidt, 186; Philipp Allen, 181; A. W. Rorison, 184; Hugh Bradford, 180.....	923
10. Crosby High School, Waterbury, Conn. N. L. Holroyd, 190; M. Turrell, 186; A. W. Schuster, 184; R. B. Pape, 181; E. P. Jones, 180.....	921



## CIVILIAN CLUBS

## Match No. 6, Ten High Teams.

	Club Total
1. Quinnipiac Rifle & Revolver Club, New Haven, Conn. A. A. Clout, 200; Wm. Breuler, 200; W. H. Richard, 200; Virgil Richard, 200; P. E. Littlehald, 200	1000
2. Lakewood, Ohio, Rifle Club, (1st Team) W. C. Andrews, 200; R. L. Rowe, 200; Frank C. Fry, 200; E. E. Tindall, 200; J. R. Humphrey, 200	1000
3. Denver City, Colorado, Rifle Club, H. W. Beck, Jr., 200; D. C. McConaughty, 200; Floyd Redding, 200; T. H. Smith, 200; L. G. Priddy, 199	999
4. Ordnance Rifle Club, Washington, D. C. O. M. Shriver, 200; W. R. Stokes, 200; F. C. Johnston, 200; L. Nuesslein, 199; J. J. Gordon, Jr., 198	997
5. Remington UMC Rifle & Gun Club, Bridgeport, Conn. A. L. Birks, 200; R. D. August, 200; E. S. Hall, Jr., 200; H. J. Albrecht, 199; C. J. Van Amburgh, 198	997
6. Bridgeport, Connecticut, Rifle Club. W. W. Naramore, 200; C. W. Vanstone, 200; G. A. Strong, 199; F. E. Staples, 199; C. B. Naramore, 198	996
7. Bangor, Maine, Rifle Association. Chas. P. Allen, 200; W. S. Belding, 200; L. W. Somers, 199; E. M. Sylvester, 199; V. H. Somers, 198	996
8. Birmingham, Alabama, A. C. Rifle Club. T. K. Lee, 200; Person Moore, 199; J. O. Moore, 199; F. C. de Funiak, 199; O. L. Garl, 198	995
9. Philadelphia, Pennsylvania, Rifle Association. Charles H. Johnson, 199; S. N. Keefauver, 199; J. Geo. Schnerring, 199; Capt. J. Dillin, 199; W. N. Patrick, 198	994
10. Brattleboro, Vermont, Rifle Club. A. E. Knight, 200; C. A. Speer, 199; E. A. Barnard, 198; H. F. Jordan, 198; A. B. Jordan, 198	993

## COLLEGE RIFLE CLUBS

## Match No. 6, Ten High Teams.

	Club Total
1. Norwich University, Northfield, Vt. H. W. Tyler, 200; P. M. Martin, 199; J. Wesley Joslyn, 199; Jas. F. Loughlin, 199; W. G. Smith, 199	996
2. Dartmouth College, Hanover, N. H. B. Helmer, 199; R. R. Wells, 199; F. D. Johnson, 199; J. F. Inghram, Jr., 198; S. D. Kilmarx, 197	992
3. University of Pennsylvania, Philadelphia, Pa. J. R. Byrne, 199; J. B. Cooley, 199; P. D. Ten Broeck, 198; Frank S. Haak, 197; D. M. Steele, 197	990
4. Worcester Polytechnic, Worcester, Mass. R. W. Cushman, 199; O. H. Dodkin, 196; E. L. Thayer, 197; R. M. Eldred, 194; R. E. Chapman, 194	980
5. Columbia University, New York City. J. R. Twiss, 198; Edgar N. Smith, 198; F. B. Morell, 196; W. P. Schweitzer, 194; L. R. Condon, 194	980
6. Massachusetts Agricultural College, Amherst, Mass. Stuart Main, 198; R. D. Tillson, 196; P. L. Robinson, 195; R. H. Sanford, 195; R. H. Sanderson, 194	978
7. Princeton University, Princeton, N. J. W. G. Wells, 195; H. Page, 195; H. M. Richardson, 194; R. Hopkinson, 194; A. H. Van Alen, 191	969
8. Iowa State College, Ames, Iowa. J. E. Hutchison, 194; H. A. Howell, 193; C. H. Hoper, 193; W. H. Ruppel, 192; Carl L. Campbell, 192	964
9. University of Pennsylvania, Freshman, Philadelphia, Pa. H. B. Conaway, 196; L. Hoodley Sellers, 193; T. C. Penn, 193; S. F. Lilley, Jr., 189; M. K. Fleishman, 187	958
10. Lehigh University, So. Bethlehem, Pa. S. Cottrell, 190; R. L. Lerch, 188; J. A. Holmes, 186; B. B. Davidson, 182; L. Van Billiard, 180	926

## MILITARY SCHOOL RIFLE CLUBS

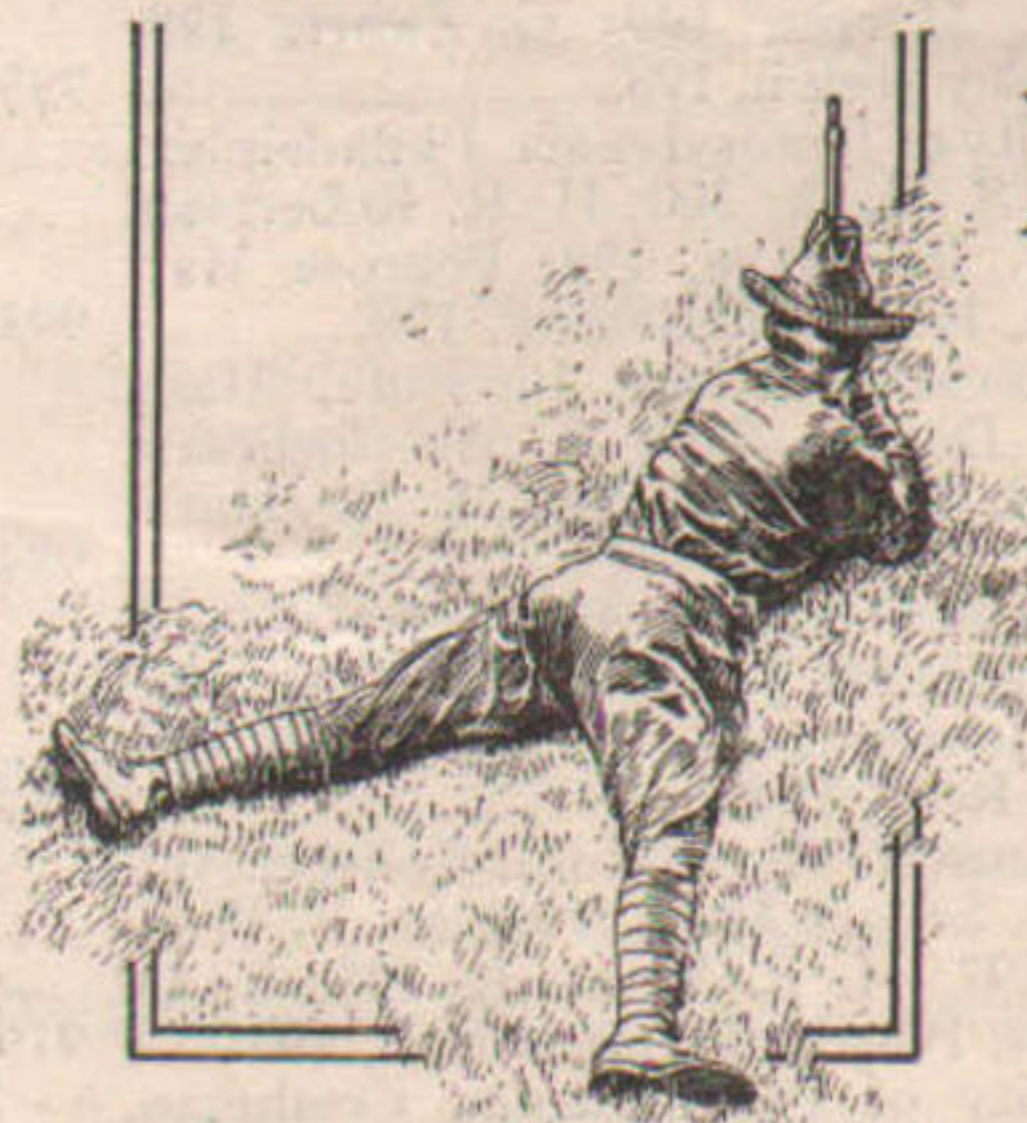
## Match No. 6, Ten High Teams.

1. St. John's Military Academy, Delafield, Wis. G. T. Campbell, 200; Geo. Greene, 200; A. H. Lorimer, 200; John Christ, 199; M. W. Whittlesey, 198	997
2. Culver Military Academy, Culver, Ind. R. P. Hoffman, 199; G. R. Colcord, 198; R. E. Wolfe, 198; H. A. Farland, 197; K. Whitehead, 197	989
3. Western Military Academy, Alton, Ill. J. I. Hincke, 197; E. V. Diesing, 195; R. B. Reed, 194; R. L. Shelton, 194; J. C. McCluer, 192	972
4. Bordentown Military Institute, Bordentown, N. J. J. B. Ellis, 192; Thos. H. Keon, 191; Walter Veit, 188; D. M. Eichelberger, 88; W. B. Leavens, 181	940
5. Castle Heights Military Academy, Lebanon, Tenn. W. B. Glasscock, 191; Hoyt Chick, 188; M. Johnston, 188; W. L. Ball, 188; M. Bacon, 195	940
6. Northwestern Military & Naval Academy, (1st Team), Walworth, Wis. T. Winston, 191; S. M. McGough, 188; R. H. Mayer, 195; W. J. Orr, Jr., 185; W. W. Baker, 185	934
7. Tennessee Military Institute, Sweetwater, Tenn. J. P. Hobson, 190; J. D. Lincoln, 182; Frank Richardson, 182; J. M. Crow, 180; A. A. Ferrell, 180	914
8. Northwestern Military & Naval Academy, (2nd Team), Walworth, Wis. J. H. Harlow, 187; P. H. Niederman, 182; W. M. McHattie, 178; J. C. Dawson, 174; V. M. Gail, 170	891
9. Nazareth Hall Military Academy, Nazareth, Pa. A. David Thaeler, 157; W. R. Embleton, 155; J. B. Blockenscherfer, 141; O. A. Luckenbach, 135; H. W. Sattler, 125	713

## HIGH SCHOOL RIFLE CLUBS

## Match No. 6, Ten High Teams.

	Club Total
1. Central High School, Washington, D. C. Claude Hudspeth, 200; A. H. Veitch, 200; J. R. Greeley, 200; J. M. Blanton, 199; M. H. Stow, 198	997
2. Business High School, Washington, D. C. G. R. Trimble, 199; Wm. J. Burrows, 199; H. S. Rosenberg, 199; S. Middleton, 197; Geo. A. Anadale, 196	989
3. Jamaica High School, Jamaica, New York City. Kimball Gray, 199; L. D. Bates, 196; Jack Eldert, 196; Jacob Rappelje, 195; Edward Muller, 195	981
4. Evanston Township High School, Evanston, Ill. John E. Kamper, 197; R. J. Harper, 196; R. B. Dickson, 195; M. B. Gamet, 193; Geo. Olmstead, Jr., 189	970
5. Ridgewood High School, Ridgewood, N. J. H. Rouchere, 193; P. Zabriskie, 192; P. Meigs, 3rd, 192; Bradford Simpson, 192; F. S. Willard, 182	951
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## Loads And Re-loads

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

INQUIRIES are flooding in upon the Loads and Reloads editor to such an extent that the manual labor alone in answering these inquiries is becoming no small task. Many of the questions are constantly duplicated, and for this reason inquirers are requested to glance over the back copies of ARMS AND THE MAN whenever available, or to consult Captain Whelen's book, "The American Rifle," which can usually be obtained at the local library, before writing direct to him.

The inquiries concerning sporting bullets in Springfield rifles are by far the most numerous and are those most frequently duplicated. For this reason Colonel Whelen has prepared a statement relative to this subject which is printed below in the hope that it will anticipate some of the inquiries:

1. The accuracy life of a barrel will be longer when copper (gilding metal) jackets are used than when cupro-nickel jackets are used. Practically this amounts to little in a Springfield. If I had a fine Pope or Neidner barrel I would never fire a round of cupro-nickel bullets in it.

2. I have found the accuracy of the lot of 172-grain Newton bullets which I obtained from Newton personally about five years ago to be excellent. These are the only Newton bullets I have used. I still have a few on hand. I know nothing whatever about the accuracy or excellence of manufacture of the Newton bullets now being used. The Newton bullets have always killed well for me, but they have also always gone completely to pieces. I do not like to have a bullet do this. It should hold together, mushroom, and penetrate well. I have never been able to shoot through the body of a moose with a 172-grain Newton bullet, and only about 50 per cent of my broadside shots on deer have gone through.

3. I got excellent results both as to accuracy and killing power from the U. M. C. umbrella bullet of 180 grains, with the first lot that I tried. About a year ago I got another lot. These gave very poor accuracy, so much so that I determined that they were made with war-time tolerances by war-time



workmen. Probably these bullets are all right now.

4. I have a very high opinion of the killing power of the 220-grain, blunt-nose, soft-point bullet in the .30-1906 shell, and at a velocity of about 2,250 feet per second. Apply to the Du Pont Company for the proper powder charge to give this velocity, as their lots of powder change so frequently that it is practically impossible any more to advise as to powder charges unless one knows exactly what particular lot of powder is being used. The charges recommended on the canister label are always correct. The Winchester .220 grain bullet for the .30-1906 cartridge is the only 220-grain bullet that I know of that will correctly fit the throat of the Springfield bore and correctly seat in the chamber.

5. The Bond Machine Company, of Wilmington, Del., will shortly be in a position to supply swedges for making soft-point bullets, moulds for making bullet cores, and .30 caliber copper jackets long enough so that a .30 caliber, 180-grain bullet can be made with jacket extending right up to the point, so that it will hold together well on game. Address them for information.

6. Up to 400 yards at least, a pointed bullet presents no advantage whatever over the ordinary blunt nose, soft-point bullet, this absolutely irrespective of whether the bullet departs from the muzzle in perfect shape or greatly deformed as to sharpness of point.

**WHAT** manufacturers make field telephones suitable for rifle range use? What is the most economical way of installing these 'phones on a range having 200, 300, 500, and 600 yard firing points located directly behind one another?

E. L. C., Shoshoni, Wyo.

Answer: The only thing that I can suggest is the regular U. S. Army Field Telephone. These are made by the General Electric Company. They are portable and very satisfactory. I believe that there is a restriction on their sale outside the Army, but I am informed that there will be no question about the Signal Corps giving the General Electric Company permission to make a sale to you for this purpose. You had better mention this when you write to the General Electric Company.

I would advise that you lay one cable down the entire range, or erect a metallic wire circuit on poles on one side of the range. There should be a terminal at the butt, and one terminal at each firing point. You can then cut in at any place, and will need two telephones. The main thing is to store the telephones in a dry place in the range house except when actually in use, and to see that the dry batteries are renewed as they become weak. Any telephone man can readily understand this telephone and keep it in repair.

**I** HAVE a Marlin 45-70-405 rifle that was made to order some 25 years ago; very fancy stock and fine engraving, etc.; heavy octagon barrel 32 inches long. Now, will this rifle shoot good cut off to, say, 22 inches, and what is the best load for that length of barrel for all-around use?

F. G. S., East Hartford, Conn.

Answer: I would not advise that the barrel be cut off shorter than 26 inches. Presumably your barrel is of ordinary steel (not smokeless steel). Barrels as short as 22 inches only work well when used with a load of jacketed bullet and a very quick burning powder like Sharpshooter. The powder must all burn in the short barrel to give even fair velocity. Such a load will very quickly ruin a plain steel barrel. Therefore I advise a barrel which will burn a proper amount of powder suitable for plain steel.

Some good results have been obtained in the .45-70 by using Du Pont No. 1 Sporting

Rifle Smokeless, in charges of about 65 grains *bulk*, and a tight-fitting lead bullet, about 1 to 16. The newer bulk smokeless powders do not do very well in these very large cartridge, often a charge large enough to give fair velocity expending the shell greatly at the base through too large initial pressure. I would advise that you confine yourself to lead bullets, cast about 1 to 16 lead and tin, and that you use King's semi-smokeless powder, grade FG or CG. Measure the groove diameter of your barrel and size your bullets to about .001-inch smaller than this diameter.

**J**UST received a supply of 30 cal .06 ammunition from Benicia Arsenal and in trying same out in my Springfield I find it to shoot 8-inches higher on 200 yards, than ammunition reloaded by myself with a new batch of No. 20 powder under the same conditions. I have taken out bullet from the regulation shell and weighed the powder and find it to be exactly the same weight as what I load my shell with, 46½ gr. Will you please advise why it should shoot different, and if I can increase the amount of powder in reloading to overcome the difference as I do not like to have to move the sight. Also advise amount of No. 20 powder to use in Springfield behind 172 gr. Newton Bullet for hunting purposes, and what velocity to expect.

K. S., Columbia Falls, Mont.

Answer: Various lots of government Pyro powder and Du Pont 20 powder (which are the same) vary considerably in strength. All of the Du Pont No. 20 powder put out in canisters for commercial sale is of exactly the same strength. The fact that the powder in the shells what you opened weighs 45½ grains does not indicate that it has the same strength as that in the Du Pont No. 20 powder which you obtained not loaded. Also, the bullet size and hardness of the jacket may have considerable to do with the difference in point of impact which you noticed.

With Du Pont No. 20 powder as sold commercially I would not advise your going over 48 grains with the 158 grain bullet in order to try to get the rifle to shoot higher.

With the 172 grain Newton bullet I would not advise a charge greater than 48 grains of No. 20 powder. This will give a rather high breech pressure, but it will be safe in a good Springfield rifle and will give a velocity of about 2600 feet.

**WHAT** rifle and cartridge would you recommend for use on crows, geese, foxes, and target work up to two or three hundred yards? How about the .250 Savage and what size groups will this gun make at 200 yards? I do not like the Savage and would prefer a bolt repeater or single shot with 28-inch barrel, but no such rifle using this cartridge is to be obtained unless I had it built to special order, and this I cannot afford. Can you tell me anything about the "Newton" 22 and 25?

W. E. F. Richibucto, New Brunswick.

Answer: You say that you can not afford to have a rifle made to order, and this makes the question pretty hard to answer, because the only really satisfactory rifle for this work is one of the very high velocity rifles of superb accuracy made by A. O. Neidner. Accuracy is the prime essential because the game you mention is all small, and presents so small a target at ranges over 100 yards. There is practically no commercial factory rifle made of suitable caliber and power which will keep its shots on targets the size of this game at ranges much over 100 yards. If shots are to be made on small game up to 200 or 300 yards then high velocity is very desirable to obtain flat trajectory, but this means such power that you will blow your game all to pieces. If you could get a Winchester single-shot rifle for the .25-35 car-



tridge I would strongly advise that caliber, but this rifle is no longer made except in .22 rim fire. You might try either the .25-35 Winchester Model 1894, or the new .250-3000 Savage bolt action rifle which will be on the market in a few weeks. But, personally, I believe that neither of these will give you good results because you are a good shot and able to appreciate their deficiencies. The Newton .22 is not made. It practically never got beyond the experimental stage. The Newton .256 is more of a big game cartridge, has very excessive power for your work, the ammunition is very expensive, 12\$ cents apiece, and it is very hard to get.

I do not think that you can possibly do better than the Springfield rifle, using for small game and target practice at long ranges of 200 and 300 yards, the 150 grain full jacketed, pointed bullet, and a powder charge of about 30 grains of Du Pont No. 18 powder. This will give you as flat a trajectory as is possible, and still not mutilate your game. It will also give the finest accuracy you can obtain from a machine made rifle. Or if you cannot get a Springfield you can use a similar load in the Lee or the Ross with practically the same results. I think that you will get very much better results from such a combination, and also you have a big game rifle by simply changing the load.

**I**S the prone position as steady for a left-handed shooter as for a right-handed? I shoot left-handed and at every pulsation of my heart my rifle jumps off the mark so that I have to fire between beats. However, I make very good scores but being the only crank around this neck of the woods I can't benefit by the experience of others, hence this question.

H. C. S. Dermott, Ark.

Answer: There is no reason why the prone position should not be just as steady left-handed as right handed. Formerly I shot right-handed, but lately a slight impairment of the right eye has caused me to change to left-hand shooting, and I find that I can do just as accurate work as I ever did right-handed.

With regard to the pulsation of the heart, affecting the steady holding, this is more



serious. I have noticed that in some few men this causes considerable trouble. Be sure that the forearm is held by this left hand so that it rests well down in the palm of the hand, not up on the fingers so that each joint will tremble slightly. In other words, try to support the rifle at the firearm by the bone of the forearm, and not by the bones and joints of five fingers. Get your holding off of the muscles and on to the bones. See that the sling is tight, and well up on the left arm, not down around the elbow. Try to hold as high as possible. Don't hug the ground too much. If you hold high you will get that portion of the chest which holds the heart off the ground, and the pulsation will not amount to so much. Study the pictures of the standard prone position in the various



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books on shooting. I think that a little practice and attention to these details will gradually eliminate trouble with this pulsation. Perhaps you are eating a little too much. Pulsation is more likely to be noticed after a very heavy meal.

**WHAT** difference is there between Antinite and Anit-Corro steel? Will Antinite steel resist rust as the Anti-Corro? Where are these steels made?

Are these steels better for rifle and shot gun barrels than Krupp and Witen-Excelsior? Where can I obtain the "Book of Lion" by Sir Alfred Pease?

Where can I obtain some reliable books on big game hunting in Africa?

B. B., Huntington, W. Va.

Answer: Anti-Corro Steel was made by the Poldi Steel Works in Austria before the war. The chances are it is no longer made.

Antinite Steel is a German product. I do not know where in Germany it was made. Fred Adolph of Genoa, New York, used to be the agent for it in this country, and probably he could give you some information about it.

I do not know whether these steels are superior to the Krupp and Witen-Excelsior. Probably it is a matter of personal opinion. Personally I have found nothing superior to the nickel steel as used by the Winchester Company, except that my Anti-Corro barrel is quite a little more resistant to rust.

I think that Mr. Frank A. Fahrenwald, 1692 Glenmont Road, Cleveland Heights, Cleveland, Ohio, a skilled metallurgist, who has made a study of non-corrosive barrel steels, can give you the properties of these various steels.

"The Book of the Lion" by Sir Alfred Pease, is published in London. Brentanos, 26th St. and 5th Ave., New York, have had it in stock at times. If they have not now they can import it for you.

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**WANTS AND FOR SALE**

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

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

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

FOR SALE: Reloading tools 44 Smith & Wesson Special Ideal No. 3 double adjustable chamber; 2 seating screws; 2 Ideal molds for bullets No. 429336 and No. 429251, together with 50 hand-loaded cartridges; about 200 bullets, and 2 boxes primers. \$12.00 for the lot. H. E. Beebee, 1233 Main Street, Buffalo, N. Y.

FOR SALE—Stevens No. 47 Target rifle practically new. 25-20 Calibre, \$30.00, also Winchester B-4 Telescope with mounts, \$10.00. Address Box 1007, Oklahoma City, Okla.

WANTED—One Springfield 1903 Receiver only. Daniel G. Fox, 103 Washington, St., Haverhill, Mass.

WANTED—New Springfield barrel, or New pre-war Springfield minus stock. Must be star gauged. Curtis G. Holmes, 513 James ave., Grand Rapids, Mich.

WANTED—Two star-gauged Springfields in A-1 condition. Rarer types of Civil War Period Carbines. William H. Colt, 23 Linwood ave., Buffalo, N. Y.

WANTED—Information on makers of muzzle loading rifles, in Penn., West Va., and Ohio, during past 75 yrs. W. E. S. 1165 Frick Ames Bldg., Pittsburg, Pa.

FOR SALE—Stevens .22 Long Rifle, No. 44. Stock and forearm "Dull London oil finish". Forearm hand made. Fine grip. Aperture front sight. Rear disk. Kerr strap. Perfect. Tapped for No. 2 mounts. \$25.00. T. E. Garceau, 59 Woodland St., Claremont, N. H.

FOR SALE—Lyman 1A rear sight for Savage .22 model 1903. A. C. Berg, 1198 Cook ave. (Lakewood), Cleveland, Ohio.

FOR SALE—.22 S. & W. Ejector Model Revolver, 3-inch barrel, nicked, pearl handle. Shot less than 100 times. Perfect as new. \$25.00 Also Lady's Elgin Wrist Watch, 7 jewel, 20 year case, new, never been used. \$25.00. E. E. Collins, Cave City, Ky.

FOR SALE—Winchester single shot .32 Win. Special, 30-inch No. 3 round nickel-steel barrel, extremely accurate. Lyman sights inside and outside of barrel perfect, some rust on frame. Ideal mould No. 321297 and bullet sizing die, about 400 gas checks. Price \$27.00, boxing extra. Stevens No. 44 Ideal .22 long rifle, 24-inch barrel, new gun, stock broken but repaired, sold as is, \$15. No C.O.D.'s but rifles guaranteed as represented. V. R. Olmstead, 33 Brookfield Road, Upper Montclair, N. J.

WANTED—.22 Colt's Lightning Magazine Rifle. Fancy stock preferred. H. H. Bennett, 142 Portland st., Boston, Mass.

WANTED—Mannlicher-Schoenauer 9 mm. rifle for experimental purposes. A worn out barrel is no detriment provided the action of rifle and breech bolt are perfect. Edward Mallinckrodt, Jr., Beverly Hills Hotel, Beverly Hills, Calif.

FOR SALE—Two Stevens Ideal Rifles No. 414 for .22 Shorts. One Ideal No. .044 1/2 with complete reloading outfit for 25-20. Irving M. Short, 1495 Winchester ave., Lakewood, Ohio.

SALE OR TRADE—Ballard Target Rifle, calibre .22 long rifle, finest Vernier peep and wind gauge target sights, also fitted with telescopic sight. In absolutely perfect condition inside, \$40. .38 Spl. loading tools made by Smith & Wesson complete in good order, \$3.50. Savage model 1914 .22 repeater in fine A-1 condition with pero sight, \$25. Book "Rifles and Ammunition" by Omundsen and Robinson in practically new condition, \$4. Above will be sent prepaid, terms cash, postal money order.

WANTED Telescope of about 40 power for rifle range. Must be high grade and in first class serviceable condition. Van Allen Lyman, Balboa, Canal Zone.

FOR SALE—Colt Auto Pistol, Pocket Model, new and perfect. Money order for \$25.00. H. R. Wollard, Box 105, Burke, Idaho.

FOR SALE—No. 10 Stevens pistol, \$20.00; Winchester 32-20 reloading tool, \$2.50; mould, \$2.00; all new. Lyman micrometer windgauge Krag sight, \$5. N. C. Pierce, Box 333, Norwich, Conn.

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

GUNSTOCK Blanks and gun restocking, Sporting Military stocks a specialty. C. T. Harner, 117 N. Isabella st., Springfield, Ohio.

FOR SALE—One U. S. 1917 Enfield rifle as issued \$25.00. H. D. Dodge, Gray Tractor Co., 10th ave., S. E. and N. P. Tracks, Minneapolis, Minn.

FOR SALE—Savage N.R.A. Bolt Action .22 Lr. rifle, new, perfect condition, \$25. First money order gets it. J. L. Polk, 320 N. Kensington ave., La Grange, Ill.

WANTED—Several 1903 Springfields, condition of bore of no importance. Stock and action wanted. Must be reasonable. R. D. Eaton, 1414 Shadywood Ave., Evansville, Ind.

FOR SALE—New 25-35 Model 94 Winchester 26-inch nickel barrel, Marbles flexible rear sight peep and improved front sights, canvas full length case, cleaning rod and 100 cartridges, \$35.00. T. L. Somers, Box 427, Mounds, Ill.

FOR SALE—Lyman rear sight, 1A, for Savage model 1899, absolutely new and perfect. Price \$3.00. C. E. Rueger, Box 1046, Spokane, Wash.

FOR SALE—10 Ballard rifle actions, Barney Worthen, 583 Market st., San Francisco, Calif.

FOR SALE—Several Ballard and Sharps rifles. O. H. Bremmer, 1279 Market st., San Francisco, Calif.

FOR SALE—Ballard action fitted with a pre-war 404 Stevens selected barrel, never used. S. T. Rodgers, Sherwin Williams Paint Co., Cleveland, Ohio.

FOR SALE—Single Shot Pistol. Adolph manufacture, a beautiful gun; micrometer sight—matted rib or barrel—checked wood grip. Pistol owned by one of the best known Eastern pistol men. Price \$40.00. \$100.00 will not duplicate it. Also several A-5, B-5, B-4, Winchester Telescopes; also 10 Remington .50 calibre single shot pistols. For information address C. W. Linder, Olympic Club, San Francisco, Calif.

FOR SALE—One government made .22 cal. Krag Jorgenson with Malcolm 5 pwr. scope mounted. Rifle in factory condition, shot very little. These rifles are fine shooters and are now at a premium. Price \$25.00. Boxing .50 extra. Sent upon receipt of \$3.50, balance C. O. D. Trades considered. WANTED—Springfield which has been converted to sporting model, must have an A-1 stock, balance of rifle accepted in any condition. WANTED—Address of person who has a Winchester, Model 1873 rifle in the .22 cal. or will buy one in any condition. V. F. Shafer, Needles, Calif.



## The Best from Contemporary Sources

WHEN you open up the box that contains the Colt or Smith & Wesson you have waited for so long, one of the first things you will likely see will be a bristle brush with a twisted wire handle. If it is a target model Smith & Wesson the box will likely contain another cleaner with some soft material like cotton or something of the kind but

**Caring For Revolvers.** this at the end of another of the abominable twisted wire rods. In the box sent out by one of the makers you will likely find the advice to be very careful in cleaning not to injure the muzzle end of the barrel while the cleaner found in the box that contains the revolver, and the most excellent advice, contains a cleaner that one with a bit of experience, or who will think half seriously for just one brief second, will know was evidently designed for the sole purpose of doing exactly what the makers very properly caution against;—that is, to injure the lands at the muzzle end of the barrel. I never injured the rifling in any revolver with one of these cleaners, and I imagine there are others who never have, simply because we would never use one of these twisted wire cleaners without first carefully wrapping with soft cloth to prevent the eternal rasping of the muzzle that would accompany its use by the man who would not always keep in mind the necessity of guarding against such a thing happening. But there are far too many who will, unthinkingly, use those twisted wire cleaners just as they come from the factory and, paying no attention to the rubbing of the twisted wire against the lands at the muzzle as the cleaner is industriously worked back and forth, hasten the ruination of the finest of revolvers simply because they don't think, don't care, or because the makers failed to send out a cleaner protected with a wood, celluloid or cloth covering. I believe I can clean a revolver barrel thoroughly without the rod ever touching the muzzle of the revolver—this by being careful—and while it has become a habit with me to very seldom let the protected cleaner touch the barrel at the muzzle, at the same time it is very gratifying to know that with a protected cleaner there will be absolutely no prospect of injuring the muzzle if touched occasionally in the process of cleaning.

Years ago I wasted some little time and not a little writing material in an effort to induce the makers to send out cleaners with wood, celluloid or cloth-covered rods and for a few years had reason to believe from promises made that with the opening of the next revolver box I would find such a rod accompanying the revolver ye writer had been saving the pennies for, for so long; but disappointment has always been my only reward.

Some will say, "Why be so fussy about all this when you can buy all sorts of cleaners for a trifle?" My answer is simply this: From 75 to 90 per cent. of revolver purchasers, if they clean their revolvers at all, and far too many of them are of this class, will use those unprotected, twisted wire cleaners simply because they will either never think, or if they think, will decide that they are all right or makers of such superior revolvers would never send them out, with the result that the muzzles of their revolvers are certain to be more or less injured in the process of cleaning.

I mentioned something about some men never cleaning their revolvers. I might have included some rifle users as well for far too many of them can be found. These men belong to that class who are always harking back to the days of Grandad and the muzzle-loader he used which was so very superior in accuracy to the breech loader of today. Evidently they forget that Grandad cared for his rifle properly, forgetting that because one can force a cartridge into the rifle chamber is not proof that said rifle will

place the bullet with unerring accuracy in the place desired. Still, there are too many owners of rifles who seem to think a gun should invariably land in the black whether ever cleaned or not. It isn't likely any of these will be met with on the target range where proper cleaning methods are everywhere in evidence, but far too many of them are to be found running loose in the "bush."

But back to revolvers: What causes them to wear out so soon? Fact is few of the Colt or Smith & Wessons wear out, that is when properly taken care of; most of the ones we now have in mind are allowed to rust out. Others in which all kinds of ammunition, black, Lesmok, Semi-Smokeless and a half dozen kinds of smokeless cartridges are shot, including often shells loaded with shot—with little or no cleaning, are ruined in short order and the owner will then boast in a superior sort of way that "that makes the third Colt or Smith & Wesson I've worn out in four years," when as a matter of fact that man never shot enough in all his life with all kinds of fire arms to have legitimately worn out a single first class fire arm! To me all such is little short of a crime and often am put in a humor where I am inclined to say all such men should be suspended from a cottonwood limb (or any other suitably strong) with a rope around their necks, for, say, twenty-hours before cutting down.

Accompanying your favorite revolver, you may also find that you are advised not to keep your revolver in a leather hostler as leather will absorb moisture. The makers evidently forget that leather will also absorb oil and that if the hostler is made of suitable leather, and is oiled at proper intervals, there will be found no better place to keep the revolver than right in that same practically moisture-proof leather scabbard. There may be localities and conditions under which this would not hold good, but in all places where I have lived, which would reach from Kansas to Montana, Montana to Idaho, Idaho to Montana, Montana to British Columbia, British Columbia to California, and from there back to British Columbia, I have never had a revolver rust under any condition, and I have always kept my revolvers in scabbards, the belts from which they were suspended hanging from the gun rack, a set of deer horns or from a convenient nail in the kitchen. Now hang me if you like.

But I clean my revolvers thoroughly, and rifles as well, as soon as possible after using, and I can hardly remember the time I have returned from hunting, often with clothes frozen stiff, when I was too tired to clean my rifle or revolver, as the case might have been, before crawling out of my hunting togs into dry ones. After this, then supper and to bed for rest-up for next day's hunt, or as likely pulling a cross-cut or swinging an axe.

My desire is to make everything as clear as possible. I do dislike being misunderstood. I would not want to create the impression that a fire arm of any kind might not rust in a scabbard under certain conditions. I remember well an instance that occurred many years ago when antelope hunting in the Bad Lands along the Missouri. A friend and I rode nearly all day in a drizzling rain, our Winchesters in their leather scabbards with stocks exposed. My scabbard had been repeatedly greased with vaseline; his had never seen oil of any kind. I jammed a handkerchief in around rifle at top of scabbard to keep out the rain while he paid no attention to his. At noon, under shelter of a tree, I removed my rifle and gave it a good going over with an oiled cloth and wiped out the barrel and re-oiled. His rifle was never taken from the scabbard. My rifle received proper attention that night while his was left in the scabbard until morning. When removed

it was red from rust from end to end. Mine was in perfect condition. His un-oiled scabbard had taken in plenty of water while mine had not. But, always taking all precautions possible, I had hung my scabbard near the fire soon after reaching camp, given my rifle another going over before turning in, the rifle being returned to its scabbard shortly before.

Here is where a revolver, or rifle either, for that matter, can, and likely will rust if left in a leather or any kind of scabbard.

If a firearm is damp, or full of frost, and left in a scabbard for any length of time, rusting may confidently be expected. I never let such an arm go without a thorough cleaning whether it has been shot or not. Afterwards it is put in its scabbard, which, remember, has been always kept properly oiled either with Neat's foot oil or vaseline. Some may say vaseline is not a leather oil. Perhaps not, but I have found it perfectly satisfactory for my use and especially do I like it for oiling leather cartridge belts as cartridges do not seem to corrode nearly so easily as when other oils are used. However, I believe in oiling belts, especially the cartridge loops, sparingly, but give the scabbards all the oil or grease they will take in.

Except when getting leaded barrels a few times when using slightly over charges of Bull's Eye powder, I have never found it necessary to use a brass brush and this brass brush, by the way, was a steel bristle brush such as I understand is, or at least was, part of the regular equipment for cleaning the .303 British Service rifle. By using a comb to straighten out the bristles the brush was enlarged sufficiently to fit sufficiently tight the .44-40 and .45 Colt barrels and by carefully using the lead was very easily removed. On second thought, I remember a few instances of getting leaded barrels very similar to that following over charges of Bull's Eye when using the Du Pont No. 3 Pistol Powder when that same steel bristle brush was brought into service. Contrary to the general belief, larger than factory recommended charges of Bull's Eye can be used in the .44-40 and .45 Colt revolvers. Remember, please, I am not advising these overcharges, but I have it from a perfectly reliable source that larger charges can safely be used in the .44-40 and .45 Colt calibres. For years I set my Ideal measure at 14 grains for the old Laflin and Rand granulated form Bull's Eye and used thousands of such charges in the .45 Colt with the cast 255-grain bullet. No leading and excellent accuracy. Many thought this excessive when as a matter of fact I doubt if I was getting in excess of 750 f. s. though at the time I was under the impression that due to its being .6 of a grain more in weight than factory recommended charge I must be getting a real man's load. I know now that I was not. In the .44-40, 4.5 and 5 grains Bull's Eye has been the standard charge but the velocity is quite low as compared with some of the other full charges for this calibre. I secured fine accuracy with 5.5 grains but here I ran up against considerable heat, barrel leaded and I went back to 5 grains. I have often wondered if a wad behind bullet might not have protected the base sufficiently to have prevented fusing and thus dodged the leading difficulty, but never tried it out as later found the 18.2 grain Du Pont No. 80 powder so very satisfactory that I have had no desire to change though did experiment somewhat with their No. 3 to find I sometimes had leaded barrels and never averaged near as well for accuracy as when using the No. 80. Also had trouble of this nature in the .45. But in the two calibres, .44-40 and .45 Colts I can strongly recommend Du Pont No. 80. In the .44-40 use 18.2 grains and in the .45 use 15 grains and you will find you have real men's loads in every way. I have thought it might prove of interest to briefly touch on powder for these two calibres.

Black powder for a revolver is a thousand years ago, we all know, but as one may some time have to use (I sometimes have to myself) it might be worth while to briefly mention that I have never yet been able to load black powder in a cartridge shell for a revolver which would



not show caking more or less after a few shots had been fired, this caking showing at the breech end of barrel and extending farther forward as the shooting continued. I have used the best of powders within reach and about all the lubricants for the bullets that have ever shown up in print, not to mention many of my own combinations, one of the best I now have but it contains so many ingredients that it would be difficult to name them all. Here are a few: Beeswax, Mobilubricant, vaseline, 3-in-1, deer tallow, bear's grease, woodchuck oil and likely a few others if I could but think of them all. I cannot give the proportions of each but can say it sticks to a bullet nicely and leaves the barrels in perfect shape for easy cleaning with not a trace of powder in various rifles and revolvers in which it has been used. I am now speaking of smokeless powder loads. As I mentioned above, any black powder cartridge I have ever used, factory or reloaded, and this includes semi-smokeless as well, has given more or less caking in the barrel, others, and before taking up smokeless powders for revolver use this was so slight with the semi-smokeless as to almost incline one to think the really perfect revolver powder had at last been perfected. If I could not get Du Pont No. 80 it would be semi-smokeless for mine in the big guns when wanting really powerful loads.

Now, if you simply have to use any black powder, or semi-smokeless which will cake more or less at the breech, one can shoot many shots by blowing the breath through the barrel after, say, every three to six shots. If saliva is allowed to be blown through the barrel at the same time it will moisten the barrel residue, but this blowing through barrel should never be resorted to unless it is expected to continue shooting as rusting of barrel would be almost certain to follow.

When cleaning after black powder has been used, I have always liked a slotted wooden rod with a cloth patch, not too long, which will double when drawing back after same has been run through barrel and cause all kinds of trouble, dipped in water. This, with one wiping, will almost invariably dissolve the caking but it is best to use two or three wet cloths, after which several dry ones to dry the barrel's interior, being sure, mind you, that it is dry, after which it may be oiled, and if cylinder chambers have received similar treatment, revolver, after being gone over with an oily cloth, may be placed in the oiled scabbard and hung on its accustomed peg with no thought of rust following.

Cleaning after using smokeless powders like Du Pont No. 3, which I like better than anything else in all revolvers smaller than the big .446-40's and .45's and Du Pont No. 80, I merely dip the cloth-protected bristle brush in some good nitro-solvent oil like Marbles or Hudson's cleaner, scrub barrel and chambers thoroughly, wipe dry with dry cloths to get all the powder residue out, then oil with either of these oils and after wiping revolver off with oily cloth arm is ready for the scabbard.

I have spoken of Marble's and Hudson's cleaners. These were used mostly until the supply was exhausted since which I have been using the B. S. A. Saftipaste. I like them all and believe any one using any of them and cleaning properly will never have a rusted revolver barrel or chamber. Occasionally a few drops of thin oil should be dropped in the revolver in front of hammer when it is cocked. After cocking and letting hammer down a few times the oil works its way pretty well through the mechanism and no more will be required as a rule, but if any doubts exist as to all parts which require oiling getting their share, a few drops may be added at trigger and where cylinder stop works in the frame, then manipulate the arms a few times before placing in scabbard. The best oil I have ever used for the mechanism has been the Rem. oil, made by the Rem. U. M. C. people. They had some difficulty in getting some one of the ingredients which entered into its make up during the war, this, I believe, came from Russia, and for a while were unable to supply the shooters, but presume this diffi-

culty has been overcome by this time. The one thing that appealed to me very strongly about this Rem Oil was its non-freezing qualities. I tried it with several other oils and when they were thick and white at 20 below zero the Rem. oil was as thin as kerosene. I had one revolver freeze up good and solid with another oil. After removing the offending fluid and oiling with Rem. the arm worked as freely as in summer time. I believe the Winchester Co. make a thin oil for mechanisms and while I have used nearly all their cleaning preparations and like them, this oil I have never tried. But I'll bet it is good or they'd never make it.

I spoiled many a good piece of leather before producing a really satisfactory belt or scabbard, but can now turn out articles of this nature which suit me rather better than anything I have been able to get from any maker. That's about as near boasting as I dare to go so will cut out any similar remarks and get down to business.

Carrying a revolver, a belt revolver, remember, with a belt full of cartridges when in the saddle and a similar outfit in the mountains or timbered districts on foot are widely different propositions. You'll make it all right in the saddle but on foot the average man will be mighty tired long before night. There are several ways of carrying a revolver when on foot which are much easier than carrying from belt around the waist. You can buy the regular factory shoulder scabbard, some of which will prove satisfactory. The only one I ever saw which came anywhere near suiting me was made by the H. H. Hesser Saddlery, Denver, Colo. The one I like best is one I made for myself which may be briefly described as follows: Scabbard hangs under left arm from strap over left shoulder. A narrower strap of suitable length has its ends rivetted to the shoulder strap just back of but near top of shoulder (left shoulder) the loop of the strap passes back of the shoulders around right arm so that there is no strap showing across breast (as in the case with the usual shoulder hostler) even when vest is unbuttoned. On the front of the scabbard at about the height of the cylinder a row of cartridge loops is sewn which accommodates from ten to twelve cartridges, depending on caliber of the revolver being carried. With such a scabbard one can handle an axe or do any other work without difficulty and besides he will hardly notice the weight, especially of a revolver not larger than the .38 special caliber.

Another way which I have found excellent, and especially where many cartridges are to be carried, is to suspend the revolver (use regular scabbard if you like) from right shoulder (with strap) under left arm and wear cartridge belt around waist. This will distribute the weight and is one of the best ways of carrying a heavy belt revolver on foot I know of where a belt full of the heavy cartridges are to be carried.

Just a word or two concerning carrying a revolver in the pocket. Unprotected by a suitable scabbard, I know of no way in which this may be done without danger of rusting the weapon. With a suitable scabbard made for the hip pocket, one may be carried indefinitely with no possible prospect of rust. Bear in mind a few important points, however. Keep the barrel's interior always protected with a thin coating of some thick gun grease, like Winchester gun grease, B. S. A. Saftipaste, etc.; also every night wipe off outside of revolver with cloth slightly oiled. Note here that it is not necessary, nor desirable, to flood any part of the weapon with oil or paste it over with grease; merely see to it that the surface is protected with oil. If the outside is very slightly oiled every night and then if desired most of it wiped off there will be no danger of rust; at least from my experience I can positively say there will be no danger in this respect. But the scabbard in which the revolver is to be carried must be made right and of the right material. Get a piece of best saddle skirting, or sole leather will be as good or better, and cut same width as hip pocket. See that this is thoroughly oiled. This is the foundation on which you will build your pocket scab-

bard. Cut a paper pattern that will neatly fit over the revolver when placed on the "foundation" and when you are sure you have the pattern the right size cut from thinner leather the part which will finish your scabbard and sew it on. If properly done, you will have a scabbard for pocket use which will protect the revolver from rust and which will enable the easy carrying of the weapon under practically all conditions where a pocket arm would likely ever be carried. The shoulder hostler, which has been briefly mentioned, is also a good one for a pocket revolver, and especially good for carrying a medium weight revolver with a longer than pocket revolver barrel. In such a scabbard a revolver with five and six inch barrels can be conveniently carried on practically all occasions where one would want to have a weapon of this sort with him.

I have mentioned the importance of oiling slightly the mechanism of revolvers occasionally and to cock and let down hammer several times that oil may reach all parts of the action. This refers to single-actions but if the arm is a double-action a quicker method is to grasp stock with right hand in the usual manner, place thumb of left hand over hammer spur and let it follow the hammer up and down as the trigger is pulled and released. After this is triggered properly (always using an unloaded revolver, of course, especially when first attempting it) the trigger will be worked very rapidly, a half dozen pulls being sufficient to bring oil to all parts of the action. The object in holding the thumb on the hammer spur as trigger is being manipulated is to prevent the hammer striking an empty chamber, as it has been my experience that practically all firing pins are broken from snapping on empty chambers. When snapping on a loaded cartridge, the primer cushions the hammer blow and no damage to firing pin follows, but when hammer is snapped on an empty chamber the jolt given the hammer is liable to cause firing pin to break and while such breakages are few, I might say right here that the few I have seen break in both rifles and revolvers where hammers were snapped on empty chambers. My advice would be to avoid snapping on empty chambers as much as possible.—Ashley A. Haines, in *Rod and Gun in Canada*.

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