

ARMS AND
THE MAN
RIFLE
NATIONAL RIFLE ASSOCIATION OF AMERICA

SIGHTING YOUR OWN RIFLE
IMPROVED ZEPPELIN CAPTURED
THE NEW "TWENTY-TWO"
THE EYES OF THE NAVY
VETERAN ARTILLERY FIRED FIRST SHOT
A ROOF GARDEN RIFLE RANGE
EDITORIALS and
LATEST NEWS OF RIFLE, REVOLVER AND
SHOTGUN, THE ARMY, THE NAVY AND
THE NATIONAL GUARD

VOL. LXIII, NO. 10



DECEMBER 1, 1917

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On That Fall Hunt of Yours

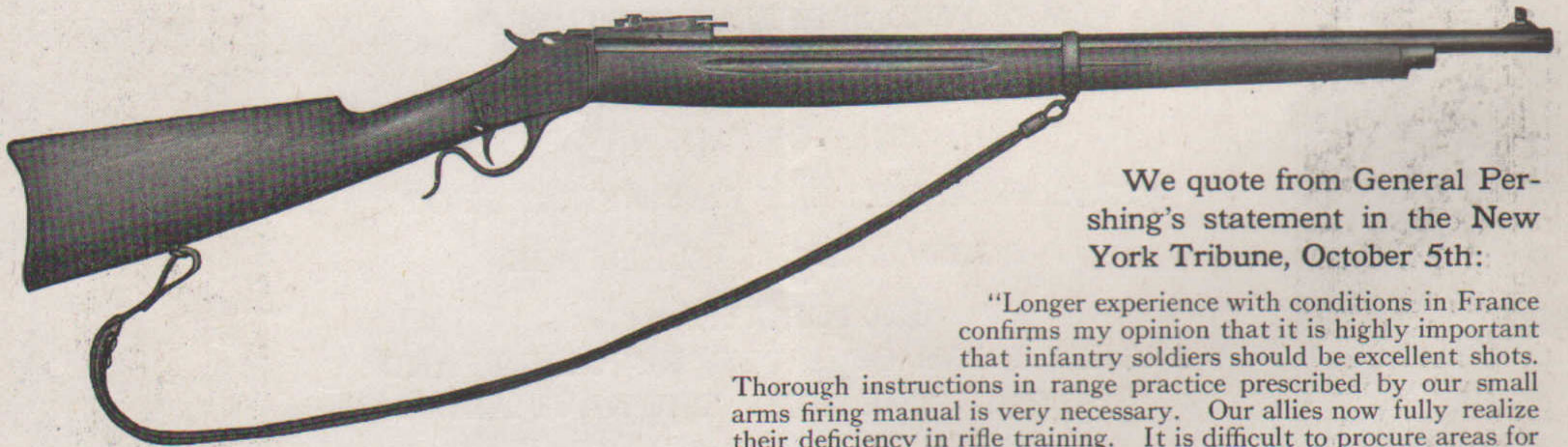
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General Pershing Urges Rifle Practice



We quote from General Pershing's statement in the New York Tribune, October 5th:

"Longer experience with conditions in France confirms my opinion that it is highly important that infantry soldiers should be excellent shots.

Thorough instructions in range practice prescribed by our small arms firing manual is very necessary. Our allies now fully realize their deficiency in rifle training. It is difficult to procure areas for

target range in France even now, when crops are off the ground. Much greater difficulty soon when ploughing begins.

"I therefore strongly renew my previous recommendations that all troops be given a complete course in rifle practice, prescribed in our firing manual, before leaving the United States. Specially, trench warfare instruction at home should not be allowed to interfere with rifle practice nor with intensive preliminary training in our schools of soldiers, companies and battalions."

Its close similarity to the .30 caliber army service rifle together with its excellent accuracy shown in the tests to which it has been submitted, especially recommend for use in Military target practice, the

WINCHESTER .22 CALIBER SINGLE SHOT MUSKET

Chambered for .22 Short and .22 Long Rifle Cartridges

Winchester Repeating Arms Co.

New Haven, Conn.

ARMS AND



THE MAN

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Sighting Your Own Rifle

By F. E. BRIMMER

ALMOST never does a rifle come from the factory with the sights adjusted properly—unless it has been sent there for that express purpose, and at that a sudden jar in transportation may have moved the front sight slightly. Generally the dealer from whom you purchase the rifle will give you a box of cartridges with the arm for the purpose of your sighting it yourself.

Many shooters look upon the sights with the sort of awe that a savage holds for the medicine man of the tribe. Preferring to put the gun in the hands of an expert, rather than "monkey" with the sights, they spend several days and dollars while the expert centers the imaginary shooter's line of vision over the center of the bore, thereby losing much in the line of having the satisfaction of doing this simple trick for themselves. It is not a complicated or difficult task for Mr. A. V. Rage man to right his own sights, and with it comes the satisfaction of doing the adjusting so that it suits you—and *you* only. No two men ever saw the same thing just exactly alike, neither did they ever hear the same sound precisely at the same pitch; and as men differ the world over in facial and physical characteristics, so the same pair of sights on the same gun never look just alike to two men. I have in mind a fairly good shot, who owns a rifle with which no one can do accurate work because the front bead is slightly to one side, yet the owner believes that he sees the front sight settled squarely into the notch when he pulls, and the fair work that he does when he brings home the game or plugs the bull at the target proves that the sights for his eyes are all right. You have often heard the dispute when one man says that he finds that the rifle shoots true if he takes a fine peep at the bead, while another scoffs and maintains that only good work can be done with the gun if a coarse sight is taken. It's just a matter of whose eyes do the sighting.

One consideration that reduces the difficulty of sighting your own rifle 50 per cent is the fact that you need never consider the high or low alignment, the obvious reason being: If the gun shoots low, take a coarser view of the bead, and if it shoots high, take a finer sight. So the problem reduces itself to the one task of properly adjusting the sights so that they will point correctly for the bullet to travel from muzzle to mark—deviating neither to right nor to left.

Suppose, then, we take a greasy new rifle and proceed to adjust its sights so that we can split the up and down line—either real or imaginary on game or target. Suspend the rifle bottom side upward, one wire attached to the trigger guard and the other wire to the end of a small pin of brass or wood thrust into the bore at the muzzle. Be sure not to use any hard metal for this pin, for the moral character of your arm will depend almost entirely on your never injuring its muzzle with any hard substance, and so to keep your gun shooting true when it is once properly sighted, use some soft material for this purpose. Many rifles are spoiled for dependable work by being cleaned from the muzzle with a steel rod. Remember

that the last telling twist given the bullet is at the muzzle, and hence a small nick in a groove there may cause an erratic bullet path. In like manner rust near the muzzle spoils the accuracy of rifle or shotgun where ten times that amount of rust near the breech would never injure the integrity of the arm. When buying the used gun, be sure to inspect this part thoroughly.

Now we have the rifle suspended in a horizontal position about the right height from the floor, so that it is somewhere near on the same level with your eyes, and we are ready to use a plumb-line. Attach this to the end of the brass rod that you inserted into the muzzle. Now by standing in front of the rifle, so that you look it squarely in the eye, you can see if the front sight is plumb or sets to one side or the other. It is evident that the plumb-line stands in exactly the same relative position to your sights as the vertical line of your target. When you can see the bead of the front sight squarely in the notch of the rear sight and the plumb-line is at the same time splitting your line of vision—you have your sights aligned.

Before this happens it will most likely be necessary to drive the front sight to one side or the other, which can be done safely by holding a block of wood against the barrel and tapping the base of the sight carefully with a light hammer. Do this slowly and painstakingly and be sure to look every few seconds to see how you are coming. Too much driving back and forth will be pretty sure to loosen the tight fit of the base of the bead in its notch in the top of the barrel, so it pays to work slowly, driving it just far enough and no farther. After a sight has been adjusted, don't expect it to remain so forever. You may hit it unknowingly and knock it to one side when you are carrying it through the woods or to target work; or it may be that you put it in its case in the bottom of a buggy or car and some one hits it a little tap with his foot or the bottom of the vehicle bumps it out of place when traveling over rough roads; and then you may pry it to one side when you set it in corner or cabinet.

After you have adjusted the sight so that you believe the gun will do perfect shooting work—and of course the rear sight needs no attention for the vertical line—the rifle had better be shot a few times at short range, to find if it fits your eyes from the right way, as you have been sighting it from the reverse end. So far your eye has played the part of the target and you have aligned your sights from that viewpoint. Now it is time to take your eyes from that position and use it behind the sights.

Never should a rifle be screwed in a vise to test its accuracy, the reason being that the steel of the barrel is set into millions of tiny but violent vibrations because of the force developed by the explosion of the powder, and so if the gun is held solidly the vibration cannot take place alone, but must be influenced by the vibration of the vise—hence the barrel will not throw the bullet in the same way as when given free play.

About the best way to avoid secondary vibrations is to sit down on the ground and rest elbows on knees to shoot the gun. It is never a good plan to hold the barrel against anything hard—like resting in the crotch of a tree or over a fence—because the rapid vibrations in the barrel will cause the gun to jump more or less.

In the sitting position aim the arm carefully at a target consisting of two heavy black lines cutting each other at right angles, one in the vertical and the other the horizontal plane. These should be in width the same as the diameter of the bullet and should be shot at from a distance of around ten yards, or even less. Align the sights at the lower end of the vertical line and slowly raise the muzzle, neither taking in nor letting out your breath, slowly tightening the tension of your nerves; and thus as the sights travel slowly up the line you are more and more preparing muscles, eyes and nerves for the climax—that is, the time to shoot is made ready for by a systematic preparation of tightening every facility of gun and body. Your trigger finger has been tightening up and the instant that the beads cut the intersection of the lines the gun cracks—then you relax and begin all over again for the next shot. When target shooting you will increase your score if you can imagine two lines in the target like you are shooting at to test your newly sighted arm. The vertical line is the path over which your eyes and nerves guide muscles and sights, and the horizontal line is the signal to pull. Never get the idea into your head that you

ought to hold the muzzle perfectly motionless—it can't be done. If it could your muscles would have to be as motionless and rigid as those of a cold corpse. Just remember that your muscles are supple, flexible, living tissues, and that as such they will move the muzzle. Bring the aim slowly up the vertical line and, without trying to hold it stationary, pull the trigger. If the muzzle begins to wave in circles just before it is ready to cross the horizontal line, better take the arm from your shoulder, look away from the target, crack a joke with a nearby friend, then get yourself firmly in hand and go at it again. And don't get the pernicious habit of jerking the gun from your shoulder the instant it cracks, for it may develop a bad case of yanking your rifle away just the iota of an instant before the bullet has cleared the muzzle.

Some shooters imagine that because they have good optics that they ought to be first-class shots. But they forget that while they see the target very distinctly, the sights are right under their nose. For this reason a near-sighted shooter may be—and often is—a better shot than a far-sighted man, for the former has no trouble in setting the bead squarely into the notch. The distant target may not show up so plainly, but he can judge its center well enough to plug it.

Many shooters can judge if the front sight is out of line by setting the unloaded gun on the ground in front of them and looking down the bore. When in this position, if the eye looks down the sights and finds that they align, then

the gun is sighted properly. Especially when in the woods, this is a mighty handy way of testing the sights. Last season I was squirrel hunting with a friend who was a very good shot with the .22, but on that day he constantly missed. Finally we found a gray playing solitaire in a bare hickory standing lonesomely apart from other trees. After I had tried four shots at this target with his rifle and had missed, we decided to look after the sights. So we unloaded the burden of the little brother and examined his sights by the above method. While I was driving the sight back into place I enjoyed the tenor solo—maybe it was a concert—by my friend of the day of hard luck, the chorus of which I remember ran to the effect that he had lost a day of fun because he was so thoughtless as to suppose that his sights were always automatically all right.

By using a small mirror one can tell easily and quickly if his arm is sighted properly, and can correct it if necessary. In case the arm is a take-down, screw the barrel in a vise and tilt a small mirror—say an inch square—at an angle of about 45 degrees to the base of the bore. Now by looking into the mirror and seeing the target through the barrel, you have got your gun pointed accurately. The next thing is to look through your sights and see if they aim at the target. If the rifle is not of the take-down type, the mirror can still be used by opening the action and inserting the glass between the parts of the mechanism so that the light coming through the bore strikes upon the mirror and is reflected to your eye.

Improved Zeppelin Captured

Although experts agree that, as an offensive weapon, the giant Zeppelin is a thing of the past, the recent capture of a huge aircraft of this type, on French soil, has enabled the Allies to study the most improved construction evident in the rigid heavier-than-air raider.

The death knell of the Zeppelin apparently has been sounded in the fact that notwithstanding its possibilities as a bomb dropper, it is particularly vulnerable to attack by battle planes.

The Zeppelin which landed at Dammartin, France, is understood to measure 643 feet in length, with a diameter of about one-sixth of its length, the lifting power being 55,000 cubic meters of hydrogen, contained in 18 gas bags enclosed within the metal framework of the skeleton, which is estimated to weigh 12 tons. To this deadweight are to be added five motors, a varying quantity of oil fuel for the latter, according to the length of each voyage in prospect; a crew of about 20, more or less, accord-

ing to the requirements of the journey; water ballast, machine guns, or automatic guns of large calibre, with ammunition, for purposes of defense against aeroplanes; a certain amount of provisions; while the remainder of the lifting power is available for bombs. A thousand cubic metres of gas at moderate temperature may be reckoned to be fully capable of sustaining a dead weight of one ton, so that when all is said the cargo of bombs which such an airship can carry will not be heavy—say two to three tons—especially if in order to keep more or less out of range of anti-aircraft artillery the vessel is expected to rise to a considerable height when over enemy territory. It is not so long ago since 6,000 to 10,000 feet was the Zeppelin's "roof," but the latest type is capable of accomplishing an altitude of 15,000 to 20,000 feet. The number of engines carried enables two out of the five to be kept as spare motors for use in emergency only—a very considerable advantage as far as it goes,

though of course, if not required—during a short voyage, for instance, or on naval coast patrol—they represent a notable amount of deadweight which could otherwise be utilized for bombs. As, however, the main use of the large rigid airships is for naval reconnaissance, and their extreme vulnerability renders them little suitable for raids over defended areas, the question of the weight of bombs carried is of minor consequence, and the spare engines are likely to be the more useful cargo. The engines are now provided with silencers, which is much in the favor of the airship by night, and the standing danger of conflagration, owing to leakage of gas from the containers, which formed an explosive mixture between the latter and the outer envelope over the framework, has been minimized. It is said that recourse has been had to the method originally employed in British military captive spherical balloons of using goldbeater's skin for the gasbags, in conjunction with cotton cloth, as being the most impermeable material obtainable, and a special

(Concluded on page 192)

The New "Twenty-Two"

By E. NEWITT

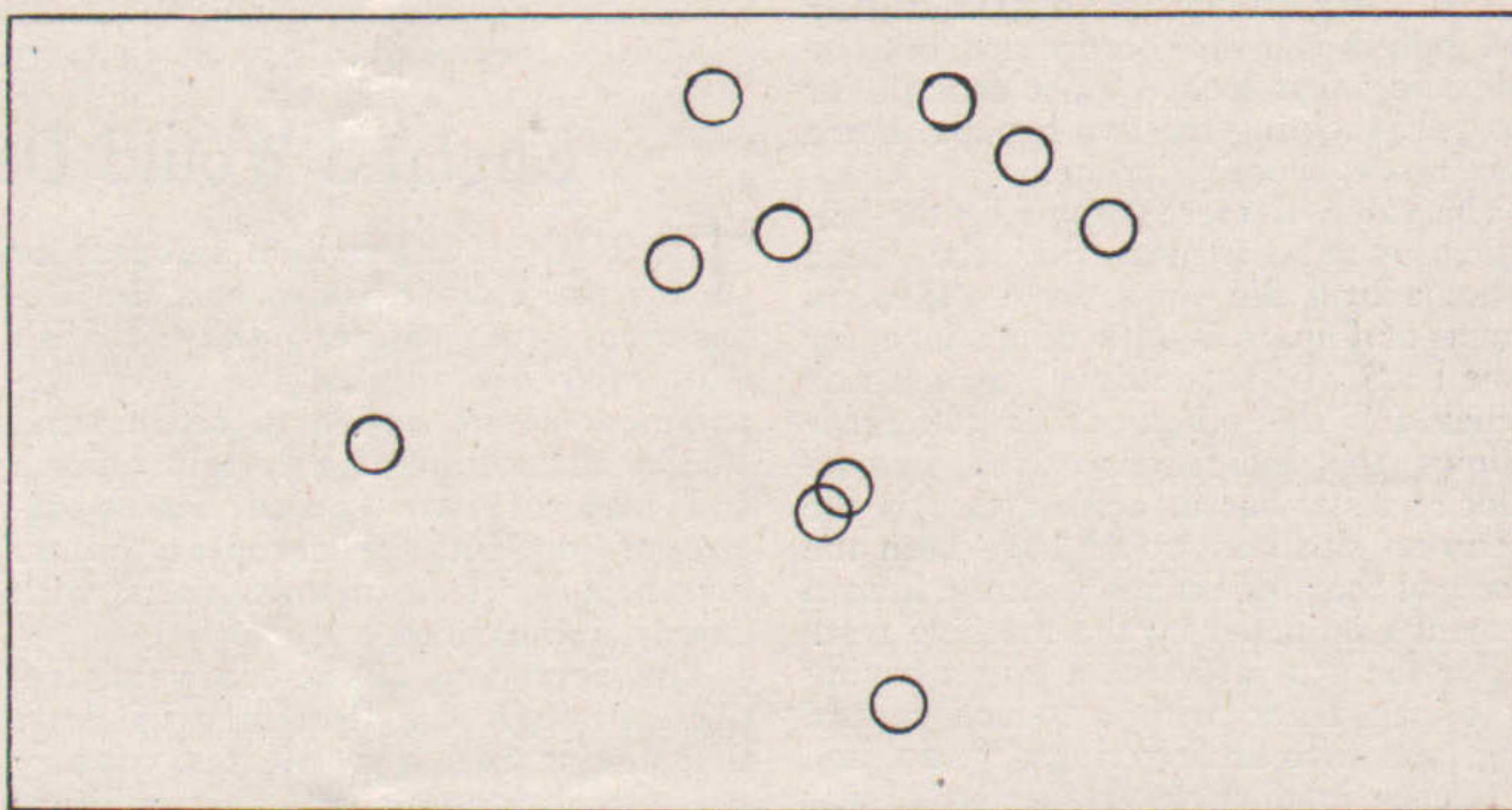
WHAT is there new about it? At first sight, save that it looks brighter, its grease has an encouraging sheen, and there is a general air of attractiveness and finish about it, the United States Cartridge Co.'s new .22 long rifle Lesmoke, known as the "outdoor" looks very much like any other maker's product of the same species, but here the likeness ends, for, hidden in the agglomeration of shell, powder, bullet, priming composition and crimp are little adjustments of combination that give it another 50 yards of accurate range.

Only 50 yards, you say, but what is that? Well, it is an addition of about a quarter to the hitherto practical range. Supposing we add a fourth to the accurate range of the Springfield; it would mean adding some 500 yards, figures which sound large and represent a notable addition, nevertheless an addition which, in proportion and importance, in no way compares with that now made in the .22, because while in the case of the Springfield the accurate range is already longer than we can make any practical use of, in the little .22 we are able to make full use of all we are likely to get, and then some.

Modern high power military cartridges are as accurate as the combination of rifle and men that shoot them for about one-fourth of their total range; the .22 long rifle will not shoot as well as the men and rifle are capable of for more than about one-tenth of its extreme ranging possibility, and this

By the courtesy of the U. S. C. Co. the writer obtained a few boxes for trial, and for purposes of comparison applied precisely similar tests to a sample of some ordinary .22 long rifle Lesmoke of another well known make

the aid of the Chronograph for which purpose we laid under contribution a trustworthy B. S. A. rifle, which is still good for 90% in a 2-inch ring at 100 yards, and the Chronograph at the Maxim Mmunition Co.'s plant "some-



10 Shots at 100 Yards, U. S. C. Co.'s Outdoor .22 Lesmoke

that enjoys the highest reputation for uniformity and precision.

The professional ballisticians regards uniformity and precision, like the Siamese twins, as inseparable, and each essential to the existence of the other; inasmuch as precision implies not only accuracy in the flight of the individual bullet, but a degree of uniformity which gives similar flights to all the bullets in the box, so that successive hits may be achieved with successive

where in Connecticut." Here are the results:

Instrumental velocities in foot-seconds over a range of 50 feet

U. S. C. Co.'s "outdoor"

1.	1033	-7
2.	1034	-6
3.	1040	
4.	1043	+3
5.	1050	+7
6.	1034	-6
7.	1040	
8.	1040	
9.	1053	+13
x.	1036	-4

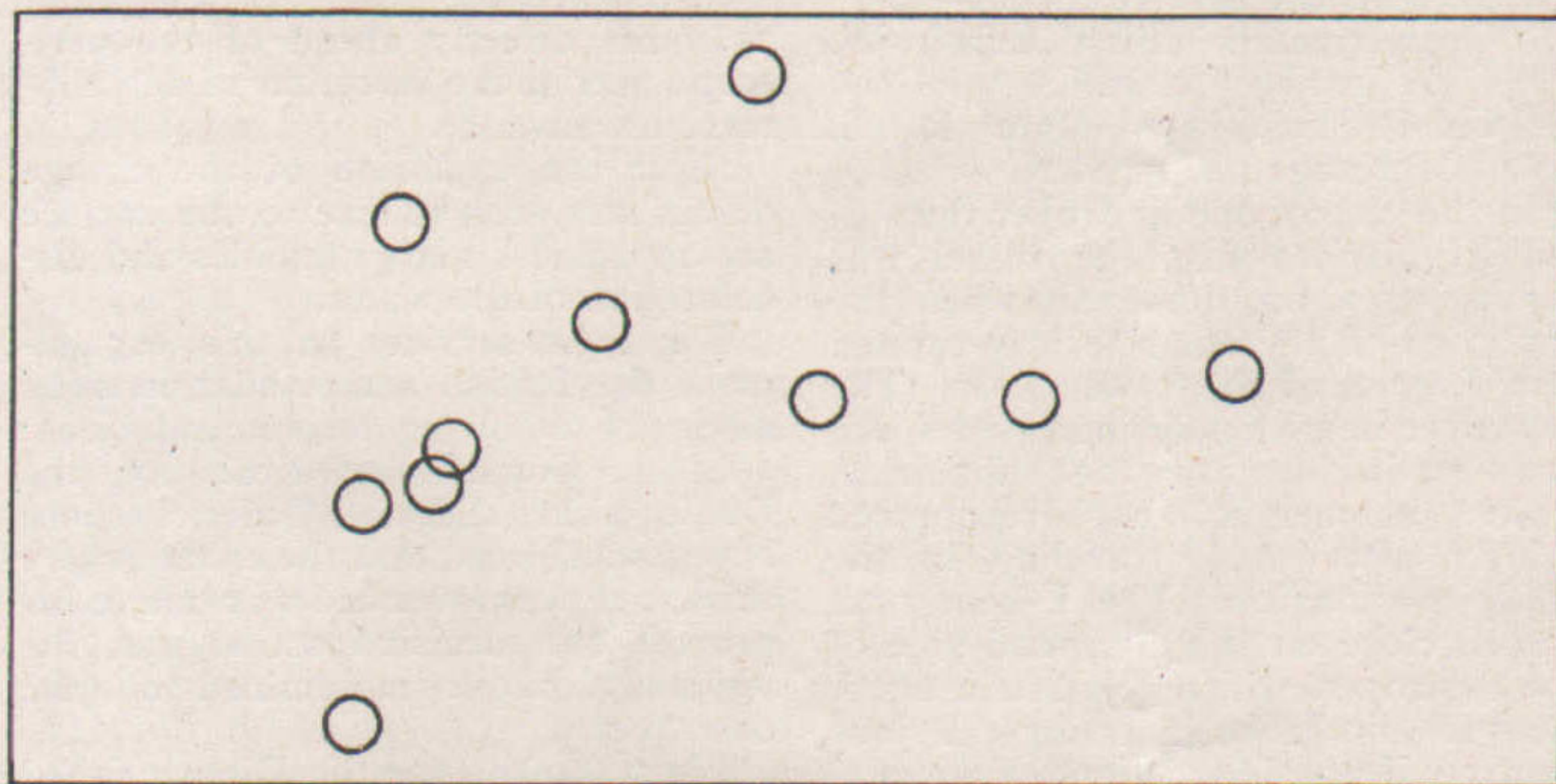
Av. 1040 4.6
Ex. Vn. 20 ft./secs.
M/V 1052 f./s.

Another famous make
.22 long rifle Lesmoke

1033	+27
978	-28
1004	-2
1020	+14
1010	+4
1017	+11
1001	-5
988	-18
1010	+4
997	-9

Av. 1006 12.2
Ex. Vn. 55 ft./secs.
M/V 1016 f./s.

Uniformity is indicated in the foregoing figures firstly, by the smallness of the difference between the fastest and



10 Shots at 100 Yards With Another Famous Make of .22 Long Rifle Lesmoke

is far inside the pressing needs of certain purposes to which the cheapness and relatively feeble energy of the .22 are peculiarly suited.

shots when fired under like circumstances of sighting, aim and distance.

The one certain test of uniformity is to take a series of velocities with

slowest shots which in the case of the U. S. C. Co's. "outdoor" is 20 f/s, as against 55 f/s in the other case, and secondly by the mean variation of all the velocities from the average, which is 4.6 f/s, as compared 12.2 f/s; in other words the U. S. .22 "outdoor" is about three times as uniform, or has but one-third of the variations, of the other, and as the other is capable of remarkably good results, something out of the ordinary is indicated for the U. S. product.

A still day around this district of hills and gulleys is a rare occurrence, but one happening that looked quiet enough for 100 yds. shooting the two groups shown were made, shooting prone.

The value of these groups by the ballistic method of measuring the mean radius of all the shots from the mean centre of impact is .832 of an inch for the U. S. C. Co's. "outdoor" against 1.02 inches for the other. This difference follows the indications given by the velocity tests, but in neither case is the group so small as would have been the case had they been made with the human element eliminated by the machine rest.

For the 250-yard test, a target having a 10-inch black with a 5-inch central ring, and surrounding rings 15, 20, and 25 inches in diameter respectively, was made, and for the purpose of scoring these were accorded values of 10, 9, 8, 7, and 6 respectively. On the day selected for shooting, a gentle left front wind called for an allowance of about 6 inches left, the shooting was done prone with the following scores:

U. S. C. Co.	
.22 "outdoor"	
1st group	2d group
1. 10	10
2. 9	10
3. 9	9
4. 9	9
5. 10	9
6. 10	10
7. 9	10
8. 9	10
9. 10	9
x. 10	10
—	—
95	96
The other	
.22 long rifle Lesmok	
1st group	2d group
10	7
9	10
9	10
10	10
6	8
10	9
9	10
7	10
10	9
9	9
—	—
89	92

With the U. S. C. Co's. "outdoor" the central ring was missed 5 times laterally,

three low, and one high; with the other ammunition the 6, two 7s, and 8 were low, one of the 9s was high, and the rest were out laterally. The smallest group with the U. S. C. Co's. "outdoor" was 7 by 7 inches, and with the other 17.5 by 8 inches, the greater irregularity in velocity exercising greater effect at the longer range.

These tests fully justify the conclu-

sion that the U. S. C. Co. has fulfilled its claim to have increased the accurate range of the .22, and what perhaps is of greater importance, has accomplished this result without material increase in energy, a feature of the greatest importance where the use of the .22 for marksmanship training purposes, in which every foot pound of energy is a disadvantage, is concerned.

England Would Decorate U. S. Sailors

THROUGH the British ambassador to the United States and the Department of State, the British Admiralty has advised the Navy Department of its desire to recommend British decorations for certain officers and men of two United States destroyers on duty in European waters for their services in encounters with enemy submarines.

The Secretary of the Navy has replied through the Secretary of State that under the laws of this country persons belonging to the military forces of the United States are not permitted to receive crosses, medals, decorations or other gifts which might be tendered by foreign governments.

The British commander in chief proposed to make the following recommendations:

- Distinguished Service Order—
- Lieut. Commander Charles A. Blakely, U. S. N.
- Lieut. Commander George F. Neal, U. S. N.
- Distinguished Service Cross—
- Lieut. Frank Loftin, U. S. N.
- Ensign Henry N. Fallon, U. S. N.
- Distinguished Service Medal—
- Quartermaster (First Class) W. H. Justice, U. S. N.
- Chief Machinist's Mate R. G. McNaughton, U. S. N.

In the case of one destroyer the Admiralty advises that the vessel was convoying a merchantman when the periscope of a submarine was sighted at a distance of about 800 yards. The destroyer immediately increased speed and headed toward the submarine, which submerged but reappeared shortly afterwards, traveling in the opposite direction. The U-boat next passed close on the starboard side of the destroyer, which released a depth charge, probably causing serious damage, if not destruction, to the submarine.

Praising the excellent organization, preparedness, and discipline on board the destroyer, as well as the quick decision of the officer of the watch, the British commander in chief proposed to recommend Lieut. Commander

Blakely, the commanding officer, for appointment to the Distinguished Service Order, and Ensign Henry N. Fallon for award of the Distinguished Service Cross.

The other destroyer was one of a number escorting troopships, and was cruising in station in formation when the wave of a periscope was sighted about 1,800 yards off the port bow by the quartermaster of the watch on duty. He reported to the officer of the watch, who immediately sounded general quarters. The executive officer of the destroyer was the first officer to reach the bridge, being closely followed by the commanding officer.

The executive officer rang for full speed ahead on reaching the bridge, and altered the destroyer's course to head for the periscope.

The commanding officer then took command of the ship, and maneuvered her so as to gain a favorable position for dropping a depth charge, directing the executive officer to drop the charge when he deemed it proper to do so. The charge was dropped, it is estimated, when the destroyer was about 25 yards directly ahead of the periscope and in the direction of the submarine's advance.

After the explosion of the charge debris was seen to rise to the surface accompanied by large bubbles and discoloration of the water.

For their services in this engagement the British commander in chief made the following recommendations:

Lieut. Commander Neal, for the Distinguished Service Order, because it was considered that the efficient way the attack was launched was due to his prompt and decisive action and the vigilant lookout maintained on the destroyer.

Lieut. Loftin, for the Distinguished Service Cross, for the way he handled the situation in a prompt and decisive manner after arriving on the bridge.

Quartermaster (First Class) Justice and Chief Machinist's Mate McNaughton for the Distinguished Service Medal.

The Eyes of the Navy

By ALFRED FRANCIS HOPKINS

WHEN the 123rd Regiment of Infantry, Ohio Volunteers, marched off to the front way back in '62, there was a fair-haired, blue-eyed stripling in Company F named Hefflebower. The youngster was but nineteen but he felt within his breast that something which stirs within a patriot when his country calls its sons to protect its honor and uphold its rights. Private Hefflebower served with distinction and at Cedar Creek in '64 he was made captive by the enemy, sent to Richmond, Virginia, and later to the prison at Saulsbury, North Carolina. In '65 he was paroled. He had seen his duty—he had “done his bit.” At the Soldiers' Home in Sawtelle, California, there is today an old veteran awaiting his final muster. He is long past the age when men bear arms but he is content in the knowledge that for the second time in his country's need he has been given opportunity to serve. A letter was received at Washington a short time ago addressed to the Secretary of the Navy and read as follows:

“I herewith send you a field glass, wishing to contribute my mite. I hope it may be of service on one of the patrol cruisers and aid in finding and destroying some German submarine. I will be glad to know it can be put in service.

Respectfully yours,
J. A. HEFFLEBOWER.”

The Navy Department gladly accepted the old soldier's gift and a let-

ter was sent to him thanking him for the glasses—glasses which had watched “the thin gray line” more than half a century ago—and assuring him that they would be put into immediate use on an American ship in the war zone. It also thanked him for the suggestion contained in his letter—the availability of a large number of binoculars, spy-glasses and telescopes now in private hands throughout the country. The navy needs these glasses—it badly needs them—not a few, but many. Urgent requests are coming from the Bureaus of Navigation and Ordnance—they must have glasses to place in the hands of our brave sailors on the sea. Successful naval operations, particularly in submarine infested waters, depend largely upon the “navy's eyes.” And so through the Hon. Franklin D. Roosevelt, Assistant Secretary of the Navy, the call has gone out and it is being patriotically answered. With each mail, with each express, packages and boxes are arriving at the Naval Observatory at Washington, and each contains a contribution from some patriotic citizen—from the old spy-glass dating back to Revolutionary days to the last word in high power binoculars of French and German make. As each glass is received it is marked with a number and the name and address of the sender and a record made for it is the intention of the Department to return, if possible, each glass after the war. As the Government cannot accept property or serv-

ices without compensation one dollar is paid for each glass accepted and this goes toward the expense of postage or express charges. Many letters of real interest are received with the glasses. A patriotic woman of eighty-two years writes: “I am the widow of a true, faithful, patriotic American, a captain of various vessels. In answer to the call for lenses I am sending his glass—if he could speak he would tell me to do so.” A veteran writes: “In response to the call I am sending you a pair of glasses and trust they may be of use. I, too, was a soldier in the civil war and gave my right arm in support of the Government, and am now ready to do everything in my power, little although it may be, to help my country and uphold the flag in this, another dire extremity.”

Many persons possess fine glasses, procured in this country and in Europe and they are realizing that they can be put to no greater service than that for which this call is made. A real value, an historic interest will attach to a glass that has served upon one of our ships in this great war. It is possible for each and every glass to bear the distinction of being one through which the detested submarine of the enemy is sighted—and the sighting is the first step in her destruction. And what if, O, irony of Fate, the glass should have been “made in Germany!”

So the call is: “Eyes for the Navy!”
Let Americans respond!

GAS AND FLAME BATTALION ORGANIZED

ENGLISH military officers who are expert in the offensive and defensive use of gas and flame methods of warfare, originally introduced by the enemy and now effectively employed by the Allies, are instructing the officers and men of the Thirtieth Engineers, Gas and Flame, at Camp American University and important secret tests are being made in practice work there.

American soldiers, largely recruited from the ranks of such civil professions and trades as chemical and mechanical engineering, explosive and gas manufacture, plumbing, and carpentry, are being trained to meet enemy fire and fumes with flame and deadly gas.

Maj. E. J. Atkisson, Corps of Engineers, a graduate of West Point and of Cornell University, is organizing the first battalion at Camp American University. He has specialized in

mechanical and electrical engineering, was formerly director of electrical and mechanical engineering, United States Army Engineer School, and superintendent of locks, Panama Canal. Several recruits have recently entered the battalion directly from Panama Canal service.

Although the gas and flame service was authorized as recently as October 15, rapid progress has been made in organization, due to its promise of early service at the front and on account of its special appeal to men experienced in civil trades which lend immediate qualifications for this special work.

It is announced that there is opportunity for a limited number of enlistments for the following classes: Chemists, gas engineers, plumbers, electrical experts, pipe fitters, interpreters, mechanics, chauffeurs, explosive experts, cooks, gas experts, blacksmiths, carpenters, clerks, and muscular, quick-thinking,

resolute men between the ages of 18 and 40 years for pioneer soldier service of high character. Maj. Atkisson has announced that any man possessing the necessary qualifications may volunteer at any recruiting station of the country by asking to join the Thirtieth Battalion, Gas and Flame, forming at Washington.

The recruiting is entirely upon the volunteer basis, as it is the purpose of the War Department to organize the body from highly qualified material. A number of chemists, electricians, and mechanics well known in civil life were first to respond to the call for this service. A boy just out of school, feeling himself qualified by his special study of gas engineering, rode a bicycle for 200 miles from his home in Buffalo and walked the balance of the distance to Washington to join the pioneer gas and flame battalion. A university man abandoned his Ph. D. degree to enter this service.

ARMS AND THE MAN

1110 WOODWARD BUILDING, WASHINGTON, D. C.

EVERY SATURDAY

Editor

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

Associate Editor

KENDRICK SCOFIELD

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

RIFLEMEN IN THE RANKS

WHEN war was declared with Germany several of the members of practically every rifle club in the country entered the service of the United States. Some volunteered at the first call. Others were taken by the "selective draft." Therefore, in every cantonment and in every mobilization camp today there is a certain percentage of men trained in the use of the service rifle.

Already many instances have come to notice where the skill of such men has been properly recognized, and where they have been detailed to work wherein they could be of the greatest value. Unfortunately, however, this has not always been the case, and here is a case in point.

When the call came to the colors, a civilian rifle club located in a middle western State sent six men into service with the federalized National Guard. One of them was a veteran of many years' service, a man of long experience in the shooting game, and one who was counted perhaps the best shot in a large rifle club. The company was broken up, in the course of reorganization, and the rifleman, trained in wind and weather doping, holder of an enviable record on the rifle range, has been assigned to a machine-gun unit as *mule driver*.

It is hard to believe that the officer who made this assignment did so deliberately and with full knowledge of the veteran's capabilities. The chances are that the man himself never told the officer—who, incidentally, had not been connected with the old company in which this rifleman served—that he was a good shot. Nevertheless, a potential instructor of uncommon promise is being wasted.

There is little doubt but what inquiry would disclose just as many instances where men trained in rifle shooting have been assigned to work which could be done as well by an absolutely green recruit, as where previous training in rifle practice is being recognized.

It would be well for the commander of each company in the new forces to concern himself with finding out who among the enlisted personnel of the unit under his command has had previous training with the rifle, and to encourage each man to report whatever special qualifications he possesses for specialized service.

In addition to this, each man called into service who has

had previous training with the military arm should see that his commanding officer is acquainted with the fact.

If these two things are done, instances such as that typified in the case of the expert rifleman who is now driving mules, will be reduced to a minimum.

THE CAVALRY IN ACTION

PRECONCEIVED notions as to the usefulness of cavalry along the Western Front seem to be undergoing a change of complexion similar to that which manifested itself recently in General Pershing's messages concerning the future importance of the rifle in trench warfare.

From current reports one has been led for some time to believe that the operations of cavalry could find no place in the European struggle, as it stood a few weeks ago; an attitude which seemed to be reflected in the action of the United States army officials in transforming many cavalry regiments into units of field artillery. Now, however, in the light of the new situation along the Western Front, one of the significant features of the great Ally gains through the Hindenburg line appears to be the participation of, and the services rendered by, this branch of the service.

Coincident with the news that cavalry played an important part in the drive, and that the heavy artillery, which has for so long been depended upon to prepare the way for the men going "over the top," was silent, comes the news that the formation of twenty-seven new regiments of cavalry is contemplated in plans for a division reorganization of that branch of the U. S. army.

Whether the organization of these new mounted units means that part of the American overseas forces will consist of cavalry, or whether the new units will be retained in the United States for possible service along our southern border, as has been suggested, is of no particular moment at this time. The important part of the whole business is that cavalry may yet play a vital part in the great struggle, alongside of the rifleman, and that if such an occasion comes to pass, this nation will be ready to put such an arm into the field without delay.

The use of the cavalry, together with tanks and infantry, with the usual heavy barrage omitted in connection with the Haig drive, has another interesting feature. It is said that the new form of attack which completely surprised the Germans was suggested by General Pershing, who is known to have been a guest of the British commander upon the occasion of the momentous gains.

There is, of course, no official sanction for such an assumption, save that reports to this effect have been received in Washington. Whether it is true or not, the very fact that by abandoning those methods which had been in vogue so long, the British were able to strike what perhaps will turn out to be the most decisive action so far in the conflict should convince those charged with the conduct of the war that it is possible to follow too closely the hard and fast rules which three years of dogged, hand-grip fighting have established in the war zone, and that occasional deviation from preconceived notions may result, as did the Haig drive, in an almost unbelievable gain.

An advance such as that made through the Hindenburg line is that kind of fighting which appeals most to American leaders. It is the type of offensive in which they do the most brilliant work. If General Pershing suggested the new form

of attack which so signally succeeded, the presence of American forces on the fields of France, guided by American military genius, may mean much more in the conduct of the war than a mere augmentation of the man power which has been arrayed against Hun autocracy.

SCHOOLS FOR THE SOLDIER

DURING the wars of the past, what individual attention was given to the enlisted man comprised what now has become generally known as "the school of the soldier." Today both in Great Britain and the United States there are being conducted "schools for the soldiers." There is considerable difference between the two propositions. Basically, the school of the soldier confined itself rigorously to military subjects. Fundamentally, the schools for the soldiers proceed

along very different lines, providing for the enlisted man—as in the case of Great Britain—an opportunity to keep in touch with his civilian occupation while undergoing military training, and—in the case of some which have been established in the United States—giving the soldier of alien blood an opportunity to learn the language of the United States, in addition to acquiring other useful education.

The evening classes for the English soldiers are being conducted totally outside of the military establishment. Those in the United States, while perhaps unauthorized formally, at least are quasi-official.

The plan is one which commends itself as being an intelligent effort to give to the enlisted man some benefits in return for the sacrifice of personal interest which he has already made and the supreme sacrifice which he stands ready to make.

The Eternal Question

By "AKERIMAN"

Musketry Officer, in "The Rifleman," London

IT IS always with us, for new converts are continually being attracted to the sport of "miniature" rifle shooting. Always one comes across the tyro, the uninitiated one, the recent recruit to the rifle club or volunteer corps, or the one who "used to do a good deal of shooting at bottles with a Winchester." (They all call them "Winchesters." Probably the weapon in question was a Belgian-made saloon gun, but it is all the same to the unlearned in the art.) And they all ask that same hoary old question, in many different forms; which boils down to, in plain English—"When I have learnt to shoot with a Miniature, shall I then find myself able to shoot with a Service rifle?"

Of course it is a hopelessly impossible question to answer in a word. One might look at some questioners and say truthfully and flatly, "No!" At others and say equally truthfully, "Yes!" And at others again and say, "Heaven only knows!" There was once a crack Miniature shot who was the champion of a crack Miniature rifle club. He joined a crack Service rifle club and in five weeks he was the champion of that, too. And there was once another crack Miniature rifle shot who went through a Service rifle course; and he went all to bits and finished miles behind men who had never seen a gun before. And the whole crux of the matter is not skill, but, to use the term beloved of a fine Sergeant-Major friend of mine—*guts!* That is to say, nerve and stamina—and something else.

The .22 rifle will teach a man trigger-pressing and aiming. With it he may be taught position, and a certain amount of "hold"—*but it won't put "guts" into him if the quality was not there before.* The fact of the matter is that shooting on the

open range with the .303 makes greater demands on a man's strength of body and mind. The grip which will hold a rifle firing 5 grains of weak gunpowder will not suffice for a rifle firing 38 grains of tubular cordite. The .303 requires holding with some vigor and determination, or it will jump about a bit. Again, the recoil of a rifle developing some 97 foot pounds of energy is hardly the same thing as that of one developing some 3,000.

There is, of course, nothing for any real man to worry about in the .303. Compared with some sporting rifles it is a plaything to shoot. But the fact remains that many a recruit who can make excellent shooting on the Miniature range is a bundle of terrified nerves behind a .303. Some of them can be coaxed back into a reasonable and useful state of mind and body, and eventually taught to shoot well. Others are forever hopeless. That necessary quality is lacking.

There are other factors beside the rifle. A man well able to put on lovely carton possibles in a stove-heated Miniature range with a matted firing point does not always show up to the same advantage amid the wind and rain and sand and general beastliness of an open range in winter.

But, be it noted, these facts in no way throw discredit on the training afforded by the .22. The .22 *does* give a man better practice in aiming and trigger-pressing than any other rifle—simply because, owing to that very lack of recoil mentioned above, the rifleman is able to concentrate all his energies on the elementary and most necessary points. No amount of determination will enable the most "gritty" of strong men to make

good shooting with any rifle unless he possesses that perfect skill in aiming and trigger-pressing which is the foundation of all shooting—and this skill he will develop quicker and more easily with the low-power rifle than with the high-power. When the strong beginner has developed the skill necessary to make close shooting with the .22, then he will find no difficulty at all, and much additional interest, in shooting a high-power rifle—for his "hold" will at once acquire the necessary firmness, and his nerves will easily stand against the tendency to flinch from the slight recoil. But the weaker brethren, although they develop great skill with a low-power rifle, will never shoot a high-power one, for their "hold" is lacking in determination, and their poor weak nerves allow their shoulders instinctively to draw back from the punch of the butt plate, and the shot goes anywhere.

And all this is why my friend the Sergeant-Major, when asked this old eternal question, "When I have learnt to shoot with a Miniature, shall I then find myself able to shoot with a Service rifle?" used to answer, "Yes, if you've got the guts!"

ANOTHER WAY TO WIN THE WAR

The war will soon be over. An Ohio man will end it. He has suggested to U. S. Marine Corps officials here that they direct their aviators to drop potato bugs over Germany. He declares there are no potato bugs in the Kaiser's realm, and since the "spud" is absolutely essential to Germany's economic welfare, the dropping of "Murphy destroyers" over the Rhine country would quickly terminate hostilities. Simple, isn't it? Marine Corps officials think so.

As they say in Canada, millions bear arms, but only the kilties bare legs.—*Chicago Tribune.*

TELLS ORIGIN OF WAR SONGS

Some interesting information as to the origin of certain patriotic songs has been sent to the *Seventh Regiment Gazette* by C. S. Clark. Mr. Clark says:

"The statement published in the *Gazette* last month that the song, 'John Brown's Body,' referred to a John Brown of Boston, and not John Brown of Harper's Ferry fame, is strictly correct, although few are aware of it. The Boston Light Infantry were at Fort Warren, Boston, in 1861. Two members had been at a New Hampshire camp meeting in 1860, and had heard the hymn, 'Say, brothers, will you meet us?' These two, John Brown and Purrington, formed, with C. B. F. Edgerly and Jas. W. Greenleaf (organist of Harvard), a quartette, and began to sing in public the melody heard at camp-meeting. Greenleaf and H. H. Brownell rewrote the music and words. Brown was a jovial Scot, and the jester of the corps, as well as an Abolitionist, and his comrades, by way of a joke, composed verses in which John Brown was described as doing this, that or the other thing. It was not until long after, that Frank E. Jerome wrote the verse beginning:

'John Brown's body lies a-mouldering in the grave'

and Charles H. Hall wrote many other verses.

"The air was first played by a band when colors were presented to the 12th Mass. on the Common; and was first published in New York by an enterprising reporter who heard it played by the band of the 12th as it passed through New York.

"It might be added that equally remarkable misapprehensions exist regarding 'Yankee Doodle.' This is not an American air, but a British quick step composed by Moncrieff, a fife-major of the Guards, and introduced in America by Dr. Schuckburgh during the campaign of 1755, when thousands of Colonial troops were in the field. The original words began (which words were composed in 1775):

'Feyther and I went down to camp
Along wi' Capting Goodin,
And there we saw the boys and girls
As thick as hasty puddin'.'

"The words used at present beginning:

'Yankee doodle went to town
Riding on a pony'—

are the derisive British version, and should not be used.

"The original 'Yankee doodle' was Jonathan Hastings of Cambridge, so called because he used the work 'Yankee' to express great excellence—as, for example, 'a Yankee fine gal.' The students at Harvard called him 'Yankee Jonathan' and 'Brother Jonathan,' and used the

word 'Yankee' as slang. The word 'doodle' signifies a person as senseless as a June-bug, or 'doodle-bug'; and, in plain American, 'Yankee Doodle' means 'excellent fool.'"

GOVERNMENT ORDERS "SEVENTY-FIVES"

Although no statement regarding the letting of ordnance contracts can be made public, the fact that the government is contemplating ordering 21,000,000 shells for 75-millimeter field pieces and anti-aircraft guns, has been authorized for publication. Total inquiry for this size of projectile, part of the Government 50,000,000 shell program, was 33,000,000, of which 25,000,000 were to be for field pieces and 8,000,000 for anti-aircraft guns. Because of lack of capacity only about two-thirds of the business could be placed now, and part of this, about 7,000,000 shells, were awarded Canadian companies. The total involved in orders placed is estimated at a minimum of \$230,000,000.

NATIONAL GUARD GETTING EQUIPMENT

Efforts which are being made to supply the National Guard units, now in Federal service, with ordnance equipment at the earliest possible moment, are meeting with marked success.

This branch of the overseas army will be completely equipped with machine guns by the first part of March, and a sufficient number of automatic rifles for all instructional purposes are already being issued. In addition to this, such articles as mess equipment, canteens, bacon cans and first-aid pouches have been supplied. Cartridge and pistol belts, bayonet scabbards, haversacks, pack carriers and horse equipment will be ready for issue by December 1 and entrenching tools by January 1.

Those divisions ordered overseas will be completely equipped on arrival abroad from purchases being made in France. Pistols and holsters will be ready by April 1. In the meantime, it is expected that a sufficient number of pistols will be available for the purpose of target practice. The equipment of rifles for the National Guard is the Springfield, model of 1903, rifle. There is a sufficient quantity in existence for this purpose and although they are not in the hands of the National Guard in sufficient numbers at present, they are in the possession of the States, the Coast Artillery, educational institutions and miscellaneous organizations, and are now being gathered together for issue to the National Guard.

The above covers all of the principal equipment, with the exception of artillery material. A plan recently approved by the chief of staff provided for

issuing to each National Guard division going overseas within the next six months, a fairly complete equipment for training purposes two months or more prior to departure. Some of this equipment will be taken abroad by these divisions, and will be completed upon arrival there. Divisions departing for overseas duty after six months from this date will be completely equipped before the departure with artillery material of American manufacture. In arriving at the scheduled dates given above, it has not been planned to replace serviceable old model personal equipment now in the possession of the National Guard with new model equipment, until these organizations have definitely received orders for duty overseas, as the flow of material from manufacturers has not so far been sufficient to warrant this being done. Furthermore, any unforeseen or abnormal demands from abroad may delay the issue of new equipment to the National Guard in this country, in accordance with the schedule.

NAVAL GUNS ON THE GERMAN FRONT

Despatches from the Western Front state that there has recently been a great increase in German long-range fire, which has covered the terrain for many miles back of the British front, and that this fire has indicated a sudden and considerable increase in the large-calibre artillery of the Germans. Coming at a time when the German gun factories and ammunition works were being stretched to the limit of their capacity, this increase suggests that the Germans must have been stripping the older battleships and cruisers of their guns, and placing these on howitzer and railway mounts for land service.

A study of the naval lists shows that, without diminishing the strength of the main fighting fleet, it would be possible to secure from the earlier ships several batteries of guns which, although they are out of date, measured by modern ordnance requirements, would nevertheless be very serviceable for howitzer and long-range bombardment on the Western Front.

Thus, the famous old cruiser, *Kaiserin Augusta*, built in 1892, would furnish 12 6-inch 35-calibre rifles. The five armored cruisers of the *Hertha* class, built twenty years ago, would provide ten 8.2-inch and six 5.9-inch 40-calibre guns. The *Fürst Bismarck* and *Prince Heinrich*, of about the same age, both armored cruisers, would furnish six 9.4-inch and twenty-two 6-inch guns. The *Roon*, now fifteen years old, another armored cruiser, would provide four 8.2-inch and ten 5.9-inch guns.

It might be thought that these armored cruisers are too valuable a type to be

(Concluded on page 192)

THE
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Enables the shooter to practice under conditions accurately approximating those of the open range.

It is possible to vary distances, shooting one string on a target which has been reduced to represent the regulation target at 200 yards, another at 500 yards, and so on through all the ranges.

Individual problems in windage and elevation can be worked out. The same benefits as those resulting from out-of-door shooting in sight setting and elevation, can be obtained by indoor gallery work with the Winder System.

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600-yard Targets, slow fire, 5 targets to strip, per hundred40
800-yard Targets, slow fire, 5 targets to strip, per hundred40
1000-yard Targets, slow fire, 5 targets to strip, per hundred40
200-yard Targets, rapid fire, per hundred35
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Veteran Artillery Fired First Shot

TO THE credit of Battery C, Sixth Field Artillery, goes the first shot in America's war against the Hun.

The Sixth was with "Black Jack" Pershing in Mexico. Before that, this unit has participated in many strenuous campaigns.

It is related that on an evening in Mexico, when Battery C, of the Sixth, which fired the first American shells into the German trenches, camped upon the sands for a temporary rest, moved up to rest its sun-baked soldiers and fagged horses, General Pershing looked them over and remarked:

"Should war come, watch for the fighting Sixth Field Artillery."

When Gen. Eli D. Hoyle, now commander of the Department of the East, with headquarters on Governor's Island, received official dispatches stating that the Sixth Field Artillery had engaged the enemy, he declared that it would be the sincerest regret of his life that he was not able to be with the old command which he headed for many years.

"The Sixth Field Artillery is the

greatest fighting unit of the entire United States army," he said. "In training, experience, valor and personnel, they have no equal."

Military officers declare that the batteries of the Sixth have set an example that has done more for other units than many months of routine training would have done. They have set up a standard that others are seeking to equal.

Battery C, which led the Sixth into the recent clash with the Teuton forces, seems to best represent the regiment. For years it is said that the officers of the battery have exerted a remarkable influence over their men by denying themselves luxuries and living virtually the same life as their privates. This practice, it is said, has been followed since the battery was shoved to a forward position on the French fighting front.

Battery C was organized in the Philippines in September, 1901, as the Twenty-fifth battery of field artillery. It acquitted itself with distinction during the Filipino insurrection and remained in the

Philippines until 1903, when it was transferred to Fort Riley, Kan., and merged with the Sixth.

Battery A, another important unit of the Sixth, was originally organized in 1866, at the close of the Civil War, and was known as the Second Battery.

This battery was sent to Cuba in 1898 and participated in several important engagements. At the close of the Spanish-American War it was sent to Fort Riley, where it also became a unit of the Sixth Field Artillery.

Battery B was the old Twenty-second Battery, which had been organized in October, 1901, and served in Utah until it became a part of the Sixth at Fort Riley.

Battery D is another veteran organization. It was the old Seventh Battery, which was organized in Kansas at the close of the Civil War. It saw service in Cuba and Porto Rico and was transferred to Fort Riley in 1899.

Battery E was formed from the Twentieth Battery of field artillery, which had been organized in 1901. The battery served in Nebraska and Kansas up to 1907, when it was made a part of

the Sixth, and remained at Fort Riley with the other units.

Battery F was the old Twentieth of field artillery. It was organized in Illinois in 1901 and remained at Fort Sheridan until it was sent to Fort Riley to become the sixth unit of the Sixth Field Artillery.

Every battery of the Sixth had seen active service before they were merged at Fort Riley. The formal organization of the Sixth Field Artillery took place in June, 1907.

The Sixth Field Artillery was one of the first units sent to the border in 1914. When General Pershing went to France, his request was that when troops were sent over the Sixth Field Artillery be among the first.

While stationed on the border, Col. William S. McNair was the commanding officer of the Sixth, with Lieut. Col. Brooke Payne second in command. Capt. Charles C. Pulis was in command of Battery C.

Before penetrating the deserts of Mexico the Sixth was on duty at Douglas and Nogales, two of the storm centers along the border.

Just before leaving for France, the Sixth was recruited to full war strength from artillery regiments. This meant a generous sprinkling of recruits, but there remained a strong nucleus of veterans in each battery, and with the training the men have since received in France the Sixth, with its history and traditions, is recognized as perhaps the greatest fighting artillery regiment of the army of the United States.

ZEPPELIN CAPTURED

(Concluded from page 184)

system of ventilation has been contrived to carry off the small quantity of leakage gas which escapes into the outer envelope. The attainment of greater heights than before has necessitated the mixture of alcohol in some form with the water ballast, to prevent its freezing, and the crew of a Zeppelin cruising at this time of year must be exposed to severe cold, though it should be possible to utilize the heat from the exhausts to modify this condition, as is presumably done.

There is no doubt that the present-day Zeppelin is a long way ahead of the models which Germany possessed at the beginning of the war, and although as a military weapon the rigid airship is a failure, it offers greater possibilities than ever for utilization as an auxiliary means for naval reconnaissance.

NAVAL GUNS ON HUN FRONT

(Concluded from page 190)

thus denuded of their guns, but in view of the swift destruction which befell the

British armored cruisers of much greater size and power when they came under the fire of German battleships at the Battle of Jutland, it is safe to reckon these ships as quite obsolete for service in a modern first-line engagement.

Then, we have the 20-year-old coast-defense vessels of the *Odin* and *Siegfried* classes, quite out of date, which would provide between them twenty-four 9.4-inch guns, which, although they are of but 35 calibres in length, would be admirably suited for high-angle-fire attack on vital points far behind the Allied lines.

Also, Germany still possesses two old battleships built over twenty-five years ago, the *Brandenburg* and *Worth*, which probably cannot do better than 15 knots today, that would yield between them six 11-inch guns 40 calibres in length. These guns, if mounted upon railroad cars, would be capable of covering, at extreme elevation, a zone some fifteen miles or more to the rear of the British and French front lines.

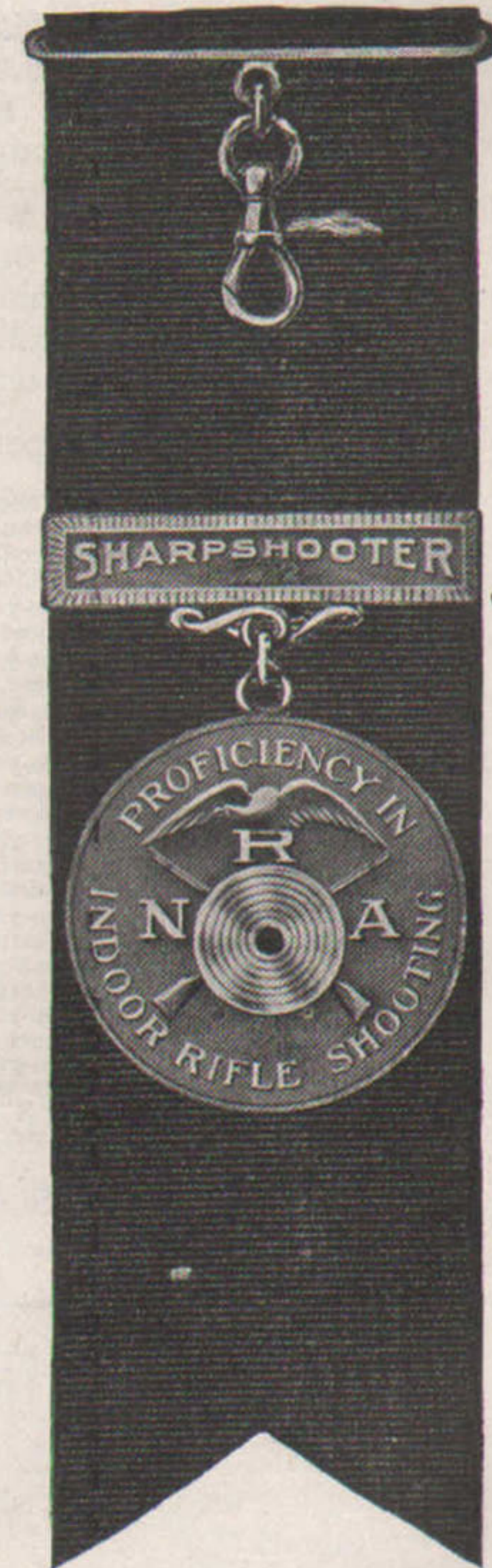
Summing up, the total guns thus made available would represent twelve 11-inch, seventy 9.4-inch, fourteen 8.2-inch and 234 5.9-inch—equivalent to the British and French 6-inch.

This heavy consignment of guns could be sent to the hardly pressed Flanders front without in any degree reducing the fighting strength of the German high seas fleet, which would still consist of 22 dreadnought battleships, five battle cruisers and nine pre-dreadnoughts of the *Deutschland* and *Braunschweig* classes, together with their necessary complement of fast scouts and destroyers. Now here would be a reinforcement which would serve in a very considerable degree to offset, locally, at least, the superiority in heavy gun fire which has now been attained by the French and British, particularly on the Ypres sector, where the heavy fighting is now taking place.

It is conceivable also that because of the enormous defensive strength developed by the mine and the submarine, the Germans may have felt that they could spare some of the heavy guns from their less important coast defense positions, and if this has been done it would represent an additional and very powerful supply for the sorely pressed German armies.

The putting of these old ships out of commission would release nearly fifteen thousand men for manning the German submarine fleet—men who would be already trained to the sea life, and therefore could be quickly whipped into shape for the special duties peculiar to U-boat service. Perhaps just here is found the answer to the question which is so frequently asked: "If Germany is building so many U-boats, how does she find it possible effectively to man them?"—*Scientific American*.

Qualifying Scores Win Watch Fobs



BRONZE and silver-plated watch fob medals are offered by the N. R. A. for proficiency in indoor, small-bore shooting.

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

A score of 90 standing and 95 prone wins the sharpshooter's silver-plated decoration.

Ten shots are fired from each position, with a rifle weighing not more than 10 pounds and equipped with any sight which does not contain glass. The distances are 50 feet or 75 feet as desired.

The shooting must be done on registered targets which can be obtained at a cost of 20 cents for each target.

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riers, pulleys, endless cable, with local crank controls; modern electric wiring with individual switches, and we are ready with eight firing points. The .45 Colt automatic or any lesser gun may be used at any point, the back-stops being built to withstand this gun.

The points of excellence of the finished range are:

1. Use of otherwise lost space—the unused open roof.
2. Splendid air, with the exhilaration of elevation.
3. Isolation, which is very desirable in rifle practice.
4. Fine club room, 18 by 48 feet, with windows on three sides; hardwood floor, gun racks, bulletin board, reading table, cleaning table, etc.
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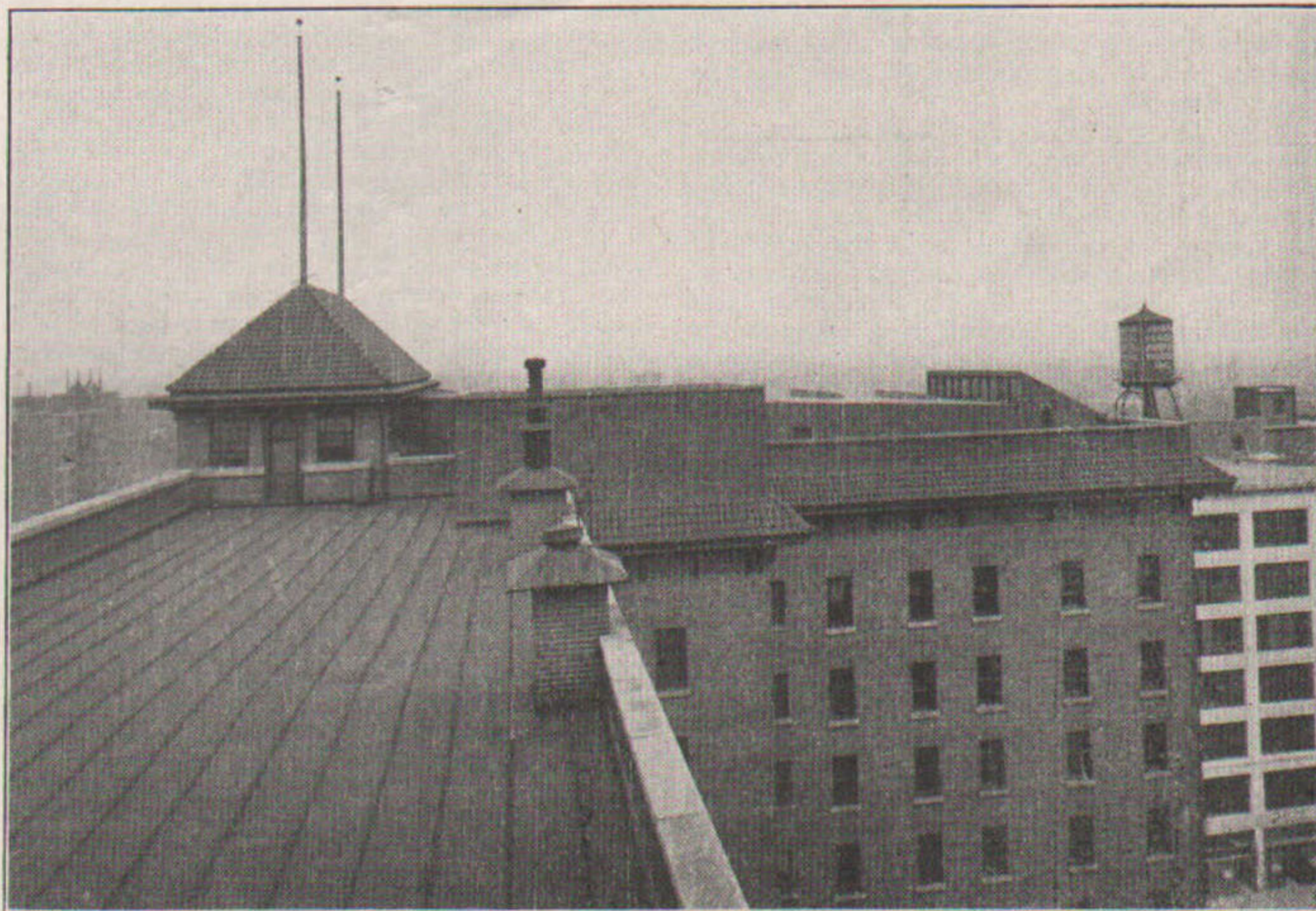
A Roof-Garden Range The Detroit Y.M.C.A.

THE spirit of the Argonauts will never die! In the winter of 1914-15 three hardy pioneers, sad of heart because their city held no place of performance for men of their ilk to ply their avocation and chief pastime of indoor rifle shooting, set out on a weary journey to seek through their city of enchantment until they found such a place or created one.

Success, however, met and cheered them; an eagle's eerie, a mountain goat's high lookout awaited them. They took and possessed it. In the very heart of the city, within reach of the throng of the busy streets, yet enjoying the isolation and exhilaration of the mountain top, the unused and unfrequented open flat top of a modern skyscraper was theirs. The veteran expert, Dr. W. H. Honor, and the accomplished Mr. F. H. Mears, led by the enthusiasm of the novice convert, Dr. S. E. Sanderson, spent many weary days before Fortune turned them to the hospitable door of Dr. A. G. Studer, Metropolitan Secretary of the Detroit Y. M. C. A.

Out of this meeting grew a unique, magnificent roof-garden rifle range on top of the Y Building. Let us take off our hats to the Y. M. C. A.! How much did it cost, and who spent the money to build and equip it? Do not put the estimate too low and do not fail to give the Detroit Y. M. C. A. full credit for its insight and broadmindedness in meeting the situation.

To begin with an open L-shaped roof, 250 feet in one direction, 125 feet in the other, each limb being about 50 feet wide and the whole enclosed by a parapet 5 to 7 feet high. The pergola in the heel of the L, of solid brick construction and peaked tile roof, we chose as club room, and the short limb for the range. All of this was ten stories high and from the windows we overlooked one of the beauty spots in civic centres of the world—Grand Circus Park.



Looking North on the Open Roof. Side of Range Showing Pergola Club Room, Skylights for Target Room and for the Shorter Ranges

Metal sash and glass—frosted above and clear below—closed in the club room, while metal construction enclosed the range. Just back of the club room a platform for observers, telescopes, etc. A step to the shooting pits; individual stands, sliding platforms with hair mattresses for prone work; at the far end a solid steel partition with windows into the target room at 25 yards, where are the sloping steel back-stops and the Cooper-Hewitt lights for illumination. A sky light here and at the short ranges (15 yards and 20 yards) provide daylight at the best angles for perfect illumination. Piano steel wires for the car-

9. Sound control and economy of heat in winter are taken care of.

10. Safety construction is included, with a liberal margin on the side of safety.

All this was not done in a day. Much labor and thought filled many weeks. Shortly after completion it was thrown open to the public, on New Year's Day, 1916. One thousand visitors were estimated for the day.

The Y. M. C. A. Rifle Club is teaching men to shoot and to shoot well, and the end justifies the labor and expense. Some perfect N. R. A. scores have been put up here, and more are coming.

Another Tryout of the "1917"

Before very many more months pass, a sufficient number of practical riflemen will have tried out and reported on the United States Rifle, Model of 1917, to supply sufficient data from which to draw conclusions concerning the new weapon.

E. C. Crossman, who loves nothing better than to get hold of a new weapon, take it apart and "see what makes it tick," has been pestering around with one of the new rifles, and reports through *Forest and Stream* that he has fired several hundred shots. The trials have resulted in some opinions which may be of interest.

Crossman, like every other rifleman who has examined the new rifle, hails the receiver sight as the chief feature in favor of the Model 1917 over the Springfield. In addition to the well-known advantages of having a peep sight close to the eye for snap-shooting, as has time and time again been demonstrated to the satisfaction at least of those American sportsmen who bring down running game, Crossman comments upon the fact that whether the sight leaf is raised or lowered, there is but one peep in sight, "instead of the multitude of notches and peeps on the Springfield leaf." Crossman also in his investigations found that the battle-sight peep, which is set for 200 yards point blank, shoots a trifle high at this distance, yet not so high as the Springfield, the battle sight on which is set for 530 yards, and which consequently shoots about 2 feet over a target at 200 yards. Here are his comments on the bolt action of the rifle:

"The bolt of the new rifle is practically that of the New Springfield, save that the safety is on the receiver back of the bolt handle instead of on the bolt sleeve, as on most military rifles. When the safety is pulled back, a plunger engages the bolt handle and prevents it from moving while another slips out into a notch in the firing pin and prevents the rifle from being fired.

"The bolt handle is so far to the rear that the knuckle of the right index finger often strikes it, raises it a trifle in gripping the rifle, and prevents the soldier from firing the rifle or putting on the safety until the handle is again depressed where it belongs. This is an evil point of the rifle, and an objection in that the soldier must be careful, in gripping it, not to raise the handle. The handle also has a habit of bumping the knuckle in firing over a parapet, due to the heavy recoil.

"The recoil of the rifle is a little lighter than that of the Springfield, due to the greater weight of the Enfield, but due to the longer stock and the poorly shaped butt plate, it tends to bruise the shoulder more than the Springfield."

Concerning the Explosives Bill

A. B. Curtis, of Mark Center, Ohio, wants the rifle-club members to get together, figure out a plan which will permit the possession of explosives in small quantities, and present it to the Director of the Bureau of Mines, "so that the man with small capital can get in the game." He says:

"This bill completely bars the man of small means from shooting at all. I have noticed many writers mentioning the cost of .22-calibre ammunition as a mere trifle; if these men were thrown into circumstances where their salaries did not amount to more than about \$200 per year, they would notice the advance in even such trifles as the little .22.

"I know a man who has a Springfield rifle. He has gradually acquired a set of tools to reload and about 1,000 shells. He cannot afford to have a gun for each kind of shooting, so he reloads the .30-calibre with light charges. He has been using these, at his own expense, to teach some of the selected men the art of shooting, and as he belonged to the National Guard, he understands the game. He has also used a powder of his own make

in order to lessen the cost. For a time he bought primers of the Government at 80 cents per thousand; then these were refused, on the ground that he did not belong to a 'club' (I had supposed that the N. R. A. was about the biggest and best 'club' possible.

"This load cost about \$3 per thousand; then he was forced to pay \$3 per thousand for primers, which boosted the loads to \$5.20 per thousand; then lead went to 16 cents per pound, making the same load cost \$7.20. Then some of the ingredients used to make the powder went up about 600 per cent, and about the time he was thinking of adapting a load of shotgun smokeless powder which he had worked out it went up 100 per cent.

"Then, in order to head off this frightful cost of munitions, he was going to buy a .22-calibre rifle and use this ammunition at a 'trifling' cost. He secured a catalogue of firearms from a large Chicago firm and lo! firearms had gone up 50 to 75 per cent and are still going; the mod. .90 Winchester, which could be purchased in 1913 for \$10.80, is only \$18.10, and the prospective purchaser thought he could use that extra \$7.30 to better advantage buying shoes, beans or something else which has also gone up about 200 per cent.

"We have no doubt that these are mere 'trifles' to a man who is getting a salary of \$1,500 per year, but try some of it on \$12 per week and half time and be convinced that it is not trifling.

"We got a card from Mr. Hoover. Among other suggestions he says: 'Eat more rabbits.' Ye gods and little fishes! The writer went prospecting not long ago to see where rabbits could be found. He went north across a woodlot and a patch of heavy thicket about one-half mile, then west through a slashing, cornfield, woods, another slashing, about 40 acres of thick tangled undergrowth, about another mile without seeing a single rabbit. Determined to find some, I turned north, crossed the section line and made a zigzag trail through another section, *i. e.*, one square mile; thence northwest about one-half mile into about 60 acres of land that is covered with brush weeds and marsh grass, and has always been noted as a rabbit ground. Here, after literally combing this patch, I glimpsed four rabbits, which completely disappeared in about ten feet of space, a mere flicker. I use a rifle, because I shoot too quick with a shotgun and mutilate the game to an extent which renders it unfit for food. But these rabbits were too fast for me; I did not even get a shot.

"This is not all. I was then about four miles from home the way the crow flies, had spent a half day, and it looked like I was going to be hungry if I depended on rabbit. So I took a different route home without seeing any more bunnies. Now, in order to comply with the law I should have taken out a license, \$1.25. This would square me with the State. Then I would have to get a 'permit' from at least eight or ten farmers to cross their land with a gun; and, last but not least by any means, permission to hunt on this particular place where there were a few rabbits. Truly, the 'game is not worth the candle.'

"We would be delighted to 'eat more rabbits,' but it can't be done. You see how it is; the thing is impossible. Many of these little trifles which are so lightly spoken of and seem so easily done are much harder than they seem. For instance, I might say that all that is necessary to end the war is to capture the Kaiser's troops, thereby forcing him to make peace."

Again the Automatic

Montaigu M. Sterling, of New York, has these comments to make on the army automatic:

"I was very much interested in the remarks of Captain Roy S. Tinney in the November 17th issue of ARMS AND THE MAN, pertaining

to the army automatic.

"Some of Captain Tinney's points are well taken, but it seems to me that he has overlooked the main objection to the army automatic, which is its tendency to fall down when you least expect it, due possibly to some minute particle of foreign matter which may have crept into the mechanism.

"To illustrate my point, I might recite the following experience with my automatic last summer in the Maine woods.

"I had never shot this particular automatic, or one of its calibre, but felt from the reputation of the gun and its very business-like appearance that any person who knew anything about revolver shooting should be able to do considerable execution with this army model.

"It was with pride that I showed the new gun to my fellow campers and boasted how in a few minutes I would show them the way to shoot the eye out of a mosquito.

"To make sure that everything was all right, I took the automatic down and cleaned and oiled it thoroughly, so that there would be no reason for any part of the action being clogged with oil which might have gummed.

"The results were very disastrous to my pride and the new weapon, as my first shot went wide of the mark, and when I went to pull the trigger for the second shot I found that the first shell had not been ejected. The three following shots acted in the same way, it each time being necessary for me to pick the empty shell out. After twenty-five shots the pistol began to work better and only every third shell would stick.

"The fact that the pistol did not eject properly was not the only thing of which I complained, but I noticed that the kick of the weapon was entirely different when it ejected and when it didn't eject, and it was practically impossible to get a line on it in fifty shots, so that I could do any accurate shooting, and to save myself from being laughed out of camp I had to get out my .38 S. & W. revolver.

"Now, if a brand-new gun properly oiled will give such a performance—and I understand that this is not at all an isolated case—how will it act in trench warfare, in the wet and mud, where it is not always possible to keep the arm scrupulously clean?"

These Clubs Have Been Admitted to Membership in the National Rifle Association:

SCHOOL CLUBS

Arizona

Alma School Rifle Club, Mesa—A. M. Davis, secretary; Carlos Lofgreen, president; Otto Shill, treasurer; A. M. Davis, captain. Membership, 47.

CIVILIAN

New Jersey

Indian Run Rifle Club, Union—James H. Wade, secretary; Clarence Brown, president; Charles Brown, vice-president; Edward Townley, treasurer; Charles Brown, executive officer. Membership, 12.

Massachusetts

Ashland Rangers Rifle Club—Edward R. Kimball, secretary; Edward H. Angier, President; William V. Kopfstein, vice-president; Winfield L. Parker, treasurer; Allan S. Farwell, executive officer. Membership, 43.

Nebraska

Grand Island Home Guard Rifle Club—O. A. Abbott, Jr., secretary; Chester P. Pederson, president; Ralph R. Herth, vice-president; Fred L. King, treasurer; J. L. Howland, executive officer. Membership, 35.



Four 4-shot targets (exact size) shot at 75 feet by Charles H. Kelley of the Boston Rifle and Revolver Club, using the new U. S. .22 N. R. A. Long Rifle Lesmok Cartridge

The New Cartridge for Indoor Ranges

Riflemen have had such excellent results from the new U. S. .22 N. R. A. Long Rifle cartridge at ranges up to 250 yards, that they are demanding the same cartridge for their indoor work.

Priced the same as an ordinary Long Rifle and N. R. A. discounts apply.

Prompt shipment from any of the following general selling agents: National Lead Company, Boston, Buffalo, Cleveland, Chicago, Cincinnati, St. Louis; National Lead & Oil Company, Pittsburgh; John T. Lewis & Bros. Co., Philadelphia; James Robertson Lead Company, Baltimore; United Lead Company, New York; Selby Smelting & Lead Company, San Francisco; Hingston-Smith Arms Company, Winnipeg, Manitoba, Canada.

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ALONG THE FIRING LINE

The outdoor range of the Harrisburg Rifle Club was officially closed November 17, at the termination of the annual Members' Match. The first prize for this Match is a golden Bronze Medal presented annually by the National Rifle Association of America, and two other prizes were presented, viz: Second prize Four official N. R. A. Targets for Gallery qualification and third prize Two official N. R. A. targets for Gallery qualification. Although there were seventeen entries for the Match, only seven members completed the course, the other men dropping out after the 300 yard range had been shot, in order to give the seven high men all the advantages and benefits of light conditions. Owing to the lateness of the season and the large number of competitors, the 500 yard range had to be shot with extremely bad light conditions, and therefore the scores made are a credit to the high men. Some of the men were beginners having started the shooting game this season and although they could not "find the bull's-eye" as easily and consistently as the more seasoned marksmen, it was partly because of the wind and light conditions and their scores were very creditable. The Golden Bronze Medal was won by W. C. Enterline of

Camp Hill with a score of 140 out of a possible 150; second prize was taken by F. F. Unger with a score of 137 and third prize went to G. W. Thompson with 136 points. The possible score at each range is 50 points and Saturday's scores were:

Name	Range			Total
	200	300	500	
W. C. Enterline...	50	46	44	140
F. F. Unger.....	48	47	42	137
G. W. Thompson..	44	47	45	136
W. B. Fisher.....	43	47	45	135
C. E. P. Murray...	45	44	40	129
W. C. Metzger....	42	41	37	120
S. T. Durborrow...	43	38	31	112
C. K. Weigle.....	41	42	..	83
C. A. Dunn.....	33	45	..	78
C. W. Senseman...	35	40	..	75
P. C. Schwartz....	32	42	..	74
R. C. Batley.....	31	42	..	73
C. S. Landis.....	31	41	..	72
R. G. Stoner.....	32	29	..	61
R. P. Deiter.....	25	26	..	51
K. Posega.....	20	18	..	38
K. Schaffle.....	10	10

A good attendance was recorded at the revolver club shoot on the range of the Birmingham, Alabama, Athletic Club, November 22. Some of the new shooters are showing much improvement. Following scores were made:

	20 yds.	Rapid fire	Totls.
T. K. Lee.....	140	98	238
M. F. Jones.....	133	89	222
O. L. Garl.....	127	90	217
A. F. DeFuniak.....	116	67	183
Mrs. T. K. Lee.....	113	59	172
Mrs. M. F. Jones.....	98	62	160
Dr. Sanford	105	45	150
Mrs. Thomas Thompson...	51	46	97
Thomas Thompson	56	35	91
W. D. Gresham.....	59	22	81
E. F. Kelly.....	65	16	81

The range of the Birmingham Athletic Club is open for practice to members from 8 o'clock in the morning until 9 o'clock every night of the week. Instruction gladly given new shooters Wednesday nights. Before purchasing guns and ammunition, new shooters should see or telephone some of the old shooters and ascertain what is proper equipment to bring to the range.

A special handicap match will be shot the last shooting night before Christmas. All shooters will have an equal chance, as a handicap committee will award suitable handicaps to place the new shooters on an equal footing with the best ones. Suitable trophy will be awarded as prize.

The civilian rifle team, selected and coached by Sergt. H. H. Mitchell, custodian of the

municipal rifle range at San Antonio, Texas, on November 11, defeated the soldier team selected by Capt. T. H. Clarke, of the Quartermaster Corps, in one of the most interesting target battles ever staged on the local range, 854 to 806.

The event was staged at 300 yards on the 8-inch bull's-eye, ten shots to each contestant, each perfect bull's-eye to count ten points.

The shooters were matched against each other in pairs and toward the finish it could readily be seen that Sergeant Mitchell's proteges were virtually certain winners.

G. W. Sweet was matched against Captain Clarke, defeating him 94 to 92 after a rattling good match.

D. M. Ingram, matched against Pvt. G. H. Steely, won from his opponent, 92 to 86.

A. J. Martinez, matched against H. G. Gloyd, scored the next highest total, 90, against 80 for Gloyd. Of the ten matches, two of the soldiers came out victors, W. H. Lemon defeating R. W. Richter, 84 to 82, and C. G. Morris defeating J. F. Callan, a newcomer in local shooting circles, 80 to 78. The full score of the match follows:

Civilians (854)—G. W. Sweet, 94; D. M. Ingram, 92; R. W. Richter, 82; R. T. Chambers, 86; J. F. Callan, 78; M. M. Neussle, 82; D. Capelletti, 84; A. J. Martinez, 90; W. N. McAskill, 78; J. W. Schofield, 88.

Soldiers (806)—Capt. T. Clarke, 92; G. H. Steely, 86; W. H. Lemon, 84; Sergeant E. C. Odell, 84; C. G. Morris, 80; J. M. Campbell, 80; J. B. Lock, 74; H. G. Gloyd, 80; L. J. Lohr, 68; G. Robbs, 78.

During the afternoon's program Lieutenant Pfannkuche gave an exhibition with the Enfield rifle, scoring 84 out of a possible 100 on the eight-inch bull's-eye, and Mrs. J. W. Schofield scored 88 with the Springfield on the eight-inch bull's-eye.

Competition for the several trophies for which shooting is now going on occupies the attention just now of the frequenters of the Rifle and Revolver Range of the Crescent Athletic Club of Brooklyn, New York. The first of these to end was the contest for the Club Cup, which closed on November 15. The Delbon Trophy will be awarded after the last shot has been fired on December 10, and the Sterling on January 15.

This year for the first time the range remained open all summer, owing to the unusual interest in marksmanship. Many of the Club's best shots have gone into the national service, but others took their places on the range. With the ending of the outdoor season it is expected that the use of the range will greatly increase.

M. M. Sterling is in the lead for the Club Cup, with F. G. Delbon at close second. The best 10 shots of each contestant counts for victory with the rifle prone, with the rifle offhand, with the revolver at 20 yards and with the pistol at 10 yards. The scores, given in that order, are as follows:

M. M. Sterling—2235, 2411, 920, 975.
Effingham Wilson—2230, 2297, 840, 930.
J. G. Dentz—2280, 2340, 730, 790.
C. E. Koch—2340, 2184, 670, 754.
C. A. Kelly—2235, 2127, 720, 714.
C. Yenni—2187, 2200, 643, 570.
A. E. Rall—2205, 2187, 590, 473.
J. F. Hurley—2274, 2155, 730, 570.
C. A. Freeburn—2187, 2124, 570, 630.

M. M. Sterling is also in the lead for the Delbon Trophy, which is for the best ten target shots made during the season with the rifle offhand, and the best ten prone. The standings, with the offhand scores first, are as follows:



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M. M. Sterling—2395, 2451.
T. F. Cousins—2317, 2411.
J. G. Dentz—2308, 2351.
C. E. Koch—2304, 2340.
J. F. Hurley—2268, 2307.
L. J. Seebeck—2291, 2209.
E. Stephens—2300, 2187.
A. R. Neill—2301, 2127.
A. E. Rall—2176, 2104.
C. A. Kelly—2159, 2102.
C. Yenni—2134, 2073.
Effingham Wilson—2127, 2004.
C. A. Freeburn—2104, 2000.

For the Sterling Trophy, Effingham Wilson has a good lead over all his competitors, having the best scores in all four lines. The prize is for the best ten targets with the revolver at 10 yards and at 20 yards, and for the best ten with the pistol at 10 yards and at 20. The scores, given in that order, are as follows:

Effingham Wilson—966, 847, 940, 856.
F. G. Delbon—918, 724, 920, 740.
C. E. Koch—618, 573, 920, 740.
J. F. Hurley—830, 770, 840, 620.
C. Yenni—570, 610, 750, 540.
J. G. Dentz—760, 520, 543, 479.

High scores for the month with the rifle offhand, were as follows:

Sterling, 239; Delbon, 233; Dentz, 235; Hurley, 234; E. C. Fawcett, 229; Rall, 229; J. A. Walsh, 225.

High scores with the rifle prone were:
Sterling, 247; Delbon, 240; Dentz, 243; Hurley, 240; Koch, 238.

With the pistol at 10 yards, high scores for the month were:

Sterling, 99; Delbon, 92; Dentz, 82; Hurley, 84; Koch, 80.

On a score of 126, M. P. Graves won the Members Match of the Chicago City Hall Engineers' Rifle Club. The match was postponed several times on account of inclement weather. It was finally pulled off on October 20.

The U. S. Cartridge Company Gun and Rifle Club, of Lowell, Mass., held its members' Match September 29. The contest resulted in victory for William A. Mead, Secretary of the club, who won the prize on a score of 119.

Six additional expert riflemen, under the N. R. A. course, have been qualified by the Westfield, New Jersey, Rifle Club. They are: David C. MacDugall, 161; P. S. Saitta, 153; C. H. Hoit, 150; H. Strugnell, 146; J. W. Rickard, 143; Roy Connell, 141.

Seven members of the Western Reserve Rifle Club, of Cleveland, Ohio, have qualified as marksmen. They are: E. G. Loomis, 165; S. C. Steaves, 158; E. W. Stranahan, 151; Harry Mills, 145; H. N. Walkden, 161; W. H. Sletzer, 172; E. A. Mastick, 154.

J. E. Carlson has qualified under the watchfob course as a marksman, on a score of 183.

WANTS AND FOR SALE

Each subscriber of 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.

FIREARMS AND ANTIQUES—Buy, sell, exchange old time and modern firearms. Antiques wanted. Stephen Van Rensselaer, 805 Madison avenue, New York City.

EXCHANGE—New 30-40 Krag Military Rifle, Loading Tools and Shells, for 250-3000 Savage or 6-5 M-M Mannlicher Rifle. H. R. Brown, Sterling, Conn., Box 71.

FOR SALE—Krag Carbine, swivel and sling, good condition. Price, \$14.00. 414 Stevens .22 L. R., Lyman 103 W. G. Rear Sight, drilled for telescope, excellent condition. Price, \$15.00. Kessler, 1105 Maple St., Des Moines, Iowa.

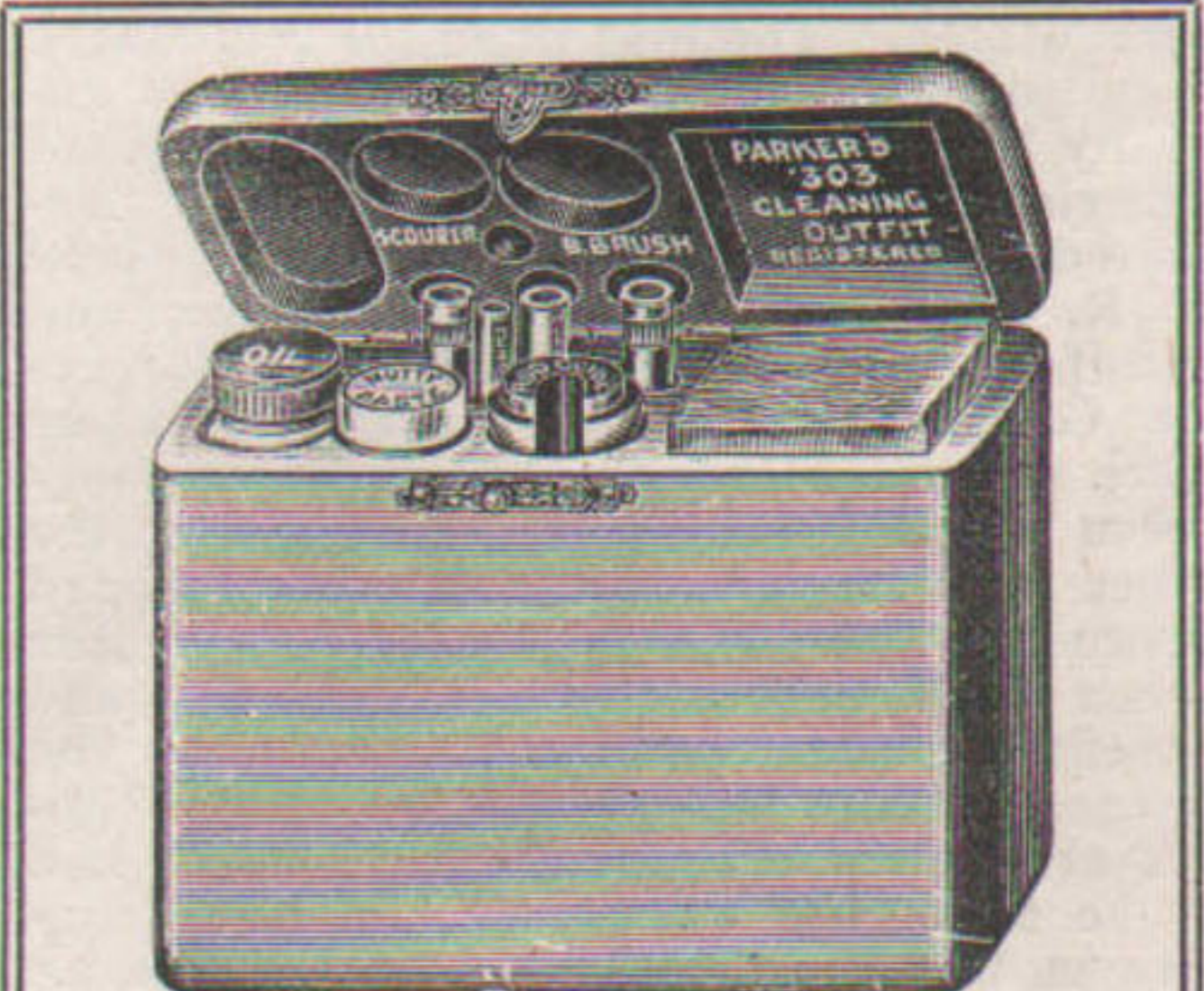
WANTED—Colts automatic pistol, .22-caliber, in good condition. Charles Shpisman, Pres. Imperial Rifle Club, Imperial, Calif.

FOR SALE—New Springfield Rifle Barrel and Receiver. Never used. Price, \$10.00. W. A. Tewes, 39 Gautier Ave., Jersey City, N. J.

FOR SALE—30 Government Winchester, 22-in. Lyman Sights; sling swivels. Excellent condition, \$25.00. Krag in fine condition, \$10.00. Want Frankfort Arsenal Powder, Primers and Bullets. Bert K. Johnson, Seneca, Ill.

WANTED—Some .30-caliber bullets, either model 1906 or 1898, or any other .30-caliber bullets for target. Edward L. Crabb, Sec'y. Shoshoni Rifle Club, Shoshoni, Wyoming.

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THE RIFLE WHICH ISN'T

By S. D. BARNES

At the present day is it possible to write an article on hunting rifles which will be read and appreciated, though omitting the velocity, trajectory and penetration statistics that are beloved above all things by the purely theoretical rifleman? *Quien sabe.* There are all sorts of magazine readers. I have known even those who, without the slightest practical interest in thoroughbred dogs, would wade through columns of bench-show reports; others as unselfishly wrapped up in trapshooting scores, while perhaps the names of such old-timers as Marshall, Elliott and Young meant to them merely the vice-president of the United States, his brother dignitary of a leading college, and the author of "Night Thoughts"—a poem of some repute in old times ere nocturnal meditations had to do exclusively with tango and the movies. So it may chance that the following paragraphs will not be perused by the editor alone. Quite naturally much depends upon the editorial say-so. Of that I must take my chances—and the rest is regular shipper's risk, with the further privilege of appeal to the railroad commission. So I will go ahead and pack my shipment with the best of the lot on top, stencil to "C. Sense & Prudence, Riflemen," and 'phone for a dray.

If we listen to the modern producer of grooved-barrel literature—of which Whelen and White may be accepted as fair examples (and Crossman as an exaggerated type)—we must believe that no arm is suitable for hunting unless it will shoot farther than you want it to, a lot harder than necessary, and with a trajectory curve that bends down in the middle like a swaybacked mule. Preferably it should be made abroad, in England or Germany, though just across the Canadian boundary will sort of halfway do in case it is inconvenient to tote your market basket farther from home. The foreign arm, purchased from standard stock designed to meet the requirements of bull-necked Britons, or Germans devoid of discoverable link between head and shoulders, unquestionably possesses a subtle and undefinable "fit" calculated to better the scores of any marksman heretofore unfortunately restricted to the use of American rifles exclusively. Yes'm, there's no question about that. Again, as you may have noticed, the superiority of workmanship is so universally apparent; and as for the quality of material—! You never see punk-knots or wind-shakes in the buttstock of a first-class English weapon; there are no inch-wide cracks where wood and metal should lie in close juxtaposition; and most of the marks of drawfiling is sandpapered from barrel and frame before the moment of awed hush when the artist or savant, or whatever you call him, daubs on the bluing mixture. Thus much we must concede—no matter if our grandsires did "fite at Bunker Hill, N'Awleans and the last day of school." Maybe you are inclined to here introduce a word about the world-wide renown of Yankee artisans—but don't risk it. Latterly it has been discovered that they are a bum lot, usually without straightedge or calipers, and holding to the belief that no "job" is the worse for a crack that may be calked with rags or an old hat and varnished over. Don't buy an American rifle—unless you can be satisfied with just such an arm as your neighbor owns, and that any ordinary person may secure in exchange for a sack of chips of moderate height. Our makers stand ready to size your pile and close the bargain instantly, and American artisans can safely challenge the world to match their finished workmanship in any other line of production—but, doggone 'em, somehow they can't make

foreign guns. Let us weep in silence over their shortcomings and pass to the consideration of other vital matters.

We must concede the right of the individual to his own beliefs and ideas. Since rifles were originally employed by Americans in big game killing, it may follow that they should be deemed without utility for other ends and purposes. It would be unprofitable to argue the right or wrong of this position. But if we accept the affirmative assertion, then the true-blue, simon-pure rifle is the one that will swat game the hardest and most frequently under any and all governing conditions. If Stewart Edward White found the New Springfield the thing for African game, months after Roosevelt's successful experiments with the .405, then it follows that Billy Smith of Oshkosh, or Tom Shelby Jeems of South Carolina, should be monthly informed through the medium of his favorite magazines that rifles other than these are unsatisfactory as parlor ornaments, as well as for shooting house cats and razorback swine. It doesn't seem to matter that neither Billy or Tom expect to visit Africa, or any other big game country. The calibers and cartridges so persistently pressed upon them are the only ones worthy of notice—unless, indeed—

And now we are coming to it right! That .405 is a big cartridge—an alfred big one—entirely too remindful of things as they were in Prehistoric Days. For that matter, the .30 U. S. Government cartridge might advantageously be whittled down, remodeled and generally messed about. The thing to do, of course, is to kill your game—elephants and rhinoceri, nothing smaller—in the approved modern way. Not by weight of lead or its equivalent in striking, penetrating energy, but by the miraculous get-there of the missile. Let us coin a brand new Latin term to express what I'm after; namely, *velocitus projectus*—which we will further abbreviate to v. p. The make, model, weight or caliber of the rifle doesn't matter so much any more—it's the lightning flight of the projectile—the v. p. You get it, primarily, by putting proportionately more powder behind the lead; not by shortening the bullet, in the manner advocated by Van Dyke, Gould and others in the old 45-caliber days, but by necking down a roomy shell to accept and hold a minute missile, so delicately proportioned that its leaden core must be reinforced with sturdier metal. To this v. p. is sacrificed all the desirable points of the cartridges which claimed and merited our faith in other days—range alone excepted, though we carry its quest of pachyderms farther than with the rifles which were popular before the slaughter of thick-skinned brutes became the favorite recreation of Hoboken and Milwaukee sportsmen. There's nothing quite like v. p. for paralyzing the big tuskers that range the hazel thickets back of grandpa's calf-pasture. No matter how thoroughly the vital organs are safeguarded by sole leather, dry bone or chuck steak—zip—whoosh!—they are located, disintegrated, whipped into a stiff froth with a beautiful bead on top, and the lethal missile flits on across the next quarter section to arouse irritable afterthoughts in Farmer Brown as he hangs over the top rail of his pig pen with an affectionate "pig-oo-eel!" and a brimming bucket of slop. Yes, gentlemen, you are quite right. In an article avowedly without statistics I shouldn't have mentioned that quarter section—which is 440 yards across any-which-way you care to mention. There shall be no second offence.

Now to simplify matters I will confess cognizance of the fact that this v. p. business directly interests all but a comparatively small class of riflemen—let us say a mere 95 per cent of the whole bunch.


Of these few the majority may disclaim inkstains or typewriter corns on the trigger finger; they squint oftener through the sights of their favorite arm than betwixt the kivers of "Smallbore's Ballistic Calculus for Indoor Game Eliminators." Permission is here given the reader to take pencil and paper and make a fair guess of the percentage to the thousand of riflemen who—

Have no immediate hopes of hunting in Africa, Alaska or other big game country.

Have in their home range no game larger than an occasional deer.

Consider themselves in phenomenal luck if they get a shot at a wild goose or turkey.

I will refrain from further extending the classification. An excess of tabulation savors too strongly of the regulation rifle article. Neither is it seemly to dwell upon the misfortune of one's fellows. There is another and still more numerous class of riflemen who content themselves with rabbit and squirrel hunting—note that I do not say *shooting*—yet they are riflemen just the same, by inherited instinct and unconquerable inclination. Their fifteen cents is freely expended for the magazine which boasts a rifle department, and with pipes alight they rattle the pages and read of—the most scientifically correct arm and load for miracle working on bull moose and cape buffalo! This is as it should be. Why should the American who inclines to rifle shooting feel the slightest interest in arms possessing less than superlative effectiveness? In all frankness, partner, may I be binged if I know! Oh, aren't they the unreasonable guys! What though it happens that their own game killing is commonly at short range (I nearly dropped again into figures)! What though death and damage suits ride upon the high-power bullet which flits where the eye cannot insure gangway? W'at t'ell! On with the dance, let joy be unconfined! Tell us the proper cartridge for walrus along about curfew-tolling of the Arctic night. Explain how to ascertain the lethality of a needlelike Spitzer bullet by dividing the square of its point by the focal power of the marksmans' monocle. The average rifle shooter is passionately enamored of such erudite information. Moreover, doggone him, he'd better be since nothing more easily assimilable happens to be on tap. But grant some small encouragement to the writer dealing in words of one syllable, who aspires no nearer empyrean heights than the small-game corner of the Happy Hunting Grounds, which is just across the divide from Powderhorn Camp on Muzzleloader Creek. Do you get me, bo? Some of the boys opine that the ability to debate the niceties of rifle and cartridge building for the one special end—which relates to v. p. and various et ceteras—should argue a corresponding acquaintance with less advanced branches of the craft, such as appeal to the man who can afford but one rifle, and that one an arm capable of being turned to practical uses.—*The Sportsmen's Review.*

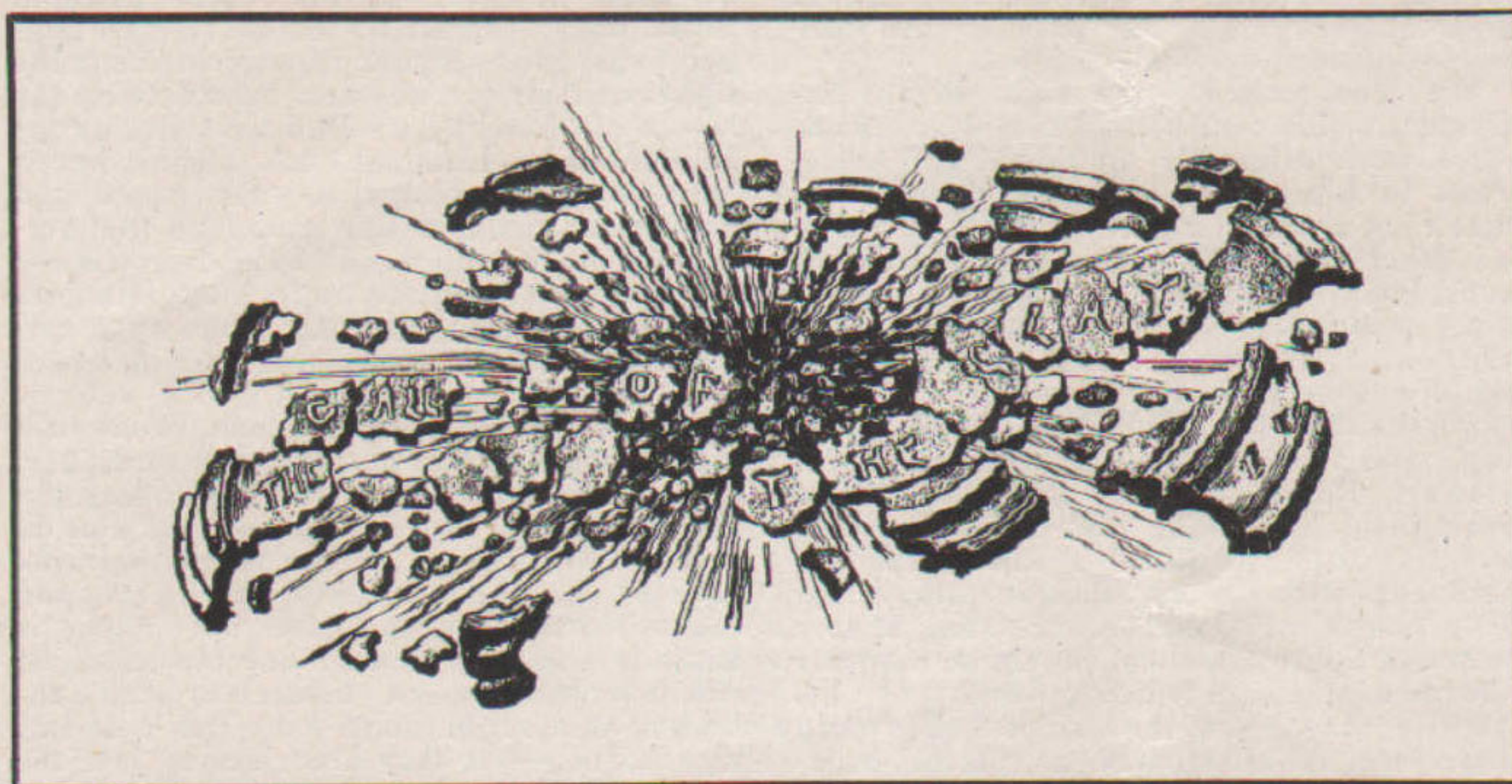


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Ruffed Grouse A Brainy Bird

By MORRIS ACKERMAN

THE ruffed grouse is the greatest game bird in this country and probably is hit less than any bird in the world, with the possible exception of the snipe.

Nature has endowed the ruffed grouse with fine means of protection and the way the bird uses these means makes him seem a brainy creature.

The color of the ruffed grouse so closely resembles the woodland surroundings in the fall that one may almost walk on them without seeing them. The bird, making use of its coloring, generally lives in rugged country, where underbrush and spruce make his detection difficult.

Once flushed, the ruffed grouse flies so as to put a tree between himself and the hunter, adding to the difficulty of locating him. The bird, unlike the quail, is seldom found in covies and consequently is hard to hit.

The hunter must always be ready with gun in position to shoot and shoot quick.

Work well the underbrush and little spruces along the sides of ravines. Go in the dense places in the woodland, for the ruffed grouse is a recluse.

The grouse, when once under way, will fly straight, and it is well to hunt him with more than one in the party. The hunter who might be on the line of flight is sure to get a shot.

The ruffed grouse rises from cover with thunderous precision and the successful hunter of this bird must leave his "nerves" at home. The uninitiated is liable to be more frightened than the bird.

Ruffed grouse do not lie well to the dog, running speedily and quietly ahead of the animal before making flight.

The Alaskan Bear

The Alaskan brown bears form a group of immense animals which are not only the largest bears in existence, but the largest carnivora in the world. They are limited to the coasts and islands of Alaska from the head of Norton Sound to the Sitka Islands, the largest specimens being found on Kaiiak Island, where some individuals have been killed which weighed 1,500 pounds. Some writers likened them to the great cave bears which terrorized primitive man in the "old stone age" of Europe.

The Alaskan brown bears are, as a rule, good-natured and inoffensive, the taint of a man's footsteps or the faint odor of their enemy borne on the breeze being enough to send them scurrying away in a panic.

They are, therefore, hard to get acquainted

with, but when a man has suddenly surprised them, or brought them to close quarters, they willingly shake hands with him.

It may be added that after the formal introduction there is usually a period of mourning in the man's family, who upon investigation find that it is no job for the undertaker.

Notwithstanding the enormous size of this bear, it spends much of its time hunting small game, such as mice, ground squirrels and gophers, which it digs from their burrows with great skill and rapidity. During the salmon season they live high, and feed on the fat of the land, or more properly, the fat of the waters. Then they make up for all the barren days of mice diet and grow fat and lazy.

They are classified as carnivorous, but they go in for a variety of diet, and in the summer and fall they become herbivorous. When the coarse grass and sedge appears they go down into the lowland flats and graze like cattle.

Although Alaska was occupied by the Russians for many years, and has been the property of the United States since 1867, the existence of these bears was not definitely known until 1898.

Writing about bears brings to mind that the polar, or great ice bear, is one of the most interesting members of the ursine family. In fact, all bears are interesting; there is something about the big lumbering creatures that always draws the crowds at the zoos, and from the time of the caveman down to the present they have represented, in the popular mind, great strength and ferocity.

As a matter of fact, the bear does not deserve this reputation, for it is a shy and inoffensive animal, never seeking a quarrel with man and fighting only in defense of itself or young.

The polar bear spends most of its life on the great ice packs of the arctic regions, and by ranging widely it finds enough food to support its huge body even in such a barren region.

It spends much of its time in the water, swimming from one ice floe to another, but it

captures seals and other prey on the ice, being a slow swimmer. The moving-picture camera has developed the fact that, in swimming, the polar bear does not use its hind legs.

These animals are devoted to their young and fight viciously in their defense. When a mother bear is swimming away from danger the cub seizes her by the tail and is towed along, but when there is no danger, she cuffs it away and thus teaches it a lesson of self-reliance.

SCIENTIFIC DOPE

By J. G. ORSBURN

I used to shoot a thirty-two Winchester center-fire,
With twenty grains of powder (black)—a load that I admire;
I shot the thing up hill and down, a-running, on the wing;
And when I came home from a hunt, the game I'd surely bring.
It would not make a four-inch group two hundred yards for me;
But I must say it shot as well as I could hold or see.
The ammunition cost was small, and that meant lots of fun;
For if one cannot shoot a lot, what pleasure is a gun?
A Rimless Thirty tempted me; I bought it (and a 'scope),
And loaded up my noodle with some scientific dope—
Trajectory, velocity, deflection, bullet-fit;
Ballistics and erosion, and gyration—just a bit;
Vibration of the rifle barrel, as out the bullet goes;
Initial pressure, energy—and heaven only knows!
The variation in the score, due to the way one holds,
And bullet-bases, out of true, caused by defective molds.
The metal foul, from metal patch, of nickel, or what not;
And paper insulation, so the core will not get hot;
And noses, copper-stiffened, so they won't mushroom on air,
And atmospheric pressure, and the weather—foul or fair.
The angle of departure, the direction of the wind,
The drift and like complexities to obfuscate the mind.
I could not keep all in my head, so what was I to do,
But lay aside the rimless thing, take back my thirty-two?
I will not scientific dope attempt to stigmatize;
But when the lack of knowledge thrills, "'Tis folly to be wise."

—Field and Stream.

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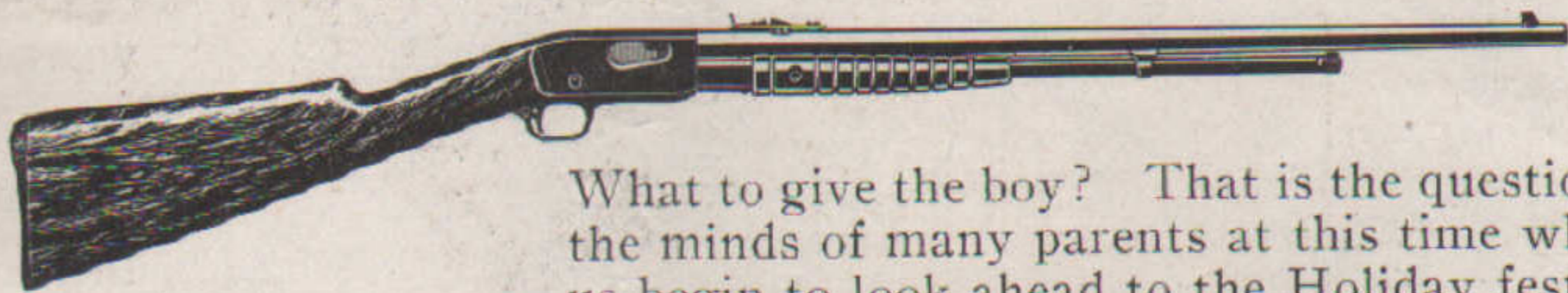
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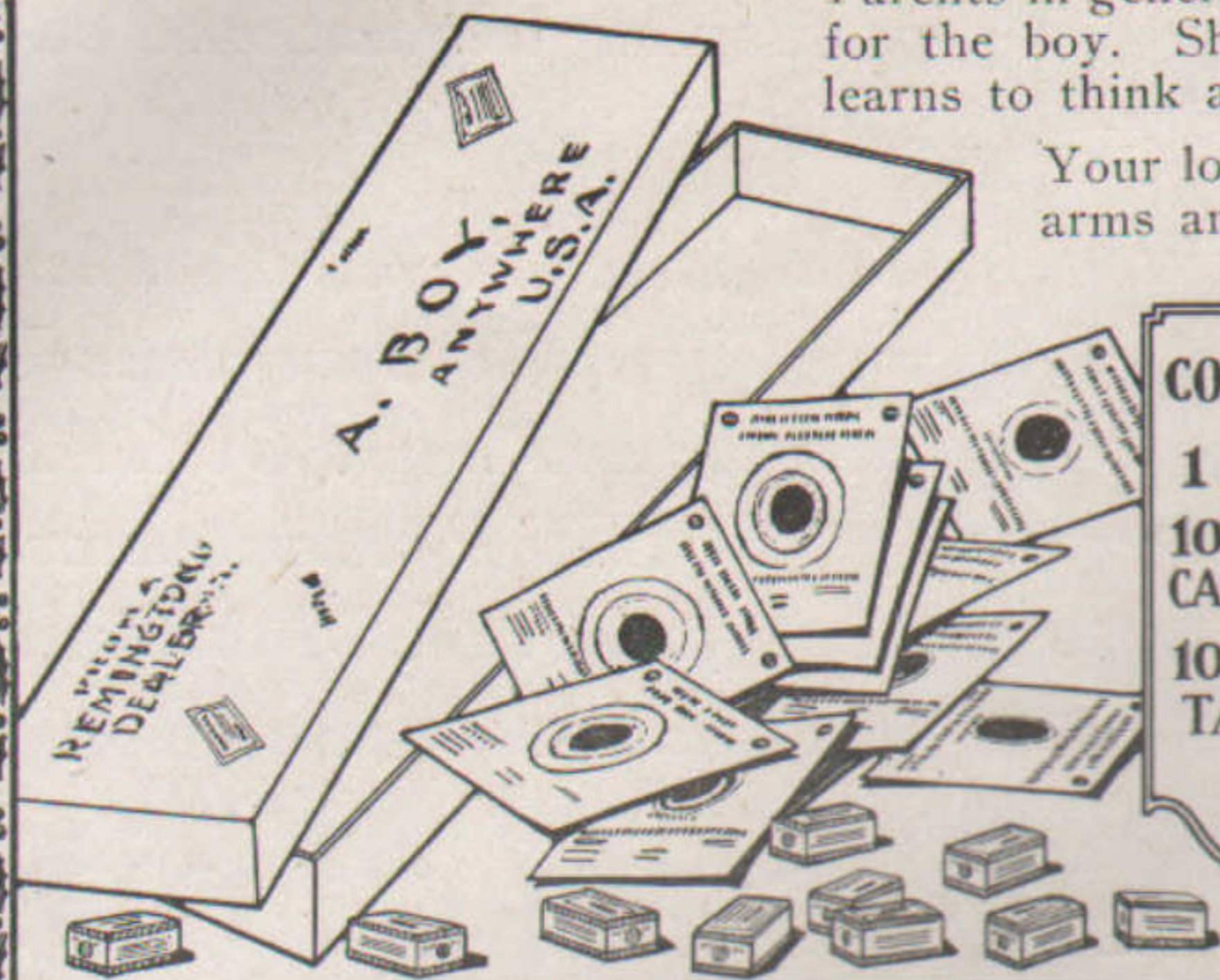
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