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THE MAN

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EDITORIALS and

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The Rifle in War

By EDWARD C. CROSSMAN

It would appear from the reports of various war correspondents, few of them skilled in military matters or aught save word printing, that the modern military rifle is a thing of the past. That despite its high accuracy, its flat trajectory, its speed of fire, and its lack of betraying smoke, the former weapon of the Queen of Battles, the Infantry, is somewhat inferior to the spear of the Roman Legionary because it is shorter and heavier.

It is this sort of thing that is probably mainly responsible for the lack of interest that is markedly displayed by Americans at large in rifle shooting since the entrance of this country into the war. As secretary of one of the most successful civilian rifle clubs in this country, a club that has won the championship of the entire country with the military rifle and that furnished half of the team that beat most of the militia rifle teams of the country in 1916, the writer can testify to the fact that from the very entrance of this country into the war, interest in rifle shooting has not been what it should have been. In England it increased during the same relative period.

Part of this is due to the policy of the Government in shutting down on the sale of arms and supplies to these civilian clubs, but always there remained the cheap and festive .22 rifle, the rifle with which most of England's riflemen got their training, and the rifle that at the outbreak of the great war was being shot by more than a hundred thousand full grown, and presumably normal Britishers in the various British miniature rifle clubs.

Taking for granted the fact that the heart of this country is in this war, there is no reason why there should not have been eager crowds flocking to every rifle range to learn to shoot the weapon that has proved so effective in the hands of Americans in the past. Miniature clubs should have sprung up on every vacant space, empty lofts should have been transformed into indoor ranges.

What really has happened is that there is actually less rifle shooting in this country at the present writing than there was one year ago. The vacant spaces stand vacant, the lofts smell no smoke of miniature rifles.

The rifle is the natural weapon of the Anglo-Saxon. History shows no instances where accurate rifle fire won a battle for any European power. Rifle shooting annals show never an entry for the long range blue ribbon of the world, the Palma Trophy, open to any nation, save from England, Canada, Australia and the United States, barring the one shoot at Camp Perry in 1913, when teams of other nations, on hand for other shoots, entered this match, and Sweden, Argentine and Peru fired for the first time.

Also this idle chatter about the similarity of the military rifle to that rare bird, the dodo, proceeds from no authority of an Anglo-Saxon army, but comes here and there from some unauthorized person without previous rifle experience and with the small regard for that weapon that is always exhibited by the unskilled man.

Unfortunately there exists in our National Army a strong disposition to minimize the value of the trained rifle shot, to cut down the instruction with the rifle that is necessary to make real riflemen, and to be guided by the tactics of a nation of very rotten rifle shots, our gallant French allies; not to say their opponents over the way, still poorer rifle shots.

The efficiency of the rifle depends much upon how it is used, and upon the frame of mind in which the soldier approaches the weapon. If he is permitted to feel that the rifle is merely something to add to thousands of other rifles without much regard to his own pointing of it, as merely one voice in a large and terrific chorus where it does not matter how he sings, then the rifle is not much of a weapon. There is unhappily much of this sort of disposition in the regular army—which disposition is now merely smeared over still more of an army.

Contrary to popular belief, our regular army was not much of a shooting organization. Companies varied in skill according to the enthusiasm or the beliefs of the company commanders—and often according to the facilities for range practice. You cannot take men out for one week in the year, drive them through a hurried "qualification" course and turn out a company of skilled riflemen. Not on your tintype. The results may have looked pretty on paper, may have made a nice figure of merit, but the men turned out by this method were just about as efficient as the same number of German soldiers. Yet this one week per year stunt was the regular program for many a regular army company, either through lack of adequate range facilities or through the lack of enthusiasm of the company commanders.

Scandalous though it be to say it, the Navy, the despised "flat-feet," who weren't supposed to know anything but how to run a battleship, could shoot right along with the army most of the time. Navy rifle teams have held their own year after year with the pick of the army in the National Rifle Matches held by the Government. Annapolis sent its magnificent teams of straight shooting cadets to the National Matches up to 1912—West Point never in the history of our rifle matches has sent a rifle team. And—West Point is the training school for our army officers! So came about the growth of the straight shooting rifle traditions in the Navy, the leaven of the skilled cadet shots going into the grey ships and framing up matches here and there on shore when chance offered. So came about the failure of the army as a whole to care a great deal about the higher mathematics of the rifle shooting game. Not that there are not thousands of magnificent shots in the army, skilled, enthusiastic men—but the army as a whole is not the shooting organization it should have been and should be now.

The U. S. Marine Corps, as a body, can shoot circles around the army gentlemen. Under the able guidance of such gentlemen as Major Harllee and Captain MacDougal and others, the Marines are taught to shoot and hit what they shoot at.

No German bunk theory of fire goes in the Marines. No private is taught to feel that he is doing his bit by squibbing off the rifle in the general direction of the foe, under some crack-brained theory of spraying a given zone with rifle fire. Rifle fire may merely spray a given zone—and does—but as a useful health tip, if one has to choose zones, avoid the one favored by the U. S. Marines and their fire. The Marines agreed with the writer years ago that the army's pet, the battlesight, was not fit for a civilized rifleman. They agreed that when the time came about to abolish a bad gentleman of Hayti or Nicaragua they didn't want to shoot two feet over his head if he lay 200 yards away or about the same distance over if he lay 300 yards away, using his battle sight, adjusted anywhere from 500 to 700 yards according to the peculiarity of the rifle.

So they commenced years ago to snoop around and seek other sights than the one and holy one gotten out by the army gentlemen; they commenced to backslide from the true faith and to flirt with sights that were not at all orthodox nor yet sprinkled with holy water by some gentlemen of the Ordnance Department who had never in his life shot in a rifle match. One of them, Major Harllee, got out the Navy Firing Regulations, which not only permitted the use of any sight that could be put on the rifle, but asked for reports of such changes, in the hope of getting some improvement. The army book says that any man daring to lay sacrilegious hand upon the sights of the sacred rifle, will be excommunicated by bell, book and candle, also have his pay stopped for a month and go to the "hoosgow" for a period.

Now, with the nation in a real jamboree the army is hurriedly "canning" the battle sight, and putting on higher front sights to make the rifle shoot where it looks at 200 yards or so, and remarking the zero line on the slide to compensate for the changed front sight.

Neither the Canadians, nor yet the British, ever believed this yarn that the rifle is archaic.

Never have they let up in the intensive training with the rifle so far as their hurry and their accommodations permitted. The Canadians have specialized more than ever in instruction with the rifle. While it is true that 200-yard dashes from ditch to ditch behind an inferno of bursting shell in the barrage are not just suited to the best work with the rifle, yet the fact remains that the rifle is an arm made to kill at a distance, is efficient up to the limit of the eye sight and in the hands of the skilled and cool shot would utterly ruin a half dozen men starting a hundred yards away with bomb and bayonet.

Some of this piffle is laughable, one would imagine that a sharp knife at the

end of a rifle had some magic virtues, that it would reach farther than eight feet away, which is the limit of the lunge, and that the bullet from the rifle would no longer kill. It won't unless it hits, that is true, but the hitting part is merely a matter of training.

The writer has shot the military rifle from the days of the Remington-Lee in 1900, and has followed the game more persistently than the average army gentleman, and has fired more shots than the average army gentleman. From his own experience and from watching the work of others under all sorts of strain, he has no reason to think that a man, starting a half dozen yards away with the bayonet, for such a rifleman as is found in the Marines, would be anything else but that estimable dainty known as duck soup for said Marine. In trench fighting, where there is no room to use the rifle adequately, the bayonet is without doubt efficient, but this is no reason for distorting it out of its true perspective as merely a sharp knife on the end of a wonderful instrument of science that will kill up to the limits of the horizon. Bullet will always beat bayonet where there is room to fire. The bayonet limit is the end of its sharp point. The bullet limit is the horizon.

The tide of distorted and discouraging piffle, however, has turned. No other than General Pershing "crawled the frames" of infantry at practice in France. As reported by the Associated Press, the General said to the men just returned from a practice attack on a trench; anent the fact that the attackers had not used their rifles:

"You must not forget that the rifle is distinctly an American weapon. I want to see it employed. There surely will be plenty of opportunity for its use, and if you are unfamiliar with the weapon you will lose those opportunities. Bombs and bayonets are all right and very valuable, but rifle fire still has its place in modern war."

Also according to the dispatch, the General said that he had heard of soldiers in this war who had been chasing Germans a hundred yards for an opportunity to bomb or bayonet them. If they had thought they might have stopped and shot them easily with the rifle.

This is a brilliant instance of the folly in forgetting the rifle and turning to such archaic instruments as the grenade of a hundred years ago, and the sharp knife of the same period. Conditions may require both, and require them freely, but when soldiers forget what their rifles are for and go running down their prey, then it is time to stop and teach rifle shooting. Imagine any man accustomed to the rifle and knowing its power, running after a foe a hundred yards away—unless he wanted to take said foe without damaging his plumage.

According to the same report: "Some

time ago the American army authorities here decided to devote much attention to musketry, but neither the French nor the British instructor is inclined to spend much time on that phase of warfare, having become accustomed to the tactics of attacking solely with bombs, bayonets and machine guns. American soldiers, however, have been fine marksmen, and the officers still believe in rifle fire for both offensive and defensive purposes."

Arms And Explosives, commenting on the situation, remarks that very recently a body of German troops, trying to retreat, lost their way and got tangled in a lot of intact barbed wire. The British with the rifle alone cleaned up the lot. It was of course the shooting of the British infantry that rolled up the German pursuit time and again in the retreat from Mons.

The present fighting affords poor opportunity for the use of the rifle, but there is no particular reason to believe that the present style of fighting will be the fighting of the next war, any more than there was for jumping at the conclusion that the open field fighting at long range of the Boer War would set the pattern for all future wars. After that particular war the bayonet was practically dropped from infantry consideration.

Only the use of tremendous bodies of men on a very short front permits of such fighting as is now going on in France. On a front permitting a flank attack, or else so thin that it could be broken through, open field fighting must again be the style and again the rifle will take its place. Talk of light machine guns is all very well where the advance is very short, where they put in a half hour getting 200 yards, and weeks getting ready for another 200, but light machine guns require ammunition, are unwieldy at best, and in open fighting will perforce return to the old position of the machine gun—something that necessitates motor or horse transport for itself and its ammunition, which weighs about 75 lbs. per 1000, packed.

The Marines take no stock in the theory that the rifle is a thing of the past, a fair handle for a bayonet. Their ordnance officers have undertaken the replacement of our present unsatisfactory rear sight with one on the receiver like that of the Enfield, and have redesigned the front along the lines the writer has argued for years—at least .08 inch wide if not .10-inch. Eight men in each Marine Company have been armed with rifles fitted with Winchester telescopic rifle sights of splendid optical qualities.

Unofficially but none the less authoritatively their officers announce that the Marine Corps men are determined to show the world that the rifle is not archaic, not useless in trench warfare and in the hands of *skilled* riflemen, not

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U. S. R. A. Names New Officers

By KENDRICK SCOFIELD

PRELIMINARY steps toward eliminating some of the objectionable features of the "proxy voting system" so long in vogue in the United States Revolver Association were taken at the annual meeting of that organization held at the 71st Regiment Armory, New York City, January 21.

The discussion of ways and means to prevent any possible misuse of this system of voting came at the end of a protracted meeting, during which two factions, each backed by an almost equal number of proxies, fought for the election of rival slates.

As a result of the struggle, neither slate was elected as nominated, and the officers for the coming year are:

President, A. M. Poindexter, Denver, Colorado.

First Vice-President, A. L. A. Himmelwright, New York City.

Second Vice-President, C. W. Linder, San Francisco.

Third Vice-President, A. C. Hurlburt, Hartford, Conn.

Fourth Vice-President, Fred Moseley, Dallas, Texas.

Fifth Vice-President, E. L. Harpham, Chicago.

Secretary-Treasurer, George E. Cook, Sandy Springs, Md.

Of this list, the names of A. L. A. Himmelwright, C. W. Linder and A. C. Hurlburt appeared on the slate sent out and fostered by the St. Louis Colonial Revolver Club. The others including that of Mr. Himmelwright, were suggested by Dr. Sayre, of New York City, and placed upon the slate submitted by the nominating committee at the meeting.

There was really very little accomplished to the end of restricting the use of proxies. A resolution was adopted against permitting any member of the U. S. R. A. to vote at any meeting unless he has been a member for at least 60 days prior to the meeting. It was further suggested that no proxy be permitted the names upon which had not been filled in by the man giving the proxy. The discussion on this point however, came at the fag end of the meeting, which had then lasted for nearly seven hours, and no action was taken.

During the meeting many matters of interest to the pistol and revolver shots of the country were discussed. These included a protest from T. K. Lee, of Birmingham, Ala., against the action of the Executive Committee of the U. S. R. A. in disallowing his claim for record on a 50-shot score, totalling 482, and a report from the Legislative Committee outlining a plan of campaign against anti-pistol laws.

There were many men who have long

been familiar figures in the shooting game present at the meeting. Among them were Harry Pope, Roedder, German F. Hoffman, Tom Davis, of the Winchester Company, Frank J. Kahrs, of the Remington Company, A. C. Hurlburt, of the Colt Company, L. M. Rumsey, of St. Louis, J. A. Baker, Jr., A. L. A. Himmelwright, Dr. Reginald Sayre, Dr. S. J. Fort, of Maryland, J. E. Silliman, and several members of New York revolver and pistol organizations.

In the absence of C. C. Crossman of St. Louis, the 1917 president, Dr. Fort, who was third vice-president during the past year, presided. The first matter which engrossed the attention of the meeting was the report of the legislative committee, presented by A. C. Hurlburt, following the approval of the minutes of the last meeting. Mr. Hurlburt's report was of a particularly informative nature. As submitted it read:

"Notwithstanding the fact that the members of the legislative committee have been scattered to the four winds and swamped with details connected with war work, we feel that our efforts have met with a fair degree of success. Some of the members of the Association may not understand just what this 'legislative work' means. It means the safeguarding of the aims of the Association by prompt and energetic action to prevent drastic bills being passed by legislatures to prohibit the sale, possession or use of pistols and revolvers, or modify them.

"Drastic Revolver Bills are caused almost invariably by some startling sort of murder happening just prior to or during the time when a legislature is convening. They are presented likewise, however, by certain legislators who appear to enjoy a sort of lazy method of getting their constituents to see that they are on the job, for there is more or less newspaper notoriety in presenting a bill of this sort. One New England State and one Southern Atlantic State each has an individual of this sort who for four years running has presented the same bill over and over again in face of the fact that each time it is overwhelmingly defeated.

Whatever the motive that prompts the bill, the big thing that the U. S. R. A. is up against is to defeat it. During the past year the legislative committee was severely handicapped by being appointed so late that it found itself, upon its existence, confronted by thirty-eight legislatures in full swing. One of the great obstacles was keeping track of the bills as they cropped up, for unless these are tackled promptly, often there is a chance that they will be rushed through and enacted before anyone has a chance to oppose them. In order to watch these

bills, it was necessary to act through the various Secretaries of State and, as it happened, no bill was presented without being brought to our attention.

"We have secured the cooperation, in some instances, of active association members, and very much want for the coming year a good live representative or 'reporter' in each State capitol, who will keep his eyes open and watch out for any signs of a bill being prepared that will in any way affect the interests of the Association, and to report it promptly to the committee for instructions as to how to act in handling the situation.

"One of the most difficult situations the committee had to contend with was in California, where no less than seven revolver bills, all of them practically 'Sullivan' laws, were presented. For four years California had bills of this sort introduced, and it seemed only a question of time until one of them would be slipped over; consequently all efforts were centered on one of the new bills that seemed least objectionable, and the author was finally persuaded to amend his bill so that it was finally passed. Months of work were required for this, but for a few years to come we may expect no further trouble from this section.

"In Connecticut an attempt was made on short notice to rush through a bill which practically prohibited the purchasing of firearms, but quick work smoothed out the trouble.

"Indiana came into the limelight with a bill prohibiting the exhibiting of 'dangerous weapons' in shop windows; the right to carry must be by permit, and no weapons could be purchased without a permit. Your committee could find no member in that State who would assist us.

"Maine came out of the woods with a proposed law prohibiting the issuing of a license except to persons whose business required the carrying of a pistol for protection. We kept the mails hot with correspondence, and attended hearings. At last accounts the matter rests as before the excitement.

"For Massachusetts three bad bills of the insane Sullivan type were brought forth. We have, fortunately, on our committee a gentleman of experience who has done more hard work than our members realize for the Association—I refer to Mr. Nathaniel C. Nash, Jr., and through his untiring efforts these bills have repeatedly been killed in committee.

"Missouri gave us a scare. There, almost before we were warned that such a bill was under way, a Sullivan law was passed by both the Assembly and by the Senate; but you all know our President, Mr. Crossman, and his live-wire methods for quick action. He personally visited the Governor, laid the facts before him plainly, and the bill was vetoed. This State will bear watching, however, during the present session.

"New Hampshire introduced a bill that was not objectionable and we have kept our hands off.

"An attempt was made to pass a Sullivan law in New Jersey, but without success.

"Ohio produced three bills, which were defeated.

"Oregon has developed a peculiar situation. For two years there has been a Sullivan law on the statutes, but a 'good' bill was passed after a considerable fight and we supposed the atmosphere was clear; but a controversy arose soon after as to whether the passage of the last bill automatically caused a repeal of the first. The latest news (January 8th) indicates that a man has a right to purchase a pistol or revolver without the necessity of first obtaining a permit to carry it.

"In Pennsylvania two adverse bills were killed. A local ordinance for Philadelphia, however, prohibits the sale in Philadelphia without permit.

"The State of Washington presented a Sullivan law that was particularly drastic. Things in Washington looked very dark, for the incident that gave rise to this bill was sensational. While the Legislature was in session an angered lumberman entered the State Capitol and a room that was literally alongside the very chambers where the assembly was in session, and there he shot and killed the State Insurance Commissioner, against whom he had a grievance. The bill in Washington, however, we managed to have changed so that it in no way conflicted with the interests of law-abiding citizens desirous of obtaining firearms or of keeping them in their homes or carrying them under license restrictions.

"Your committee starts this present session as thoroughly prepared to meet the situation of drastic revolver laws as it was unprepared in 1917. Literature will be gotten out to instruct all the members of the U. S. R. A. what to do in case of trouble. No sooner a hostile bill appears in a State Legislature, all of those revolver clubs within the State will be notified and asked to get busy. Similarly, no sooner we come across a city ordinance that is along the Sullivan law lines, the committee will take similar action to arouse the members.

"Only one point having to do with a general policy of procedure remains to be described. The first thing that suggests itself is the idea of getting the various States to adopt a uniform revolver law suggested by the U. S. R. A. There are, however, serious objections to this. No more than it has been possible to get the various States to adopt universal divorce laws or universal laws, will it be possible to get them to adopt a universal revolver law. Conditions are too widely varying in the various States to make such a plan feasible. More, many of the States now have revolver laws that are unobjectionable to us and at least for the time being will not trouble us with Sulli-

van laws. To suggest the idea of any sort of revolver laws to States of that sort would mean to reopen the subject wide, with the result that half a dozen rival bills intended to be improvements on our law would be introduced. In the end it would depend upon the influence wielded by the sponsor of one of these rival laws whether he would get his bill through at the expense of our own. A universal revolver law fostered by this Association is valuable to us, however, if we use it properly. And the right way to use it is to have it introduced as a rival bill to any bills that we may not want and then to back it by every method that is legitimate, either in person or by letter.

"This year is an off-year for the Legislatures and not nearly as much trouble is expected as last year or as is likely to develop next year, when, instead of only eleven States, thirty-eight States will meet in regular session.

"The list of Legislatures meeting this year excludes Ohio and Pennsylvania, which both have been a source of worry and hard work during the past years. The Legislatures that will meet in regular session belong to the following States:

"Georgia, Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, New Jersey, New York, Rhode Island, South Carolina, and Virginia.

"Respectfully submitted,

"A. C. HURLBURT,

"For Legislative Committee."

In addition to his report, Mr. Hurlburt explained that the U. S. R. A. did not desire to interfere with any proper legislation, but wished the right of pistol shooters to carry their weapons to and from the range and use them in practice, and the right of the citizen to keep a weapon in his home, to be protected. As an example of the inconsistency of most such laws, Dr. Sayre called attention to the Sullivan law, which permits a member of the National Guard to carry his revolver to the place of meeting, but which makes him guilty of a misdemeanor if he fires his weapon after he reaches the range. A rising vote of thanks was given the Legislative Committee and its members were continued in office.

After the report of the Legislative Committee had been acted on, a letter from W. E. Fennell, of Boston, was read. The letter asked that the Association authorize the presentation of a testimonial to J. B. Crabtree, the retiring Secretary-Treasurer. The motion was carried.

At this point, J. B. Crabtree brought up the matter of T. K. Lee's protest, and the meeting decided to consider the matter. Crabtree read a communication from Lee to C. C. Crossman. From Lee's letter, it appeared that the Birmingham shot on June 6, 1917, using a .22-calibre pistol, fired 50 shots, making a

score of 480 points. On this Lee made a claim for record, but learning later that the existing record was 481 points, withdrew his claim. On June 18, 1917, Lee shot again, this time using a .44-calibre revolver, and scoring 482 points at 20 yards. On this he based another claim for record. He charged that he had been discriminated against when his score was not allowed as the record, and that repeated requests made to the Secretary-Treasurer of the U. S. R. A. had failed to bring him any reasons why this action was taken. The score, Lee declared, was shot on an open range in the presence of J. D. Beavan, the U. S. R. A. representative, and two other witnesses.

Lee's letter was read in open meeting, and the Secretary-Treasurer stated that all of the members of the Executive Committee except D. T. Baker, of the Canal Zone, had considered the matter and voted adversely to Lee's claim. Following Lee's letter, a full report of the investigations made by the U. S. R. A. was read to the meeting. At the conclusion of a discussion of the investigator's report, Dr. Sayre moved that "Lee's protest having been heard in open meeting and the matter considered, the action of the Executive Committee be sustained, it appearing that the regulations laid down by the U. S. R. A. for the making of record scores were not sufficiently well observed to warrant the acceptance of the score as a championship record."

Before this action was taken, it was pointed out that other records claimed by Lee had been allowed, but that in this instance the testimony did not show that the proper method of weighing trigger pull had been followed, and that, although no accusations had been made involving Lee's integrity or the honesty of the score, the claim should not stand.

Having disposed of the Lee protest, the election of new officers was undertaken, and a nominating committee consisting of Dr. Sayre, J. A. Baker, Jr., and Mr. Wilder, of New York City, appointed to consider candidates. This committee reported the following slate: President, A. M. Poindexter, of Denver; first vice-president, A. L. A. Himmelwright, New York; second vice-president, E. L. Harpham, Chicago; third vice-president, C. W. Linder, of San Francisco; fourth vice-president, Fred Moseley, of Dallas, Texas; fifth vice-president, D. T. Baker, Canal Zone, and secretary-treasurer, George E. Cook, of Maryland.

Following this report, L. M. Rumsey put into nomination the St. Louis Colonial slate, including: For president, C. C. Crossman, St. Louis; first vice-president, A. L. A. Himmelwright, New York; second vice-president, A. C. Hurlburt, Connecticut; third vice-president, C. W. Linder, California; fourth vice-president, Roy S. Tinney, of New Jersey; fifth vice-president, Gen. Fred H. Phillips, Jr.,

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More About the Real "Old Timers"

GEORGE C. THAXTER

WEST of the Rocky Mountains, in the dim days of the firing line, rifle shooting was largely confined to the military arm.

In California, in Washington, in Nevada, there had come into prominence many shots of unusual ability, and Carson City was one of the localities where great interest was manifested during the middle Eighties.

Head and shoulders in shooting ability above most of the men at Carson City, was George C. Thaxter. Thaxter was a native of Bangor, Maine, and in 1886, when his shooting attracted considerable attention, was 43 years old. The first shot which Thaxter ever fired from any kind of a gun was on September 11, 1879, when three leaden pills were sent over the range without getting on the paper. Two days later he fired nine shots with a Springfield, scoring 29, and the day following scored 38 in 10 shots. From that time on a steady improvement was manifest in his ability.

Thaxter during his shooting career used many kinds of military rifles, and customarily used only such ammunition as would be obtainable by the soldier or the hunter. Thaxter always used Hazard F. G. powder, and a lubricated grooved bullet made by a Carson gunsmith—one C. H. Marsh. When shooting the Springfield, he loaded 70 grains of powder and 450 of lead; with the Sharps, the same quantity of powder and 400 of lead, and with the Remington, 80 grains of powder and 500 of lead. Thaxter was also a great believer in the thick front sight, steadily increasing the dimensions of the original equipment, until in the later days of his shooting, the front sight on his rifles were 1/8 of an inch thick, with rounding top. In shooting he used the 6 o'clock hold.

Thaxter, upon going on the firing line, settled the trigger guard of his rifle in the palm of his left hand, extending the first finger full along under the forestock and settling the left arm so as to receive the greatest support from body and hip. He pressed the trigger with the second finger of the right hand.

Thaxter joined Co. F of the Carson Guard, First Regiment, Nevada N. G., in 1879, and three months in succession won the second class medal, thereby being promoted to first class. His first match was shot on August 9, 1880, he being one of the Carson Guard team contesting on the 200 yard range at a Caledonian picnic. He was high man on his team with a score of 42. On September 7, 1880, he won high place in a field of 120 men, entered in a team match at the Miner's Union Picnic, on a score of 44. On June 26, 1881, at a Turn-

verein picnic, he was first in a team of 20, scoring 95 on the Massachusetts target.

He fired his first shot at 500 yards, in August, 1880, and on September 10, in an individual match recorded a clean score. This shooting as well as most of his previous work, was done with the Springfield, and in the off-hand position.

In November, 1881, Thaxter took up the Sharps-Borchardt .45 calibre, but did not do much with it until the Spring of 1882. On May 20th of that year, a team of five from the Carson Guard shot a match with a team from the Oakland Light Cavalry. The contest called for 20 shots at 200 yards, and 20 shots at 500 yards. In this match Thaxter made the highest individual score, recording 88 at 200 yards and 89 at 500 yards. On August 27, 1882, Thaxter made a run of 17 consecutive bull's-eyes during a match with J. R. King, Colonel Kellog and Nick Williams. The contest called for 50 shots at 200 yards, and 50 shots at 500 yards. Thaxter won the match on a score of 216 at 200 yards, and 230 at 500 yards. The run of bull's-eyes was made at 500 yards.

On September 3, 1886, in a match of ten men with the Nationals of San Francisco, 10 shots each 200 and 500 yards, he scored the highest in either team, making 44 and 45, aggregating 89. October 21 he went to San Francisco with fourteen other members of the Nevada militia to contest for the Pacific Slope Trophy at the fall meeting of the California Rifle Association. The conditions were "teams of ten men from any State or territory on the Pacific slope, 10 shots each man at 200 and 10 shots at 500 yards." Thaxter took part in but two of the competitions in San Francisco for places in the team, but made the highest score in each—October 24, 93, and on the 26th, 91. The match took place on the 28th, and Thaxter made the second highest score of all taking part, which aggregated 91. On the same day, in "All Comers" match—individual—at 200 and 500 yards, he took first prize, shooting against a 94 already made, his score being 48 at 200 yards and 47 at 500.

June 21, 1883, at Turnverein picnic, in 5 teams of 10 each, he made the highest of 50 men, making 46 at 200 yards.

In five competitions (26 men taking part) for places in team to shoot the return interstate match with the California team, for the Pacific Slope Trophy, he took second place with an average of 87 4/5 per cent, and in the match September 17 was second of 20 men with 45 at 200 and 47 at 500 yards. On September 20 he defeated Nick Williams in

a 100-shot match at 200 yards, this being the first individual contest he had ever attempted. The score was 447.

On October 30, in San Francisco, he won the California Powder Works Trophy, a gold medal valued at \$100, the conditions being that California Powder Works' powder be used, 7 shots at 200 and 7 shots at 500 yards, no sighting shots at either range, his totals being 30-34. On the same day he made the highest in the Nevada team of six men for the Nevada Trophy, with the same conditions as above, his score being 30-34. On October 31 he purchased a new Sharps-Borchardt military rifle to bring to Carson City for a member of his team. He took it to the Presidio, where the "regulars" had their ranges. He shot 10 shots at each range, 200, 500, 600, 800, 900 and 1,000 yards, making 46, 48, 43, 34, 34 and 38, respectively. This was Thaxter's first and last attempt at a distance beyond 500 yards. The long-range scores were made in a wind so strong that he was compelled to hold off the target, and was further handicapped by the trigger of the rifle he used letting off at many times the usual "pull."

During the month of January, 1884, Thaxter procured from the East a Remington Hepburn .44 calibre special military rifle, and fired the first shot on the 30th of January, making

4 4 4 4 5 5 5 5 5 5—46
at 200 yards and a clean score at 500 yards. Happening to get a 4 the first shot at the short range, he changed the sights every shot until he found the bull's-eye. At 500 he took but two sighters. Including these scores, he shot 30 scores at 200 yards to May 1, no two scores being shot on the same day, and made 1,367, or 91 2/15 per cent, and 12 scores at 500 aggregated 578, or 96 1/3 per cent.

On April 6, 1884, in a match with Colonel Galusha, 50 shots at each range, he made 225 at 200 and 232 at 500 yards, Galusha's score being 452. On the same day, in practice, he made 47 at 200, 49 at 500 yards, and in a team match of six men scored 43 and 49.

On August 9, at the Caledonian picnic, in a match between four teams of five men each, 10 shots at 200 and 10 at 500 yards, he stood second with 44 and 48. In the four competitions for places on the team to shoot the interstate match with the Californians for the Pacific Slope Trophy he made an average of 92 1/4 per cent, 9 points more than the highest of 51 competitors in California and Nevada; but coming East to Maine in September, he did not return until after the match was shot. For eight

(Concluded on page 352)

ARMS AND THE MAN

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EVERY SATURDAY

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KENDRICK SCOFIELD

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

That 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.

THE TRUTH ABOUT THE RIFLE SUPPLY

IT IS about time that the people of the United States were told the truth about the army's supply of rifles.

There is no particular reason to hide the facts. There is nothing to be ashamed of—that is, dating from the declaration of war against Germany. Prior to that time, the country most decidedly did not have a sufficient number of Springfield rifles, although the supply at our armories and arsenals was greater than that in the British storehouses in August, 1914.

But what happened prior to April 6, 1917, so far as the facts connected with our present so-called "rifle shortage" is concerned is burned powder, and should be regarded only as a warning against any recurrent and similar circumstances.

First, every American should be impressed with the fact that when we entered the war the combined maximum output of the Springfield and Rock Island Arsenals totalled a little more than 1,000 rifles a day. To that number of Springfields—manifestly entirely inadequate to meet the needs of our National Army—has been added a daily output of Model 1917 rifles which totals approximately 9,000.

Second, every American should be made to understand that the new Model 1917 rifle is a thoroughly reliable and accurate weapon, safe to the soldier who uses it and very dangerous to the foe at whom it is discharged, just as every good military rifle should be.

Third, every American who undertakes to discuss the merits of the new weapon should realize that no more treasonable words can be uttered than those which will plant distrust of his rifle in the mind of the man who is going to use it, and which will cause apprehension at home in the hearts of parents who may be led to believe that their sons have been sent into battle where they will be in as much danger from their own weapons as they will from enemy bullets.

So far in the rifle controversy, the public has heard considerable about "broomsticks." The people have been told that there are cantonments where a large percentage of the men have not had rifles issued to them. There has been an excellent chance for all manner of picturesque verbiage, largely discreditable to the Small Arms Division of the Ordnance Department.

Following the broom stick chorus, came a medley of half-baked opinions from near-experts who without waiting for any facts to be established, jumped to the conclusion that a British rifle required to resist a chamber pressure of only 42,000 pounds, could not be rechambered to withstand the 51,000 pound pressure of United States Service Ammunition, without endangering the life of the man who shot it. As soon as the new rifle made its appearance, there ensued in the columns of sporting weeklies much discussion concerning the new arm. Most of this discussion was entirely proper, since the readers of these periodicals well understood why the new weapon might be condemned from target shooting standpoint, and at the same time praised from the standards demanded of firearms to be used in trench warfare.

Then as soon as Congress began its inquiry into the conduct of the war, there came the efficiency experts, shouting their catch-phrase, "Give us results!" These gentlemen appear to have been laboring under the kind of mental attitude which would lead them to applaud a three-foot jumper who takes a two-foot hurdle without mishap, and to toss lightly into the discard the twelve-foot jumper who stubs his toe on eleven feet, six inches of obstacle. Apparently, to these men, neither the magnitude of the task of producing rifles for an army of more than a million or the necessity of having these rifles right after they had been produced, counted as being of any unusual importance. In short their whole performance makes one wonder whether they would have uttered a single protest if the million rifles had been produced with gas-pipe barrels and cast-iron receivers, just so long as the supply was apparently materialized out of thin air.

The matter of avoiding jams which have always been present in every arm using the rim ammunition, the desirability of making sure that the alterations contemplated would in no way weaken the remodeled weapon, and the necessity of making haste slowly at first in order that production, when once begun would be unhampered by the numerous delays which had retarded deliveries under the British contracts, have not seemed to appeal to the efficiency experts.

The truth of the matter is that the nation is to be congratulated on having had the services of such men as make up the Small Arms Division of the Ordnance Department.

While efficiency experts and near ballisticians were raving their loudest, these men stuck to their guns, unmoved by anything save a desire to insure the best possible emergency rifle in the shortest possible space of time, but always with due and very proper regard to the necessity of being absolutely sure that the guns produced would be of the best possible quality, and that when the factories once began deliveries, the rate of production would equal the demand.

Roughly in the past it has taken a year or more to prepare an existant plant to make any particular rifle and run the productivity up to a maximum.

Eight months after the declaration of war with Germany, the factories working for the Small Arms Division were turning out more rifles per day than any other nation has ever been able to produce.

Today there is a new Model 1917 rifle for every man under arms, and a considerable surplus in addition. It is true that in some cantonments there are not enough rifles to go round. But this is distinctly not the fault of the Small Arms Division. Perhaps you have heard something of freight congestion, and

an inability to move camp supplies by rail? If you have you won't need to be told that the traffic situation and not the Small Arms Division, is responsible for any lack of arms in the cantonments. As to getting the rifles abroad, none can be sent until bottoms to transport them can be provided. When the bottoms are ready the rifles will be there at tidewater.

Talk all you're a mind to about the new rifle; get acquainted with it. Boost for a wind-gauge on its otherwise excellent receiver sight, when the Ordnance Department gets time to attend to that detail. But don't knock the rifle to the boys who are going to use it. There isn't any ground for such abuse. The Small Arms Division has done a great big thing. It has provided a safe, accurate rifle, suitable for trench fighting. The boys who freeze to it, out there in No Man's Land needn't be afraid that it will shoot wild from the muzzle and maim from the breech. It's safe. It's just as safe as the Springfield which has justly been called the finest military rifle in the world, not excepting the German Mauser. Some day soon we're going to learn the truth about that German military rifle. Already the few experts who have been able to get one to try out are saying that it is a dream of a rifle to the eye but mighty carelessly put together so far as accuracy is concerned, in spite of its high muzzle velocity, flat trajectory and penetration.

WELL DONE

WITH the declaration of War, the reorganization of the Ordnance Department to meet war conditions, brought into being a branch known as the Small Arms Division. Col.

John T. Thompson, U. S. A., retired, was detailed in charge. Upon him devolved the organization of personnel, and the difficult duty of supplying all manner of small arms, with practically nothing to work on but disorganized manufacturing plants and the assumption that Congress would appropriate the necessary funds.

The reorganization of the Ordnance Department that is now taking place contemplates the disbandment of the Small Arms Division. This disbandment takes place just as the Division has finished the difficult task assigned it.

Rifles have been supplied for the present needs of the army, and an organization built up that insures rifles for the next draft long before the draft is made. Pistols have been contracted for up to the needs of the service. Scientific appliances have been studied, perfected and adopted, insuring that our army will be better equipped along this line than any other army now in the field. Millions on millions of rounds of small arms ammunition have been manufactured. To accomplish these results, the moneys appropriated by Congress—something more than half a billion dollars—have been expended, and obligations made for the expenditure of additional funds.

The work intrusted to the Small Arms Division has been well done. The officers who undertook it, have rendered a valuable national service. The Chief of the Division built up a most efficient personnel, and the transfer of this personnel to the various branches of the Ordnance Department is sure to increase the efficiency of any branch to which one of these men is assigned.

A Talk About Bullets

By L. E. EUBANKS

ONLY a small percentage of shooters appreciate the amount of study and experiment that has been devoted to ammunition. The bullet that we find so satisfactory today was not always so perfect. Like most other excellent things, it has "evolved from a crude state." I venture to say, too, that its evolution is not concluded; we know that the best size of bullets is yet a moot question, and it is not inconceivable that better bullet material, or more effective combinations of that already in use, may be discovered. The science of shooting, gun- and ammunition-making, etc., is such a deep and engrossing study that it occupies some of the most brilliant minds in the country. These men love to plow the new field, and from them we can count on many new things. It is only a matter of time and development. Guns are by no means as perfect as they will be in future decades.

Our present-day bullet is of lead, with a thin covering of copper or other soft metal. Why lead? Because it has density and inelasticity, the two leading essentials of a bullet-core. That lead is sufficiently dense, and generally satisfactory, is pretty well proved by its universal use.

I believe it is the military preference in all the leading countries except France. The French prefer—or did prefer—solid bronze bullets.

The use of all-lead bullets is out of the question in this day of high velocities and small bores, so the covering becomes an important feature. While cupronickel is conceded to be the best bullet-coat, it really leaves something to be desired; or maybe I should say something *not* to be desired—metal fouling. I imagine most of us would be astonished if we knew the study that has been put into this one detail: how to overcome the fouling from the bullet coat. Various materials have been tried; iron has several good qualities; it doesn't foul the gun so badly, but it rusts too easily. The British tried hard to overcome this by coating with wax, but were only partially successful. So far, experimenters have always returned to copper.

Military bullets are growing lighter. It was predicted several years back that eventually we should have the pellet of less than 100 grains. The constant aim to lessen the service rifle's recoil, and the passion for high velocities, account for the decrease. Authorities figure—and

very properly—that a soldier's work is nerve-racking enough at best; if the jolt from the gun-butt—which amounts to something when one considers the long hours of repeated firing—can be lessened, it certainly should be.

But, naturally, we would not select the light, high-velocity bullet for work requiring great penetration; we would use a 400-grain bullet in our elephant gun. Weight of bullets can hardly be discussed without involving powder talk. At first thought, it seems odd that a heavy bullet should ever have a lighter powder charge than a comparatively light bullet. But as a matter of fact, two such loads can be prepared that will give about the same pressure. The reason—at least, one reason—is that heavy bullets being longer give more friction on the barrel and thus of themselves increase gas pressure.

And a good deal depends on the fineness or coarseness of the powder. A light bullet, generally speaking, requires a fast-burning powder. Robinson tells us that a given powder suitable for propelling a 150-grain bullet at 2,700 feet per second muzzle velocity may give a 200-grain bullet as little as 2,300 feet. But by altering the *grain* of that powder charge—without increasing the charge itself—we may speed the heavier bullet up to 2,600 feet per second.

We may say as a rule that light bullets

have more velocity, flatter trajectory and less recoil than heavy ones; but the latter have their virtues too, being better for long ranges and less affected by wind.

As pressure goes up the size of bullets goes down. In this day of great pressure and long bullets, we hear comparatively little of the old super-calibre bullet. I understand that the Germans now make their bullets, in all but the shortest weights, of less than groove diameter.

As to what shape is best for bullets, opinions differ—not only among individuals but among nations. The range and the nature of the target should be the decisive factors in this matter; each style has its purpose. Of course, the spherical bullet is not reliably accurate at ranges wherein drift must be considered; but the defenders of this shape used to point out that "long" bullets carried their weight irregularly distributed. True; but this is set right by the rifle itself. The purpose of the rifled barrel is to give the projectile a spinning movement. As the bullet rotates on its axis, its heavier end is made to bear as much from one direction as another. The fundamental purpose of rifling is accuracy, not increased range, as some gun men believe. Yet in a way the range is increased—that is, the effective range. But the bullet is not sent farther as a result of rifling.

Upsetting of bullets is caused by velocity, not weight. A man who had considerable trouble with a key-holing rifle finally found out that the gun was not to blame at all. (A gun is said to key-hole a bullet when the latter strikes with its side instead of end.) When he reduced his powder charge consistently with the size of the bullet, the rifle worked perfectly. This is the most common cause of key-holing, though a neglected barrel or a poorly made bullet is sometimes to blame.

Bullet weight, muzzle velocity and energy are all close relatives. The scientific rule for determining energy is a handy thing to know: Square the velocity; divide the result by 7,000, reducing it from grains to pounds; divide this by twice the acceleration of gravity, or 64.32, to give the energy in foot-pounds per grain. Multiply this by the number of grains in the bullet to get the total energy.

The flight of bullets has been the subject of many interesting observations, and again we are able to make some mathematical statements. Immediately the bullet leaves the barrel it begins to drop. Imperceptibly? Certainly; but real. This drop amounts to 16 feet the first second, 48 feet the second, etc. Trajectory is bound to depend on velocity; as the bullet "runs down" it yields more and more to irresistible old man Gravity. Sooner or later the swiftest bullet must come to earth. High velocity and elevated sights are employed to

NOTICE TO READERS

Congestion of second-class mail in Washington is causing delay in the delivery of ARMS AND THE MAN.

Under the war-time conditions which exist in the nation's capital, this delay cannot be remedied at the present time.

The management of ARMS AND THE MAN therefore requests subscribers to wait a reasonable length of time when the paper is overdue before writing to this office for extra copies.

make a bullet "hold up." One writer illustrates it thus: "When shooting 300 yards the .32-40 H. P. drops about 22 inches. If the rifle was sighted at 100 yards it would shoot a little high at 75 and a little low at 150, but would not miss much game at either distance. It is always best to sight your rifle for the average distance you expect to use it."

That a bullet in flight may be seen is now an established fact. Of course, one's eyes must be good and the light conditions favorable. My own eyes are very poor; seeing a moving bullet is only one of the many interesting things I have missed on that account. Really, it must be only a flash in the sunlight that one sees. We are advised to stand in the shade, and arrange for the missile to pass near us in very bright sunlight.

This matter of bullet flight reminds me of an interesting occurrence that was reported a few weeks ago. A shooter was testing his gun's penetration on an iron pipe. He knelt at a distance of some 35 feet and fired. Instantly he felt something strike him on the leg, and found that the rear half of the bullet jacket had come back with sufficient force to cut through his clothes and into the flesh! Now, did this bullet simply ricochet, or was it drawn back by suction? The teller of the experience inclines to the latter theory, and refers to the fact that when shooting fish a stream of water often flies back toward the gun.

After all, it is what the bullet does when it strikes that counts—that is, in hunting. For killing purposes, penetration is not so important as "mushrooming." A full metal-case bullet may go clear through an animal without "stopping" him; the exit hole may differ but little from the place of entrance. But a soft-nose bullet "tears things up" by its expansion—a brutal expression; but when we shoot to kill that's what we want to do. It is far better than leaving the game enough vitality to escape only to die a lingering death. The novice is impressed by penetration talk; he reminds us that the same gun that sends a soft-point bullet through 13 boards will drive a metal-patched one through 32. But the experienced hunter merely smiles, and chooses the metal-cased bullet with the soft point. This is not to say that other bullets—the service, for

instance—will not kill game; but with them the shot must be more accurately placed, and the result is never as reliable.

It is not at all impracticable to convert the full metal-patch bullet into a soft nose. Some fear to file off the coat, thinking the lead will blow out. I have never heard of this actually occurring. Fairly good mushrooming effects may be gained by filing the point down flat, so that about one-sixteenth of an inch of the lead shows. One fellow prepared his service bullets for big-game shooting by cross-cutting them with a hacksaw. Of course, the ready-made bullet is preferable, but it might be handy in a pinch to know these things.

As to killing, we should remember that any chemical effect of bullets has a better chance for exercise with a soft point. If a bullet is capable of killing a tree by vitiating the sap, as some orchardists claim, then its chemical action in animate bodies is worth consideration.

Very naturally, the degree and effectiveness of mushrooming depend very largely on the target's surface, its resistance. I wager that certain physicians in Atlanta, Ga., doubt the efficacy of all bullets, after what they saw. A nine-year-old negro girl was struck by a .22 bullet, a stray shot, and the bullet mashed itself flat as a pancake on her skull without penetrating! Fact.

Greased bullets have several virtues. For the hunter, they are decidedly preferable, because they mash up more readily. Also, they produce less wear on the barrel, and are somewhat more accurate. The popularity of the dry bullet is easily explained; most shooters would rather have a soiled gun barrel than soiled hands and pockets. Some fellows overdo a good thing, and apply too much lubricant. Finding that metal fouling is greatly reduced by it, they use so much that the hot grease squirts back in their eyes. This is highly dangerous. It is best not to apply the lubricant till you get ready to load; greased bullets in your pocket will assuredly gather grit and injure your gun. Carry the lubricant in a pocket-sized can and give each bullet a dip or two before loading.

The average Australian had never seen snow before he came north to take part in the war, and had no idea how it fell or what it was like. The following incident happened about the time the Germans were pestering our men with new gasses. It sounds like fiction but it is vouched for as a fact:

It was at dead of night; everything was still, wonderfully still, excepting for the report of some gun in the distance. The landscape was illuminated by the moon peeping from a gap in the cloudy sky. It was bitterly cold, and the boys were rubbing their numb hands and sniffing through their frozen noses.

"Gas! gas!" shouted Private Newhand. "Fritz is puttin' over some new gas—look at it."

We all slipped on our helmets, and after the excitement was over we discovered it wasn't gas at all—it had only just started to snow.

Believe it or not, it actually happened.—*Canadian Military Gazette.*

Women Work in Rifle Factories

WOMEN workers have for the past two years been doing yeoman service as mechanics in the Canadian rifle factories. Barrel straightening by means of a newly invented machine which accomplishes with unvarying precision what has so long been done by hand, opened a field for the activities of the women. Gradually they have invaded the inspection and assembly departments, and some of them have become such expert armorers that they are working in the rifling department.

In the work which has been done by these women may be found a solution of one of the most vexing problems which the War Department of the United States has been called upon to face—that of keeping skilled labor in munitions plants in the face of the call for men on the firing line.

Many well-informed Government officials agree that this problem is a serious one. It is said that the personnel of machine-shop crews is constantly changing in most of the big factories where arms and ammunition are being produced. It is freely predicted that this situation will continue until Congress sees fit to authorize by legislation the issuance of a certificate to every able-bodied man so employed which will state that his services were as valuable to the Government in the factory where he is employed as they would be in the trenches of Europe.

If such legislation is not forthcoming, it is likely that the United States will be forced to do what England and Canada have done—employ women in the big arms manufacturing plants. Wherefore the results obtained in Great Britain and the Dominion are of interest.

Concerning the work of women in the Canadian rifle factories, Mary J. Heustis says, in the *Scientific American*:

Shortly after war was declared, the Daughters of the Empire of Quebec, Canada, a patriotic and educational organization, volunteered their services as munition workers.

The women of England were our inspiration. We read of their sacrifice to do men's work, thus releasing the men for war duty, while they kept the wheels of national industry in motion. We believed that what the women of England could do for their country, for the world's liberty, we, the women of Canada, could do. And so we volunteered for war service to the Ross Rifle Company, at Quebec, makers of the National Canadian Service Arm, and our offer to assist as machine operators was accepted by the president, Sir Charles Ross, with the understanding that we would receive the same rate of pay as the men.

Some of us believed we were not fitted for factory work, but we did not want to discourage this great wave of patriotic enthusiasm that swept over our women

who wanted to do their bit—hands-across-the-sea with their English sisters, in unity of purpose. Speaking of women not fitted for factory work, I counted myself the first mechanical failure. I remember laying awake all night before starting work as a machine operator, thinking up some scheme for hiding my failure before public criticism, and near daylight fell asleep repeating the word "slacker."

The morning we started for work a Quebec blizzard was raging, the thermometer being 22 below, and we had to cross the historic Plains of Abraham to get to the factory. I shall never forget my first lessons as a machine operator—war work that made you actually feel you were in sight of the firing line.

We started work in the Machine Barrel Straightening Department. The ten working hours a day were divided in two five-hour shifts. Operators working in the morning one week changed to the afternoon shift the next week. Barrel straightening by machine was a new departure in rifle manufacture. Generally barrel straightening is done entirely by the hammer and block method. Machine barrel straightening requires great precision, and although working with our hands we were mentally registering so many pounds pressure to the inch every time a machine hammer struck the barrel to straighten it. In this capacity an operator lifted on an average 1.14 tons per hour.

When I was for the first time given charge of a small group of women, although appreciating my promotion I did not, however, like the idea of standing around letting others do the work, but before the first shift was over in my new job, I realized it was not all standing around. Two big problems confronted me. I was there for war work, but I must learn something of the manufacturing end before I could see success ahead of us. Being at that time on the five-hours shift, I devoted the other five hours of the day to the study of the manufacturing and executive end, and after several months' study I was promoted to supervisor of the Machine Barrel Straightening Department. In this capacity, I was responsible for the output and class of work in this department, and the conscientious work, fineness of touch, and precision of our women operators soon proved that they were fully able to meet the requirements.

Later on, the Women's Employment Bureau was under my direction, and my final promotion was Superintendent of Women. The very shortest possible time which a woman must remain in the machine operator class before she can be eligible for promotion to executive posts of any kind, is six months. The psychology of the six months' period of training comes in disciplining women to accustom

themselves to the routine and discipline of factory life, which, in turn, they have to impress upon their subordinates.

Our next supplementary work was in the Bayonet Department. The work in this department is not of one character, as in the Machine Barrel Straightening Department. It consists of milling, profiling, drilling, punch press, etc., and in this department our women also did expert work, setting up the machines after an incredibly short space of time.

As emergency required, we drafted women to supplement the work in other departments, where they learned to operate lathes, screw machines, cutters, grinders, etc. Women were also introduced into the inspection and assembly departments.

Machine barrel straightening was our pioneer department and from here you can trace in the factory records, expert operators in nearly every department. Three of our best barrel straighteners were instructed in rifling, and proved expert operators. *These are the first and only women riflers on the continent of America.* Rifling and machine barrel straightening (a new departure) were the only operations taught in schools, being of an exceptionally difficult nature. All other operations were taught in the shop. Machine barrel straightening was the only department with a five-hour shift. In all other departments we worked ten hours.

Welfare Department. In order to study the best methods of welfare work my assistant and I visited the National Cash Register plant, Dayton, Ohio, where they seem to have thought out the right way to do everything. Then we studied the Omar plant at Dayton, manufacturing fuse for the Russian Government. Here again was a model plant adaptable to war conditions. We also visited Peters Cartridge factory, King's Mills and Ford's at Detroit—each offering the very best suggestions. I drafted from each that which was best suited to our conditions. We had our trained nurse, our rest rooms, restaurant, doctor, etc. Service badges for munitions workers were a great incentive to make them come regularly to work, as badges were given for good work, good conduct and regularity, and a worker had to be at least three months in the factory to get one.

Our Welfare Department spelled promotion for our operators. No person can be fitted for executive control, and hold respect of his subordinates, unless he is able to give practical demonstrations. It follows that all women entering a factory should begin as machine operators and go through routine work in order to be in touch with employer and employee—team play being the only road to success in the plant. All distinction as to class, race, language was levelled and not recognized. We had as operators women of all classes from the daughters of the general manager down.

WEAR IN BIG GUNS

Major T. G. Tulloch (late R.A.), in *Arms and Explosives*, contributes an article of much interest at the present time dealing with the wear of large guns. As the author points out, the wear of such guns has a most important influence on the cost of the war, not only on account of the expense of effecting repairs, but because such wear leads to inaccuracy of fire and so increases the amount of ammunition expended to attain a definite objective. On this point he says: "In short, if a few thousandths of an inch of steel at the commencement of the rifling of guns, etc., could be prevented from wearing away in so short a time as at present, the reduction in the cost of the war, so far as guns, ammunition, transport, etc., are concerned, is almost incalculable."

In dealing with this matter, Major Tulloch differentiates between the damage to the bore near the breech end—damage for which he retains the usual term, "corrosion"—and that near the muzzle, which he prefers to call "erosion," as it is a purely mechanical effect. The causes which produce the first-named class of damage are complex, and include the effects of temperature, the form and dimensions of the powder chamber, the chemical and physical qualities of the powder used, the weight of charge and rapidity of fire, the gas escape past the projectile, and the composition and physical properties of the steel used for the inner tubes of the gun. All these matters present many points of interest, and they are discussed clearly in the article with which we are dealing.

Major Tulloch attaches much importance to the evolution of methods for securing the effective sealing of the gas escape immediately after the firing of the charge, and he makes some suggestions as to the lines on which such a device may be designed. As regards the physical properties of the steel used for the inner tube, Major Tulloch considers that the heat treatment should be subject to the analysis of the steel and the forging effect, and he urges the necessity of obtaining more effective forging of the portion of the tube forming the bore, and suggests certain methods of securing this result.

With regard to the erosion near the muzzle due to frictional wear and metallic fouling, it is pointed out that to secure good shooting it is desirable to prevent such fouling by all practicable means, such as slightly bell-mounting the bore, and, as indicative of the importance of this matter, he states that by electrolytic methods over 15 pounds weight of copper have been removed from the bore of an 8-inch gun after firing just over 100 rounds. In concluding his most interesting article, Major Tulloch remarks that it was written to invite discussion and to

call attention to certain matters requiring systematic investigation, and we much hope that it may have this result.

TO FORM BORDER GUARD

A bill asking that the Governor of Texas be authorized to enlist and equip a full division of 30,000 officers and men, to act as a guard along the Mexican Border has been introduced in Congress by Congressman Blanton, of Texas.

The measure proposes that the guard be enlisted from men not within the present draft age.

ARMY NEEDS TOLUOL

There is vital need of toluol in the manufacture of T. N. T. for the Army abroad. At the present time we are producing annually approximately 11,000,000 gallons of toluol from the by-products of retort coke ovens, which have increased so rapidly in number since the war began. This quantity, however, is under contract for the supply of the Navy and our allies. At least a year is required for the construction of a large battery of by-product ovens. For the new army the only quickly available source of toluol is the gas plants, which can be equipped within three to four months, some more quickly, to remove the toluol from gas. General Crozier states that the mobile artillery alone would require by September, 1918, at least 22,000,000 gallons of toluol. Statistics show that during 1916 approximately 220,000,000 cubic feet of gas were produced in this country. Assuming an average recovery of 0.05 gallons of toluol per 1,000 cubic feet of gas, we should be producing from the gas plants within the next four months if immediate steps are taken everywhere, at the rate of 11,000,000 gallons of toluol annually. Even at this the recovery of toluol would amount to only half of the requirement for an army of a million men. It is possible, however, by a more complete stripping of gas to increase the yield beyond 0.05 gallon per 1,000 cubic feet, thus more nearly meeting the requirements. The gas companies in turn have been in a quandary as to what to do. What would become of their investment if the war ended within the next year and the extreme demand for toluol suddenly ceased, as it surely would? The government is now in position to assume, in case of early ending of the war, the investment risks of gas companies through additions to their plants of the necessary equipment for recovery of toluol.—*Army and Navy Register*.

GEORGE C. THAXTER

(Concluded from page 347)

months after his return he hardly visited the range, but at the State Fair, on the 12th of October, 1885, 63 men contesting, he took second prize with a score of 45 at 200 yards.

On February 22, 1886, in a match with Schuetzen Club, of San Francisco, he was second in a team of 20 with 87—20 shots at 200 yards. On account of the ruling of the California Rifle Association he took up the Sharps-Borchardt again in July, 1884, and continued using it until April, 1886, when he adopted the Remington special.

On April 25, 1886, in a match with National Guard of Virginia, 20 men, 20 shots each at 200 yards, he was the first of 40 men, with a score of 90. In May and June, in three competitions for places in team of 5, to shoot a match at 200 and 500 yards, with Second Minnesota Regiment, he was first in each competition, with 93, 92 and 90.

On June 19, 1886, in a match with the Minnesota team, 5 men, 20 shots at each range, he was the highest of 10 men, scoring 92 at 200 and 97 at 500 yards. On June 27, in a match of 20 men at 200 yards, on Standard American target, with the Second Minnesota Regiment, he was the highest of 40 men, the score being 149. On July 11, in a match with Tacoma Rifle Club, teams of 10 men, 20 shots each at 200 yards, he was first with a score of 91. On August 21, in a 50-shot match, at 200 yards, with J. M. Bell, of Tacoma, Washington Territory, Mr. Thaxter scored 226 against Mr. Bell 221. In this match his last score was a possible of ten consecutive bull's-eyes. Although the match was to be shot on a Creedmoor target, a Standard American target was used, and the score kept accordingly, resulting in a total of 379. On September 2, in a similar match with Dr. S. L. Lee, he came out winner with scores of 45, 47, 46, 47, 45—230.

After the adoption of the Standard American target by the Carson Guard, Thaxter took part in but fifteen weekly competitions (10 shots at 200 yards), in which from 7 to 20 men participated, but was second in one of them with a score of 71, and first in all the others with the following scores: 74, 74, 73, 75, 78, 75, 83, 84, 74, 86, 73, 74, 80 and 80, the 86 counting but 46 Creedmoor, all the bull's-eyes but one being tens, which shows vividly the fairness of this target over the old Creedmoor target. All were first scores and without sighting shots.

All the scores made by Thaxter were with a military rifle with a six-pound trigger pull and open sights, and in nearly every instance were the first and only scores of the day with no sighting shots on the day of the shooting.

Tommy (to inquisitive French children)—Nah, then, alley toot sweet, an' the tooter the sweeter!—*Punch*.

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ANOTHER HUN TRICK

Something of the fiendish ingenuity of the Boche was revealed by a Tommy who was exhibiting some of the treasures he had gathered in cleaning up a recently occupied German dugout. One of these, carefully preserved between the leaves of a magazine, was the photograph of what was evidently a German girl, punctured with no fewer than a dozen bullet holes.

"Did you take it from a German soldier?"

"No, sir," was the reply, "only from the wall of a dugout."

"But how did she come to get so shot to pieces? I have never heard that the British soldier makes war on women."

"But this lady was making war on us, sir," he answered, with a smile, "or leastways, one of 'ere friends three or four dugouts down the line tried to strafe us, and we had orders to stafe back."

Then he went on to explain that the Tommies had always vied with one another in collecting photographs from the walls of the captured dugouts as souvenirs—a circumstance which the Germans, who appeared to have got wind of it in some way, endeavored to take advantage of by running a wire from the back of some of these mural decorations to mines concealed beneath the floor.

The Tommies had already learned to avoid stepping on the loose ends of boards, and to refrain from rocking tortois and picking up inconsequential odds and ends from the floor; but the mined photograph was something new, and before the ruse was discovered several cleaning-up parties were made to pay rather heavily for the desire to add another Fraulein to their picture galleries.

Photo-collecting languished for some little time after the designing nature of some of those abandoned Gretchens and Hildas had been disclosed, and it is still



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the custom to give any picture with a suspicious bulge behind it—if there is room to do it in safety—a few propitiatory shots before seeking closer acquaintance.—*Canadian Military Gazette.*

DIVISION DESIGNATIONS DISTINCTIVE

These distinctive designations have been applied to the divisions of the National Army and the National Guard:

26th Division, National Guard, "New England Division"; composed of the National Guard of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

27th Division, National Guard, "New York Division"; composed wholly of the National Guard of New York.

28th Division National Guard, "Pennsylvania Division"; composed of the National Guard of Pennsylvania.

29th Division, National Guard, "Blue and Grey Division"; composed of the National Guard of New Jersey, Virginia, Maryland, Delaware and District of Columbia.

31st Division, National Guard, "Dixie Division"; composed of National Guard of Georgia, Alabama and Florida.

33d Division, National Guard, "Illinois Division"; composed of National Guard of Illinois.

41st Division, National Guard, "Sunset Division"; composed of National Guard of Washington, Oregon, Montana, Idaho and Wyoming.

42d Division, National Guard, "Rainbow Division"; composed of portions of the National Guard of New York, Louisiana, Pennsylvania, Wisconsin, Ohio, Georgia, Alabama, Iowa, Illinois, Indiana, Minnesota, Maryland, South Carolina, California, Missouri, Virginia, North Carolina, Kansas, Texas, New Jersey, Tennessee, Oklahoma, District of Columbia, Michigan, Nebraska, Colorado and Oregon.

91st Division, National Army, "Wild West Division"; composed of men from Washington, Oregon, California, Nevada, Utah, Idaho, Montana and Wyoming.

We shall be pleased to receive the designations of other divisions.

THE NON-RICOCHET SHELL

In his statement made public on January 13, Representative Oliver, chairman of the House Committee investigating the conduct of the Navy, referred to the development of the non-ricochet shell which has been used successfully. Much of the detailed description of the new projectile has not been made public, but it may be said that after years of experimenting a projectile has been turned out that will burst either upon contact under water with the target, or, if so planned, at a predetermined depth.

The new projectile may be fired to strike the water on the near side of the target—a periscope, for example—and pursuing its course submerge until it

reaches its objective—a submarine, for example—although it is powerful enough to destroy the lighter side armor in the hull of a battleship. An ordinary projectile when it falls short of the target and strikes the water sometimes leaps into the air and passes over the target. It does not dive so that it will explode under the surface.

Projectiles have been designed in the past that will dive, but it was a problem to construct a fuse that will not cause an explosion upon contact with the water. The new shell is a flat-nosed affair which, when it strikes the water, continues its downward course at a slightly lower angle until it reaches its objective. No results of the work accomplished by the new projectiles have been made public by the Department officials.—*Army and Navy Journal*.

NAVAL AIRCRAFT FACTORY COMPLETED

The naval aircraft factory, erected at the Philadelphia Navy Yard, is completed and in operation. This plant, which covers three acres, the building being 400 by 400 feet, was begun in August, the structure completed in November, machinery installed and the keel of the first flying boat was laid 90 days after building work was begun. The plant, with equipment, cost about \$1,000,000.

Two thousand skilled workmen are now needed to operate the plant to its capacity. Almost every type of craftsman can help in some of the many kinds of work necessary to make seaplanes. Machinists of all kinds will be needed to make and assemble the parts. Sheet-metal workers, acetylene welders, braziers, bicycle tube benders, coppersmiths and wireworkers can all find employment.

There is very skillful woodwork to be done in creating a flying machine, so there is a keen demand for cabinet-makers, pattern-makers, boat-builders, joiners and millmen of all kinds. Women can sew the covers on the wings and perform some of the lighter wood-working operations. It is expected that, owing to war conditions, several hundred women will be employed. A good many laborers will also be required.

The need is urgent, and it is hoped that hundreds of skilled workmen will register at the Board of Labor Improvement at the Philadelphia Navy Yard for work at the naval aircraft factory.

This factory will not only produce a portion of the aircraft needed by the Navy, relieving other manufacturers for Army work, but will enable the Navy to conduct experimental operations without clogging the wheels of production in private plants and to ascertain the costs of aeroplane construction, which will aid in the adjustment of prices of aeroplanes.

MAKING "EMERGENCY" SHOT

In connection with the difficulty of obtaining shot in Great Britain at present, J. J. Meyrick, in correspondence with one of the London sporting weeklies, says:

"Perhaps the following extract may be of service to some of your readers who are unable at the present time to procure shot. It is copied from a book published in 1853 and entitled, 'Solitary Rambles of a Hunter on the Prairies.' The author, Mr. J. Palliser, was a sportsman of great experience in various countries, and had been staying during the latter end of winter at a trading post near Fort Union, on the Missouri river: 'The snow now began rapidly to pass away, and the smaller rivers and springs were open. Ducks, geese, outardes, and swans came hovering over our heads. I had again recourse to my Trulock gun, but, alas! shot was not to be had; so I was obliged to make it as well as I could. First I tried pricking holes in a card fixed in a small wooden frame, and pouring melted lead upon it, taking care to keep it perpetually in motion by shaking it backwards and forwards. But I found the following a better plan, i.e., to beat the lead quite flat and cut it into little bars about seven-eighths of an inch square, which we divided across so as to form little cubes one-eighth of an inch every way. These we made as like grains of shot as we could, by putting them into a small metal boiler in the kitchen of the fort, and rolling them round and round with a smooth stone, along with some ashes.' (The latter were, of course, from wood fires.) Mr. Palliser adds that, although the pellets were imperfect in shape, he managed to kill both geese and ducks. The former were very wary, and usually very difficult to approach; but on one occasion, being sheltered by a bank, he crawled within thirty yards of a flock, bagging six with the first barrel, and a seventh while they were flying away.

U. S. R. A. MEETING

(Concluded from page 346)

Washington, and for secretary-treasurer, Frank J. Kahrs, New York.

When this slate was submitted, the point was made that Captain Tinney was not a member of the U. S. R. A., and his name was accordingly withdrawn. In his place was put J. A. Baker, Jr., of New York. General Phillips, who was present at the meeting, declared that he could not be a candidate. In stating his reasons for this action, he took opportunity to officially disclaim any desire on the part of the National Rifle Association to absorb the United States Revolver Association. He told the meeting that the matter had never been discussed

by the Executive Committee of the N. R. A., nor had the rifle association ever been approached on the matter.

"At the last National Matches," he said, "there was more interest in pistol shooting than at any previous match, and the N. R. A. simply feels that if it can be of service to the U. S. R. A., it will be glad to cooperate."

Because of the two tickets in the field the voting was not accomplished by having the elections made unanimous, as has been done at previous meetings. Accordingly, tellers were appointed to total the several hundred proxies in the hands of the Secretary-Treasurer and a similar number held by L. M. Rumsey.

The counting and tabulation consumed several hours, the result of the balloting being far closer than ever before. For president, C. C. Poindexter polled 396 votes against the 357 cast for Crossman. For secretary-treasurer, George Cook received 399 votes against the 351 cast for Kahrs.

In the voting for vice-presidents, Himmelwright received 771 votes; Linder, 713; Hurlburt, 364; Moseley, 362, and Harpham, 361. In addition to these, who were elected, J. A. Baker, Jr., received 147 votes and D. T. Baker 360.

After the casting of the ballot, a motion was put restricting the vote at all Association meetings to those who have been Association members for at least 60 days prior to the meeting in question.

THE RIFLE IN WAR

(Concluded from page 344)

half instructed recruits, will prove still the most formidable weapon put into the hands of troops. No man who has acquired skill with the rifle, and who has acquired the love for it that marks the enthusiastic rifleman, is going to swallow the piffle handed out by those who have formed their ideas by the work of European troops who couldn't be sure of hitting an ice-house without going inside and closing the doors.

Wherefore the work of the Marines when they get into action in France will be worth watching. On their use of the rifle will hang the final verdict, because no finer shooting body of men than the U. S. Marines ever went into war.

Jock—Man, it's an awfu' puir day for fechtin'.

Donal—Ay. But it's an awfu' guid day for gettin' the fu' warrumth an' comfort oot o' the rum ration.—*Punch*.

Jack—So I dives under the submarine wiv my little bradawl and bores an 'ole an' sinks the blighter, an' 'ere's the bradawl to prove it.—*Sketch*.

The rookie was being taken to the guard-house.

"Quick promotion," he muttered to himself. "I am already in charge of a squad of men."—*Boston Transcript*.

Off Hand From the Clubs

N. R. A. Announces Conditions For Indoor Gallery Matches

EMBODYING numerous changes over last year's competition, the rules for the Gallery Matches of the National Rifle Association have been published.

According to present plans, entries will be received up to February 16, and shooting will start the week ending February 23.

The most important change noted is the abandonment of the class system in awarding prizes. In all of the matches this year, there will be one winning team. That team will receive the winning trophy. There will be no medals for second and third places.

Formerly the winning teams in various classes were given class medals. This year, instead, every contestant who shoots the entire ten matches and who makes a total score of 90 per cent will be awarded a 90 per cent medal.

This system was tried out in the outdoor matches last year. It worked well because it provided an incentive for each man to do his best, and a prize that every man could win regardless of the standing of his team.

Restrictions on team members in the Civilian Match have also been removed. In the civilian competition, telescopic sights will be permitted, the same as last year.

In the Intercollegiate Gallery Match, in addition to doing away with class winners, the 10 shots from standing have been abandoned, the course now calling for 20 shots prone. In this competition telescope sights are not permitted.

In the High School and Military School matches, the standing position has also been omitted.

The conditions of each competition in full are:

CIVILIAN INTERCLUB GALLERY CHAMPIONSHIP MATCHES

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

Team—Any number of men up to ten may shoot on the team, the five highest scores to count for record.

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

Number of Shots—Four sighting shots and 20 shots for record for each member of team each week.

Target—The N. R. A. six-bull gallery target. Each competitor will fire four shots on each record bull. Targets must be used as issued, without the use of shields or blinds. Official targets will be furnished free for the matches by the N. R. A.

Position—Prone, no part of extended arm to touch the ground except the elbow. No artificial support to any part of the rifle except the sling.

Rifle—Any .22 calibre, weighing not over 10 pounds.

Ammunition—Any .22 calibre.

Sights—Any; rear sight can be placed on any part of the rifle.

Trigger Pull—Not less than 3 pounds.

Time Allowance—Thirty minutes for the string of 24 shots, taking time from the first sighting shot.

Preliminary Practice—No member of the team to fire preliminary to firing his score (24 shots) in the match on the day of the contest.

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

Reporting—At the close of each match each week the targets will be mailed at once to the N. R. A.

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

Prize—To the club making the highest grand aggregate score the "National Trophy," to be held for one year or until the next competition, and ten bronze medals, to go to the ten men shooting in the greatest number of contests. The winning team will also receive a "Certificate of Victory," to be retained by the club. The winning team will be determined by the aggregate score of all matches shot.

To each competitor shooting in all matches and attaining a percentage of 90 will be awarded a 90 per cent medal.

Entries—Entries will close on February 16, 1918, and the matches will begin the week ending February 23, 1918.

INTERCOLLEGIATE GALLERY CHAMPIONSHIP MATCHES

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

Team—Any number of men up to ten may shoot, the best five scores counting for the team score.

Distance—Fifty feet from end of rifle to target.

Number of Shots—Twenty for record. Two sighting shots only will be allowed at commencement of firing. Sighting shots must be fired on match targets.

Targets—The N. R. A. 50-foot gallery target, 5 to 10 count, to be used. Officially stamped targets will be furnished free for each match. These targets will be marked for identification, and no other targets will be received for record.

Position—Prone, head toward target. No part of extended arm to touch the ground except at the elbow. No artificial support to any part of the rifle except the sling, or to the arm except at the elbow.

Rifle—Any .22-calibre, weighing not over 10 pounds.

Sights—Any, in front of the firing pin and not containing glass. Telescopes not allowed.

Trigger Pull—Not to be less than 3 pounds.

Ammunition—22 calibre, short.

Time Allowance—Thirty minutes will be allowed for the two sighting and twenty record

shots, taking time from the first sighting shot.

Judges—A judge, approved by the N. R. A., or his representative, will act as executive officer at each contest. He will see that all conditions are adhered to and report the score with targets to the headquarters of the N. R. A. by mail on completion of match.

Matches, When Shot—Team may shoot on the Monday, Tuesday or Wednesday of each week, or on the days preceding, if the targets stamped for the following week are used. The targets of the week's shoot must be mailed to the office of the N. R. A. by Thursday night of each week.

Entrance Fee—Five dollars per team. Entries close February 16, 1918. Matches begin week ending February 23, 1918.

Prize—To the team making the highest aggregate score of all matches, the Championship Trophy and ten bronze medals. To each competitor shooting in all matches and attaining a percentage of 90 will be awarded a 90 per cent medal.

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

The method of determining the winning team will be by the highest aggregate score.

Make entries to Secretary, National Rifle Association, 1108 Woodward Building, Washington, D. C.

HIGH SCHOOL AND MILITARY SCHOOL MATCHES

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

Team—Any number up to ten may shoot, the five highest scores to count for record.

Distance—Fifty feet from end of rifle to target.

Number of Shots—Twenty for record. Four sighting shots allowed in each position.

Targets—The N. R. A. competition gallery target, 5 to 10 count. Officially stamped targets will be furnished by the N. R. A. No other targets will be received for record.

Position—Prone, head toward target; rifle, forearm and hand must be free from artificial support.

Rifle—Any .22-calibre rifle weighing not over 10 pounds.

Sights—Any, in front of the firing pin, and not containing glass.

Trigger Pull—Not to be less than 3 pounds.

Ammunition—22 calibre, short.

Judge and Witness—There must be a judge approved by the N. R. A., who will take charge of each contest; he will be assisted by a witness appointed by him. Both judge and witness will certify to the scores made. All scores will be reported by mail immediately after the close of the match to the N. R. A. on a special blank for the purpose, along with the targets.

Match, When Shot—The matches will begin the week ending February 23, 1918.

Entrance Fee—\$3.00 per team. One team or more allowed to a club.

Prize—To the team making the highest aggregate score of all matches, the "National Trophy," to be held by the school for one year, or until the next contest, and 10 bronze medals to the 10 boys taking part in the greatest number of matches during the series.

HOME GUARDS ATTENTION!

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Several hundred S. & W. British and Canadian Military Revolvers, 6½-inch barrel, blued .455 cal., new, with 100 cartridges, \$33 each.

S. & W. Military Model, calibre .45 Bisley, 6½-inch barrel, blued, \$30.

S. & W. Perfected Model, .38 cal., 6-inch barrel, nicked or blued, \$25.50 each.

Several thousand new 30-30 carbines and rifles, with ammunition at less than pre-war prices, all packed in original cases and subject to inspection at warehouse. Will sell in case lots if desired.

Apply by letter only.

W. R. Clendenon, Arms and the Man

The winning school will receive a "Certificate of Victory," to be retained.

To each competitor shooting in all matches and attaining a percentage of 90, will be awarded a 90 per cent medal.

The method of determining the winning teams in each class will be by the grand aggregate score of all matches shot.

Entries—Entries will close February 16, and should be made to Secretary, National Rifle Association, 1108 Woodward Building, Washington, D. C.

Club Will Enter Teams

H. D. Gross, secretary of the Joliet, Illinois, Rifle Club, is busy stirring up enthusiasm in the coming N. R. A. National Indoor League competition, and will endeavor to have two or three teams in the matches. And that the men may be in the best possible shape for the event, the club will hold practice shoots every Thursday evening. At least one target, registering a ten-shot string, will be held for record for every man shooting, and the scores thus secured will determine the personnel of the first Joliet team to be entered in the Indoor League competition.

INQUIRIES OF GENERAL INTEREST

In this column will appear excerpts from requests for information and for official interpretations, made to the National Rifle Association, the replies to which may be of a generally informative nature.

Q. Is a rifle club responsible for a Springfield 1906 rifle stolen from an N. R. A. member who never qualified?

A. Yes. The club will be held responsible, and should take steps immediately for the recovery of same.

Q. According to instructions issued by the Ordnance Department, I held the rifles and ammunition I had on hand at the disposal of the Governor. Was later advised that the Governor did not wish to use these supplies. Can the supply of free issue ammunition now be used for regular target practice by the club members?

A. Yes. The free ammunition on hand at the time the instructions were issued was not subject to the order. The rifles will, however, have to be delivered if called for by the Governor of your State later, with the exception of five.

Q. Can I sell a Krag rifle which I purchased from a fellow member of a local club, he having purchased it from the club in 1916? And if it is permissible, can I sell to anyone?

A. You have a right to sell your Krag, if you have title to same, to anyone. The National Rifle Association, however, would prefer that you dispose of it to some member of that organization.

Q. What ammunition is used in the .22-calibre Springfield 1903?

A. Any .22 ammunition can be used with this rifle except the high-power.

ALONG THE FIRING LINE

The qualification of forty members of the University of Chicago Rifle Club, thirty-one marksmen, eight sharpshooters, and one expert, has been reported. They are: Marksmen, Robert Raumbartner, 170; W. W. Bellomy, 150; S. G. Bradley, 160; Leo Brandes, 160; H. G. Clark, 155; A. B. Dick, 158; W. S. Dugeon, 158; N. E. Duehring, 174; H. J. Edmonds, 153; L. Erwine, 141; H. W. Ettel-son, 153; W. J. Freeman, 175; A. R. Gay, 152; M. F. Helmer, 166; J. H. Jones, 156; C. J. Kelley, 154; R. W. Little, 152; W. R. Miles, 172; H. C. Morgan, 151; R. M. Munger, 172; H. G. Reher, 150; L. R. Riggs, 154; Gus. Rizzardi, 158; I. J. St. Clair, 151; G. R. Sutherland, 146; C. J. Thompson, 156; C. S. Valder, 153; C. H. Wagner, 173; L. E. Wal-lace, 156; C. E. Watkins, 164; E. Willcockson, 150. Sharpshooters, W. P. Burleigh, 166; C. J. Chamberlain, 152; L. W. Dick, 158; J. B. Fleugel, 144; G. W. Friedrich, 150; S. D. Hattery, 156; Paul Mooney, 151; L. B. Mor-gan, 163. Expert, A. C. von Noc, 221. With the exception of the course shot by Mr. von Noc, which was the Organized Militia Course, all qualifications were made over the Marine Corps Course.

The Montreal Revolver Club defeated the Toronto Revolver Club in the fourth match of the season by the close margin of 4 points. The match was shot January 12. The series for the season now stands tied, with two wins apiece. Three more matches remain to be shot. The scores:

Montreal R. C.		
F. Dumfries	87	86
K. D. Young	82	85
D. E. Saunders	83	80
F. B. Allen	82	81
A. M. Green	79	82
J. Boa	79	80
Total	986	

Toronto R. C.		
A. Rutherford	86	90
C. E. Peterkin	89	76
J. P. White	87	78
R. Clarke	81	80
A. Henderson	81	79
W. J. Medforth	75	80
Total	982	
Majority for Montreal, 4 points.		

The Capital City Rifle Club, of Sacramento, California, reports the qualification of four expert riflemen and 11 sharpshooters. They are: Experts, Steve Neal, 164; W. G. Hansen, 163; J. C. Hughes, 145; P. Rassmussen, 144. Sharpshooters, E. Cram, 182; J. C. Caulfield, 170; R. W. Dole, 170; A. D. Gaskin, 164; George Peterson, 160; James Marty, 159; W. W. Haney, 155; E. N. Stillwell, 151; Charles Lindskog, 150; C. H. Riley, 150; J. C. Niel-son, 150.

On a score of 133 Walter Weaver won the Members' Match of the Reading, Pennsylv-ania, Rifle Association, in which fifteen members participated. Mr. Weaver was hard pressed for honors by Charles Miller, who made a score of 132.

Capt. H. R. Wilbur won the Members' Match of the Lambertville, New Jersey, Home Guard Rifle Club, with a score of 140. Twenty-three members shot the match, which was fired on the Lambertville Home Guard range.

At the Members' Match of the Hill, Cali-fornia, Rifle Club, E. J. Furlong won the

medal on a score of 116. Of the fourteen members belonging to the club, eleven entered the match.

A party followed the Members' Match of the Joliet, Illinois, Rifle Club, when the winner of the match, Tillman H. Weatherman, was presented with his trophy. He won the event on a score of 126.

O. S. Hopkins, with a score of 120, won the Members' Match of the Allegheny County, Pennsylvania, Rifle Club. Ten members shot the match, and Mr. Hopkins was but one point ahead of his nearest competitor, James Mc-Rorie, whose score was 119.

A score of 120 won the Members' Match of the Fusilier Veteran Corps, of Boston, Massachusetts, for R. S. McCarter. The match was fired over the Navy Range at Wakefield, Massachusetts.

James Meeker won the Members' Match of the Binghamton, New York, Rifle Club with a score of 131.

At the annual Members' Match of the On-tario, California, Rifle Club, E. T. Casler was the winner on a score of 136, eleven members shooting.

A score of 137 brought the Members' Match medal to J. D. Perdue, when the annual N. R. A. shoot of the Whitefish, Montana, Rifle Club was held. The day was clear and cold, and fourteen members took part.

At the Members' Match of the Peekskill, New York, Rifle Club, shot November 24 and 25, Clarence J. Varian won the event with a score of 120. The day was very cold, and the wind gusty and veering. Seventeen members entered the match.

The Tucson, Arizona, Rifle Club held its annual Members' Match on December 9, when A. G. Schnabel won on a score of 136.

Howard B. Dennis won the Members' Match of the Grass Valley, California, Rifle Club on a score of 140.

The Members' Match of the Needles, Cali-fornia, Rifle and Revolver Club was shot on December 8 and 9, when George Muize won on a score of 124. On the first day of the shoot a fifteen-mile wind was blowing, but the second day no wind was blowing.

Firing over the Fort Sheridan, Illinois, Rifle Range, the Chicago Rifle Club shot its annual Members' Match on November 11 and 18, with fifteen members participating. D. S. Seymour won with a score of 136, with W. L. Cocroft second with 135.

The Fremont, Ohio, Rifle Club shot its Members' Match at the Camp Perry Range, fifteen members taking part. Harry Crowell won with a score of 122. Two other members shooting in the match made higher scores, but both had won the medal before. A. Bork made a score of 138 and was last year's medal winner; B. J. Bartlett scored 132, but won the medal two years ago, both therefore being ineligible for this year's trophy.

William Bromilow won the Members' Match of the Highland, California, Rifle Club, shot December 15, when 20 members took part. He scored 121, and was followed by D. H. Rod-dick with a score of 120.

Compare the following ballistics of the

.22 LONG RIFLE LESMOK CARTRIDGE

with the ballistics of any other 22-calibre rim-fire cartridge. Note the accuracy and hitting power of this new cartridge at ranges where the ordinary .22 Long Rifle begins to drop.

Distance Yards	Remaining Velocity ft. sec.	Striking Energy ft. lbs.	Accuracy Radius Inches	Height Trajectory in inches
0	1050	98.		
50	986.7	86.3	.43	1.03
75	958	81.4		2.4
100	931	76.8	.75	4.43
150	881	68.7	1.30	10.6
200	836	62.0	2.20	20.0
250	794	55.9	2.60	33.0

Mr. E. C. Crossman, a well-known Los Angeles authority, says regarding this cartridge, "It is without doubt, a better wind-jammer than any other cartridge of the Long Rifle lot." Mr. Crossman calls this new cartridge the "Go Devil."

Have you tried this U. S. .22 N. R. A. Long Rifle? After you have once tried it, you will use it both for outdoor and indoor work.

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Blue-Clays Popular At Many Resorts

HOW to keep each day alive with some item of interest, recreation or sport is a question of the greatest concern at all resorts and resting places.

No time or effort has been spared in making preparations for golf, yachting and sightseeing, and now attention is directed toward establishing other forms of recreation on a permanent basis.

There is no better index to the ever-increasing popularity and importance of trapshooting as a resort pastime of national interest than is shown by the growth of the Midwinter Handicap, held at Pinehurst (N. C.) each January.

Eleven years ago, when C. W. Billings took the first trophy from under the guns of George S. McCarty and George L. Lyon, the Pinehurst Gun Club was a diminutive organization with a little shanty for a club house.

This was considered ample for all possible needs, even though it provided for the wants of but thirty shooters. One string of traps was all anyone supposed would ever be required.

A small corner subjacent to the station and farm no longer holds this leading sport of the famous resort. The game has graduated from the infant class and taken its place in the schedule of events in the same class with the enormous golfing activity and the jockey club.

The shooting club has become an institu-

tion, with acres of ground for parking space; roadways; arena; instructors in shotgun, rifle and pistol shooting, and a house built to accommodate not thirty but 200 shooters.

The club house is a picturesque rustic cabin 110 feet long and 45 feet wide, built of native logs, with three great fireplaces, gun and lounging rooms, lavatories and office.

A most important innovation is quarters for ladies. An entire wing is devoted exclusively to Annie Oakley's pupils, and to the increasing numbers of women entering the annual big shoots or participating occasionally in the sport.

The club house is furnished with all the luxury of other clubs—easy chairs, divans, rugs and curtains—and decorated with the records of past shoots, and with photographs of the famous shots of America who have had their turns at the Pinehurst traps.

The one set of traps has given place to five. And even this number is likely to be found inadequate before many years are past. Last year 176 of the leading guns in America toed the mark at the firing line. With the club and grounds all finished, and the sport now come into its own, there is no telling how many will be there shooting in the tournaments in the years to come.

The Pinehurst shoot is the opening event of the 1918 resort season, notable of which might be mentioned the tournaments already planned for Lakewood, N. J.; Maplewood, N. H.; Del Monte, Cal., and Cedar Point, Ohio.

Plans are being perfected for shoots at many other of the popular American resorts, and all signs point to a series of enjoyable

events at the traps that will add a new item of interest to the resort life in all parts of the country.

The military idea is fast invading the resort shoots and adding a spice to the sport.

The \$1,000 Targets

Fred Gilbert, Tom Marshall and Bill Crosby, three of the members of the American Trapshooting team that invaded the British Isles nearly a generation ago and proved to the residents of these Isles that Americans were just as effective with the shooting iron as ever, attended a trapshooting tournament at Anaconda, Mont., several years ago as the guest of E. P. Mathewson, then the general manager of the Anaconda smelter.

Anaconda will never forget the occasion; neither will the trio of shooters. For the comfort of the spectators a grandstand had been erected behind the traps. And with such celebrities on hand the stand was crowded. Before the tournament began Mathewson drifted in front of the stand and called Gilbert, Marshall and Crosby to the front and stated that Anaconda appreciated the presence of each one, and to show how marked the appreciation was and how generous the people were, and their willingness to take a chance, three targets would be thrown, one for each of the professionals—and to each man breaking his target \$1,000 in gold would be given.

This seemed too good to be true. Gilbert, Marshall and Crosby had shot in every State in the union—and some outside—but never did anyone offer to hand them money before.

Marshall, being the spokesman for the shooters, was first called to the traps. He knew that Crosby and Gilbert would break their target and he made up his mind to get his. He gave the word and held exactly where he wanted to shoot, but the target sailed on, and \$1,000 sailed with it. Gilbert was next. Determination was written all over his face. He suffered the same fate as Marshall. It was no different with Crosby.

After Crosby had fired the trap puller ran into the field and gathered up the three targets and returned them to Mathewson, who held them up for the benefit of the crowd and said: "This Anaconda advertises. Here are three copper targets, embellished with lead pellets, until they have the appearance of a porus pluster."

The good people of Anaconda knew all the time that the trio of shooters would not get the money, and the shooters vowed that when anyone offered them money hereafter to break targets they would inspect the targets first.

"Some Gun"

Here's a story that T. E. Doremus, former president of the Interstate Association, says he has carried in his mind for 20 years. It is worth while—has improved with age, like they tell us certain fluids do.

It was along about 1896 when Harvey McMurchy, of Fulton, N. Y., at that time sales manager for the Hunter Arms Company; the late Ed Fulford, of the Remington Company, and Jack Hull, of Parker Bros., began to argue about the respective shooting qualities of their guns, to the delight of a crowd at the New York State Fair.

Fulford claimed for Remington guns (they were making double-barrel guns in 1896) that they would kill ducks at a distance of 150 yards. Hull insisted that the Parker was good for 25 yards more. That seemed to about settle the argument.

Suddenly McMurchy horned in and in his quiet, serene manner told how one day he was out hunting partridges and, upon looking heavenward, saw a small object sailing around 'way up in the clouds. Although somewhat doubtful about the chances of making a kill, he nevertheless let drive. The result was most startling. The object seemed to stop for a moment, then it began to fall toward the earth in a wide, circling flight, and at last gracefully landed on a knoll some 200 yards away.

All curiosity, McMurchy said he hurried to the spot, and his surprise was beyond imagination when he discovered that he had injured a baby angel. He carried it to a near-by farmhouse, and after a few days' nursing it recovered from the gunshot wound and flew back home.

The Smith gun was unanimously voted some gun.

Club Teaches Public to Shoot

The Nebraska State Sportsman's Association is thoroughly alive to the needs of the times.

It is a most energetic body. Some time back it elected its president to the Governorship of the State, and now its secretary appeals to every club member in a bulletin to take up trapshooting as an aid to the Government.

The bulletin, which is appended, is of interest to every gun club and State sportsman's association, and it would be a good move if many other State associations followed the example of Nebraska:

"Trapshooting formerly known as the 'Sport Alluring' has willingly had its name changed to the 'Patriotic Sport.' Why the Patriotic Sport? Because the United States Government has recognized it as a long step toward preparedness and has adopted the shotgun as a most valuable defense weapon.

"Think of the chances of the enemy getting into our trenches for a hand-to-hand con-

flict with a bunch of American trapshooters stationed there with magazine shotguns, each containing 10 loads of buckshot. Shotguns are also to be used for the destruction of the handthrown grenade.

"Thousands of trapshooters have gone to the colors and when they arrived at the training camps they took to the army rifle like ducks to water. Officials in the army said if all recruits were as prepared as the trapshooters they could step to the front and win the war in a few months. The Government recognizing this immediately established traps at every training camp. Their first order was for six million clay targets, some of which went to the boys in France. Expert shooters are at all camps and aviation schools teaching the boys to shoot.

"It is the patriotic duty of every club in our association to open their traps to the public with no charge except for actual expenses, and it is the patriotic duty of every member to get the boys who have registered for services to the traps and teach them to shoot. It will not only save the Government the time to prepare them after they arrive at the training camps, but it may actually save their lives.

"I feel it is my patriotic duty as your secretary to insist upon prompt action by your club, and if you feel the thrill that I felt upon learning the Government had recognized our favorite sport as the Patriotic Sport, you will get busy. Do not let any one tell you it is not right to shoot as the ammunition you are using may be needed for the army. Just the opposite, it is not conservation, but preparedness. Shotgun ammunition is going to be manufactured as a Government necessity."

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

WANTED—B. S. A. No. 12 Special Target .22 Long Rifle; also No. 470 Stevens Telescope. M. A. Keyser, 328 West and South St., Salt Lake City, Utah.

FOR SALE—One Ballard Pope Barrel, Stevens Scope with micrometer mounts, Schuetzen Stock and double set triggers. One brand new Winchester Schuetzen, double set triggers, take down, Circassian Walnut stock. Both guns using the .22 cartridges. F. F. B. Chapman, Winchester, Mass.

FOR SALE—Bullets, Ideal Numbers 308241, 154 grains; 3118, 115 grains; 308229, 180 grains, and 311359, 109 grain gas check; all lubricated and sized suitable for use in 30 and 32 caliber guns for target or hunting. 80c per hundred. J. R. Kingham, 481 Callish St., Fresno, California.

WANTED—100 or 200 unloaded .30 caliber '06 shells. Write, stating price of same and how many times they have been used. William D. Voorhees, Skaneateles, N. Y.

FOR SALE—2 new sets No. 1 mounts for Winchester tele-core; \$7.25 per set. New Lyman wind-gauge, rear sight for 1899 Savage rifle, \$3.00; 20 ga. Ideal reloading tools, \$2.50. No. 4 Ithaca trap gun at a bargain. Claude McKinney, Van Alstyne, Texas.

WANTED—Two or three Krag Carbines in serviceable condition. State price. Hollifield Target Practice Rod Company, Middletown, New York.

FOR SALE—Winchester Muck, take down, .22 caliber short, Krag rear and regular front sights. First class condition. Price \$15.00. Dr. J. B. Orden, 1 Madison Ave., New York City, N. Y.

WANTED—A .30 caliber 1903 rifle stock and also butt plate; second-hand. Must be in good condition, and reasonable price. W. O. Straube, 514 State St. Alton, Ill.

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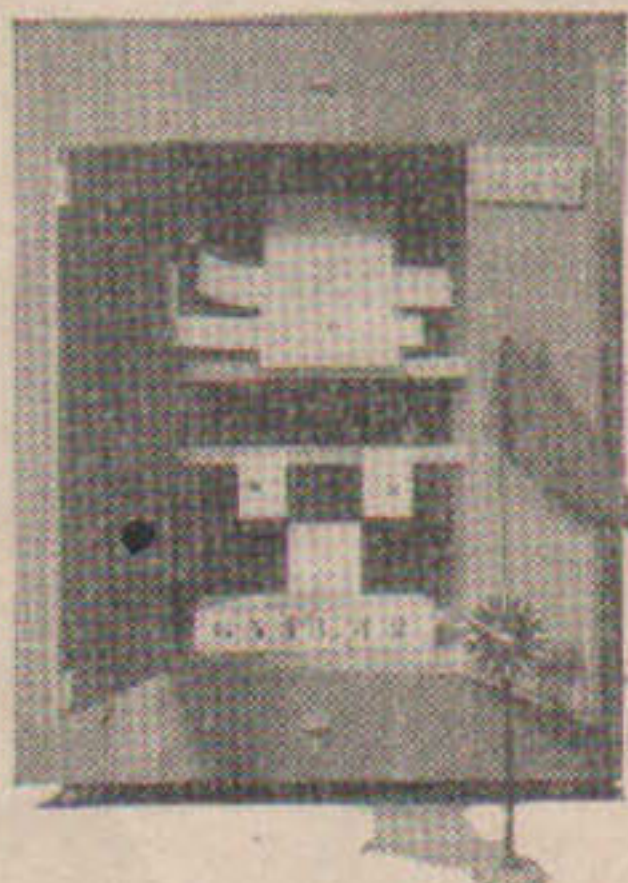
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Proof of Accuracy

This target, reproduced full size, represents 20 shots fired by Mr. Morton W. Huttenlock of the Montclair, N. J., Rifle Club at 50 yards, with the Model 12C-N.R.A. "Target" Grade Repeater. The score is 198x200.



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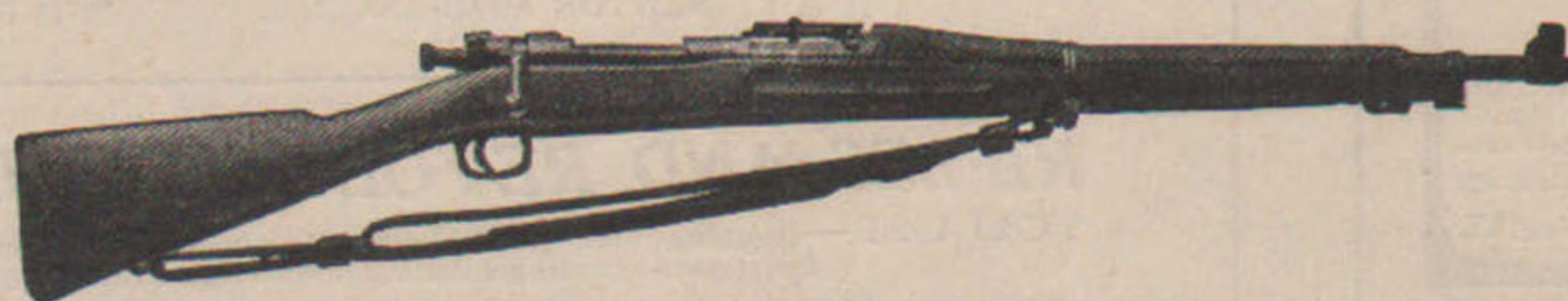
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