RIFLE

ARMS AND THE MAN

NATIONAL RIFLE ASSOCIATION OF AMERICA

MILITARY SHOOTING

THE ARM OF THE FORTY-NINER

BACK TO THE "SKEAN DHU"

FURTHER TIPS ON MARKET HUNTING

CHANGES IN N. R. A. PRACTICE CAUSED BY CARTRIDGE SHORTAGE

EDITORIALS and

LATEST NEWS OF RIFLE, REVOLVER AND SHOTGUN, THE ARMY, THE NAVY AND THE NATIONAL GUARD

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ARMS AND THE MAN

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Military Shooting

By CHAS. ASKINS

I NOTICE that Dr. Fort and others are having something to say concerning the training in rifle shooting of our new army. I have been thinking about that myself, and when a writing man ever does any thinking he is sure to want somebody else to know it.

To begin with, I must acknowledge myself more or less a disciple of the late A. C. Gould, having read his book on rifles and rifle shooting when I was of an age to accept all he said as gospel. Mr. Gould had a well grounded conviction that the right way for a man to shoot a rifle was to stand up and shoot it "man fashion." Plainly, Mr. Gould believed in off-hand rifle shooting. With certain reservations, I believe he was right, though off-hand work is no longer encouraged by the National Rifle Association, and is more or less discountenanced by military authorities.

First as to my reservation; I am convinced that off-hand shooting as followed by the Scheutzen associations is of very little practical value. I followed that kind of rifle practice persistently and consistently for ten years, and while such shooting is a splendid sport, it has little practical value. In order that it may be understood that I have some grounds for passing judgment, I wish to say that I reached such a degree of skill at this kind of work as to be able to tie H. M. Pope on the Ring target at a National tournament about twenty years ago. Subsequently, shooting on the point target with a six-inch center I made sixteen successive red flashes, or sixteen successive shots in a six-inch circle. Again, in practice, I kept forty-six out of fifty shots in an eight-inch bull at two hundred yards—all off-hand of course. But I used a seventeen pound rifle, double set trigger, telescope sight, and I took an unlimited time in the pulling. I found, after it was all over and I had given up this kind of work, that I was a poorer game shot than I had been before I commenced. Game wouldn't stand an unlimited time in one spot, and before I could get my perfect hold and let-off, the opportunity to shoot at all was gone.

Almost my first practice with a rifle was in snap shooting and that kind of practice has stood me in good stead to this day. I shot at tin cans thrown into the air and later at marbles, pennies, anything that I could see, and still later got ambitious to kill birds on the wing. During one entire season in the early nineties I used a rifle in wing shooting at quail instead of a shotgun, and didn't kill very many quail at that. Still, I did kill some, and I recall yet with a good deal of satisfaction that once when deer shooting with a guide in the swamp lands of Arkansas, I startled the guide by killing a quail on the wing at the first attempt with a 32-20 Colt rifle. I had missed a deer running slowly at two hundred yards with an old 45-70, owing to the drop of the bullet, and the guide was inclined to think that I couldn't shoot anyhow. Just to prove that I could, I put eight out of ten bullets in an eight-inch square board at one hundred yards, firing the ten shots in twelve seconds, and then, finding a bevy of quail in an old clearing, killed one of them as they went off.

As stated, I have always found this kind of snap shooting, a sort of shotgun rifle shooting, very serviceable when it came to big game hunting, for my deer have generally been running the first time that I saw them. I kept up the snap shooting with the rifle until I got so that I was fairly accurate with it *when not using the sights*. At twenty yards, both sights well hidden by blinders, I found myself able to keep ten shots in a three-inch ring, either doing as well as that or grouping very close. In shooting at running deer or running jackrabbits, there has always been a question in my mind as to whether it was best to first find the sights and then aim or to simply point the gun ignoring the sights. Cottar, the African hunter, tells me that when a lion or any other beast charges him he keeps his eyes fixed on the beast, points his weapon, never seeing the sights or barrel, and pulls trigger. He has killed thirty-five lions where missing meant death, and where a deliberate aim would have been equally fatal.

There is nothing mysterious about striking a mark by pointing a rifle instead of aiming it through the sights. Bowmen have used this style of aiming for many hundred years, and it is far easier to hit a mark with a rifle having no sights than it is with an arrow where release, strength of pull, trajectory and other technical features have a bearing. Instinctive aiming is nothing but judgment confirmed by practice and ultimately given a semblance of instinct through habit. I am using a precisely similar method in working this typewriter. When I feel that my finger has gone to the right place I hit the key, and when I feel that my rifle or shotgun is pointing to the right spot I pull the trigger. If my judgment is bad I correct it with the next shot, and eventually the work becomes so rapid and so little governed by reason that we call it instinct. Following this instinctive style of aiming, a man can strike his mark in less time than it takes him to find his sights with the usual aim.

I find that aiming and firing, shotgun fashion never seeing the sights, I can strike a 12-inch circle with absolute certainty at a distance of fifty yards, and I can do this nearly as well at night as in daytime, provided there is light enough to see the mark. Up to a hundred yards, granted I could see him, I'd expect to hit a standing man with every

shot, even when it was altogether too dark to see a sight. Now this is the kind of practice that I think a soldier ought to have—this or similar training, carried to such a point that the only time lost in firing a true shot would be that required to bring the butt to the shoulder.

The idea that a bayonet is more valuable than a loaded gun after coming to close quarters seems queer to me. I have always thought that if three men with bayonets fixed and guns empty were placed against one with a loaded gun and magazine filled, distance between the combatants forty feet, that the man with bullets in his gun would kill the other three before they could get at him. Man to man, I can't see either where the bayonet fighter would have any chance were the men as far apart as six feet. Bayonet practice is all right, of course, in hand-to-hand encounters, but if a soldier has a loaded gun, and he knows how to snap with it after the fashion of wingshooters, I can see no horse sense in his rushing up to engage in an uncertain bayonet duel when he could much easier finish his man with a bullet.

I have heard old soldiers tell about shooting from the hip in hot encounters, but I have never yet seen a man who could shoot from the hip and hit anything except by accident. On the other hand if he brings his butt to the shoulder he will point the piece as naturally as he would point his finger. You might hit a man at fifty feet, firing from the hip, but if time were taken to bring the piece to the shoulder you could shoot his hat off without touching his head, were that necessary.

An apt sort of practice for the soldier would be shooting at a disappearing target that did not remain in sight longer than a second, and firing at a running target. I conclude from the bit I can learn about trench fighting and the give and take over "no man's land" that Fritz doesn't remain in sight very long, certainly not long enough for a deliberate aim at him, and if he does he is moving. Now a moving target demands a quick aim, and possibly an allowance for the speed of the target. The Springfield bullet is pretty fast, but it takes it about a fourth of a second to cover two hundred yards, and if a man were moving across the line of fire at the very moderate rate of ten feet a second the marksman would miss him at the distance unless he made an allowance of two and a half feet in front. Even at one hundred yards the mark would be missed unless an allowance were made for its speed of travel. Now it is knowledge and experience that induces a man to lead his mark, not instinct, for instinctively we will surely pull directly upon the object aimed at; hence it is to be concluded that practice in running shooting would be highly valuable.

I am quite willing to admit that any any kind of rifle practice is better than none. But I believe that military men, in specifying some form of rest shooting and that only, have been carried away by what they could see in imagination. It seems to me that our military authorities have seen in imagination an army seven hundred to twelve hundred yards away, and then, dropping their men to the prone position, they would deliver an accurate rifle fire upon this body of troops. They could see no use for the off-hand position because they never meant to keep their men standing erect to be decimated by the other fellow. However, it now appears that neither side ever intends to stand up in the open or lie down in the open either—never intend to be in the open at all except when charging or running away. In either case, the soldier wont have time to lie down to shoot or to sit down to shoot, but will have to plug away as best he can while standing on his feet, in a momentary pause, probably firing at a moving enemy. Firing from the trench, over the paraphet, he will probably rest his rifle, and that will be an altogether different sort of work from shooting in the prone position. I, therefore, conclude that shooting from the prone is good target practice, like Scheutzen work, good sport, but of very moderate benefit to the soldier who must go up against the real thing.

Under excitement a man is not going to do anything well except he has been highly trained in the performance of that very act. Because a man can lie down and train his telescope on an inch bull and plug the center of it at twenty-five yards is no assurance that he is going to hit his man at a hundred yards when you place him on his feet and give him a half a second in which to aim and fire. In an emergency, no time will be found for a man to lie down and stretch himself at length, with or without a mattress, and if that is the only way in which he has been taught to shoot, he will do random shooting off-hand. The kneeling position never was reliable in rifle firing. It is an inheritance from the days of King George or Frederick the Great when the front rank knelt in order that the rear rank might shoot over their heads, and there they stayed and shot it out until one side or the other charged. If a man has time to kneel, he has time to sit down, which is a far more reliable position. Neither style is going to be of much practical use in this war compared with delivering a deadly fire at close quarters by snap shooting from the off-hand.

When it comes to teaching the airmen to shoot the problem looks different to me. Those chaps will be forced to do real wing shooting; so emphatically wing shooting that I believe their work calls for an automatic shotgun in addition to the machine gun or rifle with which they are ordinarily armed.

From all accounts, the air duelists frequently fly wing to wing or pass one another at close range. While so doing, not being able to bring the machine gun to bear, they grin at one another and pass on to maneuver for position, or maybe crack away at one another with automatic pistols. Right there I think the shotgun would come in handy. A man sure needs, not a single bullet but a pattern of bullets, when he is flying at the rate of a hundred miles an hour with his opponent going at equal speed in the opposite direction.

We will work out the problem. We will say that the range is fifty yards, one hundred and fifty feet. Buckshot from a shotgun could be given a velocity of about a thousand feet a second over the range, a time of 15 one hundredths of a second for the fifty yards. If the airplane were traveling one hundred miles an hour, 146 4-6 feet a second it would travel 22 feet while the shot were enroute. We see, therefore that the lead for such a target would be 22 feet, granted the shooter was stationary and the target moving, and it would be the same except on the other side of the target if the shooter was moving and the target stationary It then appears that with target and shooter moving in opposite directions at the rate of one hundred miles an hour the allowance would have to be 44 feet for fifty yards. If a man had a shotgun with a pattern six feet across at the distance, and he was a good judge of the range, knowing at the same time pretty accurately the length of the opposing airship, I believe he could select a point on the enemy airship at which to aim and then strike the aviator with considerable certainty—with a shotgun, not with a rifle.

A rifle would of course show a greater velocity for its missile and the lead I have given would be cut in two or it might be less than one half—still firing with a rifle would be pretty much guess work when a lead of twenty feet had to be given, taking into consideration the necessity for an instantaneous aim. An aviator at a distance of a quarter of a mile would sure be a difficult target for a rifle, if he were traveling at a hundred miles an hour or better, for the lead with a

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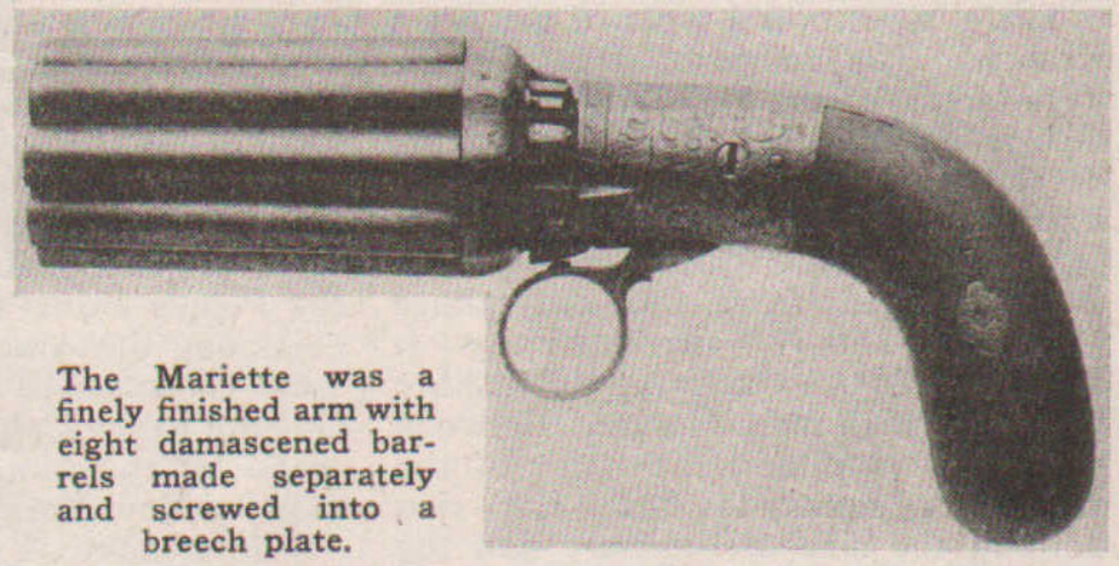
The Arm of the Forty-Niner

SO closely was the old single-action Colt's associated with the early history of the West that one might easily be led into the error of taking for granted the assumption that the long-barreled revolvers of frontier days sagged somewhere between the cow-hide boots and the flannel shirts of those Argonauts who lived and fought and died in "The Olden Days; the Golden Days—The Days of Forty-Nine." Yet quite a different weapon claims the distinction of being the arm of the Forty-Niner.

The Allen plainly showed its genesis from the pistol in the lines of its grip; it prophesied the coming of the revolver by its elongated clyinder.



The Mariette was a finely finished arm with eight damascened barrels made separately and screwed into a breech plate.

When the rugged pioneers discovered precious metals almost at California's grass roots, word was brought back east by the swift Clipper ships plying from Atlantic ports in the Northwest Coast trade. Then every man who could obtain an Allen Pepper Box, tucked one in the waistband of his trousers before venturing to western gold camps, whether he went overland through the un-named, un-numbered dangers of desert trail, by ship to Panama and across the Isthmus, or by the longer, more hazardous yet often more certain, route "Around the Horn."

Later, of course, the Colt's became the one best bet of prospector and miner, just as it became the universal weapon for sheriff, gun-man, cow-puncher and all of the types which built the West. But before the cow-puncher, the sheriff and the gun-man, came the Pepper Box.

Of course, among the motley horde that streamed westward with the first of the Argonauts, types of practically all of the then modern weapons were to be found. Nevertheless, the Pepper Box, by reason of the fact that it would shoot several times without reloading, was the prime favorite, with that wicked little single-shot pistol the Deringer, or arms of the Deringer type, second choice.

At times during the gold-rush days, when passages on the fast packets that were put into service to handle the vast tide of emigration, together with supplies and clothing—everything in fact which miners needed—brought fabulous amounts, the Pepper Box sometimes sold for as much as $100.

The Allen Pepper Box, as used by the "Forty-Niner" was an affair of multiple barrels, usually six in number. It was the forerunner of the revolver. In its mechanism was embodied for the first time the double-action principle. It was a muzzle loader, and the charge was detonated by percussion cap. It plainly showed its genesis from the old single shot pistol in the construction of its grip; it prophesied the coming of the six-gun in the elongated cylinder which formed the multiple barrels. In the earlier Pepper Boxes it was necessary to revolve the barrels by hand. In more improved models, after Allen had perfected the double-action principle, the barrels were revolved by a "dog" much in the same manner that revolvers of the present day are operated.

The choice of the Pepper Box by the Forty-Niner as his preferred weapon, was a natural consequence of the situation which then existed in the firearms world. Samuel Colt had begun the manufacture of revolvers in 1836. At the time, however, the venture was a losing one. Unable to obtain government contracts for his weapons, Colt stopped making the first of his revolvers in 1842.

The early output of the Colt factory was rapidly absorbed. In fact, as it has often been stated, when the government wished to enter into a contract with him at the outbreak of the Mexican war, he was unable to find even one of his first weapons, to use as a pattern. Therefore when the Gold Rush of Forty-nine spread over the continent, the weapon chosen by the adventurers was naturally that which embodied the greatest improvements. That weapon was the Allen Pepper Box.

The Rupertus weapon looked like a small pocket revolver of military type without barrel.

The basic principle of the Pepper-Box—a group of barrels fired in rotation—did not originate with the Allen weapon; nor stop with Allen's patent.

There are two flint-lock rifles now in the possession of the National Museum, where they were sent by the War Department, which were constructed on the Pepper-box principle. One of them was apparently made for the use of cavalry. It is even shorter than a carbine, and has a group of seven tapering barrels of approximately .45 calibre. These barrels were revolved by hand. The other while evidencing the Pepper Box idea, is more suggestive of the Colt's revolving rifle which followed many years later, since the powder and ball were loaded into a short cylinder discharging into a longer single barrel.

The American Pepper Box which found so great favor with the Forty-Niners, was first manufactured by Ethan Allen, a pioneer in the fire-arms industry. Allen was born in Bellingham, Mass., in 1810 and when 22 years old began the manufacture of firearms in North Grafton, Mass. One of the first products of his factory was the famous "Lambert Cane Gun." In 1834 Allen made his saw-handle, rifled target pistol and invented the double action which was to become associated with the weapons from his factory. He also perfected the first device for the manufacture of metallic cartridge cases.

After his factory had gotten well under way, he took as his partners his brothers-in-law, Charles T. Thurber, and Allen P. Wheelock, the name of the firm becoming Allen, Thurber & Co. In the fall of 1842, the firm moved

to Norwich, Conn. In 1847 it again moved, this time to Worcester, Mass. In 1857, Thurber retired from the firm, which became Allen and Wheelock. There were other subsequent changes in the firm, which resulted in firm names of Ethan Allen and Co., Forehand and Wadsworth, and the Forehand Arms Co. The firm ultimately became that of Smith and Wesson.

The principal period during which the Pepper Box was produced at the Allen factory was between 1848 and 1857, during which latter year, the factory, then in Worcester, was destroyed by fire.

There were several types of the Allen weapon. The range of types in the manufacture of the Pepper Box by other makers through the entire period of its development, until the revolver replaced it, was also wide and varied.

In the matter of calibre, the Pepper Boxes ranged from the .22 calibre "Knuckle Duster," invented by J. Reed in 1865, to a great .68 calibre arm, of British manufacture. Between these two extremes, the fancy of the gunmakers seems to have run riot, both in the size of the bore and the number of shots, there being one Pepper Box which had ten barrels; another which had only three.

Practically all of the earlier types of this weapon were smooth-bores. Some of them, however, showed muzzle rifling. A very few were rifled throughout the barrel, usually with four deep grooves. The majority of the Pepper Boxes were equipped with the so-called "bar-hammers." In some weapons these hammers were on top of the pistol; in others, they lay along the bottom of the weapon, forward of the trigger guard. In a few types the hammer was entirely concealed. While some of these revolvers had triggers very much like those of the double-action hand-gun of today, others were equipped with ring triggers.

Ordinarily the term "Pepper Box" suggests a percussion-cap weapon. Pocket arms of this character, however, were developed not only for pin-fire cartridges, but for rim fire and center fire cartridges, and the familiar "Four-barreled Sharps," a breech-loading weapon, in which the firing pin on the hammer revolved, as well as the Elliot's four-barreled pistol, were unquestionably developments of the Pepper Box.

Among the American Pepper Boxes were those made under the Leonard, and the Rupertus patents and the ones made by the Manhattan Arms Company of New York City.

The Leonard Pepper Box was the device of George Leonard, Jr. It was manufactured by Robbins and Lawrence, Windsor, Vt. This weapon had 7 barrels, six smoothbore tubes arranged concentrically about a seventh center tube which was rifled. This weapon used center-fire cartridges.

The Rupertus weapon looked like a small pocket revolver of military type, without barrel, but with cylinder elongated. The cylinder was composed of 8 barrels. The breech-block revolved and opened so that it could be loaded with rim-fire cartridges.

The product of the Manhattan Arms Co., was principally a 3-barreled Pepper Box. It was necessary to revolve the barrels by hand.

The Pepper Box type was manufactured widely also in England and France, two of the best known British types being produced by Cogswell, of the Strand, London, and by J. R. Cooper.

There were two types of French Pepper Box which are more or less familiar to collectors. One is the Mariette, the other the Lafaucheux. The Mariette was a finely finished double-action arm, the eight barrels made separately of finely damascened metal (screwed into a breech plate) and brazed together. The barrels were rifled and were .32 calibre. It was equipped with ring trigger and concealed hammer. The Mariette was also made for the South American market by Laporte Iramos of Rio de Janerio.

The Lafaucheux was a pin-fire, .22 calibre, double-action, folding trigger weapon. It was usually made in very small sizes, the ordinary dimensions being about 4½ inches over all, with barrels 1¾ inches long.

AUSTRALIA ENCOURAGES SMALL-BORE WORK

At a cost of what in United States currency would be more than $13,000, the Australian Defense Department in Brisbane, Queensland, has constructed a Central Miniature Rifle Range.

The range is designed for the use of 14 miniature rifle clubs, whose total membership is 583 and for the Senior Cadets. An account of the range in one of the English papers says:

"The range provides accommodation for 24 ordinary targets, and in addition is fiitted with electrically controlled shafts for moving targets, and Solano target apparatus; it is in regular use on four nights and on Saturday afternoons.

"Much benefit is expected from this range in the way of training young shots to become expert with the miniature rifle before attempting to use the Service rifle when they join the Citizen Forces, and miniature rifle clubs in the neighborhood of Brisbane are to be congratulated upon the facilities for rifle practice which are offered them.

"It will probably be remembered by many riflemen that Australia entered a team in 1910 for the International Competition for the Sir Thomas Dewar Challenge Trophy. On that occasion the majority of the 50 members of the team were drawn from clubs in Victoria and South Australia, but with the advantage of the additional facilities which are now being offered to clubs in Queensland this colony will, we hope, be able to assist in the formation of a team when the Society is in a position to arrange further Internation Competitions for the trophy after the war.

"At present, of course, the officials of the rifle clubs in Australia are mainly concerned with the preliminary coaching and training of men in the rudiments of shooting so as to enable them to pass on as quickly as possible to the Service weapon after joining the Forces, and they are no doubt rendering as good service in this direction as their brothers in the United Kingdom."

AVIATION INSIGNIA APPROVED

Specifications for the insignia to be worn by military aviators, junior military aviators and reserve military aviators in the service of the United States have been approved by the Secretary of War.

The insignia prescribed include:

Military Aviator—A silver embroidered double-winged shield with a small five-pointed star above the shield.

Junior Military Aviator and Reserve Military Aviator—The same, but without the star.

Observer—A silver embroidered single-winged shield.

The insignia will be worn on the left breast, above the line prescribed for badges and medals.

The following specifications will be published: "Par. 34, Reg. 42, is changed; and Par. 36½ added, as follows:

"34—Insignia on collar of coat. Gold or gilt metal. Omit Par. (5). (See Par. 36½) S. R. 42.

"In addition to the S. C. crossed flags worn on the collar, officers of the Avia-

(*Concluded on page* 112)

Back to the "Skean Dhu"

By JOHN S. BARROWS

AGAIN military customs and weapons have reverted to those of other days. It has not been enough in this cosmopolitan war to equip the allied soldiers with casques, with and without visors; and other forms of armor have been employed, as well as various crude but serviceable ways of attacking the enemy, by means of antiquated styles of ordnance.

Now the fashion has reverted to Scotland, and the "Skean Dhu" is to be revived, as it is reported from Plattsburg that it is understood that when the American infantryman goes to Europe his outfit will include a dagger, which he will tuck into his legging when he goes into action. Then, should his bayonet fail and he be involved at close quarters, he will have a weapon handy with which he can protect himself.

This is a revival of that peculiar little dagger which is a necessary part of the Highlander's complete equipment, for though he may wear the regulation dagger hung at his belt, and be armed with a Claymore, his equipment is not correct unless he has snugly hidden in his stocking, along the calf of his leg, the "skean dhu," or short sword, which is there to be handy in case of a struggle at close quarters.

The fighting man has not changed much in the centuries, though his armament has kept pace with the times. When he is at close quarters with his enemy, magazine rifles, bayonets, machine guns, all are of no use; it is a case of one life or the other, and the man who can draw a handy weapon for close-quarter work is liable to be the winner of a bloody encounter. The thought suggests everything that is horrible and savage, but war is horrible, and when dealing with savages it must be conducted in a way that will have an effect on savage intellects. So the present form of warfare on the western front having resolved itself into close work, makes weapons, for such combat necessary.

This decision, if it has officially reached that point, is no new step. Some time ago daggers and similar short-arm weapons, called "trench cleaners," were in use in the French army, the *poilus* finding the trenches, when stormed, too close for long-arm work with bayonet, bullet or butt; so they began to get hold of and use daggers. For a time the French tried a knife devised for thrusting, but experience showed that a weapon with a cutting edge on a blade of good length was more desirable, such a weapon as the Ghurkas from India affect—the *kukri,* which is of a peculiarly curved form with a leaf-shaped blade, the edge on the inner side. This weapon has been used with terrible effect by these little men, in some of their affairs in India and elsewhere, and has some desirable characteristics for trench affairs. The Bowie knife, which did considerable service in developing the wilderness portions of this country during a score of years, including the Civil War, was of a pattern favorable to such emergencies, and if the United States troops should readopt that pattern, even in a size similar to the skean dhu, it would probably save many lives, at the expense of some damage to the enemy.

The United States army has made use of adapted weapons whenever they will serve better than the types issued. The war with Spain did not last long enough for our army to adopt the "machete," although it was the style of sword used by the Spanish officers as well as the Cuban troops. Some very elaborate and serviceable machetes were made for officers' use, and the pattern is fully as convincing as the present feeble sabre required for an officer's sword.

The "bolo" of the Philippines has been adapted as a side-arm for the men of the hospital and ambulance service, it being in a heavy form suitable for cutting small trees for building shelters or making litters and the thousand-and-one duties that a heavy blade can be put to. The bolo has been further dignified and exalted by having been adopted as the type of sword for the officers of the United States Marine Corps, the "Mameluke" type being laid aside for official use.

So we have plenty of precedent for taking a small sword or dagger for the close-quarters fighting, and the best possible type of knife should be devised and made keen and strong. The Filipino carries his bolo in a sheath of wood, the sides held together by strings, so that it is unnecessary to go through the formality of "drawing" it in case of a hurry-up job. The wearer of a bolo can begin to cut without delay, as the blow will sever the light cords and release the keen blade to its "meat and its wine."

Sir J. H. A. Macdonald, of the British army, late in 1915, in a letter to the London *Times,* said:

"Everything points to the advisability of a short knife or dirk being at instant command when the jump into the trench is made. And this is not for thrusting forward, as in striking a blow, but for back-handed action, the arm being swung with the blade projecting—a dagger action, in fact, which is much the quickest and most effective way of dealing with an enemy who is close up to you.

"The mode of use would be to have it out just before jumping into the trench, and to swing it into the face of the nearest man, and as rapidly as possible into the faces of as many men as can be reached—no stabbing at the body. The purpose should be to 'flabbergast' your man more than merely to wound. A jab in the face is the most effective way of getting in first, which is everything in a hand-to-hand struggle and the most disconcerting injury."

Whatever shape this probable weapon may take, it should be provided at once, and of the best material, for if an American soldier's life depends on a weapon furnished him by his country, it should be the best, and absolutely faithful. It is to be hoped that, for the sake of the old days, this "skean-dhu" will be a rejuvenated "Bowie," but whatever form it may take, it should be such in shape and temper as to convince Count Reventlow that it is *not* "made of wood."

Our soldiers have an excellent bayonet, which is carried on the left side of the pack in such a way that it can be drawn easily with the right hand, over the left shoulder, and fixed to the rifle with one movement; but it is a weapon with a 16-inch blade and not quite adapted to the work, nor is it always possible to unfix it at the trench-end of a bayonet charge. On the rifle it is all right for prodding the enemy from the top of a trench; but work in the trenches calls for short-arm attacks and the "Bowie" would be just the thing, quickly whipped from its sheath hidden in the puttee, to be sheathed where it will do the most good for the cause of Liberty.

NEW RANGEFINDERS FOR FRENCH WARSHIPS

Triplex rangefinders, which permit three simultaneous observations will soon be installed on French warships, where the usual single rangefinder has not been productive of sufficient accuracy. The three observations, used as a check against each other, are said to reduce error to a minimum.

The three rangefinders, according to accounts which have been published in scientific journals, are mounted like the rungs of a ladder, each however, being enclosed in a jacket filled with a material which provides insulation against heat and which protects the instruments against cold, moisture and rust.

"His feet kept him out of the army." "Flat?" "No; cold.—*Buffalo Express.*

ARMS AND THE MAN

1110 WOODWARD BUILDING, WASHINGTON, D. C.

EVERY SATURDAY

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

A RECEIVER SIGHT FOR THE SPRINGFIELD

THERE could be no time more propitious than the present for providing the United States Service Rifle, Model 1903, with a practical receiver sight.

For a good many years experienced riflemen have directed practically all their criticism of the Springfield against its impossible sighting equipment, and the consensus of opinion has universally been that given a rifle of unusually excellent shooting qualities, the military marksman has been and still is handicapped by a peep mounted far from the eye, a battle range which is entirely impracticable, and a method of adjustment which is far from satisfactory.

On the other hand, every rifleman who has seen the new 1917 U. S. rifle has at once been attracted by its receiver sight, which while perhaps not a match sight, is admirably adapted for the work of war.

Manifestly, while not impossible, it would be inadvisable to endeavor to graft upon the Springfield the sight which is now "built in" as part of the receiver of the 1917 rifle. To do so would mean that it would be necessary to manufacture new receivers upon which a provision for the sight is made, or to resort to some make-shift device for attaching a sight designed for another arm. As it happens, neither of these courses is regarded as advisable at this time.

This situation, however, should not be permitted to stand in the way of the development of a sight especially adapted to the conformation of the Springfield receiver—one which could be issued, if necessary on the field, and be put in place either by a company artificer or, better still, by the soldier himself.

If the officials of the War Department are satisfied that the receiver sight on the 1917 rifle is a step in the right direction toward providing the best possible equipment for our men at the front, that is all the more reason why the men of the regular army who carry a rifle admittedly superior to the 1917 in many ways, should not labor under the handicap of poor sights.

Nor should it make any difference whether a receiver sight for the Springfield is the product of an army officer's genius or of a man not connected with the service. The sole condition to govern the devising or the selection of a sight should alone be decided by the practicability, utility, and durability of the type adopted over all that are offered, and exhaustive trials should be made of all types available.

One of the important points which should be borne in mind is that any receiver sight adopted should fill all sighting requirements, and should permit of the removal of the impossible leaf sight with which the rifle is now equipped.

Under present conditions, he who shoots the Springfield must become intimately acquainted with at least five different sights, all included in the rear sight. There is the battle sight, the peep sight, the triangle "field view," and the two open notch sights for extreme ranges.

Incidentally the very apparent necessity of providing a receiver sight for the Springfield might well be taken as a golden opportunity for settling once and for all the battle range question, which has for so long slumbered in the Ordnance Department.

CARD INDEXING THE NATIONAL ARMY

TWO very excellent ideas are being carried out in organizing the army of drafted citizens.

The first is the re-classification of men subject to the draft but not yet called into service. This has been perfected by the Provost Marshal General, and will result in the men who can most easily be spared from the industrial and the bread-winning standpoints being called to the colors before men who hold responsible positions and men upon whom wives, children or relatives depend.

The second is a classification of all men in the National Army according to their previous callings in civil life. For instance, all artisans are catalogued, together with data as to each man's expertness in his trade, and so on through forty-nine occupations. This makes it possible not only for the company commander to know the talents of every man under him when special work is to be done, but also puts into the hands of divisional commanders lists from which a corps of carpenters, of bricklayers, of metal workers, or a group of men trained in any special work can be immediately summoned whenever needed.

In addition to this, the men of the National Army are being given psychological tests to determine the native intelligence of every man, so that men of proper mental equipment may be assigned to special work. Should a man fall far below the standard, he will be considered for discharge, or at least will be given only manual labor. In this way the army officials believe that incompetency will be reduced to its minimum, and no man will be assigned to work which he is mentally unfit to perform.

These innovations in the organization of an army called into the field to take part in the greatest war the world has ever known will undoubtedly do much toward rendering the fighting forces of the United States efficient far beyond the standards which have existed in the rank and file organizations of armies of the past. If as close and serious attention is paid to fitting the men for actual battlefield work as is being spent upon them from the standpoint of business efficiency, the overseas forces will no doubt make an enviable record for the nation.

The Provost Marshal's plan for a re-classification of those waiting to be drafted is an especially sane move. Both France and England might today be in a far better position to carry the war to a successful termination if they had adopted some such plan at the beginning of hostilities.

Instead, in both England and France the call to the colors brought men from every station in life, without regard to the economic loss which each entailed, with the result that within a year both countries found that many of the most vitally needed of her men were fighting in the ranks. An effort to recall these men to carry on the industries so necessary to a country at war disclosed the fact that the greater percentage of them had lost their lives during the early days of the war.

And so the plan to re-classify the men still liable to service should be regarded as one of the most important achievements in our preparations for a war which may last for many years.

Further Tips on Market Hunting

By WALTER WINANS

AS the object of thinning out the deer herds of England is not sport, but to kill the animals for food, there must be only one shot hit the deer, and that in a spot least likely to waste any meat by spoiling it.

The heart shot either from the side, or from in front kills dead, but the shot from the side makes some inches round the wound uneatable, or at any rate, unsightly. Any shot in the shoulder spoils that shoulder as meat. Any shot back of the center of the deer, spoils the best part of the deer, the haunch; a shot into the haunch stains the whole of the haunch with blood, and the fat of the haunch breaks up the bullet which flies all over the haunch.

This haunch shot is therefore absolutely unallowable, so no shot is fired if the deer is not broadside or head-on.

In England and Scotland it is not the custom to do off-hand shooting, or to shoot at a deer unless it is absolutely stationary; even if it is walking slowly it is not shot at. All the shooting there is customarily done from the prone position, or from the sitting position.

Now if I shot from the prone position I should not have gotten one-sixth of the deer I shot. The high bracken, up to my shoulders would have entirely hidden the deer, if I had shot from the prone position; also if coming suddenly on deer, a man tries to lie down the deer will instantly take fright and begin to gallop. It is impossible to shoot with any success from the prone position at a deer galloping. This is probably why shooting at moving deer is never attempted by English shooters. My principle is as follows:

I do practically all my shooting in the off-hand position. I shoot at any deer, broadside or head-on, up to 200 yards, if he is standing, and up to 120 if he is running. As long as I get an open view, I do not mind how fast the deer is going.

If possible, when the deer is over 150 yards I sit down and shoot off my knees; this position, by merely lowering the right knee and resting only the left elbow on the left knee, enables me to shoot at deer running. If a deer is wounded, I fire the finishing shot at his head or high into his neck; the only exception to this is when, if he is going off wounded, into dense stuff in which he will be lost, as I have not got a deer-tracking dog. If the deer is near enough, I fire at his neck even at the first shot.

I always shoot so as to make a clean miss, if I fail to hit. It is better to shoot too far forward in a running shot and miss than a shade too far back and hit the deer in the haunch. I never shoot at a hind who has a calf, or a doe with a fawn, unless the young are at least nine months old; the young dies if the mother is killed. What I hate to do, but it is sometimes necessary, is to shoot the young; the mother comes back, crying to look for it, and seeks it for days.

It is just as bad if a hind with a very young calf is shot; the calf will not leave the dead body.

An old stag is utterly selfish and one has no compunction in shooting him.

The last one I shot had exceptionally good horns. When I took it to the stuffer he said it was better than any head he had ever seen from Scotland.

By the way, my eldest son, just invalided back from the front, says that the Elliott ear plugs are very satisfactory and when he was with the heavy artillery he put cotton wool in his ears, on top of the Elliott ear protector, leaving a small hole opposite the hole in the protector. Without the cotton wool he finds he can not make the contact of the outer rubber washer absolutely sound tight. Also, I hear that an inexpensive motor from the United States is going where the big expensive cars, and even horse-drawn wagons, get stalled.

I am going shooting again next month and am going to use .276-calibre rifles, one with a telescopic sight.

How the Tracer Bullet Works

LET the good rifle shot, or the officer in charge of a company, see the flight and strike of the first bullet or so—and those that follow will strike the mark because immediate correction in the sight-setting can be made. It is embarrassing when the enemy selects a ground that will not show bullet impact, such as turf or low weeds or damp soil from which no puff of dust will rise.

Wherefore the tracer shell for field guns and small arms. If you can make a shell or bullet display a trail of smoke by day or of fire by night like a comet, you can easily trace it to its ultimate destination and alter the sights accordingly. The shell of the field gun lends

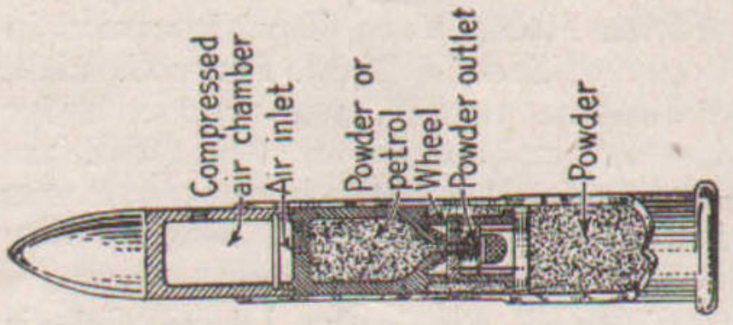


Photo. from Popular Science Monthly.

itself most readily to the installation of smoke- and fire-making machinery. The trouble is that the weight and the weight distribution and the balance of such shells are quite likely to be different from the high explosive or shrapnel missile, and so the tale told by the tracer missile does not necessarily apply to the real deadly missiles you want to fire.

An Englishman, George T. Revill, patents what he terms an "incendiary bullet" for this purpose—the term has nothing to do with setting fire to the barn of a man you don't like, but merely to a bullet to display fire during flight.

This tell-tale missile has a compartment with a narrow bottle-neck passage filled with gasoline or gunpowder. As a lighting device the inventor uses a coiled spring and a wheel with projections to rub over a flint and produce sparks hot enough to ignite the powder or gasoline. The powder, confined in its chamber, is arranged to burn slowly *à la* skyrocket, emitting a stream of sparks for the instruction of the firers of the missile.

(*Concluded on page* 112)

FLYING FIELDS NAMED FOR DEAD AVIATORS

Aviation fields, established for the training of American air men, will bear the names of officers who have been killed in aeroplane accidents.

The Signal Corps of the Army, in making public a list of the fields, has appended a statement showing the circumstances under which every officer, honored by having his name given a station, met his death. The list reads:

Call Field, Wichita Falls, Tex., is named for First Lieut. Loren H. Call, who reported for aeronautical duty at College Park, Md., October 19, 1912. Lieut. Call belonged to the Coast Artillery Corps, to which he was appointed from civil life. In the winter of 1912-13, he and Lieut. E. L. Ellington were sent to Palm Beach, Fla., where they remained until the spring of 1913, in charge of the Signal Corps Aviation Station at that place. From Palm Beach Lieut. Call was ordered to Texas City, Tex., and it was there that he was killed in an airplane accident July 8, 1913. Lieut. Call's home was in Washington, D. C.

Chandler Field, Essington, Pa., is named in honor of Second Lieut. Rex Chandler, Coast Artillery Corps, who reported for aeronautical duty at the Signal Corps Aviation School, San Diego, Cal., March 15, 1913. On April 8, 1913, while making his first flight, the hydro-airplane in which he was a passenger, fell into San Diego Bay and Lieut. Chandler was caught under the machine and drowned.

Ellington Field, Houston, Tex., is named in honor of Second Lieut. E. L. Ellington, a graduate of the United States Naval Academy, who transferred into the Cavalry arm of the Army and was detailed to aeronautical duty at the Signal Corps Aviation School, College Park, Md., November 14, 1912. In the winter of 1912-13, he and Lieut. Call were at Palm Beach, Fla., in charge of the Signal Corps Aviation Station at that place and in the spring of 1913 Lieut. Ellington was ordered to the Signal Corps Aviation School at San Diego, Cal., where he was killed in an airplane accident November 24, of the same year. Lieut. Ellington's home was near Raleigh, N. C.

Gerstner Field, Lake Charles, La., is named in honor of Second Lieut. Frederick J. Gerstner, Tenth Cavalry, a graduate of the United States Military Academy, who reported for aeronautical duty at the Signal Corps Aviation School, San Diego, Cal., September 26, 1914. On December 21, 1914, he was drowned, swimming ashore from a floating airplane while participating as passenger in the annual Mackay trophy contest.

Hazelhurst Field, Mineola, Long Island, is named in honor of Second Lieut. L. W. Hazelhurst, jr., a native of Georgia and a graduate of the United States Military Academy, who reported for aeronautical duty at the Signal Corps Aviation School, Augusta, Ga., March 2, 1912. On June 11, 1912, while making a flight at College Park, Md., as passenger in an airplane undergoing acceptance tests, the machine crashed to the ground and the pilot and Lieut. Hazelhurst were both killed.

Kelly Field, San Antonio, Tex., is named in honor of Second Lieut. G. E. M. Kelly, Thirtieth Infantry, who, after a course of training at the Curtiss Aviation Camp, San Diego, Cal., was ordered to San Antonio, Tex. While attempting to land, in order to avoid running into a tent and thereby possibly injuring several others, he fell to the ground and was killed May 10, 1911.

Love Field, Dallas, Tex., is named in honor of First Lieut. Moss L. Love, Eleventh Cavalry, a native of Fairfax Courthouse, Va. Lieut. Love reported for aeronautical duty at Texas City, Tex., May 8, 1913, and was killed at San Diego, Cal., September 4, 1913.

Park Field, Memphis (Millington), Tenn., is named in honor of First Lieut. Joseph D. Park, Fourteenth Cavalry, a native of the State of New Hampshire and a graduate of the United States Military Academy. Lieut. Park reported for aeronautical duty at College Park, Md., and was killed near San Diego, Cal., May 9, 1912.

Post Field, Fort Sill, Okla., is named in honor of Second Lieut. Henry B. Post, Twenty-fifth Infantry. Lieut. Post reported for aeronautical duty at the Signal Corps Aviation School, San Diego, Cal., May 26, 1913. On December 18, 1913, he made an altitude record for the Army, attaining a height of 10,500 feet. On February 9, 1914, at San Diego, while attempting to make an American altitude record he was killed, having flown up 12,140 feet.

Rich Field, Waco, Tex., is named in honor of Second Lieut. Perry C. Rich, Philippine Scouts, who reported for aeronautical duty at Fort William McKinley, P. I., March, 1913, and was killed by a fall into Manila Bay November 13, 1913.

Rockwell Field, San Diego, Cal., is named in honor of Second Lieut. Lewis G. Rockwell, Tenth Infantry, who reported for aeronautical duty at College Park, Md., July 5, 1912, and was killed at that place September 28, 1912.

Selfridge Field, Mount Clemens, Mich., is named in honor of First Lieut. Thomas Selfridge, Field Artillery, who was detailed for aeronautical duty in April, 1908. Pevious to that time he had been assisting Prof. Alexander Graham Bell in his aeronautical experiments in Nova Scotia. On September 17, 1908, he was killed while flying as a passenger with Orville Wright at Fort Myer, Va.

Camp Taliaferro, Fort Worth, Tex., is named for First Lieut. Walter R. Taliaferro, who was detailed for aeronautical duty from the Infantry March 18, 1913. He held certificates as pilot, expert aviator, military aviator, and junior military aviator. On September 17, 1915, he made an American duration record for pilot alone, remaining in the air more than 9 hours.

MILITARY SHOOTING

(*Concluded from page* 104)

rifle or machine gun would be about one hundred feet. In case of two airplane men traveling in opposite directions hitting would be practically impossible though the machines might be damaged. Gliding along in the same direction, though, the practice would be fine.

Good preliminary training for the air-man would be shooting from a rapidly moving automobile. I have tried it many times and it certainly requires good judgment to hit even a stationary mark where the machine is moving around fifty miles an hour. Given the moving car and the usual running target traveling rapidly in the opposite direction and our student quickly grasps the necessity for plenty of lead and for shooting precisely on time. If the air-man had good judgment of speed, however, and was accustomed to wildfowl lead, I wouldn't want him shooting at me with buckshot when I was a mile or two up in the air.

The man who will do execution in this war or any other war or in big or little game shooting is the man who can snap his load like a flash, neither kneeling down nor sitting down nor lying down, and yet strike his mark. This thousand yard business, and this hitting a half-inch circle at 25 yards business, and this battle sight and danger zone business are all well enough in their way, but if your enemy has to lie down before he can fire you can shoot him too dead to kick while he is getting into position. And if I had to prod a man with a bayonet and he was two jumps away and had a loaded rifle pointed in my direction—Lord, man, I wouldn't think that I had any more chance than the proverbial snowball in hell.

ENGLAND ISSUES AIR-RAID DIRECTIONS

There may be little likelihood of the great cities of the United States ever experiencing the raids of frightfulness which have been visited upon England by the Hun aeroplanes. However, the directions for the safeguarding of life in such an emergency, and which have just been published in London, may be of interest here.

The gist of the regulations is:

"When the 'Take Cover' notice is given the public are advised, if in the streets, to get out of them; if in their homes, to remain there. During daylight hours there is no difficulty in securing shelter in a building, but it is essential that it should be in a building that affords the protection of an intervening wall or other similar obstruction of substance. An open area below ground level affords good protection against a bomb exploding in the street. All police stations will admit throughout the 24 hours to the full extent of their accommodation persons seeking shelter there. During the hours when they are open, the public in galleries, museums, public libraries, and other places of public resort will be allowed to remain on the premises till the raid is over. The tube and other railway stations which provide secure shelter will admit the public without charge, as long as the stations are open for traffic, and if already sheltered there, till the raid is over and police arrangements have been made as far as practicable for the regulation of the persons congregating there. Elsewhere there are numerous other buildings affording good shelter which will be made available both day and night for the purpose. At all police stations there is a list of those premises considered suitable. The managers of premises affording shelter (particularly at night) are invited, upon the issue of the 'Take Cover' notice, to exhibit a placard with the inscription, 'Aid Raid—Shelter.' They can obtain this printed inscription on application at the local police station, and should have it mounted on a board for exhibition. As the managers at night may not know of the issue of the 'Take Cover' notice, constables, special and regular, will as far as practicable be detailed to apprise them and assist in regulating the persons admitted."

ARMED STRENGTH FIGURES COMPILED

At least 38,000,000 men are bearing arms in the present world war. Of these, 27,500,000 compose the armies of France, England and their allies. Under the flags of the Central Powers 10,600,000 men are in the field.

These figures, which do not include naval personnel, have been compiled by the War Department from reports issued in various countries.

According to the figures issued by the War Department, Germany has 7,000,000 men, Austria 3,000,000, Turkey 300,000 and Bulgaria 300,000. The Allies' forces run: Russia 9,000,000; France 6,000,000, Great Britain 5,000,000, Italy 3,000,000, Japan 1,400,000, United States more than 1,000,000, China 541,000, Rumania 320,000, Serbia 300,000, Belgium 300,000, Greece 300,000, Portugal 200,000 Montegenro 40,000, Siam 36,000, Cuba 11,000, and Liberia 400. San Marino and Panama also have small forces under arms. Military experts do not regard these figures as entirely accurate, but believe they represent in round numbers the comparative strengths of the contending armies.

HOW THE TRACER BULLET WORKS

(*Concluded from page* 109)

The gasoline is backed up by compressed air contained in a compartment ahead of it. The air drives out the gasoline in spray, which in turn takes fire and forms a comet-tail.

Another modification has an incandescent burner to light up the course of the missile.

The inventor terms these projectiles bullets, but as bullets are missiles for small arms and not over .30 inches across, the installation mentioned seems cumbersome for a bullet of this size. To insert all this mechanism in place is a job of microscopy worse than engraving the Lord's Prayer on a ten-cent piece. The inventor probably means shells for artillery.

What several inventors have turned out, and what is really needed, is a practical smoke-trail bullet for rifles, to show its point of impact. The puff of smoke from shrapnel does away in daytime with any necessity for a device to show its flight; the patent referred to here is for night-firing alone.—*Popular Science Monthly.*

INSIGNIA APPROVED

(*Concluded from page* 106)

tion Service will wear the insignia on the left breast, as follows:

"(a) Military Aviators—The insignia shall be embroidered in silver on a blue background, and shall be two wings with the shield between, and a five-pointed star above the wings. The wings shall be three inches from tip to tip; each 1⅛ inches wide and 9/16 at the center ends, the shield 9/16 high and ⅝ wide, with the letters U. S. ¼ inch high, below the horizontal crosslines; and the star shall be 9/16 of an inch in diameter.

"(b) The Junior Military Aviator and the Reserve Military Aviator shall wear the same in the same manner excepting the star.

"(c) Observers shall wear the same in the same manner except the star and the right wing are to be omitted, the insignia consisting of one wing on the left of the shield."

Secretary Daniels has approved following special insignia of naval aviators: Fouled anchors with U. S. superimposed between two spread wings.

The recruit at bayonet practice had just given the dummy a vicious jab, when the drill sergeant noticed that he was grimacing in a rather unusual manner.

"Number Four!" cried the sergeant; "what's the idea of all that mugging?"

"Why," said the recruit, a former movie actor, "you want me to register hate or fury or something, don't you?"—*Boston Transcript.*

U. S. INFANTRYMAN CARRIES 18 POUNDS OF METAL

A table showing that more than 18 pounds of metal enters into the composition of articles required for the equipment of each infantryman has been prepared by the Ordnance Bureau of the War Department. The metal equipment carried by each infantry soldier weighs 294.65 ounces, and an additional weight of 114.7 ounces is added by equipment of cotton, wool, leather, and wood. The Ordnance Bureau, therefore, supplies each soldier with approximately 25 pounds of equipment, this being exclusive of that supplied by the quartermaster corps.

A "memorandum on materials entering into the composition of the articles of equipment of an infantryman furnished by the Ordnance Department, weight in ounces," is as follows:

Bacon can—0.4 ounce iron and steel and 8 ounces tin.

Bayonet—15 ounces iron and steel and 1 ounce wood.

Bayonet scabbard—2 ounces iron and steel, ½ ounce brass, 1 ounce aluminum, 0.3 ounce other metal, 1 ounce cotton, 2 wood, and 0.7 leather.

Canteen—5 ounces aluminum and 1.8 ounces other metal.

Canteen cover—0.2 ounce brass, 3 ounces cotton, and 1.8 ounces wool.

Cartridges (100)—47.4 ounces brass, 36.4 ounces metal in bullet, and 12 ounces explosive.

Cartridge belt—10 ounces brass and 14.1 ounces cotton.

Condiment can—4.35 ounces tin.

Cup—5.5 ounces aluminum and 0.6 ounce other metal.

Fork—1.5 ounces other metal.

Front sight cover—2 ounces iron and steel.

Gun sling—1 ounce brass, 7 ounces leather.

Haversack—1.8 ounces brass, 24 ounces cotton.

Knife—1 ounce iron and steel, 0.7 aluminum.

Meat can—0.3 ounce iron and steel, 12 ounces aluminum, 0.1 ounce other metal.

Oiler and thong case—1.5 ounces brass, 1.5 leather.

Pack carrier—0.3 ounce iron and steel, 6 ounces cotton, and 1 leather.

Pouch for first-aid packet—0.3 brass and 1.6 ounces cotton.

Rifle—107 ounces iron and steel and 29 ounces wood.

Shovel—25 ounces iron and steel and 4 ounces wood.

Shovel carriers—5 ounces cotton.

Spoon—1.7 ounces other metal.

An explanatory note says the metal used in the bullet is a lead and tin composition inclosed in a jacket of cupronickel.

A ROGUE ELEPHANT PASSES

The Central News correspondent at Port Elizabeth relates the following interesting story: "Langtoon, a rogue elephant of extraordinary ferocity, which for years has been looked upon as the terror of the Addo Bush, the wild country which stretches for miles from the outskirts of Port Elizabeth, was stated to be over 100 years old, and was named Langtoon by the colored people owing to the shape of his right forefoot, which resembled a huge human toe. Langtoon was driven from the Addo Bush herd by the other elephants many years ago, and since then he lived with apparently no other object than to do all the damage he could. Many a farmer has had the work of months ruined in a night by the animal, who could smash miles of fencing between dark and dawn. To his ferocity he added great cunning and an almost uncanny sense of the presence of traps or well-armed hunting parties. One of his favorite tricks was to lie in hiding by the side of a pathway and dash out at an unsuspecting passer-by. Considering the chances of killing people which this method gave him the number of Langtoon's victims was surprisingly small, but many herdsmen and woodcutters had almost miraculous escapes. One white man is known to have been killed by him, being caught by the huge trunk, dashed against a tree, and then trampled upon. Some days ago Mr. Delaporte, manager of an estate in the bush, set a trap, which consisted of a loaded rifle on a fence pole, and the bullet pierced Langtoon in a vital spot. He worked enormous havoc in his death struggle, smashing a fence and some trees near the trap, and ploughing up the ground with his tusks, which were four feet long.—*Shooting Times and British Sportsman.*

SUPPLY OF MODEL 1917 ASSURED

The Model 1917, U. S. Magazine Rifle, as the rechambered British Model of 1914 is known, is now being produced at the rate of 3,000 a day and this output is expected to increase proportionately as time goes on. This is the weapon with which the National army of "selected conscripts" will be armed. According to official statements, private manufacturers who were allotted contracts, almost without exception, are ahead of their program, two of them having begun deliveries more than a month ahead of schedule. Meantime the production of the Springfield rifle at Springfield, Mass., and at Rock Island, Ill., is rapidly approaching a daily average of 1,500.

Off Hand From the Clubs

Changes in N. R. A. Practice Caused by Cartridge Shortage

SHORTAGE of ammunition and the difficulty in obtaining rifles of military type during the present emergency has naturally resulted in the small-bore weapons taking the place of the service rifle to a large extent in the activities of civilian rifle clubs.

Judging from the numerous inquiries which are being received by the National Rifle Association, many of the club members are still in doubt as to the extent the use of the .22 is permissible in the established shooting program of the Association.

The N. R. A., in temporarily suspending many of the competition and qualification conditions which previously demanded service rifles and service ammunition, has been actuated solely by a desire to meet conditions as they exist and to provide a means by which the activities of rifle clubs need not entirely cease because of the action of the War Department in temporarily curtailing the privileges formerly enjoyed by affiliated clubs.

For the purpose of making plain the scope of the .22 calibre in National Rifle Association shooting, it may be well to summarize the changes which have been made during the past few months.

When war was declared, all of the outdoor programs, including qualification shooting and the members' match, was done either with the service rifle or with high-power sporting rifles, with the exception of the outdoor small-bore competitions.

The first of the changes made threw open one of the qualification courses to the small-bore rifle. This course is now known as the "Outdoor Small-bore Qualification Course" and is built upon the old National Guard Course, details of which have already been fully published in ARMS AND THE MAN, and for which the National Rifle Association has made arrangements to supply targets in the near future. This is the only qualification course in which the use of the .22-calibre rifle is permitted. The so-called "N. R. A. Course" must still be shot at the full distances as originally provided, which precludes the use of the .22 calibre.

So far as the rifles with which the small-bore outdoor course may be shot are concerned, any rifle and any sights may be used, subject only to the handicap which has been placed upon telescope sights in the conditions as previously published.

The other change which has been made is the throwing open of the Members' Match to the small-bore rifle.

Heretofore the Members' Match conditions have provided:

"To each affiliated club the National Rifle Association of America presents annually a medal for a members' competition. The medal is made of golden bronze. No member can win the medal twice, and ten or more members must compete in each contest. The medal is not awarded until a report of the contest is made to the N. R. A.

"The shooting conditions call for 10 shots for record at 200 yards, rapid fire, kneeling from standing, time limit 1½ minutes, target 'D,' battle sight; 10 shots for record, slow fire at 300 and 500 yards, prone; target 'A' for 300 yards and target 'B' for 500 yards. Service rifle, ammunition and target. Small Arms Firing Manual, U. S. A., 1913, to govern. One-half minute additional time allowed for rapid fire if Krag rifle is used."

These conditions will govern shooting wherever a rifle club can obtain service rifles and service ammunition, or Krag rifles and ammunition, with which to hold the competition.

In instances where a club can not obtain the military rifles and ammunition, the National Rifle Association authorizes the use of .22-calibre rifles, and the shooting of the match at reduced distances.

Applying the principles embodied in the Outdoor Small-bore qualification course, the Members' Match shot with .22-calibre rifles will be:

"Ten shots for record at 50 yards, rapid fire, kneeling from standing, on target B-4; time limit, 1 minute; or, if single-shot rifle is used, time may be increased 1 minute. Ten shots for record slow fire, at 75 yards prone, target A-4, and 10 shots for record at 125 yards, prone, target B-4. Two sighting shots permitted on each of these ranges."

Any rifle and any sights may be used for this competition, provided that all competitors are placed upon the same basis. In this connection, it is suggested that the club officials decide the rifle and the sights which will govern in the match, and then see that each shooter uses a rifle of the type selected. If necessary, all the shooting can be done with one rifle.

The one cardinal point which must be observed, however, is that the Members' Match must be shot on the outdoor range. The Association will not accept scores in this competition shot indoors.

If clubs desire to shoot the Members' Match at the distances formerly prescribed for the service rifle, but are unable to obtain service rifles and service ammunition, either sporting or remodeled service rifles may be used, and there will be no restrictions on sighting equipment, except that, as in the case of the members' small-bore match, rifles of similar sighting equipment must be used by all contestants in order to place all on an equal footing.

League Shooting Helps

There is no form of organization that has done so much to popularize the sport of rifle, pistol or trapshooting as Interclub League Contests. That is to say, the forming into a league of a certain number of clubs for the purpose of conducting periodical matches during the indoor and outdoor seasons, each club shooting on its home range and exchanging results by mail, telegraph or telephone.

Some eight years ago the first league of shooting clubs in this country was organized by the United States Revolver Association, the national governing body for the sport of pistol and revolver shooting. Successful contests have been held each year since, and as a result, the sport has been elevated to a high plane in practically every large city in the United States.

The National Rifle Association of America at about the same time arranged league contests for civilian, public, high school and college rifle clubs. The stimulus thus given by these interclub matches is directly responsible for the formation of Rifle Clubs in a majority of the leading schools and colleges.

The Interstate Association, the national organization directing the sport of trapshooting, encourages the forming of leagues. Pennsylvania, the most active trapshooting state in the Union, claims several leagues of trapshooting clubs, and there are many more states where interclub contests are held.

It all goes to prove that men love to pit their skill against their fellows, individually and collectively.

Baseball owes its popularity to the league idea. Without interclub contests the sport would still be confined to the sand-lot stage, beyond the notice of the general public.

So let us have more shooting leagues to encourage a sport that, for clean sportsmanship and stimulation of mind and body, is in a class by itself.

We Stand Corrected

Several readers of ARMS AND THE MAN—among them Captain Lincoln Riley, of Wisner, Neb.; D. V. Ely, of Utica, N. Y., and Maj. Charles W. Sheldon, N. R. A. State Secretary for Wyoming—have called our attention to an error which appeared in the Inquiries Column in the issue of September 20th.

In that issue it was stated that the calibre 8 m/m corresponds to .284 calibre. As 1 m/m is roughly .0394 of an inch, these gentlemen were correct in their contention that the calibre 8 m/m used abroad would correspond to .3149, or .315 in the terms used in this country.

Sighting Shots

Editor ARMS AND THE MAN:

I am serving my second enlistment in obeying our President's call, and as we take your magazine I embrace every opportunity to peruse its columns, finding practical information and suggestions that, were they more seriously considered and utilized, would, in my opinion, be a factor in bringing our troops to a plane of high proficiency, enabling our forces to inflict the greatest damage to the enemy in destroying man power, which is claimed by all to be the object with opposing elements.

I recall my experience in firearms in the early days of the west, of the expert proficiency of riders and, in fact, all plains and mountain men with the sixshooter, one or two to the man, the skill they acquired, and asked the reason why those whose duty requires them to rush trenches, instead of depending on the bayonet, could not do deadlier execution with an automatic pistol or double-action revolver.

Weighing the conditions reports present at the front, we find the assaulting forces, charging over extended areas torn by shells offering obstacles to swift travel, are winded and at a disadvantage carrying heavy equipment and meeting a foe rested and ready for combat. The men must drop into the trench, giving the enemy the advantage, and I wonder that the mortality rates on our allies' side are not larger than they are. Take men of the west, familiar and expert with the weapons referred to, and what would be accomplished?

1st. Reaching the enemy in trenches and dugouts or covers, a light, deadly weapon in

each hand ready to pot the enemy without coming in touch with their bayonets, part of the force could cross to the opposite side, getting those banking nearest the assault; no chasing, but deadly execution to those in sight; then dropping into the trench and ferreting out those in the hovels on either side and ready for any counter attack, concentrating fire on bodies of men coming within range.

2d. Expert shots would inflict greater execution than could be attained with rifle and bayonet. Besides, many men would shoot a man without the same scruples that a man would have in chasing his enemy down to stab him with a bayonet.

Where trenches are close, hand grenades could precede the rush, and even the bomb throwers could continue to throw until signaled to stop, thus protecting our men until they occupied the trench.

The rifles of these advanced units would be delivered by later troops at the first opportunity, should they be deemed necessary, but my opinion is, regarding repelling counter charges, our pump shot-guns loaded with navy balls would cripple and put out of commission more men, especially when in dense bodies, than any rifle fire.

These views, Editor, are the result of my study based on experience with weapons. I am familiar with them from the muzzle-loader to the most improved sporting rifle, and I invite criticism, as I have weighed the proposition as it naturally seems to me, while others may see defects from different angles. But trust you will favor by giving this letter space in your columns.

Respectfully,
S. J. BARTLETT,
Private, Co. A, 3d Regt., N. G. of Colo.

Seldom do we hear nowadays of the debt of honor that has been cancelled by the use of a brace of pistols in the hands of outwardly calm but inwardly excited gentlemen of the purple.

For three hundred years previous to the last half of the nineteenth century the pistol was developed solely as a weapon of defense at very short distance, and, as already stated, principally for duelling purposes. It is on record that the first pistols were made about 1540 by an Italian, Caminelleo Vitelli at Pistoja, Italy.

During the last half century, however, the pistol has undergone many rapid and wonderful changes. This has been due principally to the fact that pistol shooting has become a legitimate sport, as target shooting requires a weapon of great precision and capable of accuracy at distances considered quite impossible in the early history of firearms.

The term "pistol" should not be confused with "revolver," for there is nothing very similar in the mechanism of either.

A pistol is either single shot or automatic. The single-shot pistol must be loaded for each shot. The automatic is fed from a magazine and several shots may be fired as fast as the trigger can be worked each time by the trigger finger.

The revolver is so named because the cartridges are contained in a cylinder which revolves as each shot is fired. Pressing the trigger each time fires the cartridges and also turns the cylinder.

Both the pistol and revolver are used for target shooting; the pistol, however, is considered the more accurate.

Shooting is done indoors and outdoors. The standard distances for indoor shooting is 20 yards; for outdoor shooting, 50 yards, although various intermediate distances are also used.

Annual championship contests are held in the spring and fall under the supervision of the United States Revolver Association, the governing body for the sport in the United States. These contests bring together many of the country's foremost shots, and the competition as a rule is spirited, for the honors are well worth the effort put forth.

Pistol and revolver clubs are constantly being organized, which is an indication that the sport has taken a firm hold with the pleasure- and competition-loving American.

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. From what source can empty Krag shells be obtained, and where can non-mercuric primers for reloading them be purchased?

A. It might be possible to obtain empty Krag shells from some rifle club whose members are not reloading ammunition. Try a want ad in ARMS AND THE MAN. The non-mercuric primers can be purchased from several of the commercial manufacturers of ammunition.

Q. If a club wishes to disband, what disposition should be made of the rifles which

(*Concluded on page* 118)

ALONG THE FIRING LINE

The first revolver match of the annual series of seven between Montreal, Canada, A. A. A., and the Toronto Revolver Club took place this week, resulting in a win for Toronto by 33 points.

Each man had ten shots at two targets. The scores:

M. A. A. A.		
F. Dumfries	92	83—175
G. M. LeHain	87	78—165
E. G. Brewer	82	82—164
D. E. Saunders	81	79—160
K. D. Young	77	70—157
J. H. D'Aigle	83	74—157
Total		978

Toronto R. C.		
A. Rutherford	90	94—184
J. P. White	86	90—176
R. Clarke	85	89—174
T. G. Margetts	86	83—169
C .E. Peterkin	76	79—155
W. J. Metforth	82	71—153
Total		1,011

Majority for Toronto, 33 shots.

T. G. M.

L. T. Miller won the Members' Match of the Brooklyn, New York, Rifle Club, shot on the Cypress Hill range October 7. The Members' Match course in this instance was adapted to small-bore shooting. Out of a possible of 150, these scores were made: L. T. Miller, 141; H. Otto, 137; Charles Gebhard, 136; T. L. Corsa, 135; F. E. Prescott, 135; T. C. Dickert, 134; T. L. King, 133; F. W. Dearborn, 130; A. Anderson, 129; T. M. Bunts, 118.

The Members' Match of the La Pine, Oregon, Rifle Club was shot October 21, having been won by C. V. Carmichael on a score of 139.

Accompanied by cold and cloudy weather and an eight-mile wind, the Members' Match of the Endicott, New York, Rifle Club was shot October 20, twelve members taking part in the competition. L. E. Stewart won the match on a score of 113.

Having qualified twenty-seven expert riflemen and six sharpshooters during the past season, the Fort Pitt Rifle Club, of Pittsburgh, has abandoned outdoor shooting until spring. The experts are: D. A. Atkinson, 240; G. B. Armstrong, 226; R. W. Atcherson, 217; T. C. Beal, 237; M. N. DePue, 228; F. C. Douds, 231; T. H. Dillman, 238; L. B. Dashiell, 229; R. S. Everett, 238; F. B. Fisher, 240; H. C. Fry, Jr., 225; C. W. Freehling, 224; S. F. Hand, 224; G. H. Keil, 239; H. C. Knable, 220; I. C. Laughery, 229; J. G. Lightner, 223; G. E. Lewis, 219; T. M. Millis, 229; J. R. Ostrom, 212; V. J. Shepard, 224; W. E. Schlessman, 217; G. A. Snyder, 236; Ira Simmons, 216; Granville Teter, 236; George Theiss, 216; and E. A. Waugaman, 222.

The sharpshooters are: G. A. Devey, 201; H. L. Moore, 200; D. H. Snavely, 202; E. L. Parker, 200; H. P. Tiemann, 206; M. C. Marshall, 196.

J. W. Miller won the Members' Match recently shot by the Bucyrus, Ohio, Rifle Association, on a score of 133. Three experts, two sharpshooters and three marksmen have been qualified from this club.

The experts are: F. W. Croneis, 227; J. W. Sharrock, 218; and J. W. Miller, 213.

The sharpshooters are: J. B. Shaner, 202, and Arno Krannich, 190.

The marksmen are: William Krannich, 175; Harry Kiess, 172, and Ray Bogan, 161.

Shooting the indoor Watch Fob qualification course, Russell Hopkinson, of the Youngstown, Ohio, Rifle Club, made a score of 92 standing and 99 prone, which entitles him to a sharpshooter's decoration, while M. A. Moore, on a score of 87 standing and 95 prone, has won a marksman decoration.

These members of the Newburyport, Mass., Rifle Club have qualified as marksmen: Charles D. King, 153; Myron R. Currier, 150; John T. Lunt, 176; E. M. Coffin, 183; Henry C. Learned, 168; Bernard J. Russell, 166.

These members of the Beverly Hills, California, Rifle Club are reported as having qualified in the marksman and sharpshooter courses.

The sharpshooters are: W. C. Kein, 152; L. A. Rentsch, 177; K. D. Johnson, 176; A. C. Davis, 174; C. M. Cavanaugh, 157; Watts Clarke, 158; J. M. Kilpatrick, 167; Wilfred Buckland, 152; H. E. Jones, 176; C. R. Runyon, 195.

The marksmen are: H. L. Arnold, 154; A. C. Davis, 161; W. C. Kein, 166; J. M. Kilpatrick, 183; H. E. Jones, 166; Wilfred Buckland, 164, and K. D. Johnson, 150.

Three members of the Miami Rifle Club of Cincinnati have qualified as expert riflemen. They are: C. E. Boys, 219; J. E. Fulweiler, 218; W. C. McLaughlin, 213.

Several members of the Onondaga National Rifle Association, of Syracuse, New York, have qualified as marksmen and expert riflemen.

The experts are: Henry Empson (Militia course), 212, and H. H. Wellman (Militia course), 224.

The marksmen, all of whom shot the N. R. A. course, are: R. D. Glahn, 150; Morris Holland, 168, and C. R. Pettit, 168.

Darragh Donohoe, of the Englewood, New Jersey, Rifle and Revolver Club, has qualified as an expert rifleman on a score of 210, and G. J. Coleman has obtained a similar rating on a score of 224. The course was shot with the small-bore rifle, using .22 short cartridges.

The qualification of eight expert riflemen and two sharpshooters has been reported by the Brooklyn, New York, Rifle Club.

The experts are: Paul F. Lahm, 224; W. Coffin, 217; C. B. Adkins, 214; T. L. Corsa, 234; L. T. King, 224; F. W. Dearborn, 226; T. C. Dickert, 223; A. Anderson, 222.

The sharpshooters are: W. deF. Voorhes, 195; T. M. Bunts, 204.

Lahm, Coffin, Adkins and Voorhes did their shooting with the .30-calibre Springfield rifle, while the remainder qualified under the small-bore course.

Sixteen expert riflemen, six sharpshooters and two marksmen have been qualified by the Adrian, Michigan, Rifle Club. Some of the contestants shot the N. R. A. course with the service rifle, while others shot the small-bore course. Those qualifying with the service rifle are: Experts—J. N. Podrasnik, 146; E. J. Kertie, 151; Harry E. Hopper, 150; M. L. Mitchell, 142; Ray S. Andretsch, 141; W. R. Harvey, 144; F. S. Ougheltree, 145. Sharpshooters—Fred M. Phelps, 151, and Leslie D. Oughletree, 151. Marksmen—W. M. Mathewson, 174, and A. B. Hewes, 155.

Those qualifying under the small-bore course were: Expert riflemen—C. W. Harris, 234; E. J. Kortie, 242; H. E. Hopper, 240; W. R. Harvey, 236; Robert King, 226; Gibson Wynn, 221; R. S. Andretsch, 234; J. N. Podrasnick, 223, and H. D. Meyer, 214. Sharpshooters—C. L. Robertson, 195; C. O. Hodge, 208; Fred M. Phelps, 200, and W. H. Stevenson, 193.

John Miller, of the Evansville, Indiana, Rifle Club, has qualified as an expert rifleman on a score of 210.

MEN SUBJECT TO DRAFT RECLASSIFIED

If another call is made for men liable to service under the draft, the order in which each man is called will be determined by the provisions of a reclassification which has just been published by the Provost Marshal General of the United States Army.

Under this plan, the men still subject to draft are divided into five groups. For instance, the next call for men will take those who fall under Class I. If there is an insufficient number in this group, Class II will be called, and so on through the list.

The classification provides:

Class I

1. Single men without dependent relatives.
2. Married man (or widower) with children, who habitually fails to support his family.
3. Married man dependent on wife for support.
4. Married man (or widower) with children, not usefully engaged; family supported by income independent of his labor.
5. Men not included in any other description in this or other classes.
6. Unskilled laborer.

Class II

1. Married man or father of motherless children, usefully engaged, but family has sufficient income apart from his daily labor to afford reasonable adequate support during his absence.
2. Married man, no children; wife can support herself decently and without hardship.
3. Skilled farm laborer engaged in necessary industrial enterprise.
4. Skilled industrial laborer engaged in necessary agricultural enterprise.

Class III

1. Man with foster children dependent on daily labor for support.
2. Man with aged, infirm, or invalid parents or grandparents dependent on daily labor for support.
3. Man with brothers or sisters incompetent to support themselves, dependent on daily labor for support.
4. County or municipal officer.
5. Firemen or policemen.
6. Necessary artificers or workmen in arsenals, armories, and navy yards.
7. Necessary customhouse clerk.
8. Persons necessary in transmission of mails.
9. Necessary employees in service of United States.
10. Highly specialized administrative experts.
11. Technical or mechanical experts in industrial enterprise.
12. Highly specialized agricultural expert in agricultural bureau of State or Nation.
13. Assistant or associate manager of necessary industrial enterprise.
14. Assistant or associate manager of necessary agricultural enterprise.

Class IV

1. Married man with wife (and) or children (or widower with children) dependent on daily labor for support and no other reasonably adequate support available.
2. Mariners in sea service of merchants or citizens in United States.
3. Heads of necessary industrial enterprises.
4. Heads of necessary agricultural enterprises.

Class V

1. Officers of States or the United States.
2. Regularly or duly ordained ministers.
3. Students of divinity.
4. Persons in military or naval service.
5. Aliens.
6. Alien enemies.
7. Persons morally unfit.
8. Persons physically, permanently, or mentally unfit.
9. Licensed pilots.

According to statistics in a war bulletin, issued recently by the National Geographic Society from its headquarters here, a first-class private in the United States Marine Corps, serving abroad, draws $41 a year more than a Russian colonel; $64 a year more than a German lieutenant for the first three years; $31 a year more than a first lieutenant of the Austrian army, and $19 a year more than a junior lieutenant in the service of Italy.

Before the war "seamen's return" tickets were issued by most railway companies from seaport towns at reduced rates, says *London Answers*. A well-dressed young man asked for one of these tickets the other day, but the booking clerk demurred.

"Seamen's return tickets are issued only to sailors," he snapped.

"Well, I am a sailor," was the reply of the applicant.

"But how am I to know that your statement is correct?"

"How are you to know it?" came the answer. "Why, you leather-necked son of a sea cook, if you feel my starboard boom running foul of your headlights you'll know that I've been doing more than sitting on a stool bleating all my life, and you'll haul in your jaw tackle a bit."

The station master was standing nearby.

"Give him a ticket," he said; "he is a sailor."—*New York World.*

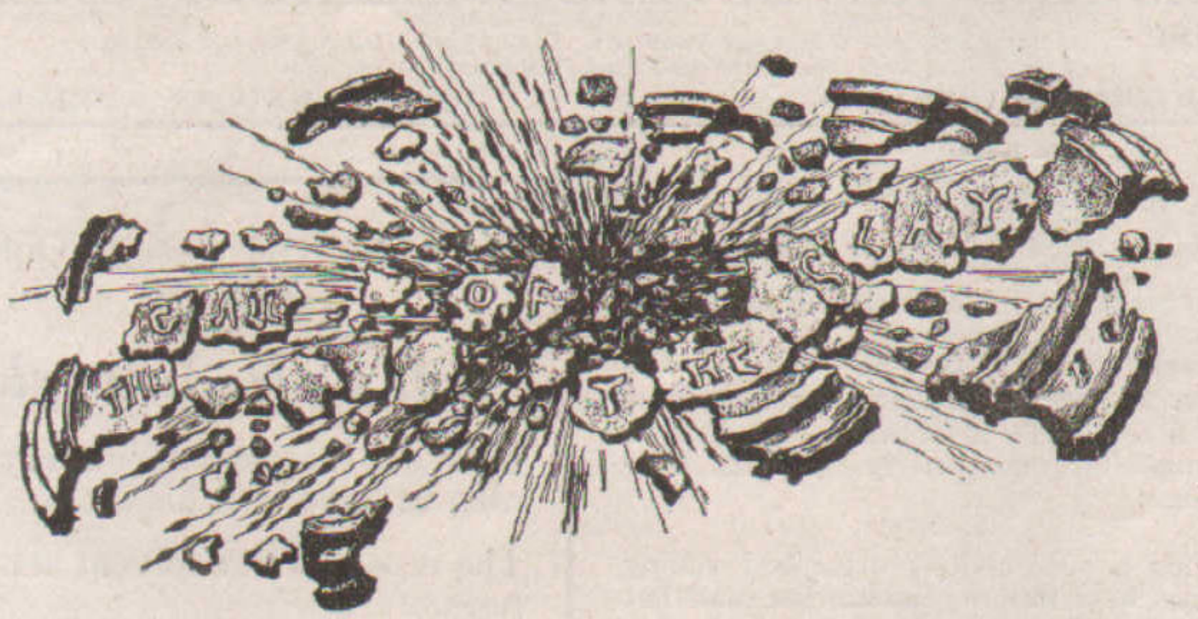
The recruits weren't doing very well at rifle practice. "Look here!" cried the instructor, "what's the matter with you fellows? There hasn't been a hit signaled in the last ten minutes."

"I think we must have shot the marker, sir," replied one of the men.—*Boston Transcript.*

The Adjutant (to prospective orderly-room clerk)—Well, Blithers, you say you're good at figures. Now, if there were four flies on this table and I killed one, how many would there be left?

Blithers—One, sir—the dead 'un.—*Sketch.*

Some of the young men enrolled as seamen in the Naval Reserve Force have the very sketchiest ideas of seamanship. The ensign in command of a special patrol boat, converted from a steam yacht, went into the pilot house of his ship not long ago and asked one of these Reserve Force men who was at the wheel: "How's the wind shifting?" To which inquiry the helmsman replied: "Very prettily, sir."



CONCERNING SHOTGUN BALLISTICS

IN the opinion of Henry Sharp, the British ballistician, the shooting qualities of the scattergun have not advanced as rapidly as they should have done during the past twenty years.

Mr. Sharp's conclusions, as set forth in the *Shooting Times and British Sportsman,* should prove of interest to shot-gun users in the United States. He says:

A correspondent writes discursively respecting some statements made in these rough notes some time ago. He refers especially to the opinion that a lack of progressiveness is to be noted with regard to shot-gun ballistics, and expresses himself as satisfied with present conditions, which are "good enough for anything encountered in this country in the way of sport with game or wildfowl." Further, he advances the argument of another demurrer, that "the killing power of the shot-gun has been sufficiently increased by the introduction of choke-boring"; afterwards referring to the "remarkable extension of ranging power displayed by the modern choked duck gun," and concluding, as already remarked, with an expression of complete satisfaction with regard to the position of shot-gun ballistics to-day. Well, if my correspondent is satisfied I am not, and, as more or less convincing proof of this dissatisfaction, may refer to a considerable expenditure of time and money during twenty or more years with the object of securing the enhancement of shot-gun ballistics. I am firmly convinced that the shooting qualities of the smooth-bore arm have not advanced so much as they might, or ought to have done. This conviction has led up to innumerable experiments, and, finally, as one possible means of solution, to my securing patent rights for shot-pellets which will not prove so susceptible to injuries caused by the pressures, strains, and friction exerted upon them within the gun barrel.

Due acknowledgments must be rendered to our powder and ammunition manufacturers for increasing shot speeds over medium ranges, such, in fact, as are usually shot over in partridge driving and other more or less familiar forms of game-shooting. For such advancement I am truly grateful, and yet would say that I long for more and even greater favors in the way of range extension in the shot-gun. The increase of shot velocity over medium ranges, and the increased killing powers thus conferred over restricted areas, are fully appreciated by sportsmen. Still, this in no wise destroys the validity of my argument that a wide field of endeavor towards securing higher pellet velocities at longer ranges lies stretched out before the vision of our powder and ammunition manufacturers. Higher velocity at long range implies increase of pellet energy and penetration, and to insure such enhancement it will be necessary to keep pellets free from abrasive injury or other deformative influences within the gun barrel. That is the first step, and until it can be assured no real progress by way of range extension can be revealed. This is so for the reason that to accelerate shot velocity beyond what it now is will merely extend the evils of pellet abrasion and deformation. Thus the attempt to extend the ranging power of the shot-gun will be mechanically defeated.

The argument about "the remarkable extension of ranging power displayed by the modern choked duck-gun" has been advanced in argument against my statements in these columns, and to this present correspondent I would offer similar reasonings to those given on a former occasion. At the outset I would like to ask my correspondent to give such examples of range extension as may have resulted from the use of choke in modern duck-guns within his knowledge. That choke-boring does extend the effective killing range of the gun over and above that displayed by cylinder-boring is a well-established fact, and, possibly, that may be what the above-quoted assertion was intended to convey—neither more nor less. If not, then perhaps I may shock him somewhat in tendering the opinion that he, with modern choke-bored duck-guns and loose shot charges, can kill wild ducks and geese at no greater distances than were achieved by our grandfathers with their flint-locks and the loading methods in use eighty or more years ago. True it is that their cylinder-bores and loose-shot charges might not possess the ranging power of present-day chokes, but precedent sportsmen were as anxious as we now are to secure extraneous aids to range extension, and so we find "the means at their disposal" included that marvelous range-extender, the Eley "Patent Wire Cartridge." As I have remarked already in these rough notes, it may sound heretical in some ears to state that in certain vitally important respects the old-time wire cartridge displays greater value as a range-extender than any choke-bore. Take but one concrete example—that of practical experience on the goose marsh—and we find that each yard of range extension beyond the ordinary greatly lessens the chance of killing the strong wild goose. With loose-shot charges this all-too-speedy loss of pellet energy may be ascribed in part to the scattering of the shot, and perhaps, in main degree, to the excessive atmospheric retardation experienced by deformed and abraded pellets. That prince of wildfowlers, Colonel Peter Hawker, was one of the keenest critics ever known upon all things relating to guns and shooting accessories; he called a spade a spade, and was not sparing of his mother tongue when praising or condemning. He has left it on record that the Eley wire cartridges of his later years had reached as near perfection as possible. It would inordinately extend this article to give chapter and verse, and it will be sufficient to say that his records supply many examples of killing geese at ranges of 200 and 300 yards with big stanchion guns; whilst with smaller guns he killed both wildfowl and game with wire cartridges at distances quite as great as, I think, have been placed to the credit of modern choke-bores and unprotected shot. This sufficiently illustrates the pellet preservation and consequent conservation of pellet energy rendered possible with the wire cartridge. With a wire cartridge containing three-quarters of a pound of No. 3 shot fired from a punt-gun, Colonel Hawker found that he could place 122 pellets in an open sheet of brown paper at 110 yards distance. His test for penetration at that distance was to shoot at fourteen of these open sheets of thickest brown paper, and, although it is unfortunate that the size of this target is not specified, the fact remains that more than 50 per cent of the pellets—to be precise, 77 out of the 122 striking the front sheet—got through the whole batch. It would be interesting if comparative records with loose-shot charges fired from choke-bores could be obtained. I believe I have somewhere stowed away amidst my shooting archives some of the identical 12-ounce Eley wire cartridges used by Colonel Hawker, bearing the top-knot of oakum for wadding, as advised by him. One of the most satisfactory shots I ever made at wild geese with a shoulder-gun resulted from the use of enclosed and protected shot. This, however, was not a wire, but a tallow cartridge, the recipe for which is given by Colonel Hawker in his "Instructions to Young Sportsmen." This tallow cartridge—of AA shot, if I recollect aright—was fired from a 4-bore gun into a small gaggle of driven geese when passing at 100 yards distance. Five geese were gathered as the result of this shot, three of them being cut down just as decisively as are partridges in turnips at 25 yards, the big shot pellets having penetrated from side to side of the muscular, fleshy bodies of these heavy, pink-footed geese.

To Hold Interstate Meeting

The annual meeting of the Interstate Association for the Encouragement of Trapshooting will be held at the Hotel Astor, New York, November 8. This confab is of interest to the devotees of trapshooting, for at this time selection of cities for the 1918 subsidiary handicaps and the Grand American Trapshooting Tournament will be made. Officers, too, will be chosen.

The two years under T. E. Doremus has been the best in the history of the Interstate Association. More progress has been made, and even greater progress will be made, if the association continues to follow along the lines that Mr. Doremus has steered it.

Spokane and Los Angeles are hot after the Pacific Coast Handicap, and Omaha and Peoria are bidding for the Western Handicap. Omaha is willing to take the Western Handicap every year, for the business men of the city are interested in the sport and back the tournament. Peoria has never figured much in a tournament way, but has a good club, and the business men of the city are behind the movement to bring the handicap there.

Birmingham, Louisville and Baltimore are bidders for the Southern Handicap, and the Forest Hills Club, of New York; Wilmington, Del.; Butler, Pa., and Baltimore are the bidders for the Eastern Handicap. Baltimore in making an effort to land either the Southern or Eastern Handicap places itself in a unique position. The Oriole City is considered in the

South in some sections; in the East in others. The Interstate officers will decide where it should be placed.

The South Shore Country Club, of Chicago, and the Toledo (Ohio) Gun clubs are the only contenders for the Grand American Trapshooting Tournament. It is said the South Shore Club would be willing to take the tournament for a number of years. No better place could be selected for the holding of the gigantic carnival.

"Shoot-offs" Often Interesting

There are many excellent achievements in sport hidden away each year through the failure of some person or persons to turn the calcium to the right spot.

Going over some trapshooting figures, we ran across three excellent performances and we are doing this much to try and see that they get the light of day.

These three performances are shoot-offs of ties, and one of them is without question the greatest shoot-off ever recorded. This was between Andy Flickinger, of Vallejo, Cal., a grizzled veteran, and Owen E. Evans, of Los Angeles, Cal., a youngster, and the veteran got the decision.

Flickinger and Evans tied for second honors in a shoot of the Vernon (Cal.) Gun Club, with 198 breaks in 200 targets. On the shoot-off Flickinger broke 199 to Evans' 198 targets. There isn't another shoot-off in history that required 200 targets to determine a winner. Each shooter broke 20 straight on the first string and each missed one in the second string of 20. Flickinger broke 177 straight to finish, while Evans ran 160 before he missed a target in the tenth string. There may have been better shooting than this some time, some place, but it has not come before our notice.

Another great shoot-off that went by totally unnoticed was the one for third place in the Preliminary Handicap of the Grand American Trapshooting tournament. As the shooters had the same handicaps in the Grand American event, the tie was shot off as the men went down the line, and, therefore, it passed off without any one giving it attention at the time.

There were 11 men tied for third place with 97 breaks, but after the first string of 20 in the Grand American there were only three left—John B. Lallance, of Huntington, West Va.; C. D. McGary, of Hammond, Ind., and W. L. Hayes, of Dwight, Ill. Hayes dropped out on the second string. Lallance and McGary went down to the fifth string—the entire 100 targets in the Grand American—to determine a winner. They broke the same number of targets on each 20, excepting the fifth, when McGary missed five and Lallance two.

Tom Hale, of Mt. Pleasant, had won the Tennessee State Championship three years in succession. This year he went to the shoot with a team mate, J. B. Fite. Hale went out with 99—a score that looked good for the fourth championship. Fite was one down in 80 and went straight on his last 20 and tied his pal for the title. It required 60 targets to decide the winner, Fite breaking 59 and Hale 58, all the targets being lost in the third 20. Hale and Fite returned to Mt. Pleasant as they came—friends and together.

Only champions or runners up can represent their States in the National Amateur Championship event, and Fite graciously withdrew in favor of Hale, who is regarded as the best shot in Tennessee. And Hale was good enough to be in the squad that broke 200 straight in the championship event.—*Peter P. Carney.*

QUESTIONS

(*Concluded from page* 114)

were purchased, and not obtained under the free issue?

A. Every effort should be made to sell these rifles to another N. R. A. club, since they are not subject to recall. This can be done through the office of the National Rifle Association.

Q. When a rifle club is organized among the students at a military institution, and has not drawn any rifles under the free issue, using the rifles issued to the military school, is there any way in which a few rifles can be retained when the school rifles are recalled?

A. No. The rifles issued to military schools do not in any way come under the regulations governing the issue to rifle clubs.

Q. Is it possible under present conditions which prevent the purchase of Krag or Springfield ammunition to buy from the Government ball cartridges for the old 45/70 Springfields which many of the clubs purchased outright some time ago?

A. The suspension of the purchase privilege applies to the 45/70 ball cartridges as well as to ammunition for the Krag and Springfield. It would perhaps be possible to obtain this ammunition from the commercial companies, or from Bannerman, 501 Broadway, New York.

Q. If, in shooting the Members' Match, more men are entered than can be taken care of during an afternoon, can the match be finished on another afternoon?

A. It is permissible to shoot one or two stages of the match one afternoon, and the remaining stages or stage another afternoon.

Q. For long-distance accurate shooting would you suggest a telescope or other sight?

A. A telescope is always a great aid when one's eyes are not normal. For target or game shooting at long distances a telescope is excellent when its use is understood; otherwise it is more of a hindrance than a help. As a general proposition the ordinary hunting sights are best. Also, for long-distance target shooting the peep sight is best.

Q. In shooting the Members' Match of the N.R.A., when two men tie in what way is the tie decided? Does the score at rapid fire govern, or the score made at longest range?

A. The score at longest range governs, first at 500 yards, then at 300 yards and so on down.

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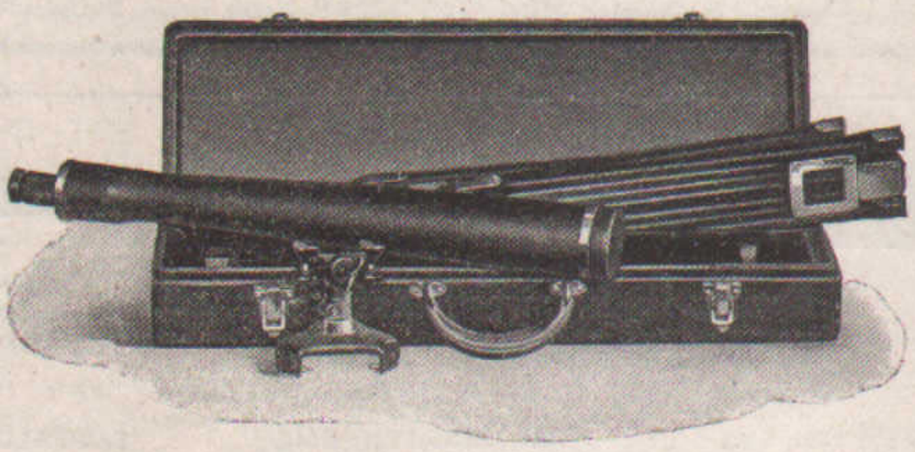

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