



ARMS AND  
THE MAN

THE PLEASANT FICTION OF THE STAR GUAGE

A MINIATURE MILITARY COURSE

Part II

HOLDING FOR A RECORD

THIRTY YEARS AGO WITH THE HAND GUN

Concerning F. E. Bennett

BOOK REVIEWS

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

VOL. LXII, NO. 14



JUNE 30, 1917




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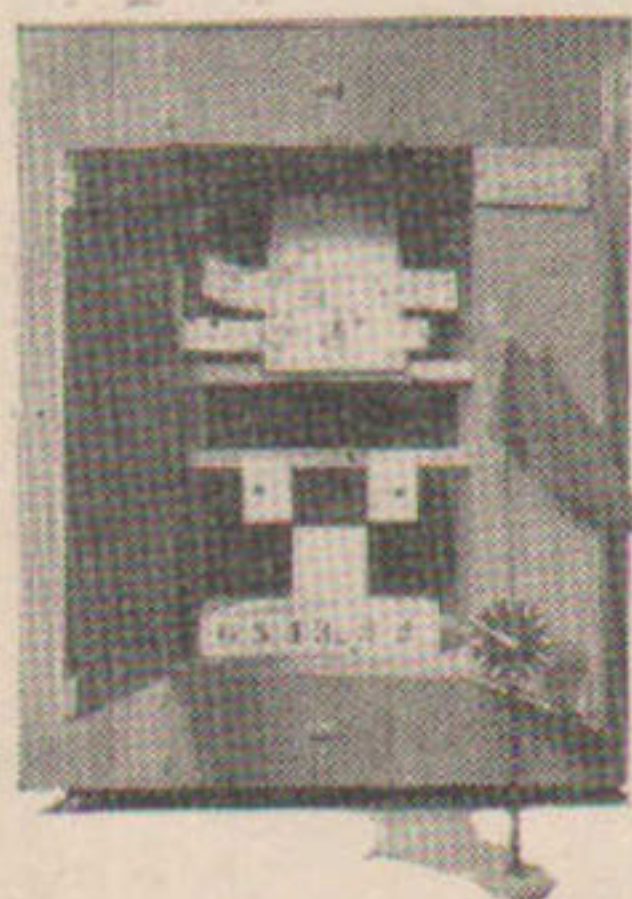
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## The Pleasant Fiction of the Star Gauge

By EDWARD C. CROSSMAN

THE man who would destroy the touching faith of the neophyte rifleman in the probity of his beloved weapon would also be guilty of telling a child there is no such person as Santa Claus. Wherefore I wish I could keep this story from the trusting eyes of the rifle owner who knows that he has an absolutely perfect rifle, because the star-gauge card says so: Only the thought of the downcast person who got a rifle with a star-gauge card reading like a table of logarithms, and different for every inch, removes my qualms of conscience at spiking the star-gauge yarn.

The word hath a pleasant, mysterious sound. Every joiner of a rifle club, hearing it for the first time, rolls it like a sweet morsel under his tongue. During the ten long years I have been secretary of a rifle club I have perused a number of hundred written missives requesting New Springfields for embryo members, and have noted the invariable stipulation that the rifle be star-gauged, only the terms varying from "star-bored," "star-sighted," "star-selected" to "star-shooting." Most of them haven't the slightest idea of what the term means, but the word star sounds rather altitudinous, and implies that a rifle of that breed ought to be of a higher class than the common scrub arm.

Not long ago I got a wail from the secretary of a rifle club to the effect that the cruel commanding officer of the Benicia Arsenal had sent to them on their first order "cull rifles," from which I presume this miscreant, according to the secretary, had gone out into the rifle orchard and picked them off the ground after a high wind.

The belief that "cull rifles" are sometimes sent is on the same plane as the belief that a rifle with a star-gauge card tied to it is the darling child of the arsenal making it, and one chosen from miles and miles of quite ordinary arms. I'd like to believe this myself; I am just a poor enough shot to need that utter confidence in my rifle that is given by the star-gauge chart to the average innocent shooter.

When you run down to its lair that mysterious instrument or process, or whatever the beginner thinks the star gauge is, you find that it is merely an inside gauge of a construction that may or may not read accurately in the hands of a hurried or careless man. At the end of a hollow steel rod are four points, star-shaped—hence the name—that transmit their very slight motion in and out to fine graduations out at the handle. Roughly, this is all the mystery.

In the first place there is no assurance that a perfect and even barrel is a good shooting barrel, so far as the New Springfield is concerned. Other things—the fit of the metal parts in the stock, the even support of the bolthead, and the straightening process applied to the barrel—also intervene. A barrel that has been straightened in the process of manufacture may develop that most dreadful of all habits—walking during a string of shots. A plain, inaccurate barrel is to be preferred by a whole lot, because it makes its faults manifest very shortly and is "canned," while the walking barrel insidiously sneaks over out of the bull, while appearing to be as virtuous as the

Form No. 45

STAR GAUGING RECORD  
FOR  
U. S. MAGAZINE RIFLE,  
MODEL OF 1903  
SERIAL NUMBER 487173

Distance from Muzzle, INCHES.	Lands Diameter, INCHES.	Grooves Diameter, INCHES.
0	3001	3080
1	3001	3080
2	3001	3080
3	3001	3080
4	3001	3080
5	3001	3080
6	3001	3080
7	3001	3080
8	3001	3080
9	3001	3080
10	3001	3080
11	3001	3080
27	3001	3080

Measured by *Riley*

Springfield Armory, Mass.

The Star Gauge cards alleges that they run 3001 on the lands and 3080 in the grooves from breech to muzzle

rumored wife of old Julius Chaser Caesar. The walking tube is one that is affected by heat, and that goes to curling around in one direction or another until the plot of the ten shots from a machine rest shows a consistent string in some one direction. The trouble is that wind and eye sight and poor holding intervene with most of us and the walking is not detected for about a whole season, and maybe not then; and so the poor victim goes on using a rifle that infallibly sneaks out of the bull along in the string unless observation shows that a change in the wind gauge or elevation is necessary about such and such a shot.

Apparently this is due to the straightening process, the slight bruising of the steel at one side or the other by the hammering given and a tendency to resume the old crooked form on being heated by firing. Major Casey told me at Perry in 1913 of taking a barrel that he knew "walked," and demonstrating its habits before an officer of our army Ordnance Department in the hands of one of the arsenal's paid shooters, telling this officer beforehand in which direction the walking would occur. Also, the able Casey, selecting rifles for our international teams, asked for and got unstraightened barrels.

I don't want this to start a flock of enthusiastic rifle buyers who don't know me any better than to believe what I write, to pestering the badgered officers of our arsenals, because you



can't get unstraightened barrels, and that's all there is to it. Also, most Springfields, as they come out of the arsenal hopper, are plenty good for anybody, and blame sight better shooting than most of us. This walking chatter is merely higher mathematics for the sharks who can hold and dope. This story is not to cast reflection on our bully rifle; it is merely to throw a little light on this star-gauge thing on which so many of our rifle-shooting citizens base their final judgment of the rifle.

In the past two or three years the process of boring and rifling the barrels of our Springfields has reached a state of perfection so far unknown in rifle making or in any other industry using the same sort of tools and taking only the same pains in the manufacture of its articles.

Scores of rifles have we bought in this time, and we have been astonished as well as pleased to find that the Springfield Arsenal has at last gotten the process of boring and rifling down to the last ten-thousandth part of an inch, because, forsooth, the star-gauge cards tied to said rifles allege that from breech to muzzle they run, for instance, .3005 on the lands for each and every inch, and .3082 in the grooves for the said each and every inch!!!!

This is indeed surprising—if true—to the person somewhat familiar with the process of boring and rifling barrels, with the habit of tools to get dull, and with the slight difference in the different barrel stock and its response to even perfect tools. Harry Pope is outdone, and outdone, too, by high-speed, economical arsenal processes of making rough military rifles, in which there is no need for any such hair-splitting perfection. It used to be that a star-gauge card would vary up and down like a section of California oiled road under the rays of an automobile headlight, and the buyer of the rifle would tear his hair and weep and swear by the beard of his fathers that such a fusee was no gun to turn over to a white citizen, male, of this country. After which he'd go out and find that the rifle would do its part when he did his, and he'd put the card away against the time when he wanted to sell the old gun and get a new one.

The worst of it is that the rifles now coming through with ideally perfect star-gauge cards were, many of them, made back in the days when they also made the rifles that star-gauged a whole lot more like rifles made by human hands and ordinary machinery, and I am wondering if they held out the good ones on us—or what?

Unfortunately, for a person of peevish and crabby disposition like the one writing this story, I own a set of fine gauge-plugs which I know are entirely accurate, by test against fine micrometers in the hands of skilled mechanics. Eleven of them there are, and they range from

.2991 up to .3006. They were intended originally for detecting metal fouling, but I find them quite useful to bring a smile to a care-worn countenance when I find some chap raving over the perfection of his star-gauged rifle. I may not tell him all I find out, but I can smile to myself, anyhow.

I, of course, expect to find a discrepancy between the measurements of the star-gauge and the gauge-plug, but it ought to be a uniform discrepancy or difference. The plug slides in with the weight of a cleaning rod, and if it won't pass with this weight, it is rejected for a smaller one. The star-gauge is probably equal to a driving fit, varying with the man using it. Ordinarily the rifle star gauging .3000 on the lands will accept a plug of about .2996 or .2997, and the plug is merely a steel cylinder an inch or so long which is forced in by the weight of a steel rod. Therefore I am willing to say that my measurements are from .0003 to .0004 inch off the star-gauge figures.

Also I have, of course, various soft lead bullets for gauging the groove diameter of barrels, and a ten-thousandth-inch Starrett micrometer, in the handling of which some ten years have given me fair familiarity.

It is this crude outfit, but still fairly accurate one, that has given me my pessimistic attitude toward the star-gauge figures of the arsenals, even if I did not know quite well that military rifle barrels that read uniformly both lands and grooves for every inch of the barrels down to the last ten-thousandth are quite improbable.

I suspect, but cannot prove, that the arsenals, rather than reply to the wailing letters from the bugs who find the horrifying difference of .0002 inch along the barrel of a rifle, have decided to combine practical time and labor saving with psychological kindness to green rifle-owners, and so make the cards read perfection itself.

I have before me two star-gauge cards from the last two rifles I have bought for my own use.

Both of them are from Springfield rifles, both of them star-gauged in that arsenal by the well-known Mr. Riley, whose monicker appears on so many of the documents attached to the rifles we get.

One of them is rifle No. 616,442, star-gauged October 28, 1915; the other is rifle No. 621,015, star-gauged June 9, 1916.

Both of them read monotonously .3001 from one end to the other and .3080 likewise.

Truly this is startling, to find two rifles reading so perfectly and so much alike, and having not a variance of .0001 inch either on the lands or in the grooves!!

So, after admiring for a time these most ideal barrel figures, we'll turn to the dope book on the rifles as shown by

the gauge-plugs and the lead-plug and the micrometer.

The first one, 616,442, according to the plugs, ran .3000 pretty evenly all the way, with the usual slight variations of one or two ten-thousandths inch, that didn't cut any figure at the time, when I merely desired to check on the evenness of the tube. The plugs here varied but .0001 from the star-gauge reading.

The grooves read .3075 on the lead plug—several lead plugs—which is a variation of .0005 from the arsenal figure. Also, the grooves failed to register the ideally perfect measurements shown on the card. But let that go; it was nearer to specifications than the second one.

Barrel 621,015, reading a perfect .3001 all the way, and .3080 likewise. Accepted .3002 plug to the lower band, from the breech end; barely accepted the .3000 under the front sight base; accepted .3002 a half inch at the muzzle. This, however, is a very good barrel as they run.

A third, recently calibrated, and the number not given, because it would only worry the blissful owner, was listed as an even .3005 all the way, with the usual perfect groove measurements. Tried with the plugs before firing, it barely accepted the .2999 plug under the front sight base, but accepted for three-quarters of an inch the .3004 plug at the muzzle. Also, it accepted the .3006 plug almost to the lower band, at which point it declined anything larger than a .3000, measuring now from the breech end. This is a bad barrel—one of the few in which I'd hate to put my trust—because the groove measurements for evenness showed as much variance, with a tight spot under the front-sight band, and a slightly larger muzzle.

Two others just in and put through the processes of the "hole-y inquisition" read like this:

Rifle No. 623,548, Springfield Arsenal; alleged by the card to be .3001 on the lands and .3081 on the grooves, all the way all the same. The plugs report that this accepted the .2997 all the way and accepted the .2999 plug three inches beyond the chamber. This, however, is a peach of a barrel, so far as even lands run.

Rifle No. 623,543, alleged by the card to be a gem of the gun-making industry, as follows: .3005 all the way on the lands, .3081 all the way in the grooves. The plugs report that it took the .2999 all the way, that it took the .3002 a half inch in the muzzle, and three inches beyond the chamber, plugging from the breech. This is not exactly a go-getter barrel if the grooves follow the same plan, because a loose spot at the muzzle is not good medicine, and my plugs state that the lands at the last half inch are .0003 inch larger than under the front-sight base. Of course, this is worse than

(Concluded on page 272)



# A Miniature Military Course

PART 2—By CAPTAIN ROY S. TINNEY

UP to this point the shooter must win his or her bars in the order named, step by step; from now on he or she can go after the additional ratings, such as "Instructor," "Junior Range Officer," etc., as he or she may desire, but the bars must be worn on the medal or fob in the order they are won; also, the executive officer will scratch on the back of each qualification bar the date of qualification, as (5/19/17). And believe me, any boy, woman or man who has covered the course up to this point can shoot a rifle; it will make the men "scratch gravel," yet it is not too hard for the boys and the women.

To qualify as an instructor:

Take an unqualified member of the club and coach him over the various courses up to and including sharpshooter. When the executive officer certifies to this fact, the coach's rating as an instructor will be issued collateral with his pupil's sharpshooter's bar.

To qualify as a junior range officer:

After a boy has put in three months' active service on the range as an instructor, he is eligible for a commission as a junior range officer, providing that he possesses sufficient general knowledge of rifle shooting, elementary ballistics, the working of the pits, the handling of a firing line, scoring, etc., and has displayed by his work that he possesses the necessary character, knowledge and bearing to qualify him for the post. All these facts must be certified to in writing by the executive officer and the appointment is only made upon his recommendation.

I have also worked out a .22-caliber junior pistol course, but before reporting my efforts to ARMS AND THE MAN I desire to complete my model rifle range, and later have my boys try out this pistol dope under the supervision of Brother Lane. The basic principle is the silhouette of a man standing 50 yards away; a matter of hits or misses and an attractive premium for speed.

Another feature I have before me in outline is a course at moving targets, with clay pigeons as objective points and moving rapidly along wires. All of which will be duly and carefully reported as the work progresses, illustrated with photographs and the scores of those who qualify. But first I desire to settle on the conditions of the rifle course at fixed targets, as here indicated.

As a reward for proficiency, my plan is to make up a two-piece bronze medal, with the halves linked together. This will constitute the insignia of the Junior Legion and be awarded the shooter upon qualifying as a Yeoman. The subsequent grades will be indicated by rating bars

bearing the names of the courses covered. These bars will be added to the medals as they are won.

The chief with the longest eagle feather is the biggest Indian, and the boy or girl with the longest medal is the best shot. When Pop learns that Sonny has set his little heart on getting more qualification bars than the boy living across the street, the old man will dig deep in his jeans for a new rifle and more .22's fast enough. Next he will be going out on the range to see his young hopeful in action, and then, just to show Sonny he has not forgotten how and is still a live one, Pop will take a hand at it himself. If by any possible chance—and I have often seen it happen—Sonny should trim Pop, the local hardware dealer is due to make some substantial sales of .22 ammunition to the Jones family. While my original idea was to make a course solely for boys, I found that a number of my women friends became interested in the firing and are keen to win one of those chain-like medals, and also I know several men who are anxious to go over the course as soon as my new range is completed.

I do not want any one to feel that I disapprove of the Smallbore League the N. R. A. worked so hard to create and maintain; to all they have done and are doing I say "Amen," and stand ready to help whenever the opportunity offers. But it has always seemed to me that the outdoor courses prescribed were stereotyped, an extension of an indoor range, and offered little to interest the casual shooter who has not yet graduated into the Bug Division. Once the virus has taken, you can awaken a man's enthusiasm over small groups and an elongated string of bulls, but these performances require training and education to appreciate. I have learned from experience that the one way to turn a novice into a crank is to start with something he can hit and gradually reduce the area of the five ring as his skill increases. Make him feel that every time he goes on the range there has been something accomplished, something done to recompense him for the time and ammunition expended. And always arrange the courses and coach in a manner calculated to stir the shooter's imagination.

Of course, no book or system can replace a competent instructor, but I do firmly believe that there are a large number of experienced shots in this country who would be glad to act as instructors if some one would only tell them how to go about it and supply them with certain range accessories they can not make for themselves, through lack of time,

initiative and money. They will be glad to follow, but they can not lead. This lack of creative and executive ability is what makes "captains of industry." The "trail breakers" are always a minute minority, as aptly illustrated by the number of experienced riflemen in this country to-day as compared with our total population. It is true that under the proposed plan we old powder burners will be called upon to bear the burden and heat of the day, and it will also give us all an excellent opportunity to prove the sincerity of our patriotism and render the nation a material service in her hour of need.

What the compiling of these notes has cost me in time and study, labor and money, is something I do not intend to either consider or compute, but I am telling less than the truth when I say I have worked on the matter consistently for at least two years, and I am not sending them to ARMS AND THE MAN for reward, or in the hope of reward. I mention this simply to confirm the fact that my statements are not tainted with self-interest; I have no axe to grind. I believe that my brother riflemen are big enough and broad enough to appreciate my point of view, and that by working together we can easily accomplish that which would be impossible for an individual. I have taken the time and space to explain my reasons for each step, because I feel that this is a question that must be decided and passed upon by the tribe as a whole, and use this method of filing a brief in the Supreme Court of the Grooved Tube.

Concerning the construction of an outdoor range, the matter is controlled by three factors: First, the size, character and location of the available site; second, the amount of money appropriated for the purpose; and third, the experience, ingenuity and engineering ability of the man in charge of the work. A range for smallbore shooting may cost anywhere from ten minutes' work to ten thousand dollars. Two men with some targets, a soap box, a few tacks and a tape measure can produce a very useful and satisfactory range, one that will afford the riflemen much pleasure and result in just as good scores as they could make over the most expensive and complete of outfits. So all one can do is to make some practical suggestions and leave their application to the judgment and requirements of each individual club.

Under ordinary conditions a .22 bullet will expend its force against the ground a few hundred feet behind the target, even if a backstop, either natural or artificial, is not encountered. Yet one of the principal things to remember in



constructing an outdoor range is this possibility of "spent balls," and the targets should never be placed so that the officer in charge of the firing line can not see a person approaching the line of fire from either side. Also, it is very dangerous to have the targets backed by standing timber or thick brush, under cover of which a person might inadvertently wander into the danger zone by approaching the targets from a point in the rear. When fired out-of-doors the report of a .22 is little more than a snap, yet at 300 yards the little 40-grain ball still retains enough force to cause a serious wound. After all, the problem of constructing a safe backstop narrows down to sound judgment and common sense.

If possible, lay out the range so that the shooting will be done in either a northerly or southerly direction, in order that the sun may not shine directly in the faces of the shooters.

Generally speaking, all outdoor small-bore ranges are divided into two classes: those which are merely reproductions or extensions of the indoor range, and those which are miniatures of the outdoor courses prescribed by the War Department.

An open-air edition of the indoor range is usually used when the site is a vacant lot within the city limits, and it requires no further description than that given in the booklets issued by the N. R. A., the size and character of the targets used depending entirely upon the depth available. But in suburban and country districts, where sites for 100-, 200- and even 300-yard ranges are available at convenient points, it becomes at once advisable to build a pit that will permit the scoring to be done at the butts and signaled back to the firing point by the use of different colored disks.

The building of a pit to protect the markers from .22 balls is a very simple matter, and if the members will help and rustle some old lumber there is little actual expense. Dig a trench 3 feet deep and about 5 feet wide, and build a tight board fence supported by stout posts to a height of 4 feet above the ground on the side of the trench toward the firing line. Pile the loose earth taken from the trench against this low fence on the side toward the firing line until you have a bank of earth 4 feet high that will stop any bullet that strikes it. This will give the markers a complete protection, 7 feet high. When making such a pit I find it advisable to build the fence first, and then dig the trench about 3 feet beyond it. This leaves room for a very useful shelf for targets and range supplies, and makes the pit more roomy and comfortable to work in.

A good carrier for miniature targets can be made of 2x4's sunk in the ground and braced against the further side of the pit. Four pulleys, some sash cord

and two light frames made of seven-eighths stuff completes the material required to build a simplified working model of the U. S. army target carrier recommended by the N. R. A. The disks are made of veneer (the sides of an egg crate are good material), mounted on bamboo poles and painted to indicate the various values. A few amateur mechanics can produce such a butt at an actual outlay of less than five dollars. Later a full-sized carrier handling a 6x6-foot target can be added for pistol courses and .22 firing at ranges varying from 80 to 300 yards; but, to begin with, a small carrier supporting two miniature targets will be sufficient to start the club going and get others interested. Once such an outfit is installed its usefulness and possibilities are practically unlimited.

The 50- and 100-yard targets used for the present outdoor small-bore matches are based on the decimal system and give a value of 10 for a bull's-eye; also, the "sighting bull" is much larger than the "scoring bull," which renders the military system of disk signals unsuitable and impractical.

Take the 50-yard target, for instance: the "scoring bull" counting 10 is 1 inch in diameter, while the actual size of the black spot, or "sighting bull," is 3 inches in diameter. Thus the question involved is not whether the bullet hit the black, but *where* in the black space did it strike? Also, the graduations are too fine to permit the use of spotters or disks. The difficulty is best overcome in this way: Mount two targets on a light window-sash carrier, as described above, and to one side erect a fixed frame and on it mount an oversize scoring target, with the black area divided by strong white circles. The graduations on the actual target measure:

10-1", 9-2", 8-3" (all black), 7-4", 6-5", 5-6", 4-7", etc.

Lay out the oversize scoring target as follows:

10-5", 9-10", 8-15" (all black), 7-20", 6-25", 5-30", 4-35", etc. Make the outside measurements of this target about 6x6 feet.

If the scoring target can be placed under cover when not in use, it can be cheaply and easily made of black and white paper and will last all season, as it is never fired on.

The men shoot in pairs, exactly as they do on the service range. One fires, down goes his target, and up comes his partner's, who does not fire until the shot has been marked by placing a disk on the scoring target. All shots in the black are indicated by white disks of different forms:

A white *circle* indicates a 10;

A white *cross* painted on a black circular disk indicates a 9;

A white *triangle* on a black circular disk indicates an 8.

All these white symbols are painted on

circular black disks slightly larger than the characters themselves, so that this black background will melt into the black of the sighting bull, and in the case of shots near or just touching the edge of the black, render the scoring more easily read.

A circular *red* disk indicates a 7.

A *black cross* painted on a white disk, a 6.

A 5, or anything below it, is indicated by a circular black disk.

This method is extremely accurate, graphic and easily read from the firing line; also, it silently and vividly gives the spectators the exact result of the shot. This proves very useful toward the end of a close match and does much to add to the interest of the game, for even if the spectator does not know the values of the various symbols as they appear, he instantly appreciates the value of the shot by the position of the disk on the scoring target.

(To be concluded)

#### A FLASHLESS GUN

Both the French and German armies have been trying for years to discover how to make a gun that shall not merely be noiseless, but shall emit no flash. After dark two observers, by watching the time, can with accurate chronometers having luminous dials, discover precisely the position of the enemy battery, or three observers, regardless of time, can do the same by grouping their observations. And this merely by the flash of the guns.

German inventors succeeded, by adding a minute quantity of alkaline salts to their powder, in diminishing the flash, but they found that in proportion as they suppressed the flash they increased the smoke. Other substances added to the powder for this purpose have been vaseline, alkaline soaps, barium, and aluminum. None were successful.

The French tackled the problem as a mechanical rather than a chemical one. A gun is really only an explosion motor, and it seemed that there ought to be a way of muffling its sounds and its flash as those of other such motors are muffled. It was not until 1909, when Maxim invented the silencer, that the problem seemed on the way to solution. Many other silencers, most of which suppress much of the light as well as the sound, have been invented since then, but none is a practical success in warfare.—*Tit Bits*.

During the fighting a Highlander had the misfortune to get his head blown off.

A comrade communicated the sad news to another gallant Scot, who asked, anxiously:

"Where's his head? He was smoking ma pipe."—*Tit Bits*.



## Holding for a Record

Being Something About the Methods Used by Lt. Braden in Making His Unparalleled Run of Fifty-three Bulls'-eyes at 600 Yards

THERE has never yet been, and probably will never be, a simon-pure gun bug who has not day-dreamed of a rock-ribbed hold on a distant target which would bring to him a realization of that ambition of all riflemen, a record-breaking string of consecutive bull's-eyes.

Any experienced rifleman, weather wise in matters of elevation and windage, can by proper doping get on the long-range target, edge over into the black, and stay there for a reasonable run. But windage and elevation are only two of the three prime requisites for making records.

Any of the old stagers over whose score boards, in the past, have strung out remarkable runs of coveted "Fives" will unhesitatingly tell the newcomer that windage and elevation *without holding* avails but little.

Of course, in shooting for record, even *holding* is subject to the handicaps of the limit of accuracy present in both gun and ammunition. What rifle and ammunition cannot accomplish in a machine-rest test, no holding on earth will produce.

But, given a good weapon, with reliable ammunition, ideal weather conditions, accurate windage and elevation, plus *iron-bound holding*, and eye-opening scores are quite likely to result.

All of which leads around to the performance of Lt. Clyde E. Braden, "The Straight-Shooting West Virginian," who hung up his remarkable record of 53 consecutive bull's-eyes at 600 yards during a placid afternoon at State Camp, Florida, last fall.

When Braden, shooting in the practice matches of the National Rifle Association, made his long run, he started out to shoot a string of 10 shots for what in national-match parlance is known as a "Skidoo Medal." Ordinarily his shooting might have brought him a 90 per cent bronze decoration if his holding had been only fair, a silver 100 per cent medallion if his holding were good, and possibly—but not at all probably, in the minds of those who saw him start, if indeed they gave the matter any thought—the coveted gold "Skidoo," awarded for the longest run of consecutive bulls during the practice matches.

Before going on the firing line that October afternoon, Braden had been considered only a fair shot, and his past performances had not been remarkable. He was known to possess the average good rifleman's knowledge of windage, elevation and trigger squeeze, according

to men who had been familiar with his shooting career, and was able to plunk enough of 'em into the black to win him



Lt. Clyde E. Braden and Mrs. Braden who spent their honeymoon at Jacksonville, Fla., where Braden made his long run at 600 yards

a place on the West Virginia National Guard Team.

But what most of his friends had either not known or had failed to take into account was that Braden had learned the importance of *holding* over every other factor in record shooting, and had been quietly plugging along upon lines laid out for him by Captain C. L. Burdette, formerly of the United States Marine Corps, and who for a season had coached the West Virginia boys. Captain Burdette is now with the North Carolina National Guard. He has contributed much to the rifle game, and is credited with having been the originator of the corrugated butt plate and trigger on our military rifle, which has done as much if not more than any other one thing to increase the standard of excellence in this arm.

"Gloomy" Linder, in a recent issue of ARMS AND THE MAN, has described how Braden went on the firing line with a score of others; how he got over for a "Possible" with his first 10 shots, and, under ideal weather conditions, hung on the target time after time, his perform-

ance unnoticed even by those around him until some one was attracted by the voice of the scorer droning "Lt. Braden's forty-fifth shot a five!"

There were plenty of witnesses to Lt. Braden's performance. At least a score of men can testify that he did not get up from the firing line until fifty-three of his bullets had found the black, and a new record for consecutive "Fives" at 600 yards had been established.

But what no one at the time seems to have thought to ask was: "How did Braden hold?"

Braden's answer to this question makes interesting reading for gun cranks. His manner of "letting off" may or may not be new, but at least it is not one of the methods which is ordinarily familiar to frequenters of the rifle range and devotees of the thirty calibre. Let's let him tell it:

"In making my record of fifty-three (53) consecutive bull's-eyes at six hundred (600) yards at the National Matches at State Camp, Florida, I used the six o'clock hold, leaving a thin line of white between my front sight and the bull's-eye.

"By leaving a thin line of white between the bull's-eye and the front sight, any variation of the rifle can easily be seen and corrected before the shot is fired.

"Instead of coming up to the bull's-eye as some shooters have recommended, I start at the extreme left of the target and swing slowly under the bull's-eye, at the same time taking up the slack in the trigger. By this method it is very easy to always hold the same elevation (with the aid of proper greasing).

"When arriving under the bull's-eye it is best to fire as soon as possible, for the simple reason that you are more solid and have a clearer vision of the bull's-eye than you can hope to have by holding till your nerves come to the surface and your vision becomes dim.

"I was taught this method by Capt. C. L. Burdette, formerly of the U. S. M. C., who for some years coached the West Virginia rifle team, and who is one of the greatest coaches of this age. He was high man on our Olympia Team in 1912 when the United States won the championship of the world."

Corporal (posting relief at night): "Sentry, why didn't you halt us?"

Sentry: "What's the use? You're a half hour late now."—*Recruiters' Bulletin*.



# ARMS AND THE MAN

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EVERY SATURDAY

Editor

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KENDRICK SCOFIELD

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

## THE MORAL EFFECT OF RIFLE CLUBS ON COMMUNITIES

FROM a mining camp in the interior of Alaska where many aliens are working to produce huge quantities of copper, a metal vital to war-time needs, comes a letter that a rifle club is in the process of formation.

The mines at this little camp rank among the richest of the world. An alien plot to stop their productivity would carry far-reaching results. There is no military organization nearby.

The members of the prospective rifle club, however, have taken upon themselves the burden of preparing to protect this rich property, and count upon the moral effect of such an organization to go a long way toward minimizing the danger of trouble.

The men behind this movement have the proper attitude. If rifle clubs are organized and equipped in connection with such important enterprises, which are often located in isolated areas, it may mean that not only will there be a force of men trained in the use of arms to afford actual protection if necessary, but that plotting aliens will think twice before attempting the destruction of such property.

## THE RIFLE CLUB AND THE SELECTIVE DRAFT

INDICATIONS at present point to the probability that no citizens between the ages of 21 and 30 will be "selected" for the new National Army before September 1 and possibly not before October 1.

Between those dates and the present at least two and maybe three months will elapse during which the army will be building camps and cantonments, but will do nothing toward instructing in marksmanship the 10,000,000 registered men.

Even though the army had no cantonments to build or camps to establish, the task of initiating 10,000,000 men into the art of rifle shooting would require the services of the entire regular establishment. Nor would it in other ways be practical.

Yet the fact remains that the great bulk of the men liable to the draft are going to permit these months to pass, while awaiting the call, without any specific training.

In such a crisis as the present, two months' time is of vital importance. With proper machinery each of these 10,000,000

men might be given a thorough working knowledge at least of a high-powered military rifle.

Upon previous occasions, ARMS AND THE MAN has commended the action of many civilian rifle clubs in offering range facilities to men of conscript age who desire to learn to shoot. This was a step in the right direction. But this will take care only of such men as volunteer to take the training, while every man should have presented to him the importance of beginning as soon as possible to obtain a good groundwork for the military duties which may come to any of them.

While the War Department does not now possess either the machinery or the men to conduct the wholesale training of all conscriptable men, that machinery is present in the clubs affiliated with the National Rifle Association.

In every registration district there are several civilian rifle clubs. These clubs should get together and seek access to the registration rolls. From the rolls the names of conscriptable men in the locality of each club, together with addresses, could be obtained.

With this information, the conscriptable males should be apportioned between the clubs, and each club might accept the responsibility of making a canvass, bringing to each prospective soldier an invitation to come to the club and learn to shoot.

If this were done, the next two months might be made to count very vitally in the training of those selected for the new National Army.

The question of ammunition, of course, would enter into the proposition, but it is not likely that any man who really wants to learn the handling of a service rifle would stand aside for the expense of the ammunition involved; and, even if the men hesitated at the cost of service ammunition, there is still that very valuable aid to rifle practice, the little .22. If small-bore ammunition were not to be had, the value of sighting and aiming drills and theoretical instruction in sight setting should not be minimized.

This is a service which rifle clubs can render the nation, and for which, at the present moment, the War Department is not equipped. It is an important service. Whether it is done may count heavily in the record United States troops make in the great war.

## ECONOMY AND AMMUNITION

OFFICERS of the Ordnance Department who are formulating plans under which those selected for the National Army will be taught marksmanship will do well to avoid the error of setting a maximum upon the amount of ammunition to be expended upon the training of each recruit.

As a means of bringing each man of the new army to a certain standard of excellence in marksmanship, ammunition should be unlimited. That, however, does not mean that each man should obtain all that he can shoot away. It does mean, however, that economy of bullets should not stand in the way of qualifying a recruit.

Suppose that the War Department should decide to devote 100 rounds of ammunition to the training of each man. John Jones, who has a natural aptitude for assimilating instruction and who falls into the hands of a competent coach, may make a marksman's rating with 50 rounds of ammunition, for such shooting is frequently encountered. On the other hand, Bill Smith, who is a little slow in catching on and who was not so fortunate in the matter of an instructor, fires 100 rounds and



does not make the necessary score, principally because he requires more practice to master the intricacies of trigger-squeeze, holding and sight-setting.

But Bill Smith can be made into a fair marksman by the expenditure of more ammunition. Yet, if an iron-bound maximum is fixed, Bill Smith must go to the trenches minus that very necessary part of his equipment, a knowledge of the tools he is required to use.

There is only one way in which to insure results from target practice, and that is to provide sufficient ammunition to qualify any man who is not hopeless. If the man cannot shoot, he should not be given a gun and placed on the firing line.

If he is given a gun, the Government should at least be willing to spend for ammunition an amount equal to the value of the gun, in order to make the recruit's work with the weapon worth something.

## Thirty Years Ago With the Hand Gun

### PART 4—CONCERNING F. E. BENNETT

**T**HE reputation of F. E. Bennett as a pistol shot of unusual ability was won almost overnight as the result of a series of brilliant performances. It has not been often that within six months of his advent a man's skill with the hand gun has attracted the serious attention of the old stagers. Yet before he had been in the pistol-shooting game a very few weeks F. E. Bennett had hung up records which compared favorably with and often far exceeded those of the premier short-gun marksmen of the day.

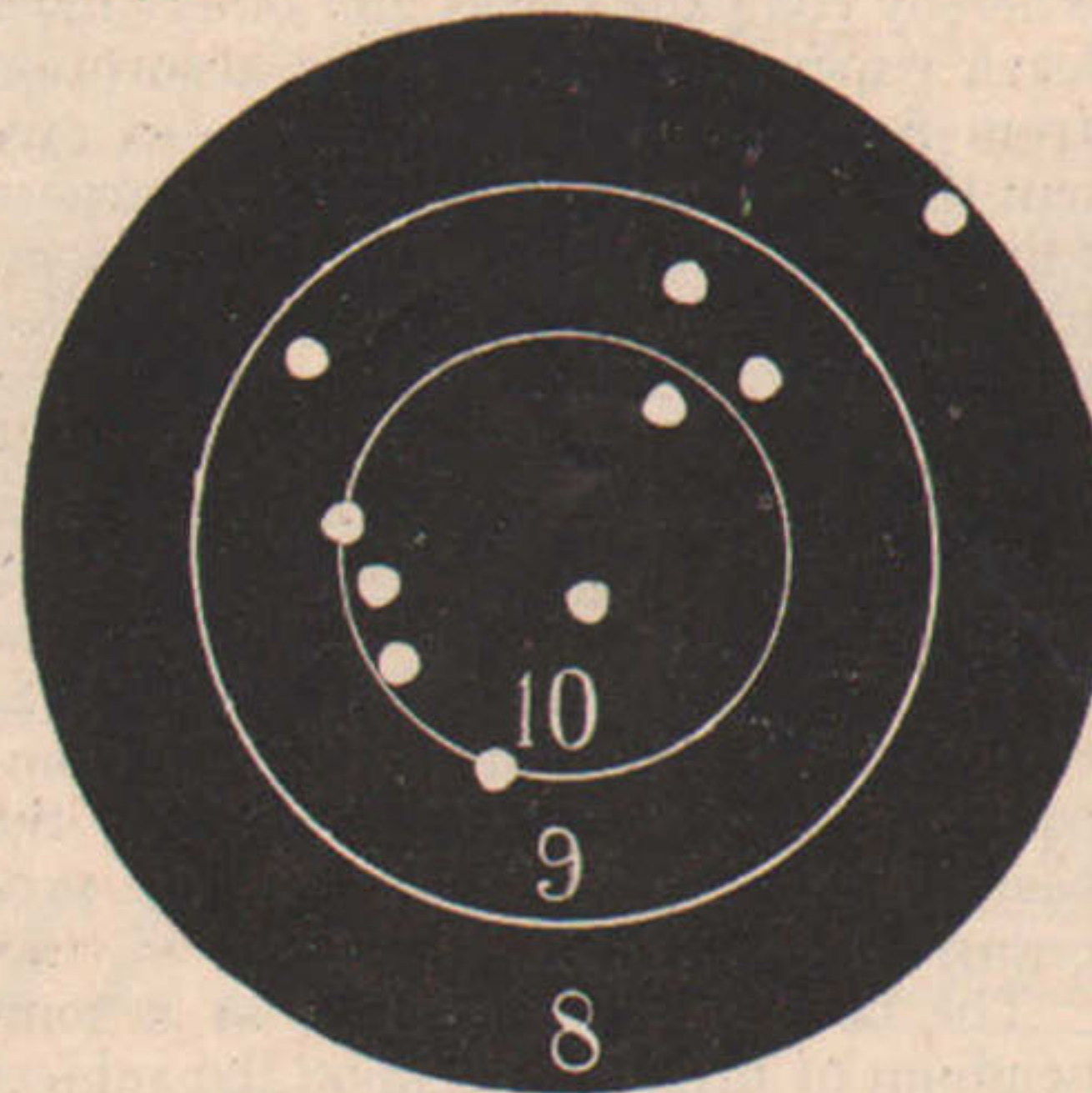
He frequently made long runs of consecutive bull's-eyes, on one occasion putting thirty-six shots in the black before a 7 broke the string. In addition he hung up 48 out of 50 as a record for a 5-shot string, and 90 out of 100 for a 10-shot string. This latter record he, however, bettered by making 97 in 10 consecutive shots.

All this, however, was but preparatory to the brilliant shooting for which he was responsible in his famous match with Chevalier Paine.

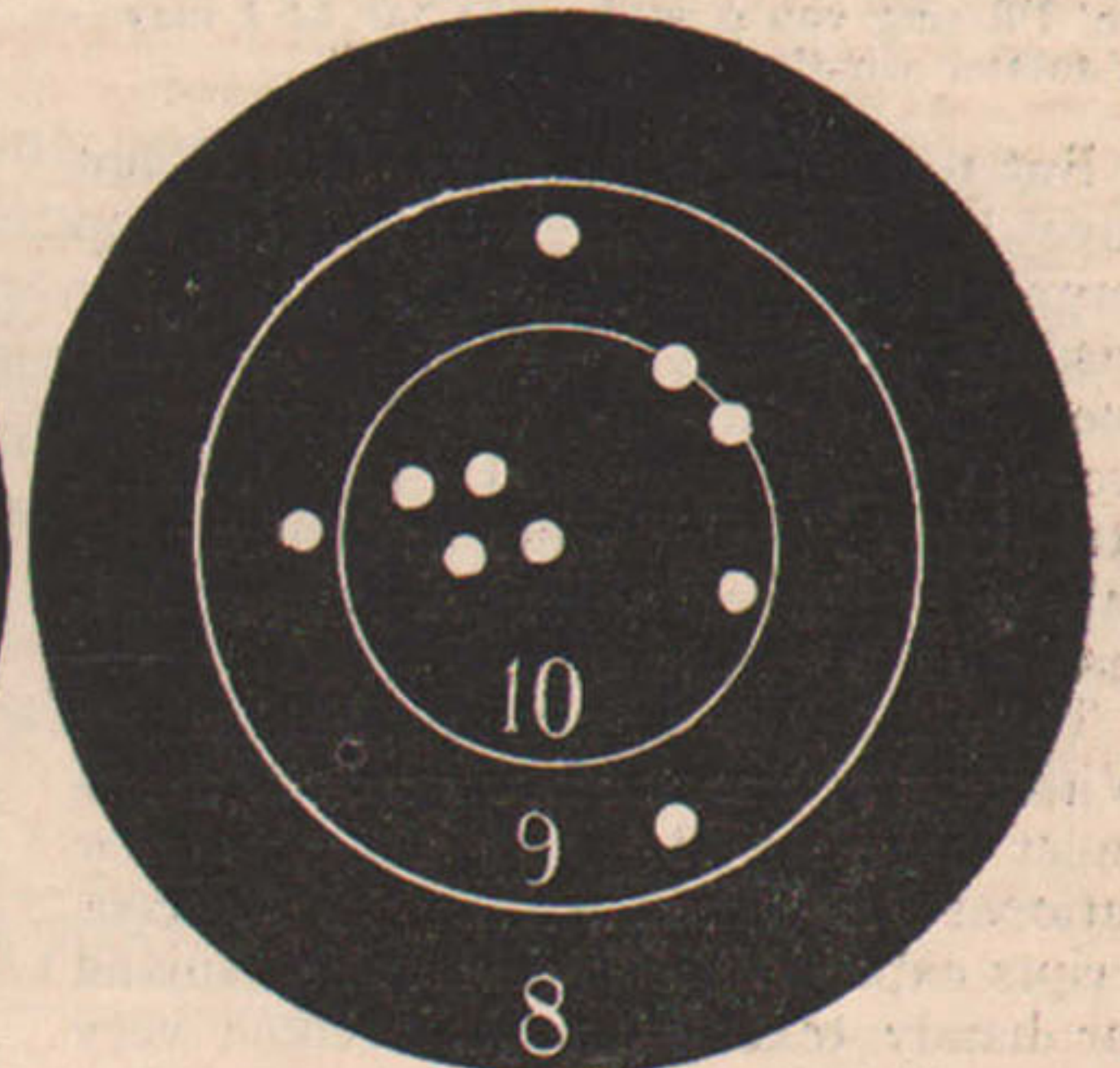
F. E. Bennett was a brother of W. W. Bennett. Although to a certain extent familiar and proficient with the revolver, F. E. Bennett had done little or no shooting at the time W. W. Bennett was making his best records. Early in the year 1887, F. E. Bennett was in poor health, but, his ambition spurred by his brother's victories, he determined to seriously take up revolver shooting as soon as his health permitted.

Revolver-match shooting on the 200-yard rifle target at 50 yards was introduced at Walnut Hill in June, 1887, and immediately attracted to the range many of the best shots of the day. As a tyro among them, came F. E. Bennett, and went to work at standardized shooting with the Smith & Wesson Russian revolver.

In what was practically his first attempt at this standardized game, he fired seven 10-shot strings, 50 yards, Standard American rifle target, making 71, 78, 82, 80, 74, 82 and 82. In a second trial, he fired 50 shots and made scores of 76, 88, 74, 80 and 75.



Score of 95 x 100 made March 9, 1888 by F. E. Bennett with Stevens .22 calibre pistol, 10-inch barrel



10-Shot record score of 97 made by F. E. Bennett Feb. 28, 1888, using .44 calibre revolver

By that time Chevalier Paine had hung up his first record score of 100 shots, which totaled 791 points, and had literally directed upon it the fire of many rivals. And in spite of being a newcomer in the game, F. E. Bennett was among those who went out to lower Paine's record.

When he had been match shooting for a remarkably short time, on July 31, 1887, he attempted the 100-shot course of Chevalier Paine, conforming as far as possible to all the conditions which governed the old champion's shooting. He used the Russian model .44 and ran up a total of 811 points. The highest 10-shot string totals in this match, the grand aggregate of which was 20 points better than the record made by Paine, were 2 counts of 87 in the ninth and tenth strings.

On October 1, 1887, he again tried the 100-shot course, raising his previous record to 827, and it was during this match that Bennett made the then unprecedented run of 18 consecutive bull's-eyes, beginning with the 87th and ending with the 96th shots.

During the fall meeting of the Massachusetts Rifle Association that year he recorded several 5-shot scores which stood for some time. Out of possible

50's, he made 44, 45, 45, 45 and 48. These records were made in the presence of many reliable witnesses, most of whom were rifle shots of distinction, and who included the late A. C. Gould.

About that time the UMC Company developed a new light ammunition for indoor gallery use in the .44 Russian revolver. On October 12, 1887, F. E. Bennett was persuaded to try this load in the revolver he customarily used. He changed the sight on the weapon, in order to compensate for the difference in range between the usual 50 yards and the 30 yards at which he made the try-out on a 100-yard Standard American rifle target. Three consecutive scores with this ammunition brought him totals of 80, 90 and 86.

On February 28, 1888, in the course of a 100-shot match at Walnut Hill which totaled 897 points, he broke, on his second entry, all previous 10-shot records with the revolver, totaling 97. In this string there were seven 10's and three 9's. In this 100-shot score, from the 11th to the 26th shots, each was a 9 or better, which means that 15 consecutive shots were grouped in a circle  $5\frac{54}{100}$  inches in diameter—a remarkable record when the fact is considered

(Concluded on page 271)



## BOOK REVIEWS

TIME was when the new recruit was made into a good or a bad soldier, first, according to the ability of his drill sergeant to fashion him into a fighting man, and, second, according to his own limited or unlimited lights and his ability to profit by his own and other men's experiences.

Such was the case when Kipling sang to "The Young British Soldier" his immortal ditty which begins:

"Now all you recruits what's drafted today,  
Come shut up your rag box, and 'ark to my lay,  
An' I'll sing you a soldier, as far as I may—  
A soldier what's fit for a soldier!"

But today the young recruit does not have to hunt up a worldly-wise top sergeant and listen to words of military wisdom. He can apply instead to any one of a dozen publishing houses and from their lists select half a score of thin little books, the contents of which perhaps were never dreamed by the old-fashioned "non-com."

This is the day of service publications. With tens of thousands of young officers under intensive training for the new national army, and half a million conscripts expected in its ranks, the demand for handy text-books has become very great. Yet, great as the demand has been, judging from the present rate of productivity, publishing houses will soon be able to supply pocket-sized brochures on every conceivable military subject and handbooks to guide both neophyte officer and raw recruit in any emergency which may arise.

Of course, these books are not of uniform practical value. Still, one finds worth-while books surprisingly often among this heavy output of semi-technical publications.

Among the late offerings of this character which seem to have been inspired by a real desire to help the young soldier and which appear to have been approached from an intelligent angle is a treatise on Army Paperwork, by Major James A. Moss; a Digest of Davis' Military Law, by Lt. H. G. Ball; a discussion of that new military science, "Logistics," by Lt.-Col. George Cyrus Thorpe, U. S. M. C., and a manual of British bayonet training.

In addition to these books, another, which can not be classed as a service publication, but which is none the less interesting, has been recently issued. It is "With the National Guard on the Border," by Captain Irving Goff McCann.

"Army Paperwork," by Major Moss (George Banta Company, Menasha, Wisconsin), is a pioneer in its field, being the first volume in the history of the army

which deals with the subject of army paperwork in exhaustive, detailed form, so that he who masters its contents will have an excellent knowledge of that phase of army administration. Therefore have we for the first time a book to which a company clerk, sergeant-major, quartermaster-sergeant, or any one else who wishes to become proficient in the paperwork of his office, can go and, in a nutshell, as it were, find what he should know. In other words, we have at last a book that makes possible the systematic and thorough instruction of junior officers, company clerks, and others in the subject of army paperwork, thus relegating to the past the present sort of "catch-as-catch-can" traditional system, with all its "lost motion," whereby company clerks and others must learn paperwork by sporadic absorption from first sergeants and others—a system that may have answered its purpose fairly well in "the old army," when company and other clerks usually occupied their positions for several years, but which is entirely out of place in our progressive army of today, with its constant changes.

The "Digest of Davis' Military Law of the United States," by Lt. Ball, U. S. A. (Franklin Hudson Publishing Company, St. Louis), presents succinctly the basic facts of military law and the procedure of courts martial.

The book is not presented as a compendium of information upon the subject of which it treats, but is rather intended to be an aid to memory for those who have studied the original work. Yet the book, although a digest, constitutes a thoroughly comprehensive handbook of military law.

The author of "Pure Logistics," Lt.-Col. George Cyrus Thorpe, U. S. M. C. (Franklin Hudson Publishing Company, St. Louis), seeks to impress upon his readers that, in addition to strategy and tactics, modern warfare must take account of a third and in some ways coordinately important factor—the science of war preparation. This science, which has been present in all the wars of the past, but which has received recognition only in late years, has come to be known as "Logistics."

In publishing his book, the author says: "Strategy is to war what the plot is to the play. Tactics is represented by the role of the players. Logistics furnishes the stage management, accessories and maintenance. The audience, thrilled by the action of the play and the art of the performers, overlooks all the cleverly hidden details of stage management. Logistics is the same degree of *parvenu* in the science of war that stage management is in the theatre. While Strategy and Tactics are much talked of under the topic, 'Science of War,' there has yet been recognized no science of Logistics.

"War has become a business; therefore, training and preparation for war is

a business—vast and comprehending many departments."

In the first part of his book, Colonel Thorpe traces the presence of this science in Napoleon's Russian campaign, in the American army at the time of the war between the States, and in the German army at various periods, and discusses not only war-time but peace-time logistics. The second part of the work is devoted to a discussion of education to the end of according to logistics, as a science, the place its importance warrants.

"The Bayonet Training Manual Used by the British Forces" appears shortly after the announcement by the War Department that British bayonet tactics would replace the old United States tactics in the new National Army. It is issued by D. Van Nostrand Company, of New York, as a reprint from the *Infantry Journal*. The book is plentifully illustrated and is presented in an easily understood style. It is based upon a system of practice vastly different from the old "fencing methods" in use so long, and is predicated upon actual experience of the British on European battlefields during the present war.

"With the National Guard on the Border" (C. V. Mosby Company, St. Louis), is not confined to mere description of the experiences of the organized militia during its six months' stay on the Rio Grande. Captain McCann has, however, chronicled many of the mobilization conditions which he observed during his active service and in his book has discussed such of them as may be present again during a mobilization of the National Army. The book is well written and plentifully illustrated.

Major J. C. McArthur, U. S. A., is the author of "What Every Company Officer Should Know" (George U. Harvey, New York City). He tells in narrative form the experiences of a Reserve officer from the time he receives his company of recruits until he has them drilled and fit to go to the front in war time. Instruction is the basic idea of the text, of course, but this is not a textbook in the ordinary sense of that term. It covers all details of company life, from organizing a camp and company through perfecting discipline, the teaching of hygiene and sanitation, drilling in the details of signaling, observation and bayonet combat, and instilling an *esprit de corps*. Major McArthur knows the service and its ways out of long experience, both in peace and war.

A compilation of all Government publications dealing with military drills has been published by the Sherwood Company, New York City. It is the work of Capt. E. J. Robbins, formerly N. G. U. S., and is entitled "The Universal Drill Manual." It is published with the idea that "there is a great need for a volume of condensed information that is essential to the private in the ranks."





# Ask Dad for a Rifle!

**D**AD knows that it is just as important for his boy to learn how to handle a gun safely, as it is for him to know how to swim. Dad also knows that a gun will teach his son responsibility, self-reliance and self-control.

Tell father that you want a Winchester .22 caliber rifle. Remind him that a boy's natural interest in a gun is going to make him get his hands on one sooner or later. It is going to be mighty fine if Dad can get out to enjoy the sport with you and teach you the correct use of a rifle.

Have you heard about our Winchester Junior Rifle Corps? If not, ask your nearest dealer for a booklet explaining how any boy or girl under sixteen can earn a silver "Marksman" or gold "Sharpshooter" medal. At the same time, get the proprietor of the store to let you "try on" a Winchester .22 rifle.

In case your dealer cannot supply you this information, write direct to us.

**WINCHESTER REPEATING ARMS CO.**  
NEW HAVEN, CONN.

## THIRTY YEARS AGO WITH THE HAND GUN

(Concluded from page 269)

that it was made with an army revolver and factory-loaded cartridges.

On March 20, 1888, during a 100-shot match at Walnut Hill, which totaled 896 points, he made a consecutive run of 36 bull's-eyes.

The detailed scores of the February 28th and March 20th records are:

February 28th—										
10	10	9	7	10	10	8	10	7	8	== 89
10	9	10	9	10	9	10	10	10	10	== 97
9	9	10	9	9	7	9	10	7	8	== 87
8	9	9	10	8	9	10	10	9	9	== 91
9	10	6	10	8	8	10	8	9	10	== 88
7	10	10	8	8	10	10	9	9	7	== 88
8	10	10	10	9	8	10	8	8	8	== 89
10	10	10	9	9	10	7	10	8	8	== 91
8	9	10	9	9	8	9	9	8	10	== 89
8	7	10	9	8	8	10	9	10	9	== 88

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March 20, 1888—										
8	9	10	10	9	10	10	10	10	10	== 96
9	10	10	8	10	9	9	9	10	8	== 92
10	10	7	9	9	9	9	9	7	10	== 89
10	9	8	10	8	10	8	9	10	7	== 89
9	10	10	10	8	7	10	9	10	10	== 93
9	9	7	10	9	7	8	8	7	9	== 83
8	9	8	9	9	8	10	8	8	8	== 85
10	8	9	10	10	9	8	8	9	8	== 89
10	9	10	9	8	10	8	9	9	10	== 92
10	8	9	10	9	7	9	7	10	9	== 88

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## NAVY HAS ELECTRIC SIGNAL GUN

A novel signal gun has been devised by the United States navy to transmit visual signals between ships in a fleet of war vessels that are running without lights, and yet not betray their presence to the enemy. Signals flashed by it are visible only to the ship at which it has been aimed or one in line with it.

It resembles the crude weapons used in the early days of gunpowder and is operated from the shoulder. It has a barrel in the form of a tube about five inches in diameter, at the base of which an incandescent electric light is located. It is fitted with a stock and there is a trigger which connects with a switch that flashes on and off the current. Current is supplied to the signal gun by means of a cable that enters the stock. On the top of the barrel are sights for aiming the gun. Signals are flashed by the dot and dash system, short flashes indicating dots and longer ones dashes.

Visual signaling between ships at night is usually done by means of lights hung from the masthead, but their operation betrays the presence of the fleet to enemy

ships that may be near by. The flashes from the signal gun are only visible to the ship at which the device is aimed or one that may be in line with it either closer or further away from the ship from which the signals are sent.

Even though no lights may be showing, one ship knows the approximate location of every other ship when they are in fleet formation and the signal gun may be aimed in the direction of any one of them.

When the signal gun is used it is not necessary to "call" a vessel before sending a message. Knowing that the flashes are not visible to any other ship in the fleet, the men on watch on the bridge of the vessel at which the gun is aimed are in readiness to record the message as soon as they perceive the flashes. The very fact that they see them proves that the signal light is directed at them and that their ship is the one for which the message is intended.

The light located within the barrel of the gun is one of great power and its flashes can be seen for a number of miles at sea, even in cloudy weather.—*Popular Science Monthly.*



## THE PLEASANT FICTION OF OF THE STAR GAUGE

(Concluded from page 264)

splitting hairs, because split hairs measure more than .0003 inch; but the point is that the rifle is not as specified on the tag. It might, and probably will, shoot like a house afire; but, if so, then the star-gauge racket is much overdone, because this barrel does not agree with the readings on the card.

Always the barrels are tight under the front-sight base, and as the firing progresses during the life of the gun, this becomes more noticeable. My long 30-inch match barrel, plugged just recently, accepted .3003 all the way, a .3006 two-thirds of the way up the barrel from the chamber, and the .3004 all the way to the front-sight base, while it accepted the .3006 one-fourth inch in the muzzle. This is after firing some 3,000 shots through it, all slow fire.

It may be taken as gospel that few rifles ever come from the machines with not even one ten-thousandth inch variance along the bore, either in grooves or in lands, and that these ideally perfect star-gauge cards are fakes. Not that it cuts the slightest figure, because a variance of four or five ten-thousandths inch doesn't cut much figure in the accuracy of a rifle firing metal-patched bullets, if it does not come near the muzzle. Particularly is this a matter of small moment if the variation is on the lands, not in the grooves.

George Mortimer, the famous Canadian rifle shot, winner of the Hopton Aggregate at Bisley in 1912 and member of various Palma teams, told me one time of having what was to be an ideal rifle made up at the factory at which the Canadian rifle was made. The astute George wanted a match rifle for the British long-range work that would put its ten shots into, say, a teacup at 1,000 yards, and that would let him run possibles at 1,200 until they got tired putting the spotters in the black. So he watched the manufacture of the rifle, from the selection of the bar of steel to the final fitting of the peculiar stock they use for match rifles. They babied that rifle from start to finish and cut it with tools as sharp as a razor and culled over hundreds of stock blanks for the right sort of walnut, and finally turned out an arm that measured up in a way that would make the rifle-lover sit down and weep for pure joy and the thoughts of the trimming he was going to give the rest of the gang at the big shoot.

Then, it wouldn't shoot, and they never did make it shoot. There wasn't a thing wrong as far as they could tell; it just wouldn't deliver, and George in disgust went out and grabbed one blind and shot that through the Bisley long-range matches, and won the grand aggregate called the Hopton.

While a barrel that measures up per-

fectly may not shoot at all, still I have confidence enough in the measurement thing as applied to accuracy to not want a barrel that was loose at the muzzle and tight just behind. Also, I'd much prefer the barrel that ran evenly for its full length, while I know that one slightly choked—three or four ten-thousandths smaller at the muzzle than at the breech—will shoot like a house afire. The trouble, of course, is that the barrel choke-bores itself plenty fast enough anyhow, from erosion, and so the straight cylinder is the one to pick.

Only, put not your trust in the star-gauge card; be neither elevated to the heights of rapture by a perfect card nor cast down into the slough of black despond because of one reading a little of everything. I fear that the star-gauging gentlemen are oftentimes moved more by a desire to tickle the shooter than to tell him all the truth and nothing but the truth. The test is to shoot the rifle, preferably at 1,000 on a dead-still day; or, if you can't hold, to get somebody who can, and then to watch the rifle in its early performances, to see if it has the habit of altering its zero and elevation along in the string—which means to watch for a walking barrel.

Another delusion the shooter hugs to his breast is that the newer the rifle and ammunition, the better it is. To a certain extent this is true—but few of the clan ever pause to think that since the outbreak of war the Springfield Arsenal has been losing its skilled mechanics and replacing them with men less skilled, because of the high prices and demand for skilled men at the private plants. While both Springfield and Rock Island improved their processes and their work, and added little improvements here and there as they went along, still I would just as soon—possibly a little rather—have a Springfield made in 1914 or 1913 as the one made in 1915 and 1916. That would depend much on the rifle; but assuredly, knowing what I do of the arsenal situation, I'd be very little prejudiced in favor of a rifle by the fact that it was made since the war got fairly started.

Much the same thing applies to ammunition. Ammunition is not like lettuce; absolute freshness is not a necessity for accuracy. It keeps very nicely, thank you, with our present powder. The only way I know of by which an intelligent selection can be made from the ammunition of the vintages of 1913, '14, '15 or '16 is by machine-rest test, and then the gauge-plugs for metal fouling. I have an idea that the nickel situation is quite likely to make the bullets of the date of 1917 no better than the bullets of 1914, which is putting the matter conservatively. Brass cases are likely to suffer likewise.

As I started to say when I got into the story, the sole test of the virtue of a rifle is shooting, not the strip of pleasant

fiction that accompanies it. I would pay 69 cents for star-gauging only for my amusement and because in the past, at least, the star-gauged rifle was likely to have checked butt and trigger and the non-star-gauged was not; but that was in the days when the two sorts were about even up in the stores at the arsenal. The stock is likely to be better-looking in the "selected" rifle, possibly the good-hearted chap at the arsenal feeling that if you're crank enough to pay for a couple of dozen raps of the rubber stamp on a strip of cardboard, you ought to get at least a fair-looking piece of wood.

## WILL DESIGN AIR CRAFT ENGINE

The National Advisory Committee for Aeronautics authorizes the following:

The Aircraft Production Board realizing the need for the development of a standard engine in various sizes has succeeded in obtaining the cooperation of two of the foremost engine designers in the country, Messrs. Vincent and Hall. The fundamental idea of the engine is a unit cylinder by means of combinations of which any desired power may be obtained. It is proposed at first to build engines in four sizes of 4, 6, 8, and 12 cylinders, the corresponding horsepowers being approximately 100, 200, 300, and 400.

The cooperation obtained in the design of this engine has shown the feeling of patriotism which is common throughout the country. Requests were sent out from the foremost engine draftsmen with the various automobile and airplane companies throughout the country, and the volunteers worked night and day without compensation.

The facilities of the Bureau of Standards for the assembly of this engine have been placed at the disposal of the Aircraft Production Board, as well as the accumulated knowledge of the bureau and its staff of the various metallurgical processes necessary for the successful completion of the engine.

The development of this engine will in no wise interfere with or retard the development of private manufacturers; but if anything should stimulate them to further effort.

## RIFLES AND AMMUNITION SUPPLY ASSURED

Brig.-Gen. William Crozier, U.S.A., Chief of Ordnance, recently stated that his department is experiencing no difficulty in placing contracts with American firms for rifles and pistols and for rifle and pistol ammunition, and "has every reason to feel confident that the contracts will be executed expeditiously and well."



# AT THE TARGETS!



## Los Angeles Trims Redlands

INTERNECINE strife in the nature of a match between the Redlands, California, Rifle Club and the Los Angeles shots, on June 17th, resulted in defeat for the Redlands bunch by 35 points. The match was shot on the Glendale range of the Los Angeles Club.

An account of the match in the Los Angeles Times says:

"The Los Angeles Rifle and Revolver Club misfits sort o' beat the famous Chuckawalla team of rifle shots from the Redlands Rifle Club on the Glendale range of the local club, but they didn't turn the trick until the weather cooled off by dropping from 112 in the shade to 108 and got too cold for the best work of the Redlands men. Just as long as the little puffs of steam and the little jets of sulphur and brimstone kept coming out of the ground and the rocks set fire to the lizards that ran over them, the Redlands bunch kept the Los Angeles crowd scared into man-sized proportions.

"The trouble occurred over the course of 300, 500 and 600 slow fire—the fire being above, below and in the rifle of the unhappy shooter. Redlands sent down a team of six men who could shoot, and who didn't get buck fever in spite of their comparatively short time at the game. While the locals shot a good consistent gait, their scores didn't indicate that said locals weren't built like any other human beings with the frailties of humans.

"When the 300-yard stage had sizzled and fried its way to a hot finish, the perspiring dopest with the pencil and the heated paper announced that the local champs led the Redlands bunch by just one point, which is no margin of comfort of a lot of rifle shots preparing to go down the line two more ranges with the same opponents.

"Down at the preheated place of torture set aside at 600 for fool rifle shots who haven't any more sense than to get out in the sun on such a day, a couple of Redlands men in the persons of C. Jones and F. Moore hung up 48 each, which wasn't any more conducive to joy on the part of the locals than the one-point margin at 300. Park came across with 47, but unhappily a pair of the Chuckawallas overlooked the little black spot down on the target, and came through with less than 40 each, which let down the average hung up by their compatriots. Here the locals picked up nine points, mainly because their low men were less worse than the low men for the visitors.

"After lunch, as before stated, the temperature unkindly took a drop from 112 in the shade—reading taken from the center of Glendale—to 108, and the effect was sad for the hot-weather persons. The 500-yard stage gave up an additional 25 points for the locals, who really shot a good consistent race at this stage, not to be said of all their shooting, the low score being 45, with three 49's and a 48.

"For the locals, Grove Wotkyns was high with 142, the loveliest feature of which was a 48 at 300 slow on the A target. F. Moore, of Redlands, hung up 47 here, another score worth pickling for future reference.

"Austin T. Park, the mainspring of the Red-

lands club, led the visitors with 139, a good score."

The scores:

Los Angeles Club Team				
Name—	300	500	600	Ttl.
G. L. Wotkyns.....	48	49	45	142
A. L. Thomson.....	43	49	47	139
J. F. Siefert.....	42	49	48	139
E. D. Neff.....	43	47	46	136
W. R. Jackson.....	44	48	44	136
R. J. Fraser.....	44	45	42	131
				823

Redlands Chuckawallas				
Name—	300	500	600	Ttl.
A. T. Park.....	45	47	47	139
C. Jones.....	45	44	48	137
F. Moore.....	47	41	48	136
G. E. Wittwer.....	44	42	43	129
J. Rigby.....	41	44	39	124
H. L. Crain.....	41	44	38	123
				788

## RICOCHETS

The first official qualification shoot of the season was held by the San Diego, California, Rifle and Revolver Club on Decoration Day morning at the club's range, covering the regulation course.

Carl Schroder, crack shot of the club, made the remarkable score of 222 points out of a possible 250, leading the entire team at the finish. Schroder holds the highest official record score of the club for 300 yards, target A, 500 and 600 yards, target B. Bellon the 200 and 300 yard ranges with target D, rapid fire.

During the contest 25 bull's-eyes were made by Schroder and 29 by Bellon, out of a possible 50. During the early part of the shoot a heavy mist hung over the range, which was a great disadvantage to the participants. Those who qualified as experts were Carl Schroder and Walter Bellon; necessary to qualify, 210 points out of a possible 250. W. C. Merritt as sharpshooter; necessary to qualify, 190 points. C. E. Osburn as marksman.

Mr. Schroder has issued a challenge to any person in Southern California, including the personnel of the regular army, at regulation shooting. Schroder is said to be one of the best rifle shots on the Pacific coast. Henry Hopkins, marksman for several years in the regular army, participated as range master. Frank X. Holzner was the official marker.

The scores were:

	yd	yd	yd	yd	yd	
	300	500	600	200	300	T'l.
W. C. Merritt.....	41	34	35	42	38	190
L. S. Moore.....	41	36	40	..	..	..
Carl Schroder....	44	46	46	38	48	222
Walter Bellon....	43	37	40	48	50	218
C. E. Osborn.....	37	39	43	35	35	189
H. Giebler.....	27	..	..	..	..	..
F. X. Holzner....	..	..	..	37	..	..

Unofficial scores below:

C. Ferris.....	32	..	..	..	..	..
H. B. Steventon..	34	..	..	..	..	..
A. W. Martin.....	17	13	..	..	..	*
Walter Bellon....	43	..	..	48	..	**
L. S. Moore.....	19	..	17	23	21	..
W. Merritt.....	..	22	19	22	21	*
R. A. Drew.....	..	..	..	21	23	*
A. O. Smith.....	..	21	14	21	19	*
H. H. Hinde.....	16	19	..	..	..	*
G. Arnold.....	15	11	14	..	..	..
R. Arnold.....	21	19	25	..	..	*

\* Five shots. \*\*Ten shots.

The F. B. Fisher match was shot by the Fort Pitt Rifle Club, of Pittsburgh, Pa., on the Highland range June 16. Granville Teter, T. C. Beal and I. C. Laughery all scored 44 points, but Teter's was the ranking string, and he captured the trophy, with Beal second.

Considerable interest is given to this trophy match each year, as it is open to the general public, and the members of the "club" like to try their skill with new men. Rain and chilly wind made poor shooting conditions and scores suffered in consequence.

The range was enlivened by the presence of 28 members of the Womens' Home Defense League, who practice sub-calibre shooting before passing to the military charge. Some very creditable scores were made.

The Waitsburg, Washington, Rifle Club has reported four qualifications under the old course. They are:

- Expert—R. H. Flanders, 228.
- Sharpshooter—E. R. Butler, 204.
- Marksmen—D. P. Hayes, 177; J. A. Kirkpatrick, 168.

The Boise, Idaho, Military Rifle Club has reported twelve qualifications under the old course. They are:

- Experts—R. E. Herrick, 226; J. W. Keeffe, 223; Sherm Johnson, 222; C. F. Koelschm, 222; C. B. Austin, 219; A. J. Selover, 213.
- Sharpshooters—C. R. Shaw, 209; H. E. Butler, 199.
- Marksmen—R. W. Bushnell, 189; J. B. Burns, 181; C. H. Abbott, 179; M. M. Rhoads, 170.

The Brooklyn, New York, Rifle Club has reported twelve qualifications under the old course. They are:

- Experts—H. Otto, 235; C. Drechsel, 227; J. R. Vanderputten, 226; F. E. Prescott, 217.
- Sharpshooters—L. J. Miller, 209; L. J. Corsa, 206; H. T. Korb, 206; W. Coffin, 201; C. Gebhard, 198.
- Marksmen—L. I. King, 183; F. W. Dearborn, 183; A. Anderson, 173.

Six qualifications have been reported by the Palm Beach Rifle and Revolver Club, of West Palm Beach, Florida, under the old course. They are:

- Experts—L. K. Clarke, 212; F. A. Gute-lius, 211.
- Marksmen—E. D. Hite, 178; Neil Watkins, 173; C. P. Metcalf, 168; A. F. Regal, 171.



Three marksman qualifications have been reported by the Perth Amboy, New Jersey, Rifle Club under the new course. They are:

A. Anderson, 169; G. Parnell, 165; M. Laurtsen, 165.

The New London, Iowa, Rifle Club has reported Mr. V. Z. Breneman as a marksman with a score of 179.

Twelve marksman qualifications have been reported by the Promise, Oregon, Rifle Club under the new course. They are:

J. W. Carper, 158; J. Lyon, 157; I. McDonald, 156; C. Bennett, 156; F. Sannar, 165; B. Carper, 174; E. Haney, 187; E. Bennett, 150; W. Hescocock, 165; M. Fleshman, 154; J. Reagan, 159; G. Carper, 165.

Seven marksman qualifications have been reported by the Mt. Vernon, New York, Rifle and Revolver Club under the new course. They are:

F. L. Gilmore, 157; O. G. Schmidt, 154; F. G. Freitag, 156; A. S. Jenks, Jr., 183; T. Utz, 184; J. D. Kent, 182; J. F. Garriquer, 161.

Seven marksman qualifications have been reported by the Rochester, New York, Rifle Club under the new course. They are:

H. H. Tozier, 162; W. L. Farley, 155; Wm. Armstrong, 163; J. N. Wernz, 188; C. B. Spraker, 192; G. H. Ashley, 153; J. Snope, 162.

The Bryan, Ohio, Rifle Club has reported two marksman qualifications under the new course. They are:

Geo. Brownwell, 154; Henry Eaton, 165.

The Ripley, New York, Rifle Club has reported four marksman qualifications under the old course. They are:

F. C. Rice, 167; H. E. Forbes, 185; M. H. Cornell, 182; C. H. Deck, 181.

Six marksman qualifications have been reported by the Eastern Detroit, Michigan, Gun Club under the new course. They are:

I. A. Gehrman, 185; G. C. Brown, 173; C. E. Wesselhoff, 164; S. D. Avery, 157; C. E. Barton, 152; H. T. Platz, 151.

Using a Krag carbine, and shooting in competition with other members who used Springfields, C. C. Rogers of the Rochester, N. Y., rifle club qualified as an expert on a total of 214 points, and finished well near the top.

The shoot was held on June 16 and these records made: Charles Warder, 220; C. C. Rogers, 214; J. N. Wernz, 223; William Armstrong, 211; M. C. Bradbury, 221; and Charles B. Spraker, 220.

The St. Augustine, Florida, Rifle Club has reported four expert qualifications under the old course. They are:

F. J. Paffe, 214; B. M. Hall, 236; J. R. Beaman, 232; L. J. Capella, 210.

Four qualifications have been reported by the Minneapolis, Minnesota, Rifle Club under the old course. They are:

Experts: C. V. Schmitt, 235; W. M. Young, 213.

Sharpshooter: P. L. Boody, 207.

Marksman: O. J. Wynn, 185.

The Dayton, Ohio, Civilian Rifle Club has reported Jesse R. Moser as an expert rifleman.

#### No Change in Uniform

No change will be made in the uniform of the United States army at this time, according to a statement made by the Secretary of War, who has adhered to his original decision on this matter.

Originally Mr. Baker was inclined to view

with favor the alteration in design of the coat, and the remodeled garment, with its open and rolling collar, was worn as a part of the uniform by Major General H. L. Scott, chief of staff of the army, and Colonel R. E. L. Michie, his aid, on their departure for Russia with the commission headed by Mr. Root. There was the expectation that the change would be authorized, but, upon reconsideration, the secretary recalled to his mind the order he had issued which prohibited any changes in uniform, organization, or administration during the present war unless they were of vital consequence. He was inclined to regard the change in uniform, which came to include the abandonment of the leggin in the case of officers on duty in the War Department, as not within the exception which he made a condition of any change. However, he submitted the question to the War College, and, having heard from that quarter, Mr. Baker this week decided that the results, both in regard to the coat and the leggin, did not justify an amendment of the uniform order. It is made known at the War Department, nevertheless, that if General Pershing, as the result of his experience in France, recommends the change or any other alteration of the service apparel, it will be made on the assumption that it is a contribution to efficiency.

#### HOW TO HOLD THE MILITARY RIFLE

AT any big military rifle tournament you are sure to see during the first few days a number of men each with a large red bump on the bridge of his nose, a red spot under his right eye or what appear to be cat scratches on his right cheek. These decorations are not the result of fistic encounters—they are caused by a physical contact with some portion of a recoiling military rifle.

Such results produced by the army weapon have led to its gaining a reputation among those who are not familiar with it of being a bad actor in the way of heavy recoil. The fact that a husky novice in the two hundred pound class gets a flaming red spot on his nose after only a few shots while the one-hundred and twenty-five pound expert can shoot all day without physical discomfort shows that something besides the recoil of the rifle is to blame.

The Model 1903 U. S. magazine rifle, popularly known as the Springfield, has a free recoil of under 15 foot-pounds, an amount equal to just a fraction more than one-half that given by a 12-gauge shotgun. The solution of the problem of how to use the Springfield rifle without getting all banged up is only a matter of learning how to hold the rifle so that the recoil will be taken up by the shoulder and arm muscles and not by the end of the shooter's nose.

A few weeks ago I outlined roughly the proper military shooting positions so that it will not be necessary to go over this ground again in detail.

There are four positions used in military rifle shooting. They are: kneeling, squatting, sitting and prone. In all of these positions the strap is permitted and consequently is universally used because it is a decided help toward steady work. To use these positions in such a way that shooting is a pleasure and not a punishment, the main requisite is to hold the rifle butt squarely against the shoulder and get the right hand in the proper position. The right thumb should not be clasped over the top of the tang because the recoil is sure to drive it against the nose. The fingers of the right hand should be around the stock in such a way that the finger nails cannot scrape the side of the face when the rifle jumps back and the face should not be placed too near the bolt mechanism.

Having noted these instructions you will be

surprised to see a number of experienced rifle shots holding their rifles with the face only a very short distance from the cocking piece and you may wonder why it is that the rifle does not do them any damage. This is because the cocking piece jumps forward about an inch when the rifle is discharged and since this part is attached to the firing pin the motion must take place before the rifle is discharged.—A. P. LANE.



Bobwhite or Quail

#### Write for These Books

They tell all about game farming—the profit and pleasure to be obtained from it. "Game Farming for Profit and Pleasure" is sent free on request. It treats of the subject as a whole; describes the many game birds, tells of their food and habits, etc. "American Pheasant Breeding and Shooting" is sent on receipt of 10c in stamps. It is a complete manual on the subject.



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# Off Hand From the Clubs

## Issues Challenge For All-Round Match

"TACKHOLE" LEE has published a challenge to all comers for a match to decide an "all-around" championship.

The Birmingham, Alabama, shot declares that he stands ready to pit his skill with rifle, revolver, pistol and shotgun, straight and fancy shooting, against any man who is willing to take him up for \$1,000 a side, shooting to be done in the presence of three judges.

Lee pretty firmly established a reputation as a smallbore marvel some years ago, and has lately been doing some remarkable shooting, among his recent records being 1,999 points out of 2,000 in the ten matches of the N. R. A. Civilian Gallery Championship, which was high individual average, and his run of 98 straight tens at 75 feet in the indoor individual gallery championship match.

Lee recently took up the service rifle and the shotgun and has reported some good shooting with both these arms, in addition to which he has been paying more than his usual attention to pistol and revolver shooting. Some of his targets which have been submitted to the U. S. R. A. have been so good as to cause considerable comment.

The challenge sent in by Lee reads:

"Will shoot any one in the world for an all-around match, the detailed conditions to be arranged with any one accepting the challenge. Principal conditions of the match being: \$1,000 to be put up by each contestant, winner to take all; three judges to supervise shooting in person; shooting to be done at Birmingham, Ala. Match to consist of 50 shots with shotgun, 50 prone with .22 at 25 yards, 25 shots offhand standing 25 yards, 20 shots rapid fire 200 yards with Springfield rifle D target, 10 each at 300, 500, 600 and 800 yards on regulation Government targets; 50 shots with .22 pistol at 20 yards, 25 shots with 4-inch-barrel revolver, rapid fire 20 yards, U. S. R. A. rules; 24 shots 15 yards, 2 shots to be fired simultaneously at same target, one gun held upright and other bottom upwards; 24 shots 15 yards, rifle and revolver, both fired simultaneously at targets placed 10 or 12 feet apart; 20 shots rifle, 15 yards, held in 20 different positions; 25 shots rifle, 15 yards, with card or piece of wood 6 or 8 inches square to hide sights, offhand; 10 shots revolver, 15 yards, gun bottom upwards, back to target, gun held between legs; 20 shots 50 yards, .22 pistol; 20 shots 50 yards, revolver, rapid fire; 20 shots 200 yards, .45 Colt Government automatic pistol, B target; 10 shots, two revolvers, larger than .32 calibre, shot simultaneously at different targets 15 yards; 20 shots 50 yards, .22-calibre rifle, rapid fire; 20 shots 100 yards, .22-calibre rifle, slow fire.

"Firing to cover two days' time. Above are only principal conditions and rules as to each particular stage of shooting to be formulated and decided on by proposed contestants.

"I think a series of shooting something like the above would sure enough decide an 'all-around' champion."

### Michigan Clubs Are Preparing

We are at War: The first shot has been fired—speaking of Michigan, the first shot in the preparedness campaign for the Great War. Our scouts have gone to the firing line on the ranges, settling down to the real task ahead of working into shape the riflemen soon to be brought out from the millions of civilian young men of our

country and turned into the finished product of soldiers in our great American Army.

It is some task, and who knows it better than those men who for years have fostered the game, who for years have loved their rifles almost with a fanatic devotion and who have been most willing as instructors to teach others their skill and devotion. These men are the stay and backbone of the Rifle Clubs throughout the land, some of them are military men, others purely civilian, our N. R. A., our State Associations and our local clubs.

Our National Rifle Association stands out preeminently above all others, both in knowledge of the situation and in sympathy with it. This is a time for unity of sentiment and for staunch loyalty of action.

In Michigan our loyalty has taken the form of rallying the local clubs under the State Association and of organizing a Corps of Instructors. It represents much concerted effort, but the returns are proving ample. Our own civilian members need a definite program to bring them to the ranges. A unity of effort and a standardization of work under definite control brings forth the best results with the men themselves.

The sentiment for "doing their bit" in learning in a scientific way the rifle game with the ability to be of a definite service in bringing up to a higher standard of efficiency the marksmanship of our recruits, develops a higher degree of "esprit de corps" and the men are better for it.

Major M. J. Phillips who has charge of the State troops for Michigan, and Gen. C. W. Harrah, the local commandant for Detroit, have endorsed our plans and are expecting to use our instructors as soon as the State troops can be placed in training for rifle practice.

One night a week for didactic lectures, indoor drill, technical study and the round table for free discussion prepares the men for the real work on the outdoor range. We enroll any man who is willing to learn with the view that he will later dispense his learning and break in new men. Discipline is at the back of it all and underlies the whole system. Every man must be or become "a good soldier" because every man expects to become an officer some day and it takes a good soldier to make a good officer.

Our men will later become classed as 1st Rank Instructors and 2nd Rank Instructors. All being under an Executive Officer or some military man of rank. Our instructors will, many of them, become enlisted men and officers. The 2nd Rank Instructor is one whose competence consists in the ability to handle one man; the higher rank demands higher training and demands ability to handle a complete squad of men on the range with 2nd Rank Instructors under him.

For the entire State we are hoping to unify the ranges, bring up their equipment to the highest standards, build new ranges—outdoor and indoor—and program the shooting from week to week, developing our Corps of Instructors to include all available men everywhere.

Capt. P. D. Foster, formerly instructing in the 31st Michigan, is lending all the aid he can and is helping to direct activities; under him the technical matters are being

handled by Mr. C. B. Russell, executive officer of the State Association, while the whole plan and scope of the organization is being supported and worked out by the president of the M. S. R. A., Dr. S. E. Sanderson.

Mr. E. C. Sheppard is the Secretary of the Corps. Major C. E. Wilson, Secretary of the Association is co-operating fully.  
S. E. S.

## Sighting Shots

Pending a determination by the War Department of the status of various home-guard companies which have sprung up since the declaration of war, the civilian riflemen of Montana—some 2,000 in number—are perfecting a preliminary organization.

The riflemen of Montana could almost form a regiment among themselves, and nearly every man, in addition to being a better than average shot, is of military age.

The father of the riflemen's movement in Montana is Captain D. Gay Stivers, president of the Rocky Mountain Rifle Club in Butte. Captain Stivers is not only one of the best target shots in America, but probably has killed more big game than any other man in the State, if not in the land. He is a veteran as well, having raised a company of cavalry which he led to the Spanish war. Should the rifle clubs form a home-guard regiment, Captain Stivers would undoubtedly be offered the colonelcy by acclaim.

Since the air has been filled with war and rumors of war, the range of the Detroit, Michigan, Rifle and Revolver Club has been more popular than ever. The club was formed some years ago with Alvan Macauley president, and has occupied the present quarters for nearly two years. On the second floor of the building are the club rooms and two ranges. The rifle range of 14 butts has the regulation 75-foot range, and there are two revolver ranges, one of 60 feet, with six butts, and one of 40 feet, with five butts. The rifle and revolver ranges are separated by a brick wall and each has a solid backing of steel plates.

The club is open days and evenings and instruction is given by experienced members, including P. D. Foster, late small-arms instructor for the Government. Until after 6 o'clock in the evening no caliber exceeding .22 is allowed.

The club has the use of the Government range on Mack Avenue for outdoor practice.

In recognition of the work done by the late Captain Cash C. Williams, the Republic of Cuba has voted the payment of a sum of money to Captain Williams' mother.

Captain Williams, a former sergeant of the United States Marine Corps, went to Cuba a little more than a year ago to instruct the Cuban army in rifle practice. He died of typhoid during the performance of such duty.

W. J. Becker, secretary of the Everett, Washington, Rifle Club propounds these inquiries to other clubs:

Is reloaded ammunition as accurate as that furnished by the government?



Will it give the same velocity?

How many times can you reload the government Springfield cartridge?

Do you have trouble with the rifle while using reloaded ammunition?

What are the best tools at the present time, the most accurate time-saving, and rapid, regardless of cost, when only the best results are wanted?

Although the Ventura Country Rifle Association, located at Ventura, California, was organized in December, 1915, it took a year of constant effort to locate a suitable rifle range. It was finally found, and the boys got to work immediately. The result is double targets at both the 200 and 300 yard ranges, and plans made for installing double targets at the 500 and 600 yard ranges in the near future.

The club's first shoot, held two months ago, was largely in the nature of practice and instruction in the use of the Krag. About thirty of the members were on hand, and, considering that many of them had never shot a high-power rifle before, did remarkably well. Executive Officer Kemper and Dr. E. K. Roberts, both experienced shots, hung up possibles at the 200 yard range.

### 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. How long is ammunition good? What I want to know is, for what length of time can I depend on its being sure fire and powerful for hunting.

A. If of good make you can depend on it for four or five years.

Q. Does black powder last longer than smokeless?

A. There is not much difference nowadays, but when smokeless powder was first brought out it didn't keep very well and the bad reputation it got in those days still hangs on to it although the smokeless made today is very stable.

Q. What is put in smokeless powder to make it "smokeless"? Is there anything that can be added to black powder so that it won't make any smoke?

A. Smoke, as the term is generally used, means a cloud of unburned matter in a very finely divided state. In the case of black powder this cloud is composed of very finely divided carbon and impurities. Smokeless powder is smokeless because it is made of a composition which burns completely. In other words when the chemical reaction, known as burning, takes place in smokeless powder, there is nothing left but gas which is invisible. There is no way of making black powder smokeless.

Q. What would you consider a safe back-stop for military rifle bullets?

A. High-power military rifle bullets at short ranges can be stopped by a number of substances such as very heavy steel plate or a strong stone wall, but for a back-stop which is to be used for a long series of shots there is nothing as satisfactory as a bank of sand or earth not containing rocks. High-power bullets, if shot continuously at any given point on a stone wall or on steel plate, will cut their way through in time.

Q. Why is it that the front sight and the bullseye look clearer through a peep sight than through the regular open rear sight?

A. The peep sight has the same effect on the human eye that a small apparatus has on a camera lens. It brings into focus objects at varying distances from the eye. To understand just how this takes place it is necessary to understand some of the principles of optics. When an object appears fuzzy to you it means, practically speaking, that the light from each point of that object is refracted by the lens of the eye on to the retina in the form of a small circle rather than a single point. In other words the impression of the eye is made up of a number of small circles overlapping each other which gives the fuzzy effect. A peep sight cuts off all the light except that which goes through the center lens of the eye, and the effect of this is to cut off a good deal of the light that makes the image fuzzy.

Q. What is the meaning of "minute of angle" as applied to rifle sights, and how much change does it make in the place the bullet strikes the target? Is it the same for different ranges?

A. If you mark off on the circumference of a circle three hundred and sixty points, all equally distant apart, and then draw a line from two adjacent points to the center of the circle, these lines will form an angle at one degree. If you divide this angle of one degree into sixty equal parts, each of them will be an angle of one minute. When you change the sights of the rifle one minute of angle, it simply means that you move the sights so that the new line of sight makes a minute of angle with the old line of sight. If two lines were set at an angle to each other of one minute, they will spread from the point of where they coincide so that at one hundred yards they will be a fraction over one inch apart, prolonged to two hundred yards they would be a fraction over two inches apart, therefore, when you change the sights of your rifle one minute of angle it simply means that you have made it shoot one inch higher or lower each hundred yards of the range. If, for instance, you change the sights two minutes of angle, it will shoot four inches higher at two hundred yards and ten inches higher at five hundred yards.

### Clubs Admitted to N. R. A. Membership During the Past Week Include:

#### CIVILIAN

##### Alabama

Civilian Community Rifle Club, Montgomery—Myrton M. Tresslar, secretary; George W. Jones, president; Charles F. Moritz, vice-president; Leopold Strauss, treasurer; George A. Johnston, executive officer. Membership, 146.

Headland Rifle Club—Ed. M. Johnson, secretary; D. C. Halstead, president; D. W. McLean, vice-president; O. E. Tompkins, treasurer; M. S. Hardwick, executive officer. Membership, 40.

##### Georgia

Fulton County Rifle Club, Atlanta—E. D. Crawford, secretary; W. Frank Smith, president; H. P. Nelson, vice-president; T. W. Martin, treasurer; Norman I. Miller, executive officer. Membership, 17.

##### Idaho

Potlatch Home Guard Rifle Club—O. H. Leuschel, secretary; A. W. Laird, president; P. M. Lachmund, vice-president; T. M. Brown, treasurer; W. E. Hearn, executive officer. Membership, 85.

##### Massachusetts

Marion Rifle Club—Walter H. Lillard, secretary; George Crapo, president; George I. Luce, vice-president; Henry C. Luce, treasurer; W. N. Sternberg, executive officer. Membership, 65.

##### New Jersey

Harrington Park Rifle Club—George Flint, secretary; J. B. Crouther, president; F. R. Humphreys, vice-president; C. G. Eckerson, treasurer; C. W. Miller, executive officer. Membership, 17.

##### New York

Camp Aldrich Rifle Club, Sag Harbor—Edward Dunn, secretary; Ivan Byram, president; George Mercer, vice-president; Augustus Hellerman, treasurer; Edward Richardson, executive officer. Membership, 88.

Hudson Valley Rod and Gun Club Rifle Club, Glens Falls—Ernest L. H. Meyer, secretary; J. N. Ingalsbe, president; H. D. Darver, vice-president; Ernest L. H. Meyer, treasurer; C. N. Van Trump, executive officer. Membership, 131.

##### Pennsylvania

John Forrester Rifle Club, Pittsburgh—J. Edward Keirn, secretary; E. L. Peterson, president; George R. Bothwell, vice-president; Robt. H. Thompson, treasurer; James B. Thompson, executive officer. Membership, 45.

##### South Dakota

Lemmon Rifle Club—Elmer F. Sheets, secretary; B. S. Lane, president; John Bamble, vice-president; A. G. Macomber, treasurer; P. C. Lippman, executive officer. Membership, 21.

Millboro Rifle Club—Arlie N. Mahoffa, secretary; John J. Newby, president; Percy Haggard, vice-president; Robert A. Elliott, treasurer; Ernest K. Painter, executive officer. Membership, 60.

##### Virginia

Thirteen Stars Rifle Club, Pocahontas—E. H. Bryant, secretary; W. C. Adams, president; D. C. Johnson, vice-president; John Laurence, treasurer; Mathew Scales, executive officer. Membership, 15.

##### West Virginia

Kanawha Rifle Club, Charleston—R. A. Lee, secretary; D. C. Lovett, president; Jerry Mitchell, vice-president; H. Q. Thompson, treasurer; D. C. Lovett, executive officer. Membership, 16.

##### Wisconsin

Tomah Indian Rifle Club—Frank Pemberton, secretary; Alex Everwind, president; John Wensuc, vice-president; L. M. Compton, treasurer; John Potter, executive officer. Membership, 67.

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Henry Colbath, Pottstown, Pa.; George W. Hitner, Pottstown, Pa.; Theophilus R. Hyde, Pottstown, Pa.; Dwight Meigs, Pottstown, Pa.; Judson S. Parsons, Pottstown, Pa.; Samuel Porter, Pottstown, Pa.; George D. Robbins, Pottstown, Pa.; Isaac Thomas, Pottstown, Pa.; Wm. H. Weiss, Pottstown, Pa.; James I. Wendell, Pottstown, Pa.



## Trapshooting Champions Find it Hard to Repeat

In the First 33 State Championships Decided Only Five of the 1916 Winners Were Able to Put Over Another Victory

By PETER P. CARNEY

TRAPSHOOTING champions are finding it a difficult matter to repeat this year. In the first thirty-three State championships up for decision, only five of the 1916 winners were able to put over another victory. These winners were King in Colorado, Staples in South Carolina, Pendergast in New York, Weaver in Rhode Island, and Williams in the United States Navy, Atlantic Fleet.

By their victories this year King, Pendergast and Staples put over triple victories in a way, having won the State championship three years in succession. John Jahn, the Iowa champion, has also won the title in that State three times, but not in succession, as he failed last year after winning in 1914 and 1915. Williams, the Navy champion, has won the fleet title two years in succession. Barclay has won the Vermont championship two years running, and Weaver has the same record in Rhode Island. Dr. Richards, the Virginia champion, won the title in 1914, and Reilley, the Utah champion, won the title in that State in 1915. Elmer Reed, the New Hampshire title winner this year, was also the champion in 1915. The Tansil family had the Arkansas championship in their possession in 1914-15-16, but could not keep it this year.

There is still a possibility of a number of last year's champions getting in the National Amateur championship event because they are runners-up. Allen Heil, of Pennsylvania, last year's champion, broke 99 and lost. Foregard, of Texas; Eaton, of Missouri, and Speer, of New Jersey, all champions of 1916, are runners-up this year. In New Jersey, Platt, the runner-up last year, broke 100 straight. Last year Platt represented New Jersey in the National Championship event because Speer could not attend. Nash, the runner-up in California, was also the runner-up last year.

Several of the championship events wound up in ties, and shoot-offs were necessary. Four tied in Texas, three in Maryland, two in Ohio, two in Arkansas, two in Mississippi, two in Georgia, and there were three shooters tied for second place in California. A peculiar incident occurred in the California, Washington and Ohio State shoots. Trosh, the champion of champions, broke 284 straight in the Washington shoot; Pifirman, 1916 champion, broke 254 straight in the California State shoot, and Harlow, high average amateur for 1916, broke 148 straight in the Ohio shoot, yet not one of the three won the State championship or finished in the runner-up position.

### Shooting Accessories Improve

"Trapshooting, as it is at present practiced," said a prominent local shooter, "is quite a different thing from what it was five or six years ago.

"In the first place, the shotguns now in use are marvels of accuracy and range, and perfection in construction. Not many years ago, the trapshooter able to afford the best bought his gun abroad, but, at present, the reverse is true, and American guns have the call not only at home, but also in the markets of Europe.

"A convincing evidence of the superiority of the product of the American gun maker lies in the fact that guns of a certain manufacturer are exempted from the English 'proof-house test' to which every gun made by an English maker must be subjected before being offered for sale in its home market.

"Constant improvements are also being

made in the manufacture and loading of shells. In keeping with the trend of improvement in trapshooting facilities, powder makers have spent thousands of dollars in producing new and better powders.

"The best of these are truly 'smokeless,' and in reduction of report and recoil are by all odds superior to the kinds formerly offered. It seems safe to say that more effort, thought and money are spent on the improvement of trapshooting than on any outdoor sport.

"Here, at home, we are seeing the benefits in the higher scores that are turned in by our regular shooters."

### The Evolution of Trapshooting

At a dinner given by a Pennsylvania trapshooting club one of the speakers traced the origin and growth of trapshooting to the enjoyment of the assembled sportsmen. In part, he said:

"From the beginning of the amalgamation of races into the American people, powder and the gun have played a big part in life on this Continent.

"In the early period of our history we had a nation of riflemen and few indeed were the men and boys who could not bring down a marauding savage or draw unerring bead on the head of a tree-top squirrel.

"In our fights for national existence, Bunker Hill and later New Orleans, proved how true was the aim of Americans. The lack of need of defense of the home and nation, and the multiplication of populous centers, removed the necessity of opportunity for the continuance of the general use of the rifle.

"Another factor in the decline of rifle shooting has been the rapid development of high-powered arms with excessive range. The lesser range of the 'spatter' or shotgun, the greater certainty of the unskilled marksman getting what he shot at and the fact that the small shot did not mutilate the game, led to the general adoption of this firearm for hunting.

"But increase in population and decrease in the quantity of game, with the consequent enactment of stringent game protective laws, establishing long closed seasons, and limiting the amount of game that a hunter might kill, long since caused the beginning of a general disuse of the shotgun.

"Yet, by no means had we lost our love for powder burning. It is present, even if latent, in every true blooded American's veins. The children's observance of an insane Fourth of July proves how innate is the desire.

"An outcome of the inclination to use the gun, was the introduction of live bird shooting—the killing within certain limits of pigeons released from coops, located some distance from the shooters. While this sport had a considerable following, it did not find favor with the great mass of American sportsmen. Live bird shooting is now prohibited by law in nearly all states.

"Killing pigeons was superseded by glass ball shooting and this in turn by clay-pigeon shooting. At this point the sport came near dying in embryo, due to the uncertainty of breaking targets of varying degrees of hardness and the trouble caused by the unsatisfactory traps then in use.

"Fortunately, inventive genius came to the rescue and perfected traps positive in action and with the ability to throw the bird at

unknown angles, thereby closely approximating the condition under which field shooting is done. The targets are made of river silt and tar, pressed into shape by hydraulic pressure, thus insuring uniform pattern and breaking strength."—*Trapshooter*.

## Scattering Shot

The only State trapshooting champion who has repeated to this time is R. A. King, of Colorado.

Just to prove that it isn't the high-priced piece of mechanism that breaks the targets Frank Troeh, the "champion of champions," carries around a gun that set him back \$16. Troeh broke 295 out of 300 targets in the Washington State shoot, and just by way of diversion opened the California State shoot by breaking 199 out of 200. He had a run of 284 in the Washington State shoot.

R. D. Morgan, of Washington, D. C., who made the high run of 231 in the Westy Hogans shoot last fall, likes shooting so well that he took the trip to Tulsa for the Oklahoma State event.

There is some agitation for a professional trapshooting championship. There should be such a thing. The amateurs have their State and national events, and it would be fitting to have State and national championships for the professionals. Some States now have professional championship races. It would be a wise move on the part of every State association to put on its annual program professional and woman's championships events; to have the Interstate Association approve of these events and to conduct the national championship in connection with the Grand American Handicap.

The Oklahoma State shoot was the greatest two-day trapshooting carnival ever held in the United States. Two hundred and twenty-five shooters were at the traps in the State titular event.

The Coal Creek Country Club, of Sheffield, Ill., and the Hunderton Country Gun Club, of High Bridge, N. J., were the organizations that received Interstate Association trophies for "newly organized gun clubs" during May. To this time 28 clubs have been awarded trophies by the Interstate Association.

C. A. Nash, runner up in the California-Nevada State shoot this year, was the runner up last year, too.

A movement is under way to inaugurate an intercity trapshooting league in the East. It is the idea of the promoters to get the league under way by next fall. The success of the Philadelphia Trapshooters' League, the team shoots of the New York Athletic Club, and the various other leagues throughout the East has caused no end of comment, and it is the feeling that a league with Philadelphia, New York, Newark, Boston, Hartford, New Haven, Baltimore, Syracuse, Buffalo and Wilmington would prove a great success. Such a league would stimulate interest in the sport.

Fifty-eight clubs were awarded trophies for team competition by the Interstate Association during April and May, and ten more clubs were given trophies during June. They are: Elkhart (Ind.) Gun Club



vs. St. Joe Valley Gun Club, of South Bend, Ind.; Capital City Rod and Gun Club, of Salem, Ore., vs. Woodburn (Ore.) Gun Club; Harrisburg (Pa.) Sportsmen's Association vs. West Fairview (Pa.) Sportsmen's Association; Minneapolis (Minn.) Rod and Gun Club, vs St. Paul (Minn.) Rod and Gun Club; York (Pa.) Gun Club vs. Lancaster (Pa.) Country Gun Club.

There is no bar to age or size in trapshooting—in fact, the restrictions are very few. In the Grand American last year W. E. Phillips, aged 14, and J. H. Breitenstein, aged 84, shot in the same event. In the recent Pacific Coast Handicap Mrs. Ada Schilling, weight 90 pounds, was at the firing line with George J. Tuckett, weight 350. Mrs. Schilling broke 93 targets and her heavier opponent broke 86.

Ellwood, Ind., claims title to the oldest active maker of guns in the world in A. E. Chamness. He is 80 years of age and has been making guns every day for 60 years. Chamness says he is the only man in Indiana who can make a gun from start to finish.

Sapulpa, Okla., will be the scene of the 1918 trapshooting event for the State title.

Mrs. C. E. Groat, of Los Angeles, Cal., has been doing some remarkable trapshooting this spring. On successive days late in May she broke 96 out of 100 targets, and then 191, 185 and 180 out of 200, and had straight runs of 63, 79 and 56.

It is estimated that there are at least 1,000 boys under 15 years of age who are proficient trapshooters.

At the California-Nevada Interstate Tournament, held at Los Angeles, May 21, 22 and 23rd, Frank Mellus won the State Championship with a score of 99 x 100. Henry Pfirman, Jr., made the longest run, registering 272 straight. Both shooters used the Black shells.

#### Remington Notes

The Connecticut State Trapshooting Championship was won on May 26 by W. A. Flynn with a score of 98 x 100, shooting Remington UMC Nitro-Club shells. He also made a straight run of 80 targets, the longest of the tournament.

At the Trapshooting Tournament of the Pipestone, Minn., Gun Club, held on May 24, High Amateur Average for the two days shooting was won by E. T. Myers, of Mitchell, S. D., who scored 285 x 300, using Remington UMC Pump Gun and Nitro-Club shells. Second Amateur Average was won by B. F. Veach, of Pipestone, Minn., with a score of 279 x 300, also shooting a Remington UMC Pump Gun and Nitro-Club shells.

For the third consecutive time R. A. King, of Delta, Colo., won the Colorado Interstate Championship. He made the excellent score of 99 x 100, using Remington UMC Nitro-Club shells.

The Denver Post Trophy Colorado State Handicap Championship was won by C. W. Devine, with a score of 95 x 100, shooting at 20 yards and using Remington UMC Nitro-Club shells.

John Jahn, of Davenport, Iowa, won the Iowa Interstate Amateur Championship with a score of 98 x 100, using a Remington UMC Pump Gun. Mr. Jahn also won the High Amateur Average scoring 435-450.

The Texas Interstate Amateur Championship was won by F. W. McNeir, of Houston, Texas, with a score of 98 x 100, shooting Remington Autoloading Shotgun and Nitro-Club Speed shells. In this contest the winner tied three other shooters and won 20 to 19. Mr. McNeir also won the Texas State Championship, 99 x 100, shooting the "Perfect Combination".

The Pacific Coast Handicap held at San Jose, Cal., was won by Charles Yocum, shooting Remington UMC Nitro-Club Speed shells. The score of 98 x 100 was tied by four men, Mr. Yocum winning in the shoot-off at 18 yards. Mr. H. McLoughlin, who used Remington UMC Arrow shells was runner up and D. C. Davidson, shooting Remington UMC Nitro-Club Speed shells, was third.

#### Peters Paragraphs

At the Illinois State shoot, Streator, Ill., May 22-24, Mrs. A. H. Winkler, of Chicago, won the Woman's State Championship event, 88 x 100, and Mrs. M. Francis, of Streator, won the Ladies' High Average trophy, 333 x 400. Mr. Clark Gideon, of Champaign, Ill., won the Board of Trade diamond badge, 93 x 100 from 18 yards, and Mr. A. H. Winkler was runner-up of the Interstate Championship event, 97 x 100. All these winners shot the "P" brand shells.

Mr. E. A. Staples, of Franklin, Mass., was high gun over all amateurs and professionals at Wellington, Mass., May 23, 97 x 100, with the "P" brand shells.

High Professional Average at Pipestone, Minn., May 24-25, was won by Mr. R. R. Barber with Peters shells; score, 285 x 300.

At the Middle Texas Trapshooters' Association tournament, Brownwood, May 25-26, High General and High Professional averages were won by Mr. L. I. Wade, of Dallas, with Peters "steel where steel belongs" shells, his score being 389 x 400, or better than 97 per cent.

High Professional Average at Austerlitz, Ky., May 24, was won by "Pop" Heikes, 138 x 150, using Peters shells.

At the Nebraska State shoot, Fremont, May 23-25, Mr. R. A. King, of Delta, Colo., using the "P" brand shells, scored 433 x 450, winning Second Amateur Average. Mr. King also made high score in the State Championship event and the longest run of the tournament, 190 straight. Users of Peters shells won five of the seven Interstate Association trophies.

Mr. Fred Gilbert broke 148 x 150 at Gladbrook, Iowa, May 24, winning High General and High Professional averages with Peters "steel where steel belongs" shells.

At the Connecticut State shoot, Norwalk, May 25-26, Mr. T. H. Keller, of New York, was high professional, 232 x 250, and Mr. L. P. Curtis, of Boston, won the New England handicap, 91 x 100 from 21 yards, both shooting Peters shells.

At Ashland, Pa., May 23, Mr. W. H. Oneil, of Ashland, was high amateur, 136 x 150, and Mr. Neaf Apgar high professional, 135, both using the "P" brand shells.

At Denver, Colo., May 27, Capt. A. H. Hardy won High Professional Average, 96 x 100, and also made the longest run, 61 straight.

At the Liberty Gun Club, Dayton, Ohio, May 30, Mr. Ed. Cain, of Dayton, was high gun over all amateur and professionals, with the score of 100 x 100 and a straight run of 172. He shot Peters factory-loaded shells.

High professional at Canton, Ohio, May 30, was Mr. R. O. Heikes. He shot Peters shells and scored 147 x 150. He was also high on the entire day's shooting, with a score of 194 x 200.

High General Average at Eau Claire, Wis., May 26-27, was won by Mr. J. E. Dickey, who scored 281 x 300 with the "P" brand shells.

At Eureka, Cal., May 13, High Professional Average was won by Mr. M. O. Feudner. Score, 134 x 150; using Peters factory-loaded target shells.

High Amateur Average at Manchester, N. H., May 18-19, was won by Mr. E. C. Griffith, of Pascoag, R. I., 307 x 320, and Mr. G. Osborn, of Boston, was third, 303; both using Peters shells.

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WANTED—Springfield bullets or primers. Communicate with Trafton Morris, Coon Rapids, Iowa.

WANTED—Springfield Model 1906, State condition and price. M. R. Grimmesey, 114 Frank St., Dayton, Ohio.

FOR SALE—Colt Pocket Positive Revolver, blue, 3½ inch bbl., .32 Pol. Cartridges and square back holster, new. \$10.00. R. Buettner, 552 East 50th Place, Chicago, Ill.

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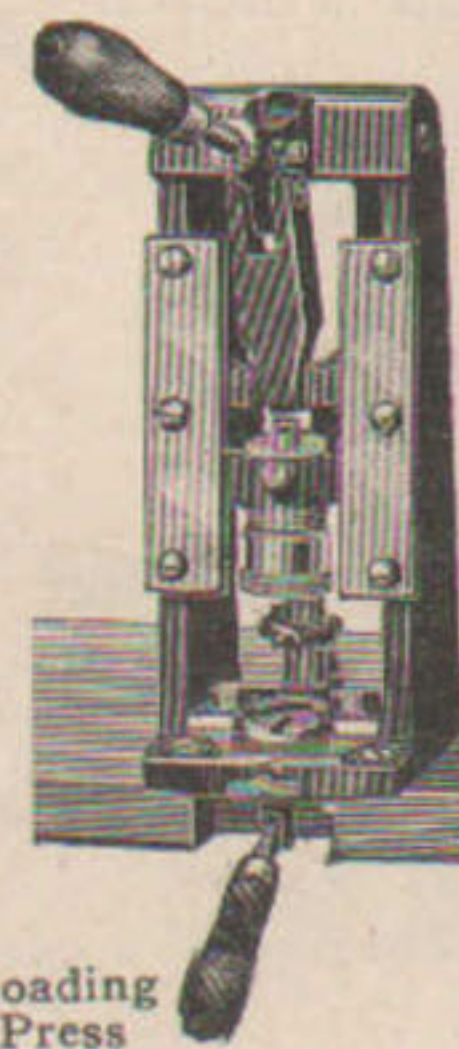
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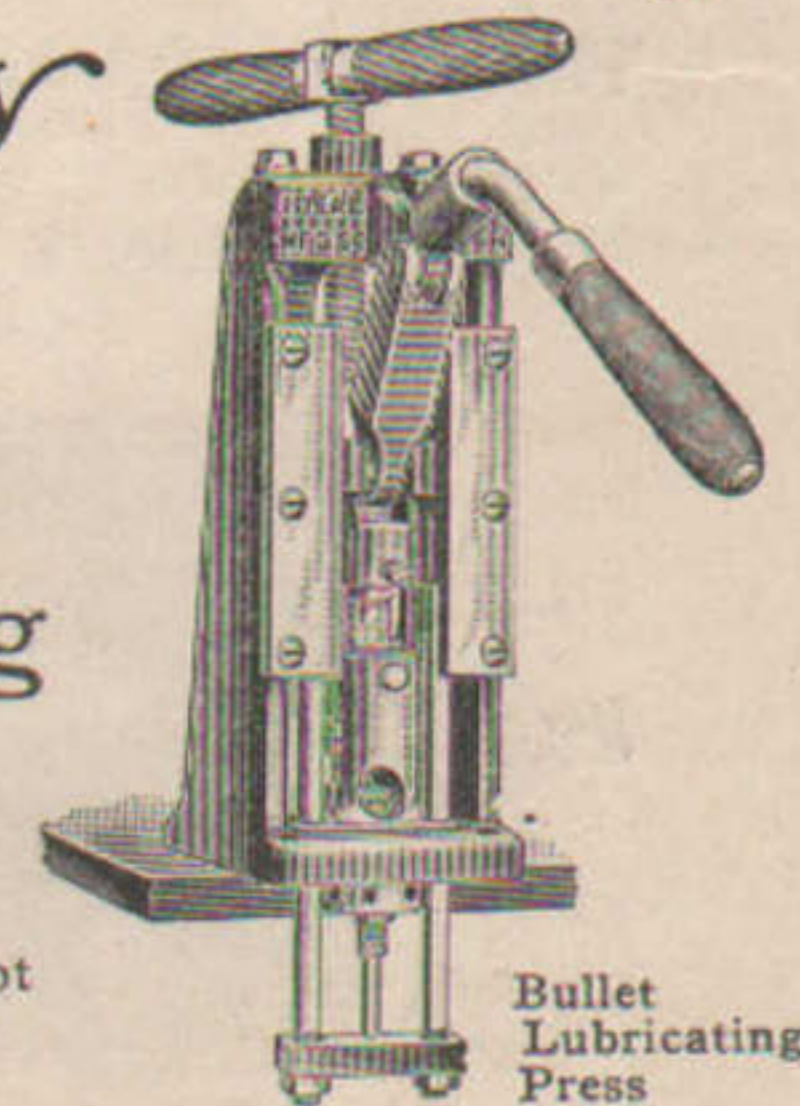
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In this match Mr. Lee used Remington UMC .22 Long Rifle Lesmok cartridges.

Capt. Francis R. Whelan of Lowell, Mass., and one other shooter tied for first honors also with the possible score. Captain Whelan shot a No. 4 Remington UMC Single Shot rifle and Remington UMC cartridges.

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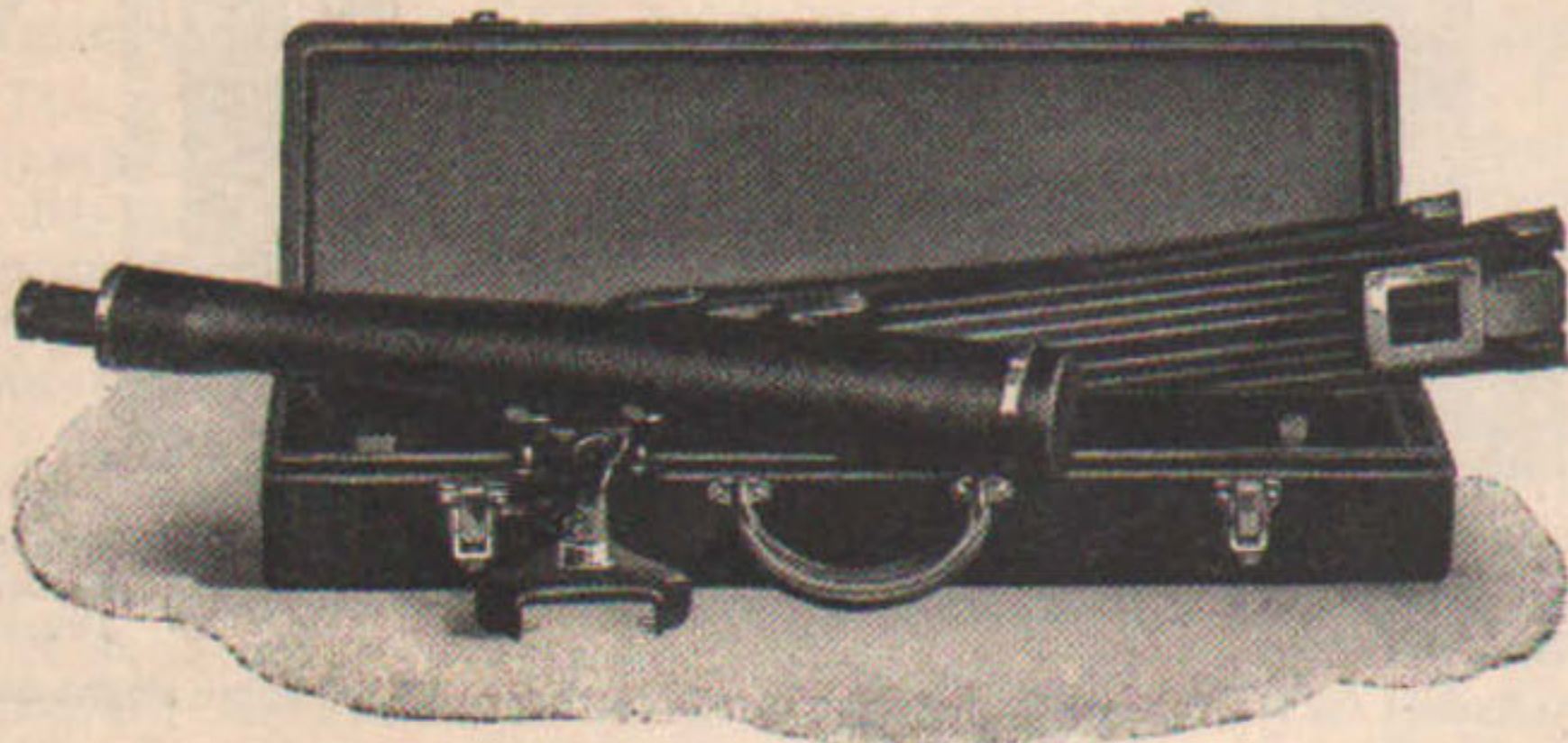
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