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Individual Instruction
in
Rifle Practice

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INTRODUCTION.

This system of instruction was first developed by the Second Battalion, 14th U. S. Infantry, stationed at Fort Lawton, Washington. The officers of this battalion were convinced that there was no reason why every man should not learn to shoot, as it is a purely mechanical operation, combined with the will power to carry out this mechanical operation with a loaded rifle. They worked together along these lines for three target seasons, and at the end of that time succeeded in qualifying as Marksman or better every man in the post. This system has been rewritten three times since then, but the main points of it have remained the same. By the use of this system. Company B, of the 25th Infantry, was brought from the lowest shooting organization in the Hawaiian department to the highest, in one target season. It was used in instructing twelve hundred officers and noncommissioned officers of the 83rd Division of the National Army on a two weeks course of instruction at Camp Perry, Ohio, with the result that they made a record that has never before been equalled.

There is nothing revolutionary in this system. Practically all of the points emphasized therein have been recognized in the past by good shots as being correct. These points have been combined, systematized and reduced to simple language. An effort has been made to include all that the average soldier should know to become a good shot and no more. Il does not pretend to be an exhaustive treatment of the subject of rifle shooting. A great mass of scientific data and information upon which rifle shooting is based is

left out entirely as being difficult for the beginner to understand and more likely to confuse than to aid him.

METHODS OF INSTRUCTION.

There are four distinct steps in the preliminary work : Ist. Sighting and aiming; 2nd. Positions; 3rd. Trigger squeeze; 4th. Rapid fire. Each step as it is taken up starts with a lecture by the instructor to the assembled command. The lecture includes demonstrations of the methods of instruction, positions, trigger squeeze, etc.

These lectures are an essential part of the training. If properly given they awaken the interest and enthusiasm of the whole command for the day's work and they give an exact knowledge of how each day's work is to be carried on, something that many men cannot get from reading a description of it, no matter how accurate and detailed that description may be.

Hard work and lots of it, on the part of the officers and non-commissioned officers is an absolute essential. This system is not automatic. Merely to supply each man with a copy of the book without any particular effort to see that all the points are understood and applied would not produce any very remarkable results. The instruction must be thorough and it must be individual. General instruction of the command is not enough. The instructor must satisfy himself that each man understands each and every point and can explain them in his own words.

The Blank Form, in back of this book and explained in the first lecture, must be kept by each squad leader and by each platoon leader independent of the squad leader. This blank form shows at a glance just how much each man knows about each point, and he must be worked on until he can be classed as excellent on all points. The company commander must carefully supervise the work. He should pick

out men at random through the different platoons and put them through a test to see if their instruction has been thorough and is progressing satisfactorily.

The importance of exactness should be impressed on the men at all times. For example, men in adjusting the sights in the sighting drills or triangle exercises are apt to say, "That is about right". There is no such thing as a sight that is about right; it is either absolutely right or it is all wrong. Exactness in every detail is hard to get, but it must be attained.

Interest and enthusiasm must be sustained and everything possible should be done to stimulate them. If the exercices are gone trough in a manner approximately correct and as a routine piece of work, the results will be very disappointing. As soon as these exercises deteriorate into a perfunctory performance of a physical exercise, they do more harm than good.

There are three essentials to good shooting : 1. Correct aiming; 2. Correct positions; 3. Correct trigger squeeze. In rapid fire three more essentials are added : 1. Correct loading of magazine from clip; 2. Correct working of the bolt; 3. Keeping the eye on the target while working the bolt.

The exact way of instructing in the essential points is shown in the form of questions and answers under the heading, "Examination of man before starting range practice". This should be consulted by the instructor at all times during the preliminary work and each man must be put through a thorough test along the lines indicated in these questions and answers before he is allowed to fire a shot.

The two most important points are the trigger squeeze on the part of the man firing, and the watching of his right eye by the coach to see if he is squeezing the trigger properly. The description of the trigger squeeze is a little different from the usual way of stating it. We have always been told

by the authorities on shooting that the trigger must be squeezed by a STEADY increase of pressure. But this does not mean much to the average beginner. Now if we analyze this STEADY or uniform increase of pressure we find that, if it is in fact a steady increase, a man cannot know exactly when enough pressure has been applied to set the rifle off. A fine instrument will show that the amount of pressure necessary to discharge the piece will vary a little with every shot. If a man knows when his rifle is going off it is because he suddenly gives it all of the rest of the necessary pressure. In this case it is not a steady increase. If the increase of pressure is steady the man cannot know when the rifle will be discharged, consequently, in order to have him squeeze the trigger properly he is told to squeeze it in such a way as not to know just when the rifle will go off. This does not mean that the process is necessarily a slow one and that it will take a comparatively long time to fire a shot. A man *through training* can reduce the time used in pressing the trigger to as low a point as one second and still press it in such a way as not to know at just which part of the second the discharge will take place. Once a man has acquired the ability to squeeze the trigger properly, even though it be very slowly, he rapidly learns to speed up on it without changing the process.

Whenever a man is in a firing position, whether it be at preliminary exercises or with a recording rod, or at gallery practice or on the range, he must have a coach beside him to watch him and point out his errors. A coach must watch the man himself. If a coach watches the target instead of watching the man firing, as a great many are apt to do, he might as well not be there at all.

The course of instruction is divided into two parts, preparatory exercises and range practice. Practically everything is included under the heading of preparatory exercises, because this is the period of training during which the man learns everything necessary to become a good shot. When he goes on the range he will be able to start in shooting well if he applies what he has learned previously. And if he has been properly instructed he will put into practice all the points laid down in the preliminary exercises, with the one exeption of trigger squeeze, the most important of all, and the one thing over which he at first has no control.

Practically all of the range practice, then, can be devoted to teaching him the trigger squeeze. To squeeze the trigger properly the man must have will power and self control, two traits that must be developed in the man by careful study of his character and temperament and patient and untiring coaching during the firing of each shot.

PREPARATORY EXERCICES

All Men to Take Preparatory Course:

Every man who is to fire on the range should be put through the preparatory course from the beginning. No distinction should be made between recruits and men who have had range practice, no matter what their previous qualification has been. Some part of the preparatory instruction may have escaped them in previous years; it is certain that some of it has been forgotten, and in any case it will be a help to go over it again and refresh the mind on the subject.

It is a good practice to look over each man's target record of last year to see at what ranges he was weak and upon what points he needs particular instruction this year.

All of the non-commissioned officers of the company should be put through a course of instruction and required to pass a rigid test before the period of preliminary instruction for the company begins, when time permits.

DEFINITIONS.

Each man should know the meaning of the following words; they are defined in the preface of the Small Arms Firing Manual: *Battle Sight*, *Butts*, *Cant*, *to Cant the Rifle*, *Drift*, *Grooves*, *Lands*, *Line of Aim*, *Trajectory*, *o'Clock*, *Prone*, *Ricochet*, *Shots*, *Score*, *Sighting Shots*, *Twist*, *Windage*, *Wind Gauge*.

NOMENCLATURE OF THE RIFLE.

The following parts will be pointed out and the functions of each explained: Barrel, bolt, butt plate,

butt swivel, cut-off, ejector, extractor, firing pin, floor plate, follower, front sight, guard, guard screws, band guard, lower band, lower band swivel, magazine, spring, main spring, rear sight, leaf, slide, windage screw, receiver, safety lock, stacking swivel, stock, striker, trigger and upper hand. Also, bore, muzzle, breech and magazine.

INTERESTING DATA CONCERNING RIFLE.

(U. S. Model 1903).

The barrel is 24.006 inches in length and the rifling consists of four plain grooves .004 inches deep. The grooves are three times as wide as the lands. The twist is uniform, one turn in ten inches. The muzzle is rounded to protect the rifling.

The bullet has a core of lead and tin composition incased in a jacket of cupro nickel. It weighs 150 grains, and the point is sharper and offers less resistance to the air than any previous model in the United States service.

The powder charge is of pyro-celulose composition, very similar to the powder used in field and seacoast guns. The grains are small, cylindrical, perforated and graphited. The normal charge weighs from 47 to 50 grains, depending upon the lot of powder used.

The standard muzzle velocity is 2700 feet per second. The instrumental velocity measured at 78 feet from the muzzle is 2640 feet per second with an allowed mean variation of 20 feet per second on either side of the standard. The cartridge complete weighs about 392 grains. The muzzle velocity of 2700 feet is obtained when fired on a normal day (70° F.). This velocity will vary directly with the temperature 1.5 feet per degree. For each degree above 70, 1.5 feet must be added to 2700 feet to obtain the muzzle velocity. For each degree under 70, 1.5 feet must be subtracted. From this will be seen the importance of keeping all the cartridges at a uniform temperature

while firing on the range, of not leaving them lying on the ground or exposed to the sun's rays and of not loading a cartridge into a heated chamber until ready to shoot.

The bullet will penetrate 33 1/3 inches of white pine at 50 feet, 46.7 inches at 100 yards, 14.3 inches at 500 yards, 12.8 inches at 100 yards. At 50 feet it will penetrate 8.7 inches of moist sand but only 4 inches of dry sand, and 14 inches of loam free from sand. On thoroughly seasoned oak it will penetrate 12.2 inches at 50 feet, 33.6 inches at 100 yards. It will penetrate a brick wall 5 inches at 100 yards.

The maximum range is 3.1 miles with the muzzle elevated 45 degrees. It takes the bullet 31.36 seconds to make the flight and at its highest point it will be 6844 feet high. This height is reached when the bullet is 3432 yards from the muzzle.

The danger space for a man standing is continuous up to 600 yards.

CARE OF RIFLE.

Always clean at end of the day's shooting. Never leave rifle over night without cleaning after it has been shot.

Always clean from the *breach*. And always with a ramrod. The « pull through » is for use in the field only. Use vaseline or other heavy oil. Never use 3 in 1 oil or any other light oil.

Rifle should be cleaned out first with No. 9 or other good powder solvent. Solvent left in over night and then cleaned out and rifle oiled.

A rifle must be cleaned at least twice after being fired, once at end of the day's shooting and once the next day. Rifle cannot be properly cleaned in one cleaning because the fouling that has been driven into the pores of the metal does not sweat out where a cloth can reach it until about 24 hours after the first cleaning. If rifle is not going to be shot again soon clean it each day for three days.

Do not put any ammonia solution into the rifle unless you have special permission to do so, and then only under the supervision of a non-commissioned officer. Never take your rifle apart without special permission.

Never leave a rag in the barrel of the rifle.

Never leave your rifle lying flat on the ground.

Never shoot a rifle when it has any dust, dirt on snow in the barrel. Wipe the oil out of the barrel with a clean rag before going to the firing point. Never leave a barrel unoiled even for inspection.

Vaseline is the best oil to use on rifles.

Do not use ammonia solution in the rifle while the barrel is hot.

The following parts of the rifle only can be removed by the soldier for the purpose of cleaning : Front sight cover (on Springfield), bolt, floor plate and follower, gun sling, oiler and thong case.

When a powder solvent is not available it takes more work to clean the rifle, but it can, of course, be done.

The use of grease on the bullets prevents a great deal of the metal fouling and the rifles are very much easier to clean.

EXAMINATIONS OF RIFLES.

Each man's rifle should be closely examined before the beginning of the preparatory season, for defects. Each barrel should be tested with the gauges and it should be noted if the barrel is pitted. Loose rear and front sights should be corrected, peep sights on the Springfield should bot be smaller than size six. All screws should be tight. Upper band should be loose enough to slide on and off easily when the screw is removed. Bolt should be complete and work easily. Trigger squeeze neither too easy nor too hard, and it should be without « creep ».

SIGHTING DRILLS.

The sighting exercises constitute the first step of the actual training of shots. In these exercices the « sighting bar » and the « rifle rest » are used as aids to instruction.

Purpose :

(a) To show how to align the sights properly on the mark ;

(b) To discover and demonstrate errors in sighting;

(c) To teach uniformity in sighting.

THE SIGHTING BAR.

(For description of the sighting bar see Small Arms Firing Manual.)

The sighting bar is used in instruction for two reasons : 1st. The sights are larger than on the rifle and errors in aiming can be more easily seen and pointed out to the beginner : 2nd. The eye-piece on the sighting bar makes the man under instruction hold his eye so that he sees the sights in proper alignment. He learns from this how to properly align the sights of the rifle. The « French Aiming Device » attached to the stock of the rifle serves the same purpose. It is merely an eye-piece for the rifle and is used in showing men how the sights appear when properly aligned. Without the eye-piece the instructor cannot tell whether the man is holding his eye so as to see the sights in proper alignment or not.

Sighting Rest for Rifle. Take an empty pistol ammunition box or a similar well-made box, remove the top and cut notches in the ends to fit the rifle

closely. Place the rifle in these notches with the trigger guard close to and outside one end.

The rifle rest is used to teach a man to apply the principles of aiming to the rifle, having first learned them by means of the sighting bar. The instructor first aims the rifle in a rest at a bulls-eye and then has the man under instruction look through the sights. The man is next made to align sights on a bulls-eye and instructor then looks through the sights to see if he has made any error.

For each sighting bar and each rifle rest a small disc is made about 3 inches in diameter, of white cardboard or of tin with white paper pasted on it with a small bulls-eye in the center. The bulls-eye has a small hole just large enough to admit the point of a pencil in its exact center. For indoor or close range work the bulls-eye should not be larger than a 25-cent piece.

First Sighting Exercise :

1. Using illustrations, describe the normal sight and the peep sight. Explain that the top of the front sight is seen through the center of the circle and just barely touches the bottom of the bulls-eye, but so that all of the bulls-eye can still be clearly seen. This will give you a faint impression of a white line between the bottom of the bulls-eye and top of the front sight.

2. Explain the sighting bar and tell why it is used.

3. With the sighting bar represent the normal sight and the peep sight and have each man in the squad look at them.

4. Adjust the sights with various *small* errors in alignment and have each man look at them and tell you what the error is.

5. Have each adjust the sights so that they are properly aligned.

The above exercices are first done without a bulls-

eye to aim at in order to get the alignment of sights. Then they are done with a small bulls-eye on a movable disc to combine sighting with aiming. It is easier to have a small bulls-eye on a disc moved to the line of aim than it is to adjust the sighting bar on a fixed bulls-eye.

Second Sighting Exercise :

The same as the first sighting exercise except that the rifle in a rest is used, with a French aiming device as an eye-piece. If the French aiming device is not available, this exercise is dispensed with.

Third Sighting Exercise :

1. With the rifle in the rifle rest and the sights pointing at a blank paper on a box or on the wall take a prone position with the head in the same place as in firing the rifle and look through the sights. Then by signal or by word, have the disc with the bulls-eye on it moved until the bottom edge of the bulls-eye is in exact alignment with the sights. Then command « Hold » and move away from the rifle and let the man undergoing instruction look through the sights to see what a proper aim looks like.

2. Start over again and let the man under instruction look through the sights and have the disc moved until they are aligned on the bottom of the bulls-eye. The instructor then looks through the sights to see if any error has been made.

3. Have the sights adjusted on the bulls-eye with various *very* slight errors and see if the man under instruction can detect them readily.

Fourth Sighting Exercise :

Using the sighting rest for the rifle, require the man under instruction to direct the marker to move the disc until the sights are aimed at the bottom

edge of the bulls-eye and command « Hold ». The instructor then looks at the aim and after noticing whether the aim is right or wrong, commands « Mark ». The marker, without moving the disc, makes a mark on the paper with a pencil, through the hole in the center of the bulls-eye. Repeat the operation until three marks have been made. The instructor looks at the aim each time, but he does not say anything to the man until all three marks have been made and joined together so as to make a triangle. The faults, if any, are pointed out to the man. The size and shape of the triangle will be discussed and the exercise will be repeated a number of times.

The object of the exercise is to show the man the importance of uniform and correct aiming, and to instill into his mind a sense of exactness. At thirty feet with a small bulls-eye, a man should be able to place all three marks so that they could be covered by the head of an ordinary carpet tack.

This exercise should also be held, near the end of the preliminary training, at 200 yards on an 8-inch movable bulls-eye, and if time permits, at 500 yards on a 20-inch movable bulls-eye. Long range triangle exercises teach the men to aim accurately at a bulls-eye off in the distance where the outlines are indistinct, and if the exercise is properly handled, it helps greatly to sustain interest in the work. At 200 yards a man should be able to make a triangle that can be covered with a silver dollar and at 500 yards a triangle no side of which is over two inches long. The men doing the marking are supplied with tissue paper to copy off each man's triangle and write his name, which is signaled from the firing point, under it. When the marking detachment is changed, these tracings of the triangles are carried back to the firing point so that the men can see what they have done.

With the Model 1917 rifle, the exercises are with the peep sight only; with the Springfield rifle the exercises are with both peep sight and open sight.

THE GUN SLING.

The sling is a big help to everybody in shooting. It helps to keep the rifle steady and to press the butt of the rifle against the right shoulder with the same amount of force for each shot, which is very important. The gun sling takes up much of the recoil.

Each man should have his gun sling adjusted to him by the instructor, and he should be required to leave it with that adjustment. The lower loop can be tightened enough to adjust the sling for drill or parade purposes. In shooting the sling should be as tight as it can be made and still allow the man to get into it.

The left arm is put through the upper loop from right to left and the leather keeper pulled down to hold it above the left elbow. The left hand is moved over the top of the gun sling to grasp the rifle. This causes the sling to lie smoothly along the hand and wrist. The lower loop is not used and should be loose.

The gun sling should be used in all preparatory exercises and at all extended order drills, field exercises and maneuvers.

BREATHING.

The proper breathing is very important and must be practiced at all times during the pointing and aiming and trigger squeeze drill. Draw in an ordinary breath and hold it while aiming and squeezing the trigger. Do not hold the breath with the throat open. Close the throat and let the lung full of air lean against the closed throat.

THE BELGIAN AIMING DEVICE.

This should be used freely in the preparatory position and trigger squeeze exercises, practice with the recording rod and gallery practice, to instruct the men in aiming and to correct errors. It is a great help to the instructor in teaching men to shoot, both in the preliminary work and in range practice.

POSITIONS.

In all the positions the man is half faced to the right.

When any man assumes a normal position for shooting, there is some spot to which the rifle will point naturally. If this spot is not the center of the target, he should shift his whole body so as to bring it there. Otherwise, he will have to pull the sights onto the center of the target for each shot by muscular action, and will be firing each shot under a strain.

Standing Position:

Half faced to the right, feet from one to two feet apart, body erect and well balanced, left elbow pretty well under the rifle, left hand gripping the piece some place along the grooves cut for that purpose on the stock, right elbow at the height of the shoulder, butt of rifle held firmly against the shoulder, right cheek against the stock.

The position with the left hand against or under the trigger guard and left elbow resting on the hip is not a practical game position and should not be used.

It is doubtful whether the gun sling is of any value in the standing position, and it may be dispensed with if desired.

Kneeling Position:

Half faced to the right, kneeling on right knee and sitting on right heel, the left arm resting on the left knee with the point of the elbow beyond the knee cap, left lower leg vertical, right elbow at height of shoulder.

Sitting Position:

About half faced to the right, feet pretty well apart well braced on the heels, which are dug slighty into

the sod. Body leaning rather well forward, with both elbows resting between the knees and well braced.

The sitting position is used when firing from ground that slopes downward to the front and in practicing it the feet should be slightly lower than the ground upon which the firer sits. The cross legged position is of no value on the slope of a hill, and consequently should not be used in target practice.

Prone Position:

In the prone position the elbows should be well under the body so as to raise the chest off the ground. Avoid spreading the elbows apart; it is an unsteady position and leaves the chest so near the ground that the neck has to be strained backward in order to see through the sight. This strained position of the neck interferes with good vision.

The prone position is with the body lying at such an angle that the rifle will point naturally at the target when brought to the shoulder, 45 degrees. The elbows should be well under so as to raise the chest off the ground, and the eye should be as near the cocking piece as possible without taking a strained position. The position of the thumb and finger of the right handto be such as not to hurt the face in fring; with the Springfield rifle the thumb will usually be along the stock, not over it. It should also be noted that with the Model 1917 rifle, the eye should not be as near the cocking piece as with the Springfield rifle.

Men should not be permitted to vary from the set rules as to position and methods of shooting, no matter what their previous experience has been. Some men who have individual peculiarities in position convince themselves that this position is the best for them, but experience shows that a conscientious effort on their part to shoot in the correct position always results in higher scores.

Sand Bag Rest:

It is important to have the sand bag high enough to permit the taking of the normal prone position, which is with the elbows well under, and the chest well off the ground. The natural tendency is to have a low rest and be very flat on the ground, with the elbows spread apart. This is a faulty position and results in lower scores than if no rest at all were used. The sand bag, where properly used, is great help. When it is not properly used it is a handicap. Arrange the sand in the bag in such a way that when you take the normal prone position the bag will support the left forearm and wrist with the left hand resting on the top of the bag, the rifle lying on the band. Make the sand bag fit you in the normal position. Do not alter your position to fit the sand bag.

During the period of preliminary exercises instruction should be given with the sand bag rest in, 1st, Trigger squeeze exercises; 2nd, Practice with the recording rod; 3rd, Gallery practice.

Position in Standing Trench:

This position will vary according to the style of trench and the build of the man. In general it is a good plan to have as many points of support for the body and arms as possible.

In a trench that has no berm for the left elbow, the position is the normal standing position with the left hand against the top of the parapet and the rifle, just beyond the hand, resting on the parapet.

With the berm, the position is about the same except that the left elbow rests on the berm.

When the berm is wide enough, as it often is, both elbows can be rested on it, and the postion of the upper part of the body is about the same as in the prone position with the sand bag rest.

In all positions in a trench, lean well against the butt of the rifle to insure firmnes and steadiness.

POSITION EXERCISES.

Instruction in positions is the second step in the preliminary training. As each step includes everything that has preceded, the exercises in positions include correct sighting and aiming, correct use of the gun sling and correct holding of the breath. The importance of correct position cannot be too strongly emphasized. Men will be carefully watched and coached during these exercises from the very beginning, and they will be drilled so much in the correct positions that they will assume them naturally and feel at ease in them.

There is no set exercise for this instruction. The instructor explains the importance of correct position to the squad, or platoon, and then shows them the correct standing position and requires each man to assume the position, the instructor correcting any errors. The same thing is done in the kneeling, sitting and prone positions, the position with the sand bag rest and the position in a standing trench.

The second phase of training in positions is individual instruction under a coach. The coach has the man assume each of the different positions and aim at a small bulls-eye placed at an appropriate height. The man adjusts the sling, assumes the position, takes up the slack on the trigger, aligns the sights accurately on the bottom edge of the bulls-eye, and holds his breath. The coach watches him on all of these points and corrects any errors. He watches the sights through the Belgian aiming device to see if the man is aiming correctly and he watches the man's back to see if he is holding his breath properly while aiming. He also sees that the man does not cant the piece to either side.

The man is made to understand that taking up the slack on the trigger is a part of the position and aiming exercises, but he is not allowed to squeeze the trigger in these exercises, as that part of his instruction comes later.

TRIGGER SQUEEZE.

The one most important thing in shooting is to squeeze the trigger in such a way as to set off the rifle without spoiling the aim. To do this the trigger must be squeezed so steadily that you will not know just when the rifle will go off. Any man can hold the rifle steady enough, for a long time, to have it make a good shot. The bad shots are all made by spoiling the aim just as the rifle goes off. This is done by *by pulling* on the trigger or flinching, or both. If a man squeezes the trigger so steadily as not to know when it is going off he doesn't spoil his aim and he can't flinch because he doesn't know when to do it.

No good shot *catches* his sight on the mark and then *sets it off* so as to hit the mark. That is what the poor shots do. The good shot holds the sight as nearly on the mark as possible and keeps squeezing on the trigger until it goes off. The good shot is not the man with the *quick eye*. He is the man with the « slow trigger ». This method of squeezing the trigger must be followed out in all preliminary practice or the whole value of the practice is lost.

There are not two correct methods of squeezing the trigger. There is only one, and that is to squeeze it with such a steady increase of pressure as not to know when it is going off. The excellent shots are the ones who, through training, have learned to increase the pressure only when the sights are in absolute alignment with the bulls-eye. When the sights get slightly out of alignment they hold what they have with the finger and only go on with the increase of pressure only when the sights become properly aligned again. They never « give it the rest » or « set it off ».

The difference between bad shots and good shots, good shots and very good shots, and very good shots and excellent shots, is only the difference in

their ability to squeeze the trigger properly. The whole heart and soul, the beginning and end, of target shooting is the trigger squeeze. Any man with any eyesight at all and strength enough to carry himself around can align the sights on the target and hold them there for an appreciable space of time. When he has acquired the will power and self control to forget that there is to be an explosion and a shock, and squezzes on the trigger with a steady increase of pressure until it goes off by itself, be has become a good shot, and not until then.

This applies to rapid fire as well as slow fire. The increase of pressure is faster in rapid fire, but the process is the same.

CALLING THE SHOT.

Always notice exactly where the sights are pointed when the rifle goes off and call out at once where you think the bullet hit. Call your shots even when only snapping at a mark, so as to acquire the habit. It will help you to hold closer. No man can become a good shot until he can call his shot before it is marked.

TRIGGER SQUEEZE EXERCISE.

The third step in the preliminary training, and the most important of all, is the instruction in trigger squeeze.

There is no set exercise for this part of the training. The instruction is individual and each individual undergoing it is very carefully coached everv time he presses the trigger, until he can be classed as « excellent » upon this point.

Men are not allowed to do any trigger squeezing, such as snapping the piece at a mark or simulating fire until they have been thoroughly instructed in trigger squezze ; and then in all drills and field exercises where fire is simulated, they should be cautioned to aim at a definite object and carry out

the correct principles of aiming and squeezing in the trigger, and to « call » each shot. Careless trigger squeezing in field exercises can easily spoil a man's chances of ever becoming a good shot.

The instructor first assembles the squad or platoon, explains the importance of correct trigger squeeze, shows them what the slack is and how to take it up with the finger, and he finds out by questions if the men understand what is meant by « steady increase of pressure », i. e., that the increase is only applied when the aim is correct, but that each time the increase is continued it shall be by a steady pressure and not by a jerk.

The second phase of this exercise is individual instruction under a coach. The man is first taught the trigger squeeze in the prone position with the sand bag rest, because in this position he can hold steadily and has not the temptation to « snap » in the shot at the instant the front sight touches the bulls-eye, as he has in an unsteady position such as standing or kneeling. After he has learned the principles of trigger squeeze with sand bag rest, he is practiced in the other positions but for the first day at least, he is not allowed to practice except in the prone position, first with and then without the sand bag rest.

The coach watches for all the points taken up in previous instruction, in addition to the squeezing of the trigger.

Details of a trigger squeeze exercice :

1. Get *correct* position with rifle pointed at target.
2. Take up the slack.
3. Align aim accurately on bulls-eye.
4. Hold the breath.
5. Press the trigger (*only* when the aim is right and tnem only with a steady pressure).
6. « Call the shot ».

The coach watches the man on each one of these points, and at times he checks up on the aiming with

the Belgian Aiming Device, and on his breathing by watching his back.

A very great deal of trigger squeeze exercise is necessary, but it must be carefully watched and coached and practiced to keep it along the right lines. Trigger squeeze practice that is not along the right lines is worse than none, and the more a man practices the harder it will be to teach him to shoot.

POSITIONS IN RAPID FIRE.

For the Regular Course :

AT 200 YARDS either the sitting or kneeling position is taken upon the appearance of the target. The sitting position is much more steady than the kneeling and is assumed as easily and as rapidly. It should be used by all men.

To assume the sitting position rapidly from standing first sit down and aim at the target to find out where your heels should be and the exact spot upon which to sit. Then mark the places. At the command « ready » stand with your heels in the marks and as the target appears sit down on the spot previously marked, placing the right hand on the ground as you go down to prevent shock.

AT 300 YARDS the prone position is assumed upon the appearance of the target. The prone position can be taken and an aimed shot fired more quickly than any other position. This was proved conclusively by the « Surprise Fire » events at the National Matches of 1913.

The movement is described by the numbers for the purpose of instruction and to show the sequence of movement. After this sequence is learned it should be executed as one motion. With practice men can take the prone position and be aiming at the target in less than two seconds.

The place where the elbows are to rest having been marked, stand about two feet to the rear and a little

to the left of these marks ; the exact place to stand will depend on the size of each man and the angle at which he lies in a prone position. Being at the « ready » sling adjusted, (ONE) throw the right foot well back and stoop down as far as possible, placing the butt of the rifle on the ground four or five inches to the left of the spot where the right elbow is to rest, retaining the grip on the rifle with both hands ; (TWO) place the right elbow on the ground in the spot marked for it ; (THREE) place the left leg beside the right and slide well back lying on the belly ; (FOUR) take the butt of the rifle off the ground and place it against the right shoulder : (FIVE) lower the left elbow to the ground in the spot previously marked for it. This will bring you in your normal position, with the rifle pointing at the target. Care should be taken to place the butt of the rifle on the ground without jar and to place the elbows on the ground in the same way. With practice this position can be assumed very rapidy and whithout shock.

For Special Course « C » :

In this course the firer is already in the firing position and ready to shoot when the target appears. But the ability to go to any position rapidly from standing is very valuable in war, and practice in this should be held even if it is not to be used in the prescribed target course.

RAPID FIRE PRACTICE.

Rapid fire practice is the fourth step in the preliminary training.

It must be impressed on the man undergoing instruction that rapid fire does not mean that accuracy is in any way sacrificed to rapidity. A man never shoots any shots except accurate ones. By training he learns to make this accurate shooting more and more rapid, until he is able to get in ten to fifteen

accurate shots a minute, but this is the limit; he should never attempt to fire more than fifteen shots per minute, and not more than ten until he has had long training on the rifle range, and is a seasoned shot. All the points learned in slow fire are carried out in rapid fire, and it is especially important that he understand that the trigger squeeze is the same as in slow fire. Time is gained by reloading the magazine quickly and without fumbling, by working the bolt rapidly and by keeping the eye on the target while working the bolt.

The man must be constantly watched to keep him from acquiring the habit of looking into the chamber while working the bolt. The man who « chamber gazes » always works the bolt slowly so as to see the cartridge run in, and he also loses time in finding his own target again. He often fires on the wrong target. The application in war is apparent. If he takes his eye off an indistinct target to gaze into the chamber while working the bolt, he might not be able to find his target again.

In the rapid fire exercise the coach watches for all the points, but pays particular attention to the following :

1. Position;
2. Working the bolt rapidly;
3. Keeping the eye on the target while working bolt;
4. Taking up the slack;
5. Trigger squeeze;
6. Reloading magazine from clip without fumbling.

As these things follow each other, he can watch all of them without difficulty.

Rapid fire practice is held in all the positions and a great amount of it is necessary. But it must be carefully coached practice, until the man has demonstrated that he is thoroughly conversant with the principles.

In the prone position, raise the right elbow off the ground in working the bolt, but keep the butt against the shoulder. With the Springfield rifle the bolt may be worked without raising the right elbow, but on the Model 1917 the stock is too long to do this with any rapidity.

Don't try to hold the breath for all ten shots; take a short breath ofter each shot.

Dummy cartridges should be used. When enough are not available loading can be simulated, but with the Model 1917 rifle the floor plate and follower must be removed to permit the working of the bolt.

Aiming bulls-eye or miniature figures placed at the proper height, should always be used. If possible, rapid fire exercises should also be held on full-sized targets, placed at the distances at which the rapid fire on the range will take place. This would be 200, 300 and 500 yards if the regular course is to be fired, and 100, 200 and 300 yards if Special Course « C » is to be used.

Each exercise begins with the command « Commence Firing » and ends with the command « Cease Firing, » except when some arrangement has been made so that the target appears for the allotted time and then disappears. The coach, or someone assisting him should call off the seconds at first, i. e., « Five » « Ten, » « Fifteen, » etc., so as to get the element of time fixed in the man's mind.

Be sure and get into the right position before starting to shoot, and always fire the first shot very carefully.

CHANGING THE SIGHT.

With Springfield Rifle :

Demonstrate to each man that moving the rear sight in any direction has the effect of making the barrel point more in that direction. Have full-sized 200, 300, 500 and 600-yard slow fire targets, marked off with elevation and windage lines to correspond to the lines in the score book targets, and paste them up

in or near barracks, at the beginning of the preliminary period.

1st. Explain these targets to the man and show him why the lines are at different distances apart for each range.

2nd. Indicate the position of a shot on the target and have him correct his sight to bring the shot to the center of the bulls-eye.

3rd. Repeat this exercise with the man standing far enough away from the target so that he cannot see the lines, requiring him to plot the shot in the score book and to get his sight changes from that. Then let him come up to the target to see for himself whether he has plotted his shots accurately.

4 th. Consider that the sights of his rifle are not normal, set his sights away from zero both as to windage and elevation and repeat the exercises.

5th. Have the same exercises on Rapid Fire targets to teach him how to change his windage and holding place. These drills should be frequent and the test of each man should be thorough.

Wind Gauge :

One point of windage will move a shot four inches for each 100 yards the rifle is distant from the target. The bullet will move the same way as the rear sight. If you want to make the bullet hit more to the left, move the rear sight to the left. If you want it to hit more to the right, move the sight to the right.

With Model 1917 Rifle :

This rifle has no wind gauge, so the above instructions have no bearing in so far as they refer to windage.

This instruction with the Model 1917 rifle is similar however, but instead of showing how much to move the wind gauge, the man will be shown how far to « hold off » to correct the error. He is also shown

how far off the line of aim the wind will blow the bullet at 200, 300, 500, 600 and 1,000 yards, when blowing at right angles to the line of fire and when blowing at an angle of 45° to the line of fire, at five, ten and twenty miles per hour, respectively. This will be shown by means of a chart drawn on the full sized target for each range.

EFFECTS OF WEATHER CONDITIONS.

The weather conditions except wind have very little effect on the bullet back to 600 yards. But beyond 600 yards it is very important to know what effect is produced by the different conditions and to be able to allow for them.

Wind :

The wind blows the bullet out of its path. The distance it will be blown from its path depends on the force and direction of the wind. (See charts in score book.)

Temperature of the Air :

Warm air is not as dense as cold air, it does not stop a bullet as much as cold air. So a bullet will go straighter on a warm day. This makes it hit higher than it does on a colder day. Moist air does not stop a bullet as much as dry air. A bullet will go straighter on a wet day than on a dry and will hit the target higher.

Light :

Light has no effect on the bullet but it does affect the aiming. With the peep sight, a bright light makes the bulls-eye look so distinct that a man can hold very close and still see it all very easily. On a dull day the bulls-eye is not so distinct and the front sight has to be held a little lower down in order to see all the bulls-eye plainly. This will make the bullet go lower down. A man usually shoots lower on a

dull day than he does on a bright day when he uses the peep sight.

With the open sight a man usually shoots higher on a dull day because he can't see his rear sight notch so clearly and he sticks the front sight higher up than he thinks.

The errors due to the change of light are greater with the open sight than with the peep sight. Very often sunlight coming from the right will make you shoot a little to the left because you see the right side of the front sight more clearly and hold that part of it under the bulls-eye. Sunlight from the left makes you shoot to the right.

Mirage :

The heat waves seen near the ground on a target range are called « Mirage ». These waves indicate which way the wind is blowing and must be watched carefully. Sometimes there is no wind at all on the firing point, but quite a breeze further down the range. The heat waves will indicate which way it is blowing and how fast. The mirage waves lead the way the wind is blowing.

RECORDING ROD.

Practice with the Recording Rod is a great help and costs practically nothing. With it men can be taught the correct position, and how to aim and squeze the trigger. It should be used freely and in conjunction with the Belgian sighting device, so that the instructor can correct at the very first any errors in sighting or trigger squeezing.

Practice should be had with it in rapid as well as slow fire, and with the sandbag rest. Men should be required to call their shots.

GALLERY PRACTICE.

The cost of ammunition for gallery practice is very small and if properly conducted a great deal can be

learned through it. Each man should be watched and coached as carefully in gallery practice as in range practice. The aiming device should be freely used so as to correct errors at the very beginning. Marksmen and Sharpshooters whose preliminary range practice is limited by regulations should be given a great deal of gallery practice.

Practice should be had in slow and rapid fire and with the sandbag rest.

Men should be required to call their shots.

The « X » target and the iron target supplied by the Ordnance Department are too large and tend to give a man a false idea of his shooting ability. The « Y » target will do very well for all ranges.

It is best to use paper targets, ten shots to each target, and to keep a file of each man's targets, with his name, date, range and position written on each. In this way each man will see when his target is brought to the firing point just what he has done, and the instructor can point out his errors to him. The instructor can tell by looking through a man's file of targets what progress he has made and in what kinds of fire he needs the most instruction. A plate for printing « Y » targets can be purchased at a small cost and the post printer can print several thousand of them for very little. Small Rapid Fire Targets should be obtained in the same way. A small target range with pit and revolving targets help to add interest to gallery practice, and it facilitates the work. The target frames can be on each end of a light piece of board which revolves on a pivot in the middle, at right angles to the line of fire.

It is best to begin gallery practice in the prone position with sandbag rest. This will help to keep the man from getting into bad trigger squeeze habits at the very start.

Gallery rifles should be cleaned every ten rounds. The cartridge holders should be cleaned frequently with a solution of sal soda and during the gallery

season they should be kept in kerosene when not in use.

Gallery practice is of no value if the rifles are not accurate. If the mouth of the cartridge holder is dented the shot will go wild. This must be constantly watched and dented cartridge holders repaired or discarded. To avoid injuring the holders always use the rifle as a single loader and push the holder into the chamber with the hand, not with the bolt. In rapid fire practice have some one sit beside the man firing and load in a holder each time the bolt is pulled back. To compensate for the loss of time in doing this allow about five seconds more on the time.

Competitions between individuals, squads, platoons and companies should be held.

SCORE BOOK.

Each man should be required to keep an accurate record of each shot fired on the range and a score book for that purpose should be issued to him at the beginning of the preparatory season. The wind chart should be explained to him and he should be shown how the correct elevation and windage to bring his shots to the center of the target. He should be given windage and elevation correction drills as laid down above.

ESTIMATING DISTANCE DRILLS.

(See Small Arms Firing Manual, Chap. V.)

QUALIFICATION COURSE.

Each man should know before going on the range how many shots he has to fire in the qualification course in slow and rapid fire at each range, how much he will have to make to qualify and what he will have to average at each range.

HABITS.

Alcohol and tobacco affect both the eyes and the nerves in direct proportion to the amount used. A smoker will find that he has much clearer vision on quitting tobacco. It is best to stop entirely the use of both alcohol and tobacco at least a month before going on the range. But it will be a help to quit at any time during the target season.

FINAL WORD ON PRELIMINARY TRAINING.

This training is primarily to teach each man the exact way of doing each of the things that are necessary for good shooting. But merely knowing them is not enough. Any man of ordinary intelligence can learn all of them in an hour or two. But would he think of them all when shooting a loaded rifle or when in battle? He would not. Consequently he must be drilled in these things so much that he will do them without thinking, automatically. This takes a great amount of practice. The necessity for having this practice along absolutely correct lines is apparent.

All practice should be coached. But this does not mean that six or seven men will be standing around doing nothing while waiting their turn with the coach. Organize the work so as to keep every man busy during the whole drill period. No two men need be idle. They can take turn at coaching each other on some exercise that they have already had. Keep them *busy* and *interested*.

EXAMINATION OF MEN BEFORE STARTING RANGE PRACTICE.

(Note : The answers given herein are merely examples. Men should be required to explain them in their own words.)

Q. What is this? (Drawing a circle on the ground or on paper.)

A. A circle.

Q. Where is the center of it? A. Here. (Pointing to center.)

Q. Suppose that circle to represent a peep sight which you are looking through, and you are told to bring the top of the front sight to the center of it, where would the top of the front sight be? A. Here (Pointing to center.)

Q. Make a mark in the circle to represent the front sight.

Q. Make a small circle to represent the bulls-eye.

Q. Is it in the center of the peep sight? A. No, the bottom edge of it is in the center.

Q. Why? A. Because the top of the front sight is in the center and it just touches the bottom edge of the bulls-eye.

Q. Should the front sight be held up into the bottom of the bullseye? A. No, it just touches the bottom edge of the bulls-eye so that all of the bulls-eye can still be clearly seen.

Q. What is this? (Indicating sighting bar.) A. Sighting bar.

Q. What is it for? A. To teach men how to sight.

Q. Why is it better than a rifle for the purpose?

A. Because the sights on it are much larger and slight errors can be more easily seen and pointed out.

Q. What does this represent? A. The front sight.

Q. And this? A. The rear sight.

Q. What is this? A. The eye piece.

Q. What is it for? A. To make a man hold his head in the right place, so that he sees the sights properly aligned.

Q. Is there an eye piece on a rifle? A. No, a man learns by the sighting bar how the sights look when properly aligned and he must hold his head so as to see the sights the same way when aiming a rifle.

Q. Tell me what is wrong with these sights.

(The instructor now adjusts the sights of the bar with various slight errors, first with sights pointing at a blank wall or paper to show the correct and incorrect adjustments of the sights and then with the sights properly adjusted, he sights on a small bulls-eye to demonstrate correct and incorrect aiming; require the man to point out any errors. This is done with both the open and peep sights.)

Q. What is the difference between the way you aim with peep sight and the way you aim with the open sight?

A. There is no difference. In both, the top of the front sight is brought to the center of the circle. With the open sight the top half of the circle is not there; just as if it had been cut off and carried away.

Q. Now take this sighting bar and point it at that blank paper and adjust the sights properly. (Verified by the instructor.)

Q. Now that the sights are all right, have the small bulls-eye moved until the sights are properly aimed at it. (It is easier to move the small bulls-eye on a disk to the proper place than to try to adjust the sights on a fixed bulls-eye.)

Q. How do you squeeze the trigger? A. I squeeze it with such a steady increase of pressure as not to know just when the rifle will go off.

Q. What do you know while you are squeezing the trigger? A. I know that my sights are lined upon the bulls-eye.

Q. If the sights get slightly out of alignment what do you do? A. I hold the pressure I have on the trigger and only go on with the increase of pressure when the sights become lined up with the bulls-eye again.

Q. If you do this can your shot be a bad one? A. No.

Q. Why? A. Because I can't flinch, for I don't know when to flinch and the sights will always be lined up with the bulls-eye when the rifle goes off,

because I never increase the pressure on the trigger, except when they are properly lined up.

Q. Is it necessary to take a long time to press the trigger in this way? A. No, I press it in the same way in rapid fire. The increase of pressure is faster, but it is so steady that I do not know just when the rifle is going off.

Q. What is this? A. A sighting device.

Q. What is it used for? A. To show the instructor how a man is aiming.

Q. Now I will take this rifle, and with the aid of the sandbag rest to hold the rifle steady, I will aim at the bulls-eye and you will watch the sights through the aiming device and tell me when my aim is right and when it is wrong, and what the error is when wrong. (The instructor now aims so as to illustrate the common faults and the man must observe and call attention to them.)

Q. I will now snap at a bulls-eye a few times and you will watch through the sighting device and call where the shots would have hit.

Q. Now take this rifle and, using the sandbag rest, aim at the bulls-eye, and I will watch you through the device. (Instructor satisfies himself that the man understands sighting and aiming and requires him to snap a few times and to call his shots.)

Q. I will take the rifle and assume the kneeling, sitting and prone positions, and position with sandbag rest, and you will tell me whether the position is correct or incorrect in each case. (Gun sling is adjusted in all these tests.)

Q. Take this rifle and show me your kneeling, sitting and prone positions, and position with sandbag rest.

Q. Now show me how you take the sitting and prone positions rapidly from a standing position.

Q. In rapid fire how do you gain time so as not to have to hurry aiming and squeezing the trigger? A. I gain time by taking the position rapidly, working the bolt rapidly and by keeping my eye on the target while working the bolt.

Q. How does keeping your eye on the target help you to gain time? A. A man who looks into the chamber while working the bolt always works it slowly so as to see the cartridges run in, and he loses time in finding his own target again.

Q. What other fault, in rapid fire, comes from looking into the chamber while working the bolt? A. Firing on the wrong target.

Q. Show me how you work the bolt in rapid fire, prone, sitting and kneeling. A. —

Q. Now show me how you load a clip of service ammunition into the magazine. A. —

Q. Is it important to get into the correct position before beginning to shoot in rapid fire? A. Yes, even though it takes more time, I should always get into the correct position before beginning to shoot.

Q. How do you breathe while aiming? A. After I get my sights lined up on the bulls-eye I draw in an ordinary breath and hold it while aiming and squeezing the trigger.

Q. Take the prone position and aim and snap at that mark. (Instructor must assure himself that the man knows how to properly hold his breath while aming. Many men have great difficulty learning to do this in the right way.)

Q. What is meant by « calling the shot »? A. To say where you think the bullet hit as soon as you shoot and before the shot is marked.

Q. How can you do this? A. By noticing exactly where the sights point when the rifle goes off.

Q. If a man can't call his shot properly what does it usually indicate? A. That he did not squeeze the trigger properly and did not know where the sights pointed at the time the rifle went off.

Q. What is this? A. A score book.

Q. What are theses lines for? A. To show the

amount of change in elevation necessary to bring a shot to the middle of the line.

Q. What are these lines for? A. To show the amount of change in windage necessary to bring the shot to the middle line.

Q. If a shot hits here (indicating) what change in your sights would you make to bring the next shot to the center of the bulls-eye? A. —

Q. What effect does moving your rear sight have on the shot? A. It moves it in the same direction as the rear sight moves.

Q. If you want to make the shot hit higher, what do you do? A. I raise my rear sight.

Q. If you want to make your shots hit more to the right, what do you do? A. I move my rear sight to the right.

Q. If you move your rear sight one point of windage, how much will it move your hitting place? A. Four inches for each hundred yards of range.

Q. Explain what you mean by that. A. ——

Q. I will place this spotter on this target (full size 500-yard target) to represent a shot properly fired by you at 500 yards with zero windage and sights set at 500 yards. Take your rifle and move your sights to bring the next shot to the center of the bulls-eye. (Instructor now tests in various ways the man's ability to make proper sight corrections).

Q. What are the three principal uses of the score book? A. To show me where my shot group is going, to indicate how much change in the sights is necessary to move a shot or group of shots to the center of the target, and to make a record of the sight settings of my rifle for the different ranges under various weather conditions, so that I will know where to set my sight when starting in to shoot at each range, and under different weather conditions.

Q. Tell me what effect different light and weather conditions have on a man's shooting. A. ——

RANGE PRACTICE

If a man has been properly instructed and drilled in the preparatory exercises, pratically all of the period of range practice can be devoted to teaching him to squeeze the trigger properly. He must be carefully watched, however during each shot to see that he does not develop bad habits as to position, breathing, aiming or trigger squeezing.

Pads.

Men are required to wear pads on the shoulder for the first three or four days at least. A pad can easily be improvised by putting a pair of woolen gloves under the blouse so as to protect the shoulder.

Grease on Bullets.

The use of grease on bullets saves the rifle, prevents metal fouling and makes the rifle very easy to clean. The whole bullet, down to the brass. should be greased, but grease should not be on the shell itself. A good grade of automobile cup grease will serve the purpose. The best way to grease the bullet is to stick it into the grease until the edge of the shell is level with the surface of the grease, turn the shell around in the fingers and lift it out as you turn.

If grease is used at all, it should be used throughout the whole practice. Care must be taken not to get any dirt on the greased bullets, as this will injure the rifle.

COACHING.

Each man on the firing line must have a coach beside him to watch him and to help him correct errors.

As each man comes to the firing line, the coach watches him get into position and sees that the position is correct, with the body at the right angle and elbows properly placed.

He next gets down beside the man and sees if his sights are properly set. He sees if the ammunition is properly greased (if used) and free from dirt. He then watches the man load the magazine from a clip to see if he does it properly. He then watches the man's finger to see that he takes up the « slack » as soon as the rifle points at the target.

When the slack is taken up, the coach shifts his gaze to the man's eye to see if he flinches. As soon as the shot is fired; the coach says, « Call your shot. »

Watching the Eye:

Errors in trigger squeeze, which are the most serious and the hardest to correct, can be detected by watching the man's eye. If his eye can be seen to close as the rifle goes off, it is because he knew when it was going off and consequently was not squeezing the trigger properly. The explosion and the shock willl cause a man to wink, but this cannot be seen, due to the sudden movement of the head that takes place at the same time. If he can be seen to wink, it is because he winked first and « set it off » afterward.

If the man is not shooting well, the fault should be found at once and corrected.

If he is flinching, there are three or four ways of helping him to stop it. Load in dummy cartridges so that ne does not know they are dummy, or lock the piece without his seeing it, or make him turn his head away while the bolt is shoyed home, so that he doesn't know whether it is loaded or not. Then when he shuts his eye and flinches and the rifle doesn't go off, it brings home to him what his fault is, namely, that he is flinching before he shoots, not after.

Another good way to show him the importance of squeezing the trigger so as not to know when the rifle will go off, is to have him aim and let the coach press the trigger when he sees, by watching the man's back, that he is aiming. Another way is to have the coach watch the man's aim through the aiming device and press the trigger when he sees that the aim is correct.

If the man is not shooting well, but appears not to be flinching, the coach will watch his back to see if he is holding his breath properly, and he will watch through the Belgian aiming device to see if the fault is in his manner of aiming. It is sometimes necessary in bad cases to have four coaches watch a man fire a shot. One observes his aiming through the aiming device, one watches his eye to see if he flinches, one watches his back to see if he is breathing or holding his breath while aiming, and the fourth stands behind him to correct him if he cants the rifle.

Great patience should be exercised by the instructor so as not to excite or confuse the man and everything should be done to encourage him. It is often a good plan to change instructors. It is necessary to do so when the instructor shows signs of reaching the limit of his patience.

One thing should be borne in mind : There is no such thing as a hopeless case. No matter how many target seasons a man has been through without learning to shoot, no matter how many bad shooting habits he has, no matter how hopeless he seems at first he can be taught to shoot.

It is often advisable to send a man back to gallery practice and preliminary drills after he has been firing for a while on the range. It will help to steady him down.

When a man is flinching and does not realize it, dummy cartridges used in such a way that he does not know whether the rifle is loaded or not are useful in bringing it home to him. But once he realizes

he is flinching the cure rests in careful coaching rather than the indiscriminate use of dummy cartridges.

THE SILENCER.

The silencer is used with recruits, and sometimes bad flinches can be cured by its use, as it reduces the shock as well as the noise.

CHANGING THE SIGHT.

With Springfield Rifle.

Always hold the same way on the bulls-eye. Never try to make a bullet hit close to the bulls-eye by changing the aiming point. When you want to change the hitting place of the bullet do so by changing your rear sight. But always aim at the bottom edge of the bulls-eye for all shots. In rapid fire with the battle sight you may have to hold higher or lower because you cannot change the sight. But in all slow fire shooting aim always at the bottom edge of the bulls-eye.

With the Model 1917 Rifle :

Changes in *elevation* with the Model 1917 rifle are made as stated above, but as this rifle has no wind gauge, lateral deviations, shots hitting to either side must be corrected by « holding off » so as to make these shots hit in the bulls-eye.

RAPID FIRE.

Use of Dummy Cartridges in Rapid Fire :

The most valuable practice in rapid fire is to mix dummies and loaded cartridges equally in two clips, in such a way that the man will not know which are loaded and which are dummy. He then fires a score with these two clips and the coach can see whether the man is flinching or not. When the man fires a dummy that he thinks is loaded and flinches on it, the fact of his flinching is brought home to him and

this helps to steady him down to correct trigger squeeze. As the dummies can be used over and over, the practice saves ammunition and is of more value than if fully loaded clips were used.

To make dummies for this practice, bore a small hole in the cartridge near the head, dump out the powder and snap the cap. A hand operated drill, 3/8 inch in size, and a wooden vise are all the tools that are necessary. Five or six of these dummies for each firing point should do for a whole season.

Coaching in Rapid Fire :

The coach watches the man for the following points :

That he gets the correct position ;
That he takes up the slack promptly ;
That he does not flinch (by watching his eye);
That he keeps his eye on the target while working the bolt ;
That he works the bolt rapidly ;
That he reloads the magazine from a clip quickly and properly.

Spotters in Rapid Fire :

Use spotters in rapid fire. When a man's target comes up to be marked, with a spotter in each shot hole he immediately gets a picture of what he has done. It is very important that this be carried out. The Ordnance Department does not supply enough spotters for this purpose, but any company commander can easily have two or three hundred of them made out of ordinary cardboard and ordinary baling wire. They should be painted red or black on one side and white on the other.

FINAL INSTRUCTIONS.

For Slow Fire at Each Range :

The following should be read to the men just before going to the firing point for record practice :

Clean oil out of rifle.

See that the screws in your rifle are tight.

Blacken sights.

Know what target you are going to shoot on and look at that number before each shot.

Take your score book to the firing point and get your elevations from it for the first shot.

Fire your first shot very carefully and then, if necessary, change the sights to bring the second shot into the bulls-eye.

Plot all your shots in the score book. Watch score book to see where your group is going. Try to bring the center of the group in to the center of the bulls-eye. Don't change your sights without thinking it over. If you have made two or three good shots and then make a bad one, don't change your sights on account of the bad one, because it is almost certain that you pulled it wrong.

Don't change your windage until you have looked at your score book to find out how much of a change you need then look at your wind gauge to see how much you have before you start to make a change.

The first thing to do when you get a bad shot is to look at your sight to see if it has jumped sideways or has been jarred down.

Be sure you get a good, comfortable position before you begin to shoot, and don't shift around during the score, especially if you are doing good shooting.

When sandbag is used, be sure to get it *absolutely* right before you start to shoot. Then don't lose the position by moving around between shots unless it is necessary to get a more comfortable position.

Finally :

Fire each shot as if your whole qualification depended on that one shot, because when you get through you may find that it did.

Hold hard and squeeze carefully. That is all there is to good shooting : To hold hard and squeeze carefully.

For Rapid Fire :

As soon as you get on the firing line pick out the place from which you are going to shoot and practice getting down into it two or three times, so as to be sure it is all right and so as to know just where to stand when the command « ready » is given.

Pick out your own target by number before starting to shoot and then keep your eye on it for all five shots.

Don't look into the chamber while loading each cartridge. Do the same with the second five shots.

Gain time in working the bolt so as to have plenty of time to aim.

Fire your first shot carefully and make it a good one.

Finally :

Hold hard and squeeze carefully. The whole secret of rapid fire shooting is to HOLD HARD AND SQUEEZE CAREFULLY.

APPENDIX

SCHEDULE OF INSTRUCTION FOR WEEK OF INTENSIVE TRAINING IN PRELIMINARY RIFLE PRACTICE

(See Notes at end.)

Monday :

Lecture to assembled regiment . . . . . 7 : 00 a. m.-8 : 00 a. m.

First, second and third Sighting Exercises, I. I. R. P. . . . . 8 : 00 a. m.-11 : 30 a. m.

Fourth Sighting Exercise, I. I. R. P. and continuation of morning work . . . . . 1 : 00 p. m.- 4: 00 p. m.

Tuesday :

Lecture to assembled regiment. . . . . 7 : 00 a. m.-8 : 00 a. m.

Position and aiming exercise in prone position, with and without sandbag rest, using Belgian Aiming Device. This exercice includes instruction in the use of gun sling and sandbag, angle of body, position of elbows and correct method of holding breath . . . . . 8 : 00 a. m.-11 : 30 a. m.

Continuation of morning work and exercises held on Monday, and, in addition, instruction in standing, kneeling, sitting position and position in a standing trench . . . . . 1 : 00 p. m.-4 : 00 p. m.

Wednesday :

Lecture to assembled regiment. . . . . 7 : 00 a. m.-8 : 00 a. m.

Trigger squeeze exercises in prone position, with sandbag rest. This exercise includes everything that has preceded, combined with trigger squeeze. There are six (6) things to do in trigger squeeze exercises : 1. Get correct position, 2. Take up slack; 3. Align aim accurately on bulls-eye ; 4. Hold the breath; 5. Squeeze trigger steadily until rifle goes off ; 6. « Call the shot » . . . . . 8 : 00 a. m.-11 : 30 a. m.

Continuation of morning exercise . . . . . 1 : 00 p. m.-4 : 00 p. m.

Thursday :

Lecture to assembled regiment. . . . . 7 : 00 a. m.-8 : 00 a. m.

Rapid fire exercise with dummy cartridges, and when enough dummies are not available, with magazine, floor plate and follower removed. This exercise includes everything in the trigger squeeze exercise, combined with rapid and accurate loading of magazine from clip and rapid working of the bolt while keeping eye on target. DON'T let man « chamber gaze ». . . . . 8 : 00 a. m.-11 : 30 a. m.

Continuation of morning exercise and training in taking prone position rapidly . . . . . 1 : 00 p. m.-4 : 00 p. m.

Friday :

Continuation of Thursday's work. Final examination of each man by an officer. See I. I. R. P. Instruction of all backward men . . . . 7 : 00 a. m.-11 : 30 a. m.

Same as in morning — and long range triangle work if weather permits. . . . . 1 : 00 p. m.-4 : 00 p. m.

Saturday :

Continuation of Friday work.....
..... 7 : 00 a. m.- 11 : 30 a. m,

Notes:

1. Officers and non-commissioned officers must acquaint themselves at once with the contents of « Individual Instruction in Rifle Pratice » and apply the methods prescribed therein. The study of this book by the men will be continuous throughout the week and each man will be tested as to his knowledge of it.

2. No man will go through any of the exercises prescribed for this week's work without being coached. No two men, however, need be idle ; one can act as coach for the other. If he doesn't know anything , acting as coach will help him to learn.

3. When work is indoors all day, the last hour, from 3 : 00 to 4 : 00 p. m., will be given up to a practice march under arms.

4. Talks to officers in the evening on points noticed during the day, when notified.

5. Lecture to officers and non-commissioned officers on range pratice the day before going on the range.

6. If range firing is delayed after completing this schedule and there is opportunity for further preliminary work, a good part of this additional preliminary work should be long range triangle execices and rapid fire practice at the regulation targets placed ad the prescribed distances for rapid fire.

7. When recording rods or gallery rifles are available, the additional time if any will be spent in this kind of practice.

FORM USED TO SHOW THE STATE OF INSTRUCTION OF EACH MAN.

NAMES →					
Definitions					
Nomenclature					
Care of Rifle					
Sighting Bar					
Sighting with Rifle					
Trigger Squeeze					
Use of Gun Sling					
Position					
Calling Shots					
Breathing					
Taking R. F. Position					
Loading for Rapid Fire					
Sight Changes					
Effect of Light and Weather					
Recording Rod					
Gallery					
Use of Score Books					
Estimating Distance					
Pads					

Method of Marking

"Fair"
Good"

"Very Good
Excellent"

"Perfect