

SMALL ARMS TRAINING

THEORY OF RIFLE FIRE.

(Unless otherwise stated the information given is for a long rifle cartridge and a .22 B.S.A. Rifle).

The cartridge used in .22 rifles has a case made of brass. This case has a rim at the base by which the cartridge is positioned in the chamber and extracted by the extractor. The propellant charge consists of smokeless powder. The charge is ignited by a non-corrosive non-mercuric primer which is forced into the recess of the rim of the case and ignited when the firing pin strikes the cartridge case and crushes the primer. When the charge is ignited, its expansion causes the walls of the case to expand, thus sealing the chamber.

The bullet is pointed, made of lead, and weighs 40 grains. The advantage of the elongated bullet is that it has greater weight in proportion to the surface directly opposed to the air and is, therefore, better able to overcome the resistance of the air. Retardation of its velocity is lessened, and greater range and striking power are obtained.

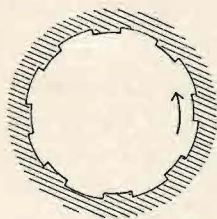


Fig. 1.

The barrel of the rifle is rifled,— spiral grooves (Fig. 1) cut down the bore.

When a rifle is fired, certain factors at once begin to act on the bullet:

Before the bullet leaves the rifle.

(a) *Force of the explosion.* When a cartridge is fired, the gasses formed by the burning of the charge push the

bullet forward through the bore to the muzzle and out into the air, with a muzzle velocity of 1,100 feet per second.

(b) *Rifling*. The grooves along the barrel produce a spinning motion in the bullet. This tends to keep the nose foremost and to ensure steadiness in flight. It enables an elongated bullet to be used and results in greater accuracy and velocity.

(c) *Movement due to recoil*. The force of the explosion and the bullet forcing its way through the barrel set up a vibratory motion. If a rifle barrel is rested or supported other than by using the hand guard, the vibration may be changed. If so, the rifle will not shoot the same for successive shots.

NOTE: Erratic shooting may be caused by an oily barrel or cartridge.

After the bullet leaves the barrel.

(a) *Resistance of the air*. This causes the velocity of the bullet to decrease rapidly.

(b) *Gravity*. This acts on the bullet immediately it leaves the muzzle, drawing it downward with increasing speed.

These two factors cause the bullet to travel in a curved path, the fall of the bullet becoming steeper as the range increases. If a piece of ground were perfectly level and horizontal and a bullet from a rifle were fired parallel and even with a table and a ball rolled off the edge of the table at the same time, both would reach the ground at the same time, the ball by the table and the bullet a considerable distance from it. The distance would be de-

termined by the height of the table, the velocity of the bullet and the area of that part of the bullet opposed to the air. The time of flight would be determined by the height of the table.

After 25 yards a bullet will have dropped approximately .475 inches; 50 yards—2.70 in.; 100 yards—13.25 in.; 200 yards—66.37 inches.

(c) *Wind*. A head wind retards the bullet and more elevation is required. A tail wind produces the opposite effect. A side wind may, at 50 yards, blow a bullet up to 3 inches sideways, at 100 yards up to 8 inches, at 200 yards up to 36 inches.

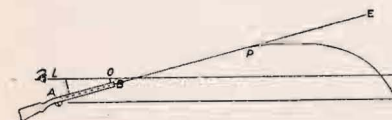


Fig. 2.

1. The axis of the barrel (AB) is an imaginary line following the centre of the bore from breech to muzzle.

2. The line of departure (BE) is the direction which the bullet takes immediately on leaving the muzzle. It is a continuation of the axis of the barrel.

3. The line of fire (BS) (not drawn) is the direction of the target from the muzzle.

4. The line of sight (LOS) is a straight line from the firer's eye, through the sights to the point aimed at.

5. The trajectory (BPH) is the curved path taken by a bullet in its flight.

6. The culminating point (P) is the greatest height above the line of sight to which the bullet rises in its flight. This occurs a little beyond half the distance which the bullet travels.

7. Ricochets are bullets which rebound and continue their flight after striking the ground or any other object.

8. *Elevation.* In order to allow for the fall of the bullet, it is necessary to direct the line of departure as much above the object to be hit as the bullet will fall during the time it takes it to reach the target. This is called giving elevation. Sights are provided so the firer may give the necessary elevation. (See Aiming Instructions.)

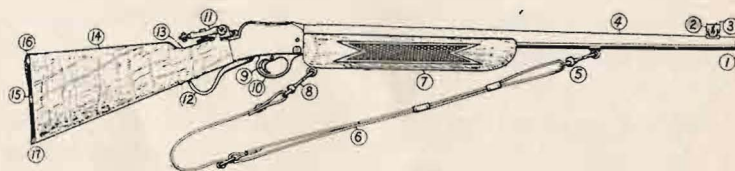


Fig. 3.

Parts of the rifle.

- | | |
|-----------------------|-------------------|
| 1. Muzzle | 10. Trigger guard |
| 2. Front sight | 11. Rear sight |
| 3. Fore sight lever | 12. Lever |
| 4. Barrel | 13. Small of butt |
| 5. Front sling swivel | 14. Butt |
| 6. Sling | 15. Butt plate |
| 7. Hand guard | 16. Heel of butt |
| 8. Rear sling swivel | 17. Toe of butt |
| 9. Trigger | |

Description.

The rifle issued to Cadets for shooting is the B.S.A. No. 8. It is a single shot rifle (no magazine) and weighs 8 lbs. There is no safety catch and once the rifle is loaded it must be kept pointed towards the butts. The

forefinger must not touch the trigger until the firer is in the aiming position and ready to fire. The main parts of the rifle are shown in the diagram above.

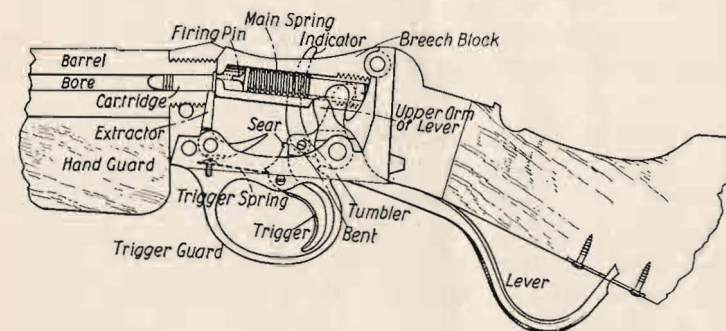


Fig. 4.

Mechanism.

Consider that the rifle has been loaded and fired. When the lever is pulled down the upper arm of the lever moves to the rear in line with a slot in the breech block. This movement of the lever forces the upper arm of the tumbler to the rear, and this arm in a slot in the firing pin forces it to the rear, compresses still further the main spring and because of its leverage action transmitted to the breech block cause the front end of the breech block to be lowered. At this stage the upper arm of the lever is in the slot in the breech block. The front end of the breech block strikes the lower arm of the extractor and forcing it downward causes the upper arm to move to the rear extracting and ejecting the cartridge case. At this point the bent on the tumbler has become engaged with the sear of the trigger. By this engagement the tumbler is held with its upper arm to the rear. This in turn holds the firing pin to the rear. The indicator which is attached

to the forward end of the tumbler is held in the upper position and so projects above the breech block when it is closed.

When the lever is closed, the upper arm moves forward and forces the breech block upward. When the lever is fully closed the upper arm locks the breech block from opening.

When the trigger is pressed, the bent is released from the sear. The tumbler is allowed to rotate downward and forward. This allows the main spring to drive the firing pin forward. The firing pin strikes the rim of the cartridge, causing the ignition of the charge. At the same time the indicator is lowered showing the rifle is not cocked.

Cleaning.

The ammunition supplied by the Department of National Defence for .22 rifles leaves a deposit in the bore which protects it and prevents rust. This deposit should not be removed by cleaning or oiling the bore except for inspection or storage. After such an inspection, the bore should be oiled until the rifle is again required for shooting, when it should be dried. If it should become necessary to clean the bore, proceed as follows:

- (1) Clean with dry flannelette—1¼" x 2".
- (2) Pour four pints of clean boiling water through the bore from breech to muzzle. Use a special funnel to keep the mechanism dry.
- (3) Dry the bore immediately with flannelette until the patches come out clean.
- (4) Oil the bore with a flannelette patch 7/8" x 2".

If a cleaning rod is used with a jag or a brush, clean

from the muzzle with the breech closed. If not, the jag or brush may be pushed up the groove on the top of the breech block and bent or broken.

Saftipaste may be used instead of oil when cleaning and oiling the bore. Occasionally it may be necessary to use a bristle brush to remove lead. When so used the brush should be oiled.

If the ammunition used is not as described above the following procedure should be followed immediately firing has been completed.

1. Clean with patches until the last comes out clean.
2. Oil as above or use saftipaste.

NOTES: 1. Make sure that the rod, jag, brush, etc., are free from grit and dust and not bent.

2. If a rifle has been oiled or softipaste used, dry the barrel before firing it.

Loading and unloading.

1. *Loading.* Hold the rifle with the left hand by the hand guard. With the right hand pull down the lever which is on the under side of the rifle to the rear of the trigger guard. Pick up a cartridge with the right hand, slide it down the cartridge groove on the top of the breech block and with the thumb push it fully forward into the chamber. Pull up the lever and make sure it is fully closed. If it is not, a misfire may occur.

2. *Unloading.* When the lever is pulled down the forward end of the breech block is lowered. Just before its motion is completed it strikes the lower arm of the extractor. This causes the upper arm to extract the cartridge and eject it. Unless the lever is vigorously lowered to its full extent, extraction and ejection will not take place.

3. *Care.* (a) Opening and closing the lever and then pressing the trigger of an unloaded rim fire rifle should never be permitted. Such practice will result in the firing pin damaging the chamber mouth and so destroying the rim support that is so necessary in a rimfire rifle, if the primer is to be properly crushed when the rifle is fired.

(b) When it is necessary to close the breech block at the conclusion of firing, the lever should be held down, the trigger pressed and held while the lever is then carefully closed. The trigger should not be released until the lever is fully closed.

Sight setting.

Rifles are equipped with adjustable sights, so accurate shooting may take place at various ranges and under different conditions of wind, light, etc.

Elevation.

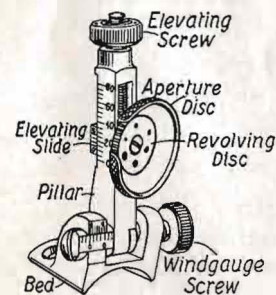


Fig. 5.

The elevating screw imparts a vertical movement to the elevating slide which carries with it the eye piece. Before moving the elevating screw it is necessary to loosen the eye piece and to tighten it after an adjustment has been made. Be careful not to move the revolving disc. Turning the elevating screw to the right or clockwise raises the sight and causes the shot to strike higher; to the left, lowers the sight. When the elevating screw is turned, clicks can be felt. With sights which are 36 inches apart, one click is

one-half minute and a change of one minute (2 clicks) makes a change of 1 inch on a target at 100 yards. Thus one click at 25 yards makes a change of $\frac{1}{8}$ of an inch on the target.

The sights on the rifles issued are 28 inches apart. Because of this 2 clicks on either scale do not make a change of exactly 1 minute.

At 20 yards, 1 click makes a change of approximately $\frac{1}{8}$ -inch on the target; 25 yards, $\frac{1}{6}$ -inch; 50 yards, $\frac{1}{3}$ -inch; 100 yards, $\frac{2}{3}$ -inch; 200 yards, $1\frac{1}{3}$ -inch.

The approximate number of clicks required in changing from 25 yards to 50 yards is 5; from 50 yards to 100 yards, 15; from 100 yards to 200 yards, 35.

The graduations on the elevating slide (5 minutes each) used with the graduation on the pillar make a Vernier scale, and provide for single minutes and half-minutes of elevations.

Reading the elevation scale.

Large cardboard models should be used at first.

Locate the "O" on the elevating slide with reference to the scale on the pillar. If, as in Fig. 1, it is exactly opposite 10, the elevation is 10 minutes. If, as in Fig. 2, the "O" on the elevating slide is above 10, but below 15 the elevation is somewhere between 10 and 15 minutes. In such case, count up the number of divisions on the elevating slide calling the one above "O" 11, the next 12, etc., until you reach a place where one of the lines on the

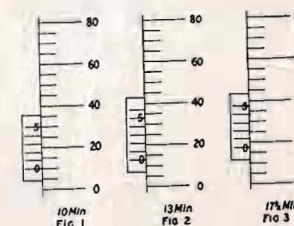


Fig. 6

elevating slide coincides with one on the pillar. In fig. 2, this is 13 and the elevation is 13 minutes. If the "O" came between 15 and 20 the line above the "O" would be called 16, etc.

Sometimes lines do not coincide as in Fig. 3. If so, two of the lines on the elevating slide will come between two of the lines on the pillar. If the elevating slide were moved 1 click down (left) the lines would coincide at 17 on the elevating slide. Since the original adjustment was one click (one-half minute) higher, the elevation was $17\frac{1}{2}$ minutes.

Deflection or windage.

The sight is moved sideways by the windgauge screw. There is nothing to loosen or tighten when using it. Turning the screw forward moves the sight to the right and results, when a proper aim is taken in the bullet striking to the right of the previous shot. Turning it to the rear moves it to the left and causes the shot to go to the left. This screw operates by clicks, each being one-half minute.

Reading the windgauge.

A Vernier scale is used in reading the windgauge. It differs from the elevating gauge in that the smaller divisions are on the bed. Fig. 1 represents the windgauge at 0. In Fig. 2, the sight has been moved to the

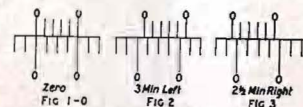


Fig. 7.

left and the windgauge reads 3 minutes left. In reading for a left movement of the sight read from left to right i.e., from the location of the left "O" toward the right counting the lines on the bed scale. In Fig. 3 the sight

has been moved to the right and the reading is $2\frac{1}{2}$ minutes right. Read from right to left.

THE RULES OF AIMING.

1. Keep the backsight upright.
2. Close the left eye.
3. Look at the target. Focus on it.
4. Centre the foresight in the aperture.
5. Direct the sights at the bottom centre of the hemisphere aiming mark or centre the aiming mark in the aperture foresight, if a round aiming mark is used. In both cases the rifle is aimed at the centre of the target.

Aiming.

The backsight on the rifle issued to Cadets for target practice is of the aperture type. It has a movable disc which allows the use of 6 different sized apertures. A larger aperture is required on a dull day than on a bright day. The third, and fourth largest sizes are satisfactory for most conditions. If in doubt regarding the size of aperture to use, always choose the larger. Poor shooting will result from too small an aperture—eye strain and difficulty in defining the target. It should be realized that these apertures do not line up exactly the same and that it is necessary to sight the rifle for each aperture which is to be used.

There are 2 foresights on this rifle—a blade which is used when the aiming mark is a semi-circle and a ring, or aperture which is used with the full circle aiming mark. A small lever on the right side changes them.

In aiming, close the left eye, keep the right eye about $11\frac{1}{2}$ inches from the aperture and focus on the target. If you focus on the target and the front sight, as you should, the rear sight will blur. Centre in the blur. Soon, no

effort will be required to properly locate the foresight in the aperture. The cheek must rest on the butt of the rifle to support the eye.

Move the rifle until the blade of the foresight is midway in the aperture and exactly half way up in it. Move the muzzle of the rifle upward until the blade of the foresight appears to just touch the bottom of the aiming mark, and is equally distant from each edge of it. With a ring foresight, the ring is centred in the aperture of the backsight and the aiming mark centred in the aperture of the foresight.

The rifle must be kept vertical to ensure accurate shooting.

Before a Cadet is permitted to fire a rifle he should prove that he is able to take a correct aim. There are

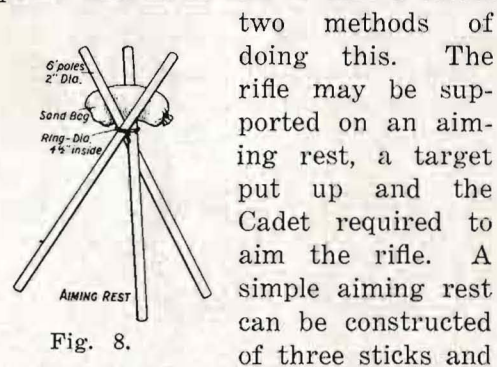


Fig. 8.

two methods of doing this. The rifle may be supported on an aiming rest, a target put up and the Cadet required to aim the rifle. A simple aiming rest can be constructed of three sticks and a bag of sand as illustrated in Fig. 8. The instructor should first lay a correct aim, and after the Cadet has observed it, he should lay one.

An aiming disc may also be used. If one is not available the substitute below may be made.

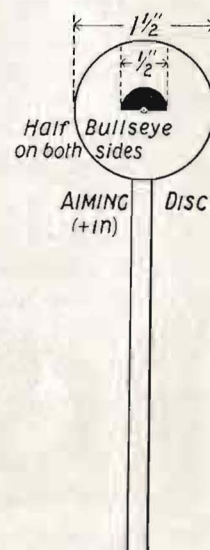


Fig. 9.

A hole about $\frac{3}{16}$ " is punched exactly in the centre of a target. The instructor holds this to his eye with the target side towards the Cadet. Parts of the card not required may be cut away. Have the target about 2 feet from the muzzle. Have the Cadet aim and state when he is "on". The breech should be open during such practice.

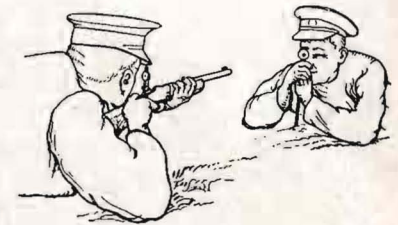


Fig. 10.

Common faults in aiming and their effects.

1. Inaccurate centring of foresight in aperture. If high in the aperture, the shot will be high. If to the left the shot will be to the left, etc.

2. Inaccurate centring of foresight with aiming mark. If the foresight is to the left of the centre, the shot will be left, etc.

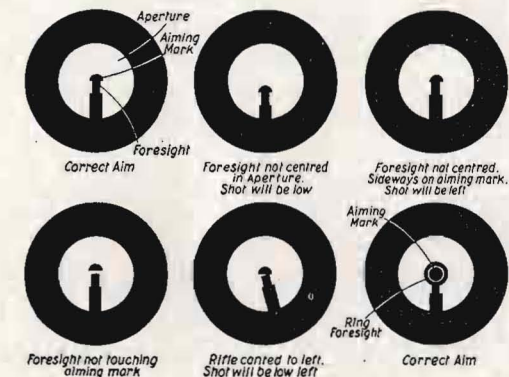


Fig. 11.

CORRECT AND INCORRECT AIMS

3. Having the foresight in the aiming mark; the shot will be high.
4. Leaving a space between the foresight and the aiming mark; the shot will be low.
5. Inclining the rifle. If the backsight is inclined to the left, the shot will be low left, etc.
6. Looking at the sight rather than the aiming mark; The aiming mark will be blurred and the shots will not be in the same spot.

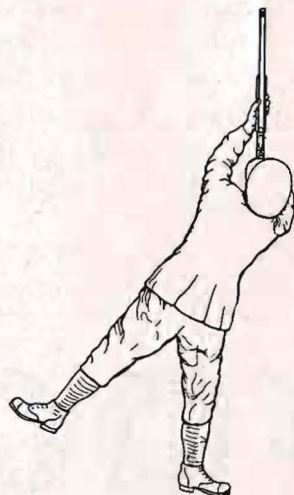


Fig. 12.
LYING POSITION

Firing instructions.

The lying position is the one generally used. The body is oblique to the line of fire (about 30°). The legs are apart and the heels down. (Fig. 12). Both elbows are on the ground. The left arm is extended and holds the rifle at the point of balance. The right hand grasps the

rifle at the small of the butt. The first finger is NOT on the trigger but along the outside of the trigger



Fig. 13.

guard. The rifle is pointing in the direction of the target ready to be brought to the shoulder. If a sling is used, it will be around the left arm. If the sling is to be used the rifle is held by the right hand with the sling hanging down from the rifle. The left hand and arm are put through the space between the rifle and the sling until the sling is above the elbow. Then the left hand is brought back and to the left and over the sling. The rifle is then grasped by the left hand at the point of balance. When ready to fire the rifle is brought to the right shoulder with the butt held tightly against the muscle at the junction of the shoulder and arm. Both elbows are kept



Fig. 14.

on the ground. The rifle is held firmly with both hands and tightly to the shoulder. The cheek is rested on the butt with the right eye about $1\frac{1}{2}$ inches from the sight.

Firing.

Close the left eye, and place the first finger on the trigger. Take a big breath, let most of the air out of your lungs, hold your breath, aim and press (do not jerk) the trigger. Follow through with your aim. That is, continue to look at the target for one or two seconds after you have shot. In returning to the loading position, and during loading the left elbow should not be moved.

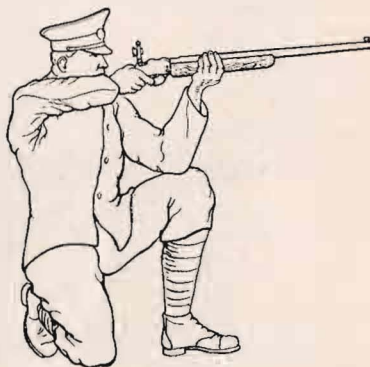


Fig. 15.

KNEELING POSITION



Fig. 16.

SITTING POSITION

Trigger pressing.

Unless the trigger is pressed correctly, bad shooting will result. Physical fitness with determination and good nerve-control, are essential. Only one pressure is required to fire the rifle. After the rifle has been loaded, raise the butt into the shoulder. With the rifle now in the aiming position,

put the first joint of the forefinger on the trigger. Squeeze the small of the butt with the whole hand. Without relaxing the grip, restrain the breathing, and complete the pressure on the trigger.

Snaphooting.

To hit an enemy appearing suddenly for a few seconds, it is necessary to fire one or two shots quickly. Speed in firing and reloading may enable a second shot to be fired before the enemy disappears. This is termed "snap-shooting". For practice, use aiming discs giving the order "Fire".

Rapid fire.

Rapid fire is the maximum effort of the rifleman, and is only required for short but critical periods. For this reason it is necessary to practice until a high standard is reached. For practice, use aiming discs. Rifles should not be on aim and the commands "Fire" and "Stop" used.

STANDING ORDERS AND RANGE DISCIPLINE.

Standing orders—outdoor.

A red flag should be hoisted on the pole on the stop butt when firing is taking place or about to take place. If necessary, look-out men will be placed.

Standing orders—indoor and outdoor.

1. A red flag will be hoisted at the firing point when anyone is in advance of or going to advance in front of the firing point. During this time, rifles with breeches open, must be laid on the mound and every one must stand clear of the firing mound.

2. Weapons must never be pointed in any direction except towards the butts.

3. No one except the firers, the instructors and the officers on duty will be allowed on the firing point.

4. All rifles must be inspected before they are removed from the firing point.

5. No rifle shall be loaded without orders from the superintending officer, and only on the firing mound and when the firer is ready to aim.

6. No range shall be used unless there is a responsible officer in charge.

Range discipline.

1. The officer in charge should explain the practice.
2. Details should be formed up immediately behind the firing point.
3. When ready an order, such as, "Assume the lying position and aim" should be given.
4. When all are ready give any necessary instructions and "load" or "load and fire when ready".
5. When the practice has been completed, rifles should be on the mound with breeches open and the command, "Stand Clear" given.
6. Give the following orders as required:
 - (a) "Red Flag Up".
 - (b) "Change Targets".
 - (c) "Red Flag Down".
 - (d) "Next detail, to the firing point, quick march".

RANGE PRACTICES AND COMPETITIONS.

Targets.

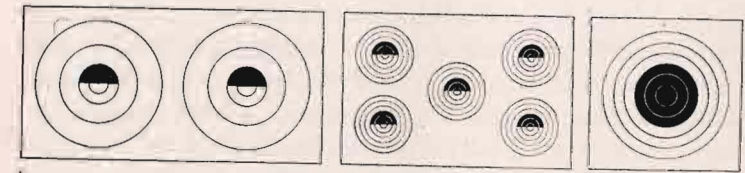


Fig. 17.

Dimensions, Scoring, etc.

DIAMETER OF RING

Value	100 yards	50 yards	20-25 yards	Army targets
10	2 in.	.89 in.	.335 in.	4—.625 in.
9	4 in.	1.89 in.	.835 in.	3—1.25 in.
8	6 in.	2.89 in.	1.335 in.	2—2.5 in.
7	8 in.	3.89 in.	1.835 in.	1—4 in.
6	10 in.	4.89 in.	2.335 in.	
5	12 in.	5.89 in.	2.835 in.	

A card is the entire sheet of paper or cardboard at which the shots are fired.

A target is an aiming mark and the scoring rings. There may be one or more targets on a card. The value of a shot is decided by the location of the edge of the shot hole nearest to the centre. If it cuts a line the higher value is given. If there is any doubt, a plug gauge is used and if the flange of the gauge touches the line the higher value is given. A magnifying glass is sometimes necessary in determining the value of a shot and whether two or more shots have apparently gone through the same hole. When 5 targets are on one card, 2 shots are fired at each; 2 on one card, 5 at each; and 1 on a card, 10 are fired at it. Two types of aiming marks are used, semi-circle and full circle. The semi-circle is used at 20 yards

and 25 yards and the full circle at 50 yards and longer ranges.

It is advisable to have beginners shoot at a range of 10 yards and to gradually move back to 20 yards, etc., as their success warrants. A sand bag or a bag filled with paper should be used as a rest for beginners. The forearm and back of the left hand only should rest on the bag. (See lying position). Both elbows remain on the ground. The short range and the use of the bag result in accurate shooting which in turn produces confidence, so necessary in shooting.

Range practices and coaching.

Definite range practices to be fired annually by Cadets are not at present laid down by the Department of National Defence. The following course is suggested.

Practice and grouping.					
No.	Practice	Target	Range	Rounds	Detail
1	Grouping	½ Army	10	5	Lying (rest) all on target 4 in 1" circle)
2	"	½ "	10	5	Lying " all on target (4 in 1" circle)
3	"	Army	15	10	" (4 in 1" circle) on each target
4	"	"	20	10	" (4 in 1" circle) on each target
5	Application	"	20	10	" 30
6	"	5 bulls	20	10	" 80
7	Rapid	Army	20	10	" 30
8	Snap Shooting	"	20	10	" 30

In grouping, the object of the firer is to hold and aim the rifle and to press the trigger without varying the point of aim, so the shots form a small compact pattern. In the early stages the firer should be trained to declare his point of aim, if he is of the opinion that his aim was not correct when he fired.

NOTES For practices 1-6 inclusive while time is not a factor, Cadets should be trained to fire each shot in not more than 30 seconds.

In rapid fire the 10 rounds are to be fired in 90 seconds. One round may be loaded but the rifle may not be on aim until the order to fire is given.

In snaphooting 4 seconds is allowed for each shot. The rifle may be loaded but not on aim.

Cadets should not be permitted to fire Practice No. 2, etc., until the minimum score for No. 1 has been obtained.

In application practices, the object of the firer is to hit the centre of the target by altering his sights, not his point of aim. A change of sights should not be made for one shot unless the firer's past grouping results indicate that such a shot would be outside his probable group. If two or three shots are off but in the same vicinity the M.P.I. (mean point of impact) should be the point used in adjusting sights. After the grouping stages have been passed, spotting with a telescope or field glasses should be done first by the Instructor and later by the Cadet. He should, from that stage onward keep a shot by shot record of each shot fired. This includes marking and numbering the location of each shot, and keeping a record of the elevation and windage and any changes in them. Targets should be examined and discussed after each detail has fired.

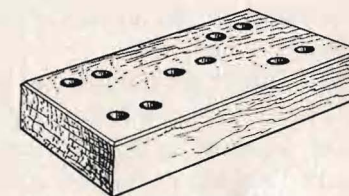


Fig. 18.

Ammunition blocks as illustrated (Fig. 18) should be provided. When there is more than one target on a card it is advisable to train Cadets to fire in a definite order. With a 2-target

card 5 shots should be fired on the left target and then five on the right. With a 5-target card, two shots are fired on each—upper left, lower left, centre, upper right, lower right.

Before the practices are commenced it is essential that the sighting of weapons should be checked for direction and elevation. This is termed zeroing.

Good coaching at the firing point is necessary in order to train the Cadet to become an efficient shot. The following points should be watched constantly, position, holding, trigger pressing, breathing, following through, unloading and loading.

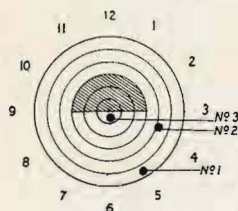


Fig. 19.

When coaching or spotting, the most satisfactory procedure is to describe the location of a shot as if the target were a clock with 12 o'clock at the top of the target. In the drawing, shot No 1 is a five at 5 o'clock; No 2 a seven cutting the line at half-past three; No 3 a ten at 6 o'clock.

Since rifles differ in feel, trigger pressure, etc., it is advisable to have a Cadet always use the same rifle.

When outdoor firing takes place, the direction and strength of the wind must be considered.

In cases of inaccurate shooting watch for the causes, some of which are:

- (a) Incorrect holding, aiming or trigger pressing.
- (b) Lack of control and determination.
- (c) Failure to restrain breathing.
- (d) Gun-shyness—flinching.
- (e) Difficult weather conditions.
- (f) Fault in the rifle—loose sight, loose screws, etc.
- (g) Foresight not vertical.

Problems

1. State the uses of the rim of the cartridge.
2. What are the advantages of an elongated bullet?
3. What factors act on a bullet?
 - (a) before it leaves the barrel.
 - (b) after it leaves the barrel.
 Explain each of the above.
4. Define: (a) axis of the barrel.
(b) line of departure.
(c) line of sight.
(d) trajectory.
(e) culminating point.
5. Define elevation.
6. How do you know when a .22 B. S. A. is cocked?
7. Describe the cleaning of a rifle after firing ammunition which is not known to be non-corrosive.
8. What forbidden action is liable to damage a rim fire rifle?
9. How do you close the breach so the rifle will not be cocked?
10. Which way do you turn the elevating screw to cause the shot to strike higher on the target?
11. Which way do you turn the windgauge screw to cause the shot to go to the right?
12. If a rifle has a sight base of 36" and the sight is moved 1 minute what will be the change on the target at 100 yards?
13. What is the length of the sight base of a .22 B.S.A. rifle?
14. A cadet is shooting at 20 yards. The instructor who is spotting, advises him that his shot is a 6 at half past four. What change or changes should be made in his sights?
15. What are the rules of aiming?
16. What effect does canting a rifle to the left have on the shot?
17. If an approximate aim has been taken describe the sequence which follows.
18. (a) What is rapid fire?
(b) When is snap shooting used?
19. Define: (a) grouping.
(b) application.
20. Name the causes of inaccurate shooting.