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# Small Arms Training

Volume I, Pamphlet No. 13, 1937.

**SUPPLEMENT No. 1.**

**No. 68 Anti-tank Grenade (Rifle).**

**No. 69 Bakelite Grenade (Hand).**

1941.

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P. J. GRIGG.

THE WAR OFFICE,

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## DISTRIBUTION.

Same scales as for Pamphlet No. 13.



## SECTION 1.—THE No. 68 A.TK. GRENADE (RIFLE), MARKS I AND II.

### GENERAL.

THE No. 68 A.Tk. Grenade has been introduced with the object of damaging hostile A.F.V.s. It is fired from the discharger fitted to the service rifle, a 30-grain ballistite cartridge being used.

It is essential for the grenade to hit the vehicle—hence a rough sight is provided to assist the firer. In view of the low trajectory necessary, the effective range is from 75 to 100 yards, the sight being designed for use between these distances. On impact with an A.F.V., the armour of light, medium, and, in some cases, of heavy tanks will be perforated.

It must be realized that the ballistite cartridge used in conjunction with this grenade gives a considerable recoil; and, owing to the flat angle at which the rifle must be held, it is essential to place the butt of the rifle against a sand-bag or similar object. If possible, the fore-end of the rifle should also be supported on a sand-bag.

Considerable initiative must be displayed in preparing positions from which to fire the grenade. These may be from behind low cover, from trenches or from the loopholes of pill-boxes. Whatever position is used the principle is that there must be a sandbag or similar object behind the butt to take the recoil of the rifle. A hard object without "give" should only be used if unavoidable.

The possible sacrifice of the rifle must be accepted in order to disable the A.F.V.

It is essential that Lesson 3 of Pamphlet No. 13 (Grenade) which deals with the discharger, shall have been taught before commencing the lessons on the A.Tk. Grenade.

It should be noted that, with the No. 68 Grenade, the adjusting screw must be completely screwed down on to the top of the barrel and not given one complete turn back as when firing other types of grenade. (Lesson 3, para. 3 (i).)

Para. 4 of the same lesson also does not apply to the No. 68 Grenade: when firing it the gas port will always be completely closed.



## LESSON 11.—DESCRIPTION AND MECHANISM.

### *Instructor's Notes.*

*Stores :—*

*One dummy No. 68 grenade complete.*

*Rifle—Special sight.*

1. **Introduction.**—Explain briefly General Notes.
2. **Description.**—Explain and demonstrate, naming the main parts:—

The body of the grenade is of metal alloy, the top being closed by a disc held in position by a screw-on cap.

Inside the body is a liner, the space between which and the inside of the body is filled with high explosive.

The tail unit screws into the body. It has a central sleeve and four external vanes.

Into the front end of the sleeve is screwed the detonator holder containing the detonator.

Beneath the detonator is a striker, held in position by a safety-pin and shear wire passing through it and the tail unit. A creep spring bears on the striker at one end, and on the detonator at the other.

A gas check is fitted to the tail unit by a bakelite screw.

The whole grenade is painted buff, with a red and green band. Stencilled letters denote the type of filling.

The grenade as issued is completely armed.

No preparation whatever is required beyond fixing the gas check by the bakelite screw, and removing the safety-pin before firing.

**On no account will grenades be stripped.**

3. Question squad.

4. **Action on firing.**

The safety-pin having been withdrawn the grenade is placed in the discharger. On firing the ballistite cartridge in the rifle the force of explosion breaks the shear wire, and the grenade is propelled by the gases striking the gas check.

The explosion also breaks the bakelite screw holding the gas check in place. This falls off on leaving the discharger, so that the vanes are free to ensure the grenade flies true with its nose foremost.

Only the creep spring is now holding the striker apart from the detonator. On impact, the striker overcomes the creep spring, fires the detonator, which in turn explodes the grenade. The whole force of the explosion is in a forward direction owing to the design of the grenade.



5. Question squad.

6. **Fitting Sight to Rifle.**—Explain and demonstrate:—

Turn the leaf of the backsight completely over towards the muzzle. Loosen the wing nut, place the bar at the base of the sight between the backsight ramps with the fixed leaf of the sight to the front, the metal band passing round the woodwork. Clamp up.

7. Practise squad in fitting sight and question on the complete lesson.

## LESSON 12.—FIRING POSITIONS.

### *Instructor's Notes.*

*Stores :*

*Rifle, bayonet, ground sheet, discharger, dummy ballistite cartridge for each man in the squad.*

*One dummy No. 68 grenade with gas check and screw per man.*

*This lesson must be taught from behind low cover.*

*Initiative on the part of the firer is essential, both in modifying his position to suit the circumstances and for speed in aiming and firing.*

*Extend squad. Carry out final fitting, which is the screwing of the adjusting screw fully home on top of the barrel. Close the gas port completely. Return discharger to pouch. Fix bayonets. Select targets.*

*Give the order : " Standing Load—Rest."*

*Squad on right of cover.*

1. Explain and demonstrate:—

(i) *Unloading Ball, loading Ballistite, fixing Discharger.*

From behind cover, push forward safety catch, close cut-off (if none—unload), unload ball cartridge and load ballistite. Apply safety-catch. Unfix bayonet. Fix discharger.

(ii) *Loading Grenade.*

Remove safety-pin, place grenade in discharger—gas check first, placing it fully home.

(iii) *Unloading without Firing.*—Occasions may arise on service when this is necessary. Remove the grenade from the discharger, replace the safety-pin, splay out the ends of the pin slightly. Remove discharger, fix bayonet, unload ballistite and reload ball.



2. Practise squad.

### 3. Aiming.

(i) Instructor explains, using a diagram (see Plate 1). The top of the grenade should just close the V of the sight, this aim being directed at the top of the hull of the A.F.V. The sight is designed for use up to approximately 100 yards.

(ii) Demonstrate the correct aim, using any improvised rest, such as sand-bags. Emphasize the necessity for quick aiming in dealing with A.F.V.s.

(iii) Squad views aim.

### 4. Firing Positions.

(i) Explain and demonstrate behind various types of low cover:—

The rifle, *not* inverted as for normal grenade firing, should be approximately at an angle of 10 degrees. A sand-bag must be placed at the base of the butt to absorb the shock of recoil, which is considerable. The fore-end of the rifle and the discharger should be rested on the cover or on sand-bags, if available, though if essential it may be held at the correct angle. The hands must be clear of all metal parts, the left hand holding firmly in front of the sling swivel; the right hand, fingers clenched, clear of the rifle; forefinger on the trigger.

To fire—Press the trigger when the aim is correct. Instantly, reload ballistite and another grenade. Observation is essential. The necessity for making due allowance for side winds must be emphasized.

(ii) Practise squad from behind various types of cover, such as low banks, trenches, loopholes of pill-boxes, &c.

NOTE.—No grenade will be used in this stage.

### 5. Live Firing.

As live grenades become available, every opportunity should be taken of firing them. Any suitable target, approximately the size of a tank, may be used. It must be such as to set off the grenade on impact—*e.g.*, galvanized iron, old motor-cars, &c. (See S.A.T., Vol. I, Pamphlet No. 13, Sec. 4.)

## SECTION 2.—THE No. 69 BAKELITE GRENADE (HAND).

### GENERAL.

This grenade has been introduced with the object of providing a light hand percussion grenade for offensive action.

The area of burst is very restricted and it may be thrown



from a standing position in the open with impunity to the thrower.

The material effect of the grenade is very small and local but the moral effect is considerable. It will be of particular value for patrols in a clash with the enemy.

### LESSON 13.—DESCRIPTION AND MECHANISM.

(The grenades to be used for instructional purposes will be unfilled inert bakelite grenades. No dummy of special material is being produced. These grenades will be fragile and will be easily damaged and should only be thrown on soft ground when they are used for practice throwing.)

*Stores :—*

1 *Dummy Grenade complete.*

1. Explain briefly General Notes.

2. **First Safety Precaution.**—Instructor explains and demonstrates the first safety precaution, which is the removal of the base plug to ensure the grenade is not primed.

3. (i) *Description.*—Instructor explains and demonstrates, naming the main parts as they are stripped (see Plate 7) :—

The body is of bakelite with a milled band for the purpose of holding, and a filling screw. A red band is painted round it, and a green band or stencilled letters denote the type of filling of high explosive.

On top of the body is a safety-cap which is removed by unscrewing ; a piece of adhesive tape holds the cap in position.

Round the gallery is a safety-tape, with a weight at one end and a safety-bolt at the other which passes through a hole in the mechanism holder and another in the striker. The closing cap can then be unscrewed from the top of the mechanism holder. Remove the ball and prong striker and creep spring. Remove the cap pellet, which contains a rim-fire cap. Unscrew the mechanism holder. A rubber washer situated in the top of the body prevents damp from entering and acts as a seating for the cap holder.

Down the centre of the body is a sleeve, in which fits the detonator. The bottom of the body is threaded internally to take the base plug, which has a rubber plug and a rubber washer.

Reassemble in the reverse order, except that the safety-bolt is best replaced after replacing the striker.

(ii) *Detonator.*—This consists of a small metal tube filled with sensitive explosive and open at one end. It must be handled with care.



4. Question squad.

**5. To prime the Grenade.**

Remove the base plug. Examine the detonator sleeve to ensure that it is free from obstruction, rough edges, and cracks.

Insert the detonator *open end first*. Replace base plug, ensuring that it is screwed fully home.

**6. Mechanism.**

The safety-cap having been removed, the tape is kept in place by the finger and thumb of the throwing hand.

On throwing the grenade, the weight on the tape causes it to unwind and fall off, taking with it the safety bolt.

The grenade is now armed, only the creep spring holding the striker away from the cap.

On impact, the creep spring is overcome and the striker fires the cap, exploding the detonator, which in turn explodes the grenade. It is immaterial in what position the grenade has fallen.

7. Question squad.

**8. Throwing.**—Any convenient method of throwing may be used, overarm bowling as taught in Lessons 8 and 9 (Pamphlet No. 13—Grenade), a throw, or a lob. If lobbed for short distances, a twist or a spin should be given to ensure the tape fully unwinds and falls clear.

*Ready Position.*

Pick up the grenade, remove the adhesive tape. Hold the grenade in the hand, base plug downwards. Face the target, turn to the right and balance the body.

*Prepare to throw.*

With a turn of the hands, remove the safety-cap, care being taken that the forefinger and thumb keep the tape on the grenade.

NOTE.—Live grenades are issued complete, except for priming. Under no circumstances will they be stripped.



## PLATE I.—CORRECT AIM.

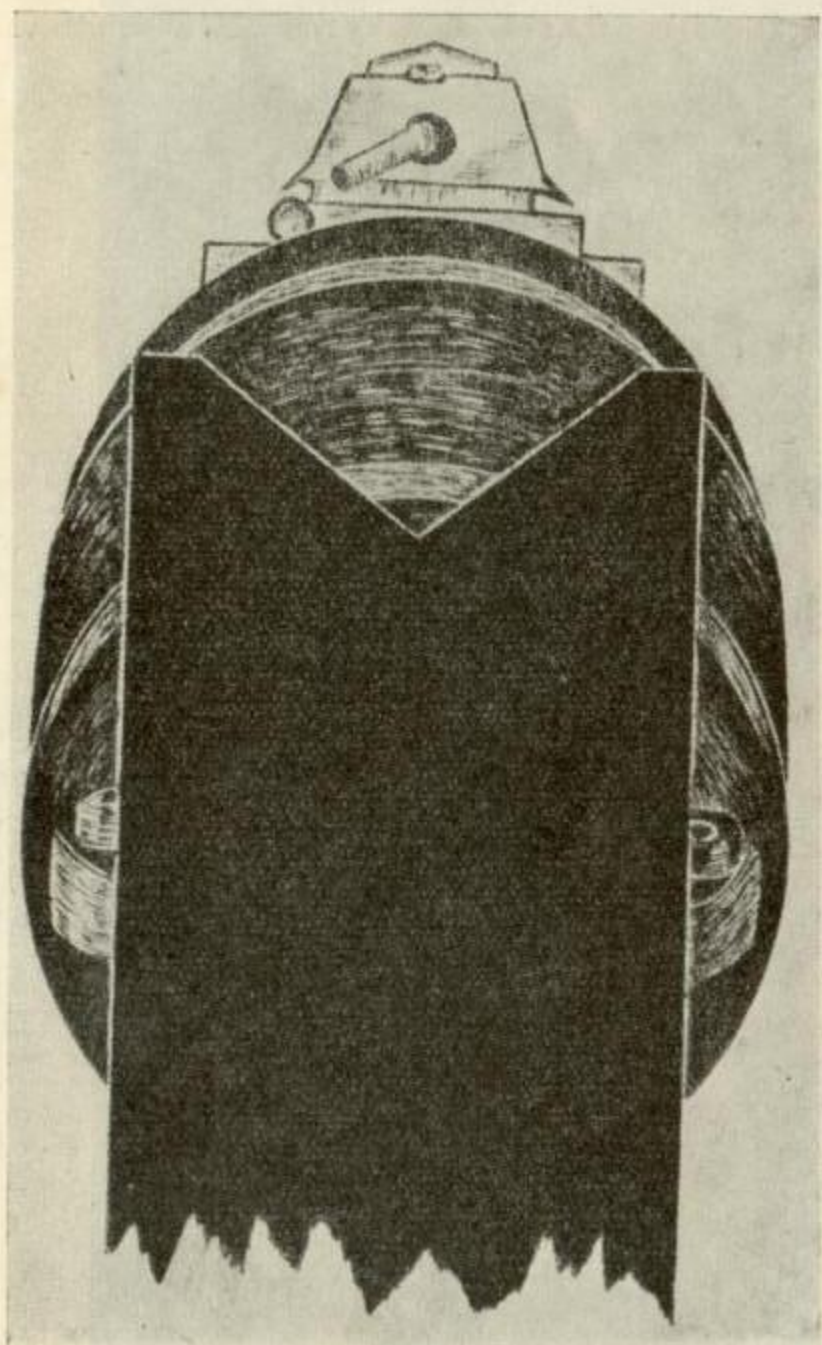
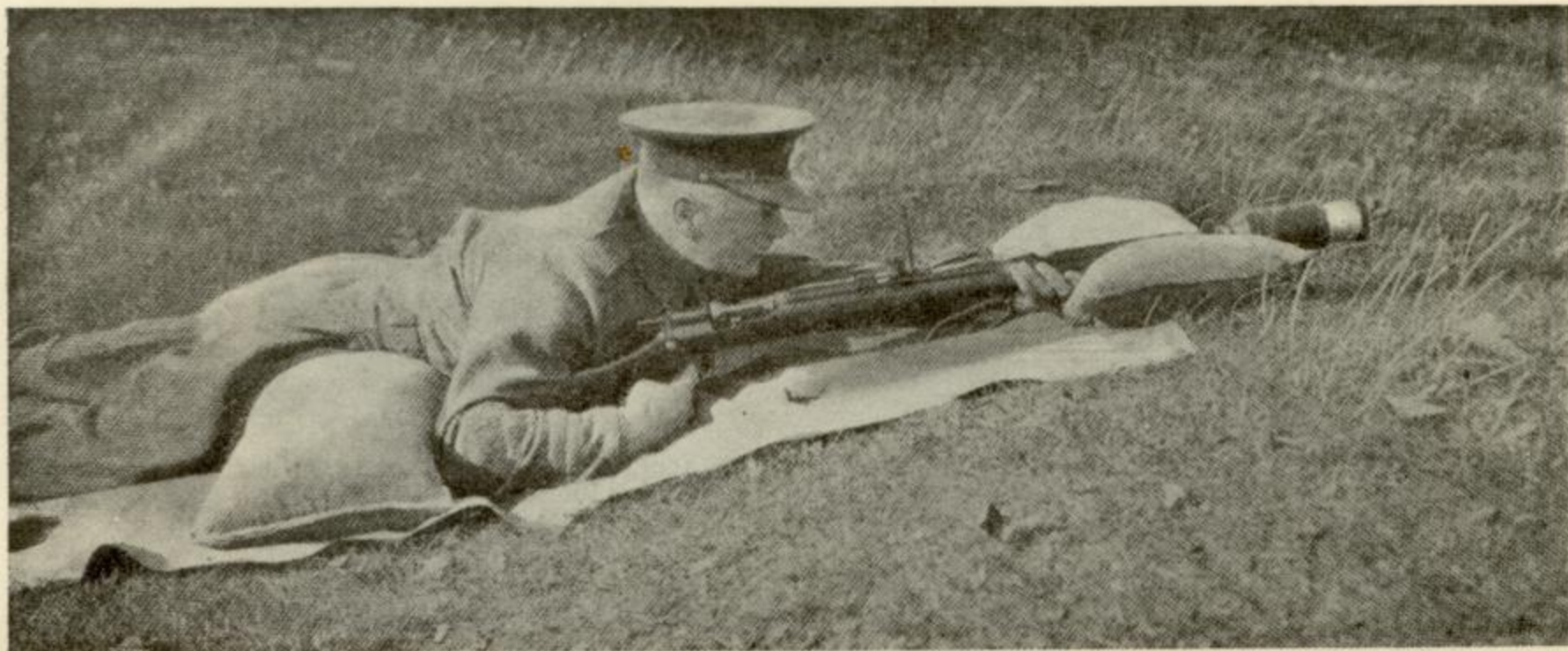




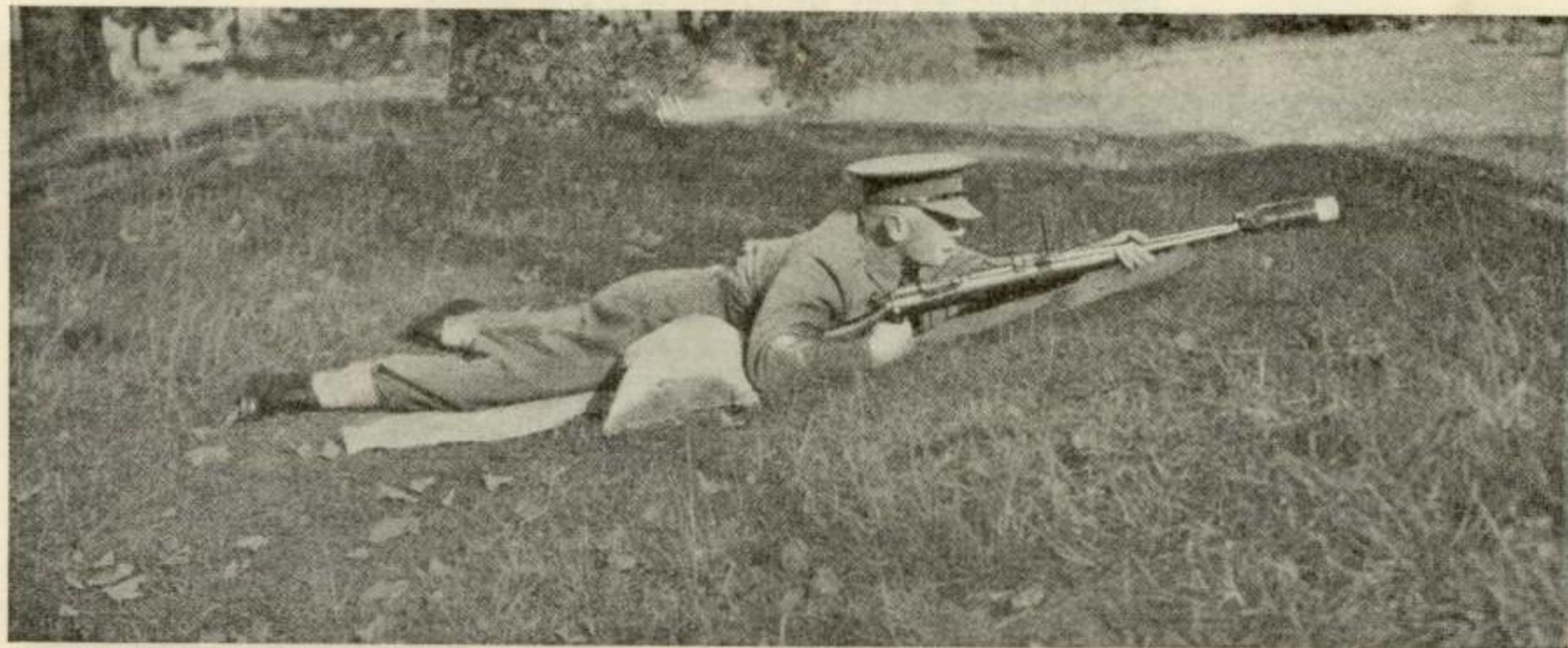
PLATE 2.—FIRING FROM BEHIND LOW CONTINUOUS COVER.



1. Sand-bag behind butt of rifle.
2. Fore-end of rifle and discharger rested on sand-bag.
3. Hands clear of metal portions.
4. No undue exposure.



PLATE 3.—FIRING FROM BEHIND LOW CONTINUOUS COVER.



1. Sand-bag behind butt of rifle.
2. Fore-end of rifle and discharger rested on the cover.
3. Hands clear of all metal portions.
4. No undue exposure.



PLATE 4.—FIRING FROM BEHIND LOW CONTINUOUS COVER.



1. Sand-bag behind butt of rifle.
2. Rifle held at required angle, and fore-end *not* rested.
3. Hands clear of all metal portions.
4. No undue exposure.



PLATE 5.—FIRING IN THE OPEN.



1. Sand-bag behind butt of rifle.
2. Rifle held at correct angle.
3. Hands clear of all metal portions.



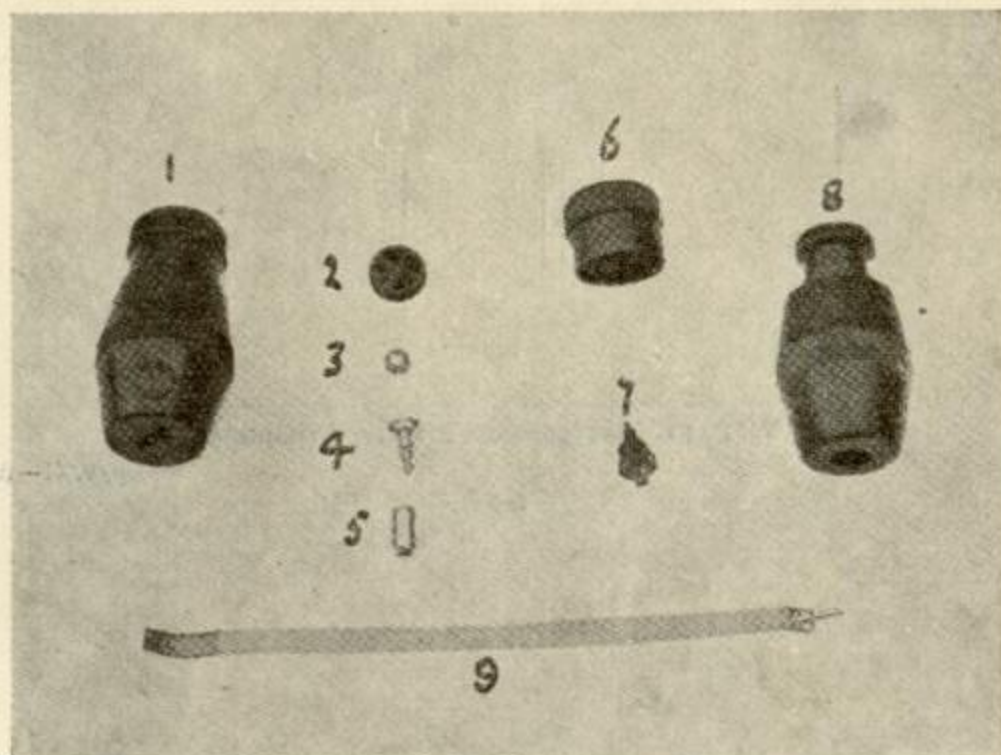
PLATE 6.—FIRING FROM THE BACK OF A TRENCH.



1. Butt rested against back of trench.
2. Rifle held at correct angle.
3. Hands clear of all metal portions.



PLATE 7.—THE NO. 69 BAKELITE GRENADE (HAND).



- |                                        |                                       |
|----------------------------------------|---------------------------------------|
| 1. The No. 69 Bakelite Grenade (hand). | 6. Safety cap.                        |
| 2. Closing cap.                        | 7. Base plug.                         |
| 3. Ball.                               | 8. Body and mechanism holder.         |
| 4. Striker and creep spring.           | 9. Safety-tape, with weight and bolt. |
| 5. Cap pellet.                         |                                       |

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