

PART II

Rifle Grenades

Miscellaneous.

The use of rifle grenades, when well practised, disperses the enemy and inflicts greater losses than bombardment. For instance, the 2nd of May, 1916, the 28 "Battalion de Chasseurs" at "Linge" suffered a days bombardment of 3,000 shells without the loss of a man. At night, while the soldiers were at supper and speaking of the inefficiency of the German bombardment, a rifle grenade fell into a group of twelve men, killing 4, and wounding 8. Two of the latter died shortly afterwards.

CHAPTER 1. FRENCH RIFLE GRENADES.

Two grenades are used.

Grenade V. B. rifle grenade (thrown with discharger or "tromblon" V. B.)

Grenade D. R. rifle grenade (thrown with "mandrel" D. R.)

I. THE "DISCHARGER" V. B. AND ITS GRENADE.

1. TACTICAL EMPLOYMENT

(A) **IN THE OFFENSIVE.** One rifle grenadier covers about 100 feet of front. The twenty-four rifle grenadiers of a company throw 250 grenades per minute, at a range of from 250 to 500 feet, making a perfect barrage.

They are used:

IN EXTERMINATION FIRE:

To inflict daily losses on the enemy, to demoralize them, to stop them from carrying on their work.

IN BARRAGE FIRE.

To repulse the enemy in an attack.

IN SUSPENDED FIRING.

To prevent them from repairing damages made by artillery, shelters, and networks.

(a) **Extermination Fire.**—The use of this fire is based on the enemy's knowledge of daily happenings at regular hours. It is indispensable to have an observation service particularly

well organized. Combining this observation with the study of aerial photos and of firing maps, and information of all kinds, it will be easy to locate the objectives and time when fire will be most efficient.

The enemies' trenches must be very carefully studied as regards its weak points and points where the enemy can be surprised, (look-out posts, entrances to shelters, crossings, approach trenches, etc.)

Rifles must be kept on racks, with the above mentioned places as targets, so as to be ready to immediately fire a grenade, at the slightest indication of the sight of moving objects.

Extermination fire is composed of:

Individual firing, slow and continued, executed by one rifle-grenadier only.

Surprise fire, violent and rapid, executed by a group of rifle grenadiers.

Very frequently it will be of great advantage to group the "dischargers" of a company in batteries of 2 to 6, in charge of a Non-Commissioned Officer.

Slow and continued firing is done during the day, and especially during the night, at certain points such as crossings of approach trenches shelters, latrines, and loopholes of look-out posts.

Surprise firing is executed at the command of the Company Commanders, or platoon leaders.

To take advantage of all favorable occasions, such as reliefs, "fatigue" working parties, a volley fire is used, then "fire at will," and "rapid fire."

This fire depends on the length of time the enemy is exposed.

Return fire must be immediately brought in action and violent concentrations of fire made.

(b) **Suspended firing**.—When extermination firing has as its object the prevention of the enemy from repairing the damages caused by the artillery, the fire is conducted in a slow cadence or in volleys. This is prohibition shooting known as suspended firing.

Violent and sudden fire executed during reliefs and fatigue work, and which lasts as long as the enemy is in range, it is always followed by a prohibition suspended firing.

(c) **Barrage Firing.**—Combined with the throwing of hand grenades. This fire has as its object to break enemy attacks. It is invaluable when communications have been severed near the enemy's line, renders artillery barrage fire inefficient. The throwing of a few rifle grenades concentrated on an approach trench stops the progression of hostile grenades.

(B) **IN THE OFFENSIVE.**—Rifle grenades lengthen the action of hand grenades, by permitting to reach a sheltered enemy quite distanced. It helps to prepare a partial assault, to reinforce the artillery, to give partial barrage fire, to cover the flanks of an attack, to participate in the fight in an approach trench.

(a) **Preparation to a Partial Assault.**—The rifle grenades are used during battle, to prepare an assault when the artillery is inefficient or when the objectives are out of range of hand grenades.

In attacks the use of rifle grenade throwers is closely combined with the action of other units in the waves of an assault. (See their position in a battalion for a formation of an attack). (Fig. 39 and 40).

(b) **It takes the place of the artillery.**—In numerous local fights where it is impossible to have artillery held the rifle grenades execute an accurate bombardment on hostile nests who offer resistance.

(c) **Partial Barrier Fire.**—It isolates enemy groups attacked by hand grenades, preventing retreat, and harrassing the arrival of reserves and reinforcements.

(d) **Protection of the Flank in an Attack.**—In attacks executed on a small front, in raiding parties, groups furnished with rifle grenades can be advantageously used to cover the flanks.

During an important attack, this situation will frequently be used in detailed offensive actions necessitated by the capture of different strong holds.

(e) **Struggles in Approach Trenches.**—The rifle grenade is used with advantage to entangle at a great distance enemy supplies of grenades and to prevent their retreat. The rifle grenadier follows immediately the groups of bombers and automatic riflemen.

(f) **Protection Against Counter Attacks.**—Principle: a counter attack is stopped by units well protected and able to immediately furnish powerful fire.

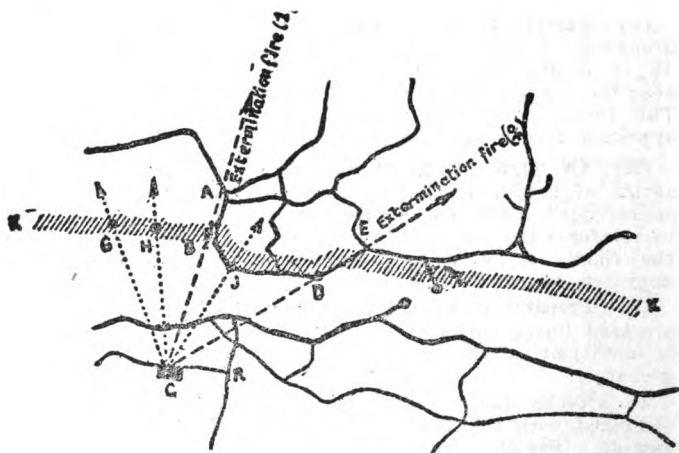


Fig. 66.

To this effect the rifle-grenade is an extremely efficient weapon, when well aimed, properly adjusted and executed by well-trained parties on an enemy grouped for attack, excellent results will be obtained.

Whatever the situation may be, but more particularly in the offensive, it is always of great interest to use the rifle grenade by concentration of fires.

(C) **Locations for Rifle Grenade Battery Emplacements.**—

Barrage fire is made by combining the use of rifle grenades and hand grenades for the purpose of repulsing hostile attacks.

This kind of fire is important when our communication with the rear has been broken or when the proximity of hostile trenches renders artillery barrage fire ineffective. Illustration 66 is a part of a firing map. The captain traces upon it the hatched line K K as the line upon which he wishes to bring a barrage fire with the rifle grenades. This done he notices that a part of the hostile trench AB will be enfiladed by a group of rifle grenades posted in the middle trench at C. The plan

shows that C is 45 yards from R a thrown junction. He also observes that from C the part of the trench D E can be enfiladed. This wall form a second target. Other groups of the company will be posted in view of similar considerations.

The part of the barrage which falls to four grenade firers posted at C, calculated with reference to the front of the company G J, gives 33 yards for each firer to cover. The captain then marks the points G, H, B, and J 6 millimeters (one-fourth inch) apart. He then measures with his scale the distances C G, C H, C B C J, C D, and C E and ascertains the azimuth angles of their directions. He makes in this way a sketch containing complete firing data for the rifle grenade group at C. It includes:

(a) For all of the grenade firers, for their first fire, a common azimuth C A; all ranges from 100 yards to 150 yards, in order to bring fire upon the whole line B A.

(b) For the second fire, a common azimuth C E; all ranges from 120 to 175 yards, in order to cover B A.

(c) For each firer, an individual barrage fire with a given range; for the firer on the left it would be azimuth C G and range 110 yards. For the others, azimuth C H and range 100 yards, azimuth C A and range 100 yards, azimuth C J and range 80 yards.

The rifles are placed on supports and laid with a compass and plumb in the desired direction and elevation. Each firer should understand clearly what he is to do at the command, "first extermination fire," "second extermination fire," or "barrage fire."

(D) Action of R. G. in the Attack of a Strong Point.

(Fig. 67)

The unforeseen is the law of combat, but the art of command is to improve your will upon the enemy.

However powerful the artillery and the skilfulness of the preparation of an assault may be, one must expect, in an attack, to come in contact with strong points or organizations at reverse slopes which have not been absolutely destroyed and which still have some means of defense.

In order to reduce these strong points, work with the power of fire and employ all means at your disposal by the use of modern weapons.

The attack of a strong point consists of three phases:

First: the preparation.

Second: the attack.

Third: the mopping up.

Preparations are made by the R. G.; the attack by A. R.; the mopping up by the bombers; these operations will be reinforced by machine gun fire.

The efficacy of bombardment by R. G. depends upon the number of R. G. put into action and their judicious distribution in the area of manoeuvre of the battalion. 48 R. G. can easily be disposed of 24 from the company which comes in contact with the strong point, 12 from each company on the right and left flank and 12 from the reinforcement company.

The idea is, not to put the 48 R. G. in one straight line so as to be able to maintain fire control. This would, of course give excellent barrage fire, but would not solve the problem.

It is necessary to divide these 48 R. G. in groups of 6 to 12 according to the ground, giving them an enveloping movement so as to direct their fire on the front and depth of the objective, thus obtaining concentrated fire. Generally three platoons of machine guns and 24 A. R. are available to reinforce with their fire the bombardment of the R. G.

The first result of their bombardment, arranged on time notices by the major will be to compel the enemy to remain under cover, but nothing can be done until our bombers have gained a footing in the stronghold so as to mop up.

It is the autoriflemen's duty to bring the bombers, so to say, at their working point, in covering their approach march by their fire. As soon as the autoriflemen have gained footing in the strong point the bombers will rush rapidly forward and proceed to mop up according to the established plan.

(E) Replenishment of Munitions.

1. Armaments issued before the combat:

Each Rifle-grenadier: 10 V. B. grenades.

Each carrier: 10 V. B. grenades.

2. At the command post of the Battalion.

800 V. B. grenades.

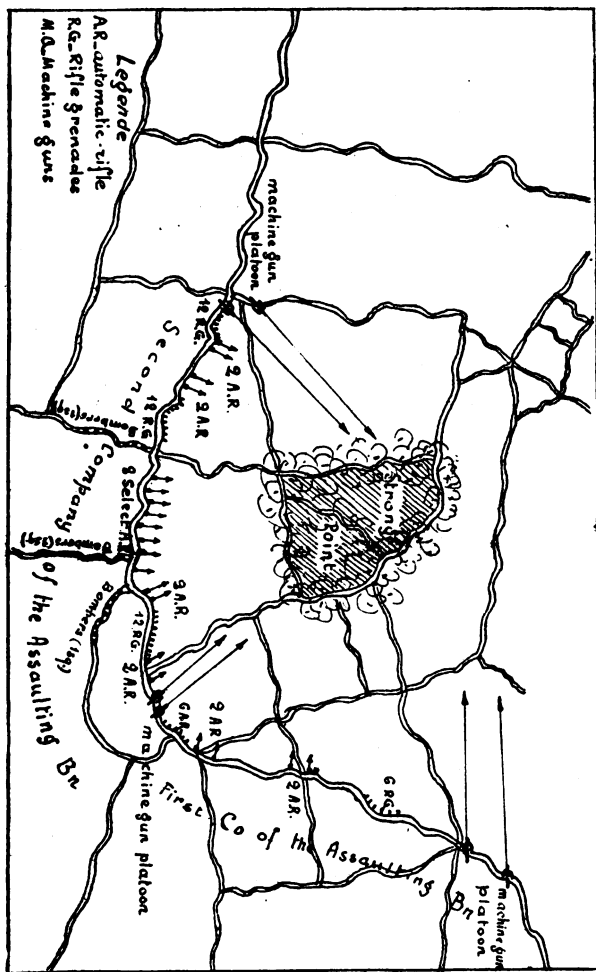


Fig. 67.

3. Usual information for the establishment of a plan for replenishment:

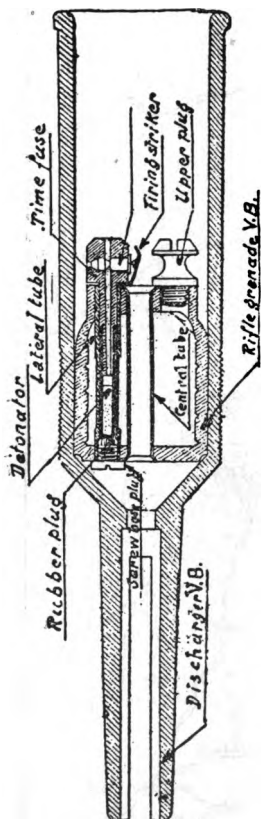


Fig. 67a.

This discharger is a cast piece of steel adjusted to the muzzle of the rifle. It has an opening permitting the space for the front sight. The grenade is a fuse typed steel

(a) Replenishment by man power. One carrier is able to carry 40 V. B. grenades, weighing 42 pounds.

(b) Replenishment by mules.— A mule can carry 1 case of 100 grenades, V. B., 114 pounds, divided into 2 loads or bundles.

(c) Replenishment of a company. If one man carries 40 V. B. grenades in four sandbags (42 pounds), the replenishment of the company will be accomplished by four men making four trips. This replenishment is often useless, upon the occupation of the objective; few V. B. grenades are used even in the course of the attack if no strong point is encountered.

2. Technical Use.

I. **Miscellaneous.**—The rifle grenade is a part of all infantry equipment. Every man must be well drilled in its use. The number of dischargers issued is limited by their weight and the limitations of ammunition supply. The V. B. grenade has the advantage that it is not very cumbersome and that it is fired by means of the ordinary ball cartridge.

II. **Description.** (Fig. 67a).—The V. B. grenade is thrown with the aid of a discharger "tromblon," fitted on an infantry rifle, using service cartridges.

body with interior grooves. It contains two tubes permanently held in place; a central one through which the bullet passes and a lateral one which receives the igniter time fuse and detonator. The time fuse carries a primer and a plunger.

The bullet strikes the plunger which lights the primer. The primer ignites the fuse and at the same time, the gases of the cartridge expand into the discharger "tromblon" and project the grenade. It will explode after 5 or 6 seconds.

III. Equipment and Lighting System.—The throwing is effected by means of an ordinary ball cartridge; the pressure of these gases gives a propelling force which incites the percussion by striking the plunger.

The primer starts fire to the column of powder in the lateral tube and at the expiration of 5 or 6 seconds, the detonator producing the explosion of the shell.

The security is assured by automatic lighting.

On the other hand, the function of the plunger demands a violent shock.

IV. Maneuvers.—Loading:

1. Insert the V. B. grenade as far as it will go, its base resting on the bottom of the discharger, bolt being open.
2. Load the rifle with a regulation ball cartridge.
3. Incline the rifle at a correct angle.
4. Fire.

Note:—Place the butt on a flexible support or on loose surface to diminish the violent recoil.

V.—Details.

1. **Transportation.**—The tromblons for the firing of V. B. are carried on the belt in a leather case, by the rifle grenadier. He also carries shells in a grenade basket, or in a grenade carrier belt, Model 1916.

2. Supplies are assured, by conditions foreseen by the bombers. Easy in the defensive. It will be necessary to foresee the difficulties in the offensive and give the rifle grenadier V. B. as many shells as possible.

One has to remember that only 50 per cent. of the supplies from the first line will be brought to conquered positions.

Wagons for transportation of grenades, telephone wires, etc., will be equally used for the transport of V. B. grenades.

3. **Weight and Charge.**—The total weight of the grenade is 15 ounces; 2 ounces of which is cheddite explosive.

Length of Burning.—5 to 6 seconds.

The shells are delivered in cases of 100, ready for use.

VI. RANGE TABLE.

The range depends on the inclination of the rifle.

Angle	Range in Yards	Time of throw- ing in seconds	Explosions
45°	200 yds	5'' 2-10	Delay of 1'' 3-10
50°	195 "	5'' 6-10	" " 0'' 9-10
55°	185 "	6''	" " 1-2 9-10
60°	170 "	6'' 3-19	" " 2-10 9-10
65°	150 "	6'' 3-10	Explosion on surface
70°	125 "	6'' 8-10	" at 5m from surface
75°	100 "	7''	
80°	70 "	7'' 2-20	Explosion 5 to 12m from surface
88°	35 "	7'' 3-10	

These indications are but approximations, and the firing when possible, must be regulated from the first falling point.

The points correspond to the firing with a ball cartridge D, loaded with B N 3 F powder. The ball cartridge D loaded with American powder gives a range of about 1-16 shorter.

The gradual overheating of the rifle during shooting is accompanied by an increase of range (about 22 yards when the rifle is inclined at a 45 degree angle).

The interior of the discharger must be kept perfectly clean and slightly greased. All rust from the body of the grenade must be removed.

The shell can be fired without danger to the rifle grenadier, whether the rifle is at right shoulder or in the position of "guard," but accuracy is poor. Execute the firing preferably by using racks, or in the kneeling position, butt on the ground. See that racks are in good condition and solidly held by sand bags.

It must not be forgotten during shooting practices that cartridges attain a range of 4,400 yards, and that special

precautions must be taken to have the access of rifle ranges sufficiently long enough to have a minimum range of 5,000 yards, so as to avoid accidents.

A blank cartridge loaded with B N 3 F powder can be used to fire a R. G. To obtain similar results as with the ordinary cartridge the plunger must be set at 45 degrees.

II. THE MANDEREL D. R. AND ITS GRENADE.

(Fig 68 and 69).

This grenade differs from the V B on the following points:

It fits onto a "mandrel" instead of being put into a dis-charger. It has a percussion fuse. It is fired by a special blank cartridge, instead of an ordinary ball cartridge. It

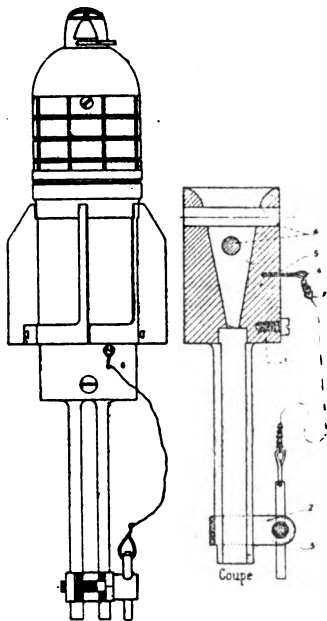


Fig. 68.

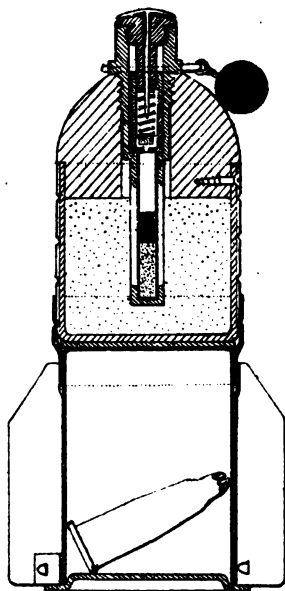


Fig. 69.

is more cumbersome, but has twice the range and is more effective. It has a cast-iron body, elongated toward the front by a wooden ogive and a fuse and toward the rear by a swaged