

## RIFLE GRENADES.

Use.-Rifle grenades are used to fill in the gap between the hand grenade and the light trench mortar. The type used by our Army originally was designed by two Frenchmen, Viven and Bessières, and in their honor is called the V. B. rifle grenade. It is about 2½ inches long, 2 inches in diameter, and is fired from the discharger, which fits over and is attached to the muzzle of the rifle in the same manner as a bayonet.

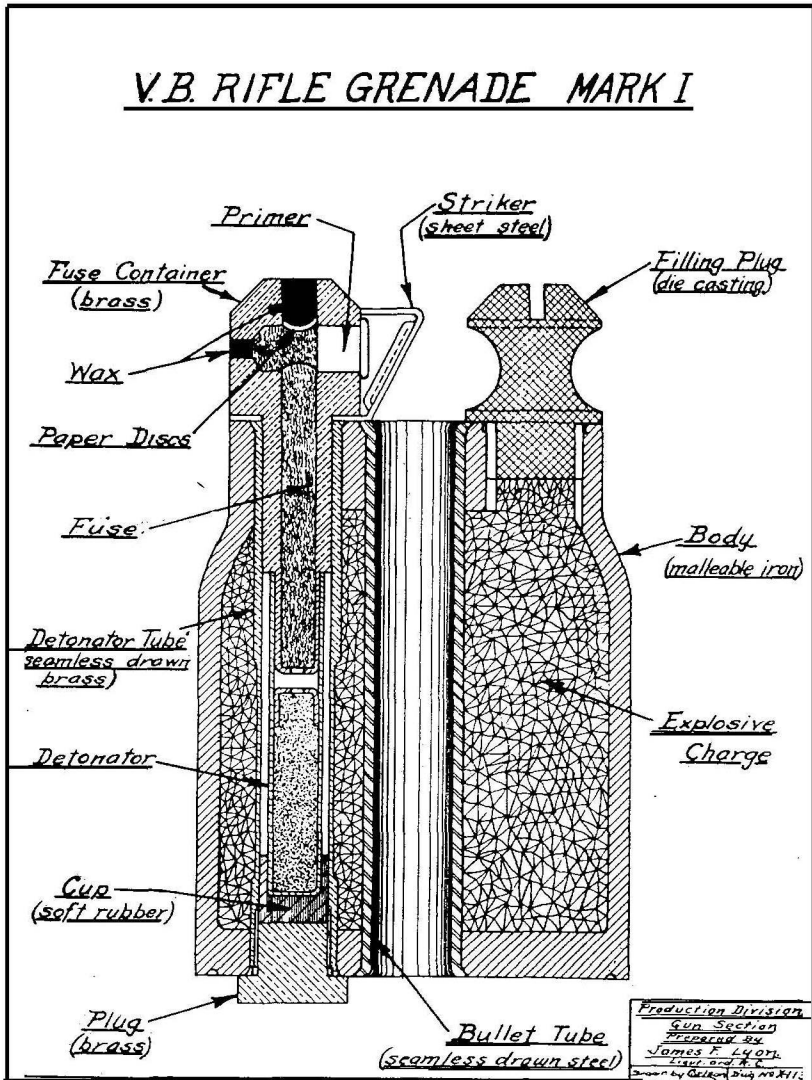


FIG. 92.—Detailed sectional view of the V. B. rifle grenade, Mark I.

V. B. rifle grenade, Mark I.—This grenade is copied from the French V. B. grenade. It is cylindrical, of malleable instead of cast, iron—the French is cast—with rounded top and flat base, grooved on the inside to secure proper fragmentation. It is

pierced longitudinally by a central tube through which the bullet from the rifle cartridge passes. The fuze container carries the primer at its upper end, with the striker projecting obliquely over the end of this bullet tube. When the bullet from the rifle cartridge has passed through the tube it hits the striker and thus fires the primer; from the primer the flash is transmitted to the fuze, which runs longitudinally through the center of the fuze container into the interior of the grenade, and is timed to burn 8 seconds. The fuze in turn fires the detonator attached to its lower end, which bursts the walls of the detonator tube and detonates the main charge. The grenade is fired from a discharger by the gases behind the bullet from the rifle cartridge, which exert their pressure on the flat base of the grenade. The normal range when the rifle is aimed at 45 degrees is about 200 yards. The weight of the grenade when loaded is about 17 ounces.

The V. B. rifle grenade discharger, Mark IV.—This consists of two parts—the discharger proper and the shim. The former is a steel cylinder tapering below the middle to less than half of its largest diameter. This portion of the discharger has two slots, running its

*Discharger Mark IV.  
For U.S. Rifle Models of 1903 & 1917*

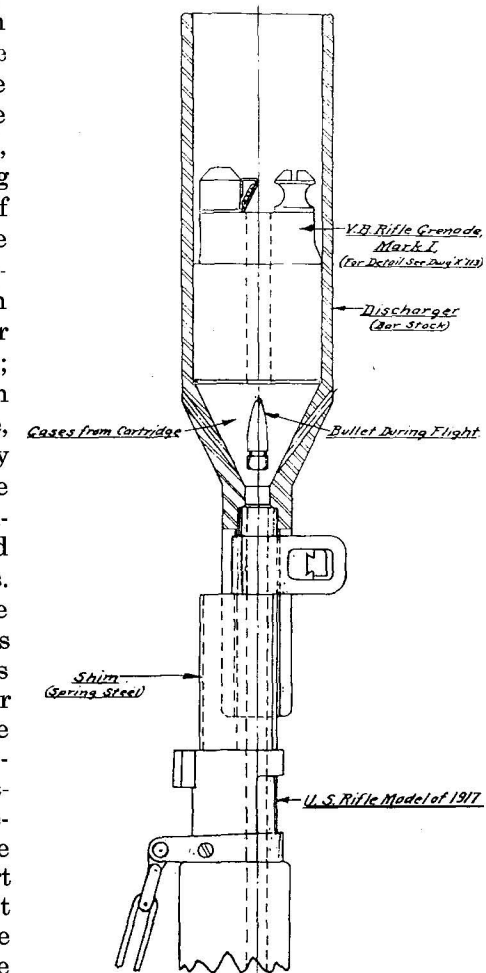


FIG. 94.—Rifle grenade discharger, Mark IV

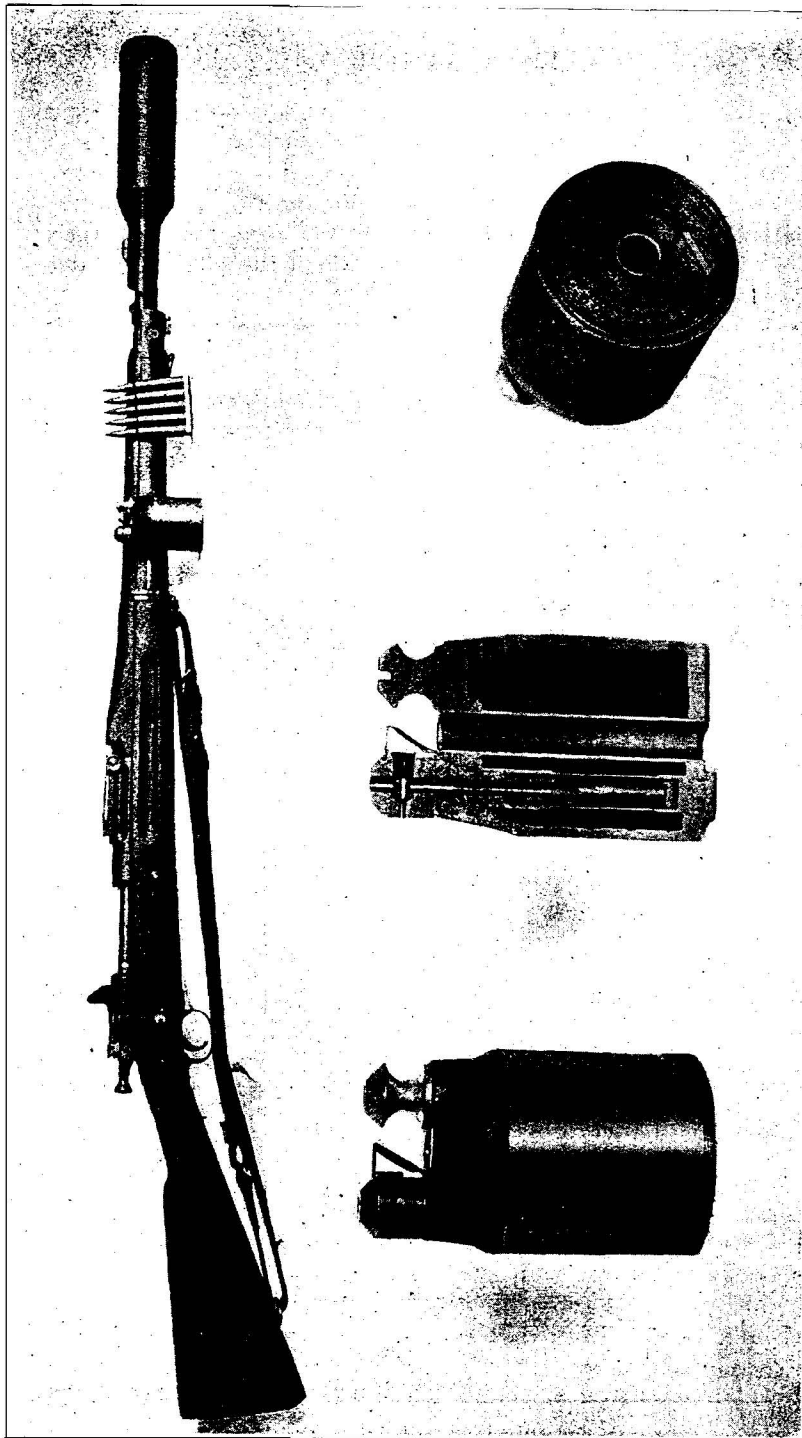


FIG. 93.—V. B. rifle grenade. Discharger mounted on rifle, together with grenade and cartridges.  
Side view of grenade. End view of grenade. Sectional view of grenade.

entire length, and it is fastened securely over the rifle barrel by means of the shim. The United States rifle model of 1917 requires a discharger of slightly different design from the one used with the model of 1903.

Adaptation to United States rifle ammunition.-The V. B. grenade fired from the discharger has apparently been very satisfactory for use in the trenches. Considerable difficulty, however, was experienced in adapting this article for use with the United States rifle. The American rifle ammunition is more powerful than the French, the result being that the pressure exerted in the discharger was excessive, thereby causing the rifle stocks to split as a result of continuous firing of the grenades. The American V. B. grenade has a larger bullet than the French grenade, and this excessive pressure is vented through the bullet tube of the American grenade. In view of the fact that the supply of rifle grenades of the French and Americans are pooled for issue, it was found necessary to drill two ventholes in the American discharger to permit venting of the excess pressure in the discharges when French grenades are fired. The net result of this practice is that 30 yards less range is obtained with the American grenade than with the French. It was directed that all dischargers manufactured in the United States have the two ventholes referred to above drilled in them.

The dummy rifle grenade.-This grenade resembles the V. B. rifle grenade, Mark I, in contour and weight, but contains no ignition device or explosive charge.