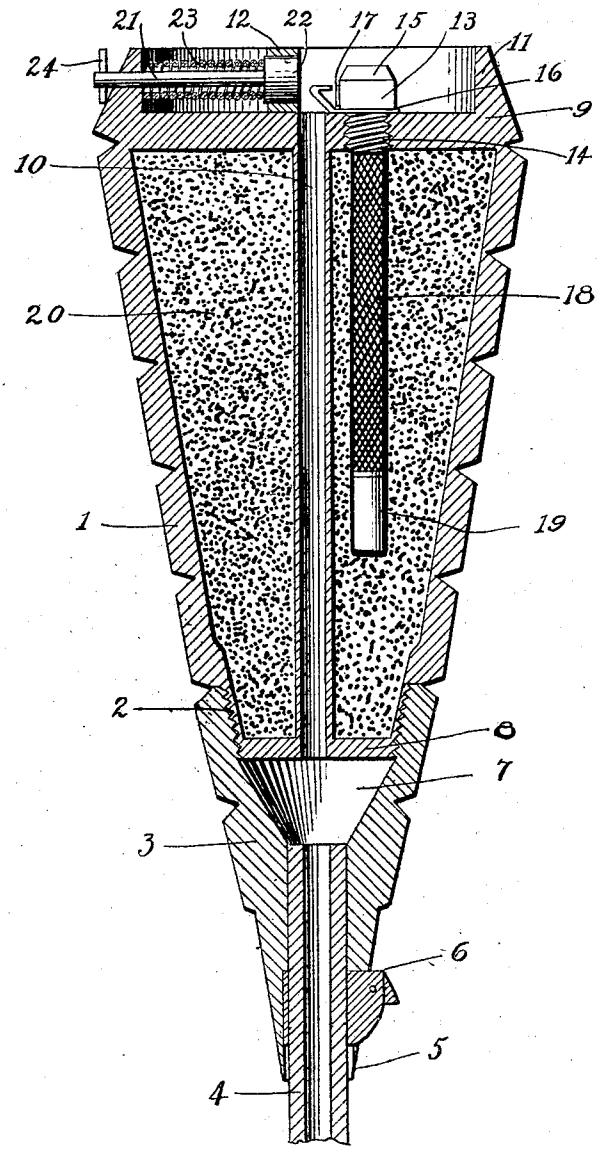
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R. D. DAY

RIFLE AND HAND GRENADE

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Inventor
Robert D. Day

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ROBERT D. DAY, OF THE UNITED STATES ARMY.

RIFLE AND HAND GRENADE.

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To all whom it may concern:

Be it known that I, ROBERT D. DAY, sergeant in the United States Army, a citizen of the United States, stationed at Washington, D. C., have invented an Improvement in Rifle and Hand Grenades, of which the following is a specification.

The invention described herein may be used by the Government, or any of its officers or employees in prosecution of work for the Government, or by any other person in the United States, without payment of any royalty thereon.

This invention relates to improvements in the construction of rifle grenades and has in view the construction of a rifle grenade which may also be used as a hand grenade.

The use of a single device of this character as a hand or rifle grenade, simplifies to a great extent, the work of supplying troops with warfare material of this type.

Another object of my invention is to provide a device of this character which shall be of simple and inexpensive construction.

In the specification reference is made to the accompanying drawing which illustrates the preferred embodiment of my invention. The figure of the drawing represents a vertical section of my device.

The hollow body 1 is of the type ordinarily used for hand grenades, being grooved horizontally and vertically so as to provide for fragmentation.

The body 1, is preferably of cast or malleable iron and is cone shaped and near its base 8 is formed with screwthreads 2 on which is threaded an attachment 3. The attachment 3 is bored to such diameter as to have a snug sliding fit with the outside circumference of the barrel 4 of the ordinary service rifle or fire arm to which it is to be applied. The lower end of the attachment 3 is counterbored to a larger diameter and is slotted at 5, so as to have a sliding fit with the front sight 6 of the rifle. It will be noted that the attachment 3 is not locked to the barrel 4 but has a snug sliding fit therewith.

When the grenade is in position on the rifle, as shown in the drawing, a chamber 7 is formed which is enclosed by the muzzle end of the gun, attachment 3 and the base 8 of the body 1. The top 9 of the grenade is slightly depressed below the top of upwardly extending circular wall 11. The base 8 is bored to form a hole of the same diameter as the bore of the fire arm and is in alignment therewith. The top 9 is bored with a hole of like diameter and in alignment with the bore, and these holes are connected by a tube 10 which forms an enclosed passage through which the bullet from the fire-arm may pass. The tube 10 is preferably solid and integral with the base 8 and top 9 and then is bored to the desired diameter.

Extending above the top 9 is the circular wall 11 which is connected by a transverse wall 12. A fuse container 13 passes through a tapped hole in the top 9 and is secured thereto by means of screw-threads 14. Between the head 15 of the fuse holder and the top 9 of the grenade, is located a striker 16 which is in the form of a thin metallic washer that is secured in place by screwing the fuse container 13 into the top 9 until the head 15 holds the striker in position. The striker 16 has a slanting portion that projects over the bore of the tube 10 at an angle of about 45°. The slanting portion terminates in a bent portion which extends in horizontal direction so as to be in alignment with the percussion primer 17. The primer 17 communicates its ignition to the fuse 18 which transmits the ignition to the detonator 19 which in turn detonates the explosive charge 20 contained in the hollow body 1.

In the transverse member 12 and projecting member 11 are bored holes of different diameters which are in axial alignment with the striker 16. A plunger comprising a rod 21 and enlarged head 22 is mounted for sliding movement in the two holes just described. Encircling the rod 21 is a coiled spring 23 which is compressed between the head 22 and side wall 11. The head is held in normally retracted or safe position, by means of a cotter pin 24 so that when the device is used as a hand grenade it is first necessary to withdraw the pin 24 and then immediately throw the grenade in the direction desired.

The slotted portion 5 may be extended to a considerable extent beyond the sight 6 so as to provide for the expansion of the gases in the chamber 7. This slotted portion also provides a small orifice for

the escape of the gases whereby the noise of the explosion is reduced.

The operation of the device as a rifle grenade is as follows:—

The attachment 3 is placed on the barrel 4 of the rifle with the front sight 6 in the slot 5. The gun is then directed in the direction of the target and the rifle is fired. The bullet passing from the muzzle end of the gun will enter the tube 10 and the gases formed from the powder charge of the cartridge, will accumulate in the chamber 7. The bullet in passing through the tube 10 will act as an obturator and enable the gases enclosed in the chamber 7 to act by their impact and pressure on the base 8 of the grenade which is thus projected in the direction in which the gun was directed.

The bullet in leaving the tube 10 will impinge against the slanting side of the striker 16 and force the striker in contact with the primer 17 which will ignite the fuse. The fuse will continue to burn during the flight of the grenade and will ignite the detonator after the expiration of a time determined by the length and composition of the fuse. The detonator will then transmit the detonation to the main charge.

In the use of this device as a rifle grenade and after firing the muzzle end of the rifle is not encumbered by auxiliary parts, as in present types of rifle grenades, but on the other hand the rifle barrel is clear so that in case of necessity the bayonet may be applied without delay.

When used as a hand grenade, the pin 24 is withdrawn and the grenade is thereafter immediately thrown. The spring 23 then forces the head 22 against the striker 16 which impacts with primer 17 and ignites the fuse. The time elapsing between the pulling out of the pin 24, and the detonation will depend upon the length and type of fuse 18 but is usually a matter of a short interval. By practice, the pin 24 can be withdrawn by one hand while the other arm is going through the motion preliminary to throwing the grenade.

This device provides a grenade of simple construction whereby an effective weapon is obtained which may be used either as a hand grenade or rifle grenade without any preparatory change of structure. This greatly simplifies the problem of supplying troops in the field with devices of this character and also reduces the amount of work in connection with the property accountability and storage of such warfare material.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A device adapted to be fitted to the end of a barrel of a fire-arm, or thrown by hand, including a plunger, and a striker adapted to be actuated by the bullet of the fire-arm or by said plunger.

2. A grenade adapted to be fitted to the end of the barrel of a fire arm or thrown by hand, embodying a hollow body for the reception of an explosive, a tube extending through said body in axial alinement with the bore of the fire arm, a plunger and a striker adapted to be actuated by the bullet of the fire arm or by said plunger.

ROBERT D. DAY.