

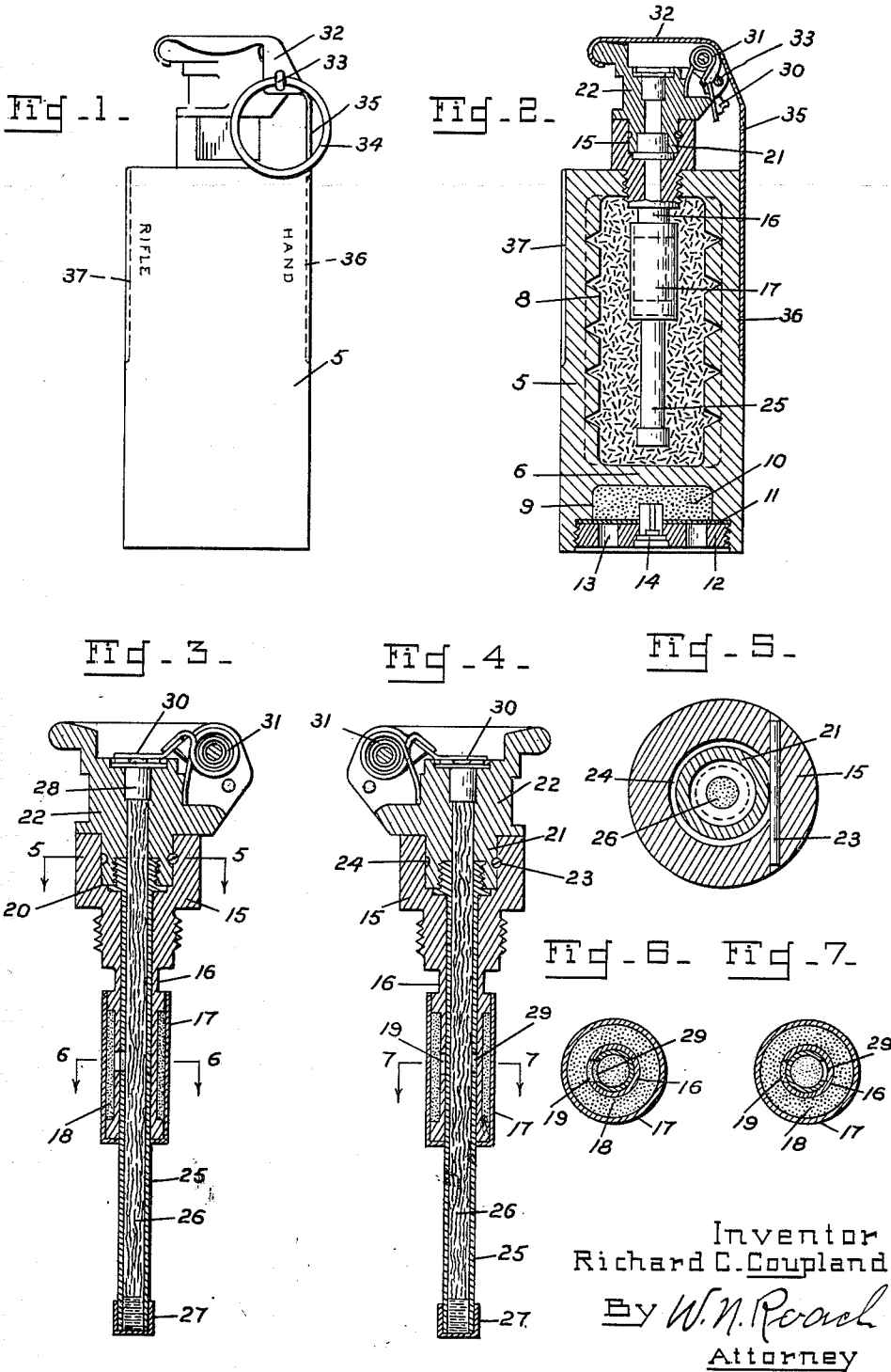
Feb. 2, 1937.

R. C. COUPLAND

2,069,221

GRENADE

Filed Aug. 14, 1935



## UNITED STATES PATENT OFFICE

2,069,221

## GRENADE

Richard C. Coupland, United States Army,  
Norfolk, Va.

Application August 14, 1935, Serial No. 36,138

2 Claims. (Cl. 102—29)

(Granted under the act of March 3, 1883, as  
amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to a grenade.

The purpose of the invention is to provide a combination hand and rifle grenade having a time fuse which may be readily adjusted to provide appropriate periods of delay in functioning. A further object is to arrange the fuse body to conveniently carry a propellant charge.

To these and other ends, the invention consists in the construction, arrangement and combination of elements described hereinafter and pointed out in the claims forming a part of this specification.

A practical embodiment of the invention is illustrated in the accompanying drawing, wherein:

Fig. 1 is a view in side elevation of a grenade constructed in accordance with the invention.

Fig. 2 is a longitudinal sectional view.

Figs. 3 and 4 are detail sectional views of the fuse showing the two positions of adjustment.

Figs. 5 and 6 are sectional views on the corresponding lines of Fig. 3.

Fig. 7 is a sectional view on the line 7—7 of Fig. 4.

The grenade comprises a cylindrical body 5 having a smooth outer surface and formed with a partition 6 adjacent its rear end to define a large chamber 7 for a bursting charge 8 and a small chamber 9 for a propellant charge 10. The charge 10 is confined by a disc 11 which is retained by a plug 12 threaded in the body. The plug is formed with a plurality of vents 13 and centrally carries a primer 14 which is adapted to be functioned by a firing pin.

The front end of the body is formed with an opening for threadedly receiving an adapter 15 which includes a flanged tube 16 disposed in the chamber 7. A thimble or sleeve 17 mounted on the flanges of the tube cooperates with the tube to provide a container for a detonator charge 18. The tube 16 is formed with an aperture 19 leading to the detonator 18.

The adapter is formed with an opening 20 which is continuous with the opening in the tube 16 and receives the stem 21 of a fuse head 22. A pin 23 in the adapter engages a peripheral groove 24 in the stem and holds the fuse head in place while permitting it to rotate.

A tube 25 is carried by the stem and extends through the flanged tube 16, reaching almost to the partition 6. The tube 25 contains a time

fuse 26 leading from a detonator charge 27 at its inner end to a primer 28 in the fuse head. An aperture 29 is provided in the tube 25 and is located in the plane of the aperture 19 of the tube 16.

The primer 28 is functioned by a conventional firing mechanism consisting of a pivoted striker 30 which is held in cocked position against the action of its spring 31 by means of a lever 32. The lever is mounted on the fuse head and normally held by a pin 33 which carries a pulling ring 34. The arm 35 of the lever is of spring metal and is positionable in either one of a pair of diametrically opposite recesses or grooves 36 and 37 formed in the outer surface of the body 5. The grooves are designated by inscription on the body, such as "Hand" and "Rifle".

When the arm 35 is in the groove marked "Hand" as seen in Fig. 1, the apertures 19 and 29 are in alignment, Fig. 3, so that the time fuse 26 transmits ignition to the detonator charge 18 and the grenade is exploded after 5½ seconds, which is the customary delay for hand throwing.

When the fuse head is turned 180 degrees to place the arm 35 in a groove marked "Rifle", the apertures 19 and 29 are out of alignment and the time fuse burns through its entire length to ignite the detonator charge 27. In this setting the grenade is exploded after 12½ seconds which is the customary delay when the grenade is projected from a rifle attachment or discharger.

The throwing of the grenade by hand is performed in the usual manner after removing the pin 33. In throwing the grenade from a discharger the pin 33 is likewise removed and the lever 32 held in place by the barrel of the discharger. When the primer 14 is fired the gases from the propellant charge 10 rupture the disc 11 and react on the barrel to project the grenade.

I claim:

1. A grenade comprising a body, an adapter secured to the body and having a flanged tube disposed within the body, said tube having an aperture between the flanges, a sleeve mounted on the flanges of the tube and cooperating with the tube to form a container, an explosive charge in the container, a fuse head rotatably mounted in the adapter, a firing mechanism carried by the fuse head, an inner tube carried by the fuse head and extending through the adapter tube, said tube having an aperture positionable in and out of communication with the aperture of the adapter tube, a time fuse in the inner tube, and an explosive charge at the inner end of the inner tube.

2. A grenade comprising a body, a tube fixed to the body and extending therein, an annular container on the outer side of the portion of said tube within the body, a detonator charge in the  
5 container of the tube, said tube having an aperture leading to the detonator charge, a rotatably mounted inner tube extending through the

fixed tube, said inner tube having an aperture positionable in and out of communication with the aperture of the fixed tube, a time fuse in the inner tube, and a detonator charge at the inner  
5 end of the inner tube.

RICHARD C. COUPLAND.