L. W. ROCKWELL.

PERCUSSION AND IGNITION FUSE.

APPLICATION FILED MAY 10, 1919.

1,356,828. **Patented Oct. 26, 1920.**

Fig. 1

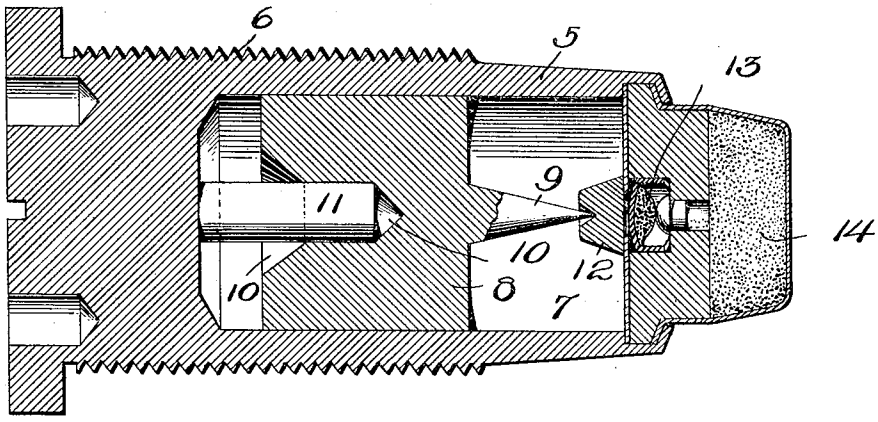
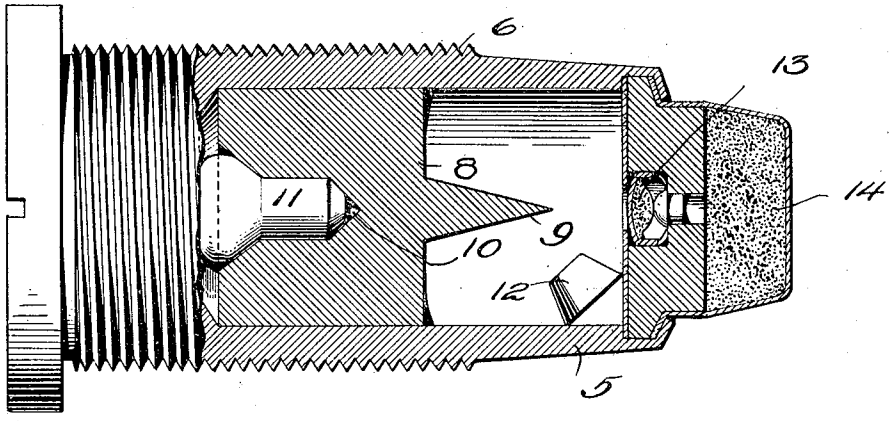


Fig. 2.



Witness

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PERCUSSION AND IGNITION FUSE.

1,356,828. Specification of Letters Patent. Patented Oct. 26, 1920.

Application filed May 10, 1919. Serial No. 296,104.

To all whom it may concern:

Be it known that I, LEA W. ROCKWELL, a citizen of the United States, and a resident of Washington, District of Columbia, have invented certain new and useful Improvements in Percussion and Ignition Fuses, of which the following is a specification.

This invention relates to fuses and more particularly to base or ignition fuses adapted for use in projectiles.

One of the objects of the present invention is to provide a simple and practical fuse of the above general type having relatively few parts which will be inexpensive to make and install.

A further object is to provide a fuse of the above character which is maintained in unarmed position thereby to eliminate danger of premature explosion in handling the projectiles in which such fuses are incorporated. Other objects will be in part obvious and in part hereinafter pointed out.

A preferred form of the present invention is illustrated in the accompanying sheet of drawings in which similar reference characters denote corresponding parts. In this drawing Figure 1 is a longitudinal sectional view of the complete fuse in normal position and Fig. 2 is a similar view of the fuse in armed position.

Referring now to the drawing in detail, 5 denotes the stock of the fuse provided with the usual threads 6 whereby the same may be installed in the projectile. The interior of this stock is provided with a longitudinally disposed cylindrical recess 7 in which is mounted a cylindrical block or plunger 8 having a firing pin 9 at its forward end and a recess 10 at its opposite end. This recess 10 is counterbored or flared at its outer end as indicated and is preferably and substantially in axial alinement with the firing pin 9. There is indicated at 11 a plug of lead or other suitable soft distortable material extending beyond the end wall of the block 8 and adapted to be smashed or pressed into the counterbore of the recess 10 on setback thereby permitting the pin 9 to be withdrawn from a safety cap 12 disposed at the forward end of the cylindrical chamber 7 thereby permitting this block to move out of the line or path of the firing pin 9 and allow the pin to strike a detonator 13 adjacent a booster charge 14 thereby to explode the shell in the usual manner when the shell hits the target.

It is believed that the operation of this device will be clear from the above disclosure. It may be stated that this fuse which is particularly adapted for use as a base fuse in projectiles will, upon being fired, cause a set back of the block 8 thereby to flatten out or compress the lead plug 11 at its base as indicated in Fig. 2. This relative longitudinal movement of the block 8 permits the member 12 to move out of the path of travel of the firing pin 9 thus permitting the pin to explode the detonator 13 on impact.

It is thus seen that the present invention provides a simple and practical fuse which will be absolutely safe to handle and only becomes armed by great forces exerted thereon by the firing of the gun.

Without further analysis, the foregoing will so fully reveal the gist of this invention that others can by applying current knowledge readily adapt it for various applications without omitting certain features that, from the standpoint of the prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and therefore such adaptations should and are intended to be comprehended within the meaning and range of equivalency of the following claims.

What I claim is:—

1. In a fuse, in combination, a stock provided with a longitudinal recess and having a detonator at one end thereof, a block carrying a firing pin, and means for normally holding said block in unarmed position comprising a crushable member associated with the block and said stock, and a guard interposed between said block and detonator and supported by said firing pin.

2. In a fuse, in combination, a stock provided with a longitudinal recess and having a detonator at one end thereof, a block provided at one end with a firing pin and its opposite end with a flared recess, and means for normally holding said block in unarmed position comprising a crushable member arranged within said flared recess associated with said stock and a guard associated with said block and detonator and supported therebetween by said firing pin.

3. In a fuse, in combination, a stock pro-

vided with a longitudinal recess, a detonator at one end of said recess, a block mounted for longitudinal movement in said recess, a firing pin at one end of said block and a soft distortable plug at its opposite end, and a freely movable guard interposed between the firing pin and detonator and held in position by said firing pin, said parts being so positioned and arranged as to cause a deformation of the plug on setback, thus permitting a longitudinal movement of the block and a release of the guard interposed between the firing pin and the detonator.

4. In a fuse having a detonator, in combination, a stock provided with a longitudinal recess, a block adapted, to move therein provided at one end with a firing pin and its opposite end with a flared recess, a guard positioned between the firing pin and the detonator and a crushable member associated with said block and the stock adapted to be compressed within the flared recess by setback when the projectile is fired thereby releasing the guard and leaving the detonator exposed to the action of the firing pin on impact.

Signed at Hartford, State of Connecticut, this 27″ day of March 1919.

LEA W. ROCKWELL.