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C. DEL PRATO

2,360,043

PERCUSSION CAP SAFETY DEVICE FOR PERCUSSION FUSES

Filed July 20, 1940

Fig. 1

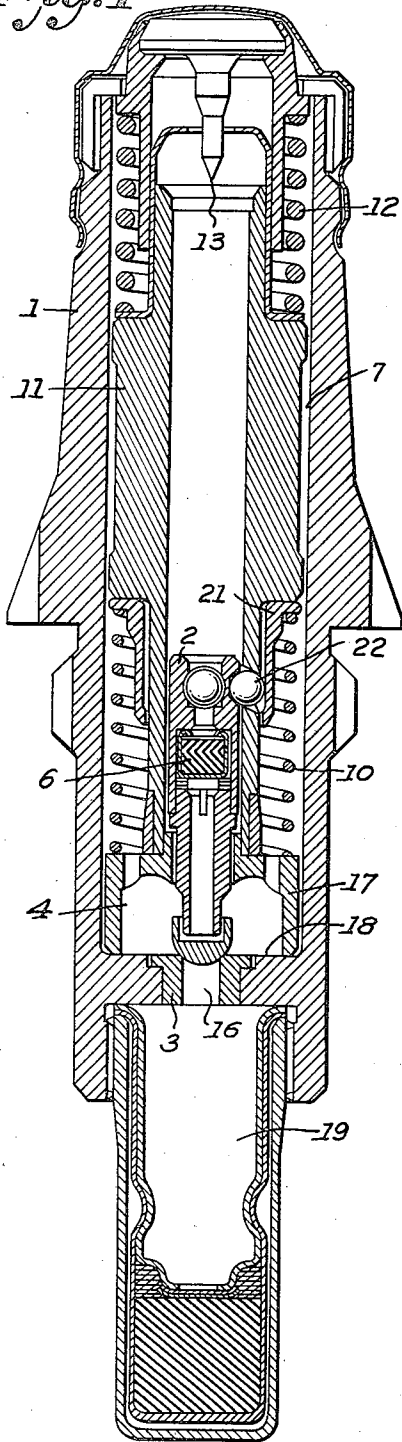


Fig. 2

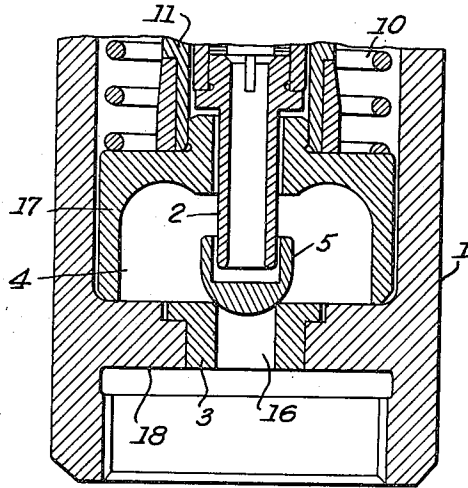
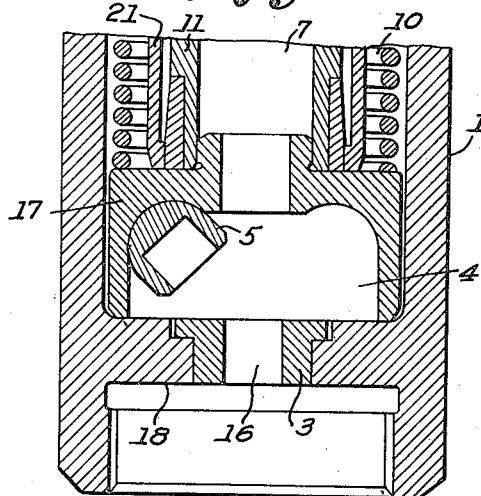


Fig. 3



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PERCUSSION CAP SAFETY DEVICE FOR
PERCUSSION FUSESCesare del Prato, Naples, Italy; vested in the
Alien Property CustodianApplication July 20, 1940, Serial No. 346,638
In Italy August 5, 1939

1 Claim. (Cl. 102—78)

This invention relates to percussion fuses. This invention has utility in a percussion fuse in providing safety features therefor.

In the invention herein the fire conduit is provided with a plug wherein such may be opened during flight, and only during flight, after being fired from its weapon. Other conditions of normal handling fail to disturb the safety features. The valve is composed of an opening through a baffle in the main body and a cup-shaped closure member cooperating therewith, said member held in closure position by an additional member shiftable in shell flight.

Referring to the drawing:

Fig. 1 is a longitudinal section through a fuse embodying the invention herein;

Fig. 2 is a section through the safety portion of the fuse, showing the valve members in fire conduit closing position; and

Fig. 3 is a view similar to Fig. 2, with the parts shown in the position taken during flight to leave the fire conduit open.

Fuse body 1, is provided with an axial cavity 7 having baffle 18 intermediate its length and adjacent the rear end of said body. This baffle is provided with a central cylindrical insert 3 providing a valve seat and having way 16 axially therethrough.

The fuse body may carry container 19 on one side of the baffle having the shell-ignition charge therein. On the opposite side of the baffle is a hemi-spherical cup-shaped plug or valve member 5 normally closing the way 16 and having one end of a minor tubular and slidable member 2 fitting therein to maintain the plug in closure position. This member 2 may carry primer charge 6 which if prematurely ignited fails to set-off the shell-ignition charge as plug 5 serves as a dam across the way 16 between said charges.

A ring 21 about the rearward portion of the member 11 holds ball 22 in an opening in member 11 and seated in a recess in the member 2 so as to lock these members together. In flight this ring is moved rearwardly against the resistance of spring 10. By the term rearwardly is meant in a direction away from the nose of

the fuse which is at the firing pin end of the fuse body. When the forward part of ring 21 has moved rearwardly past the opening in the member 11, the ball 22 is free to move out of its seated position shown in Fig. 1 and is thrown through the opening in member 11 by centrifugal force and into the portion of the axial cavity or bar 7 between ring 21 and the fuse body 1.

The result of such movement of the ball 22 is to disengage members 11 and 2 from each other so that the member 2 is free to move through member 11. Before actual contact of the fuse with its objective, the member 2 is shifted sufficiently to allow the plug 5 to be laterally thrown away from opening 16 by centrifugal force to one side of cavity 4 in guide member 17 which served as a positioning means for the member 2 in safety position. The fire cavity is now open between the primer charge and ignition charge.

As the fuse strikes, the member 2 is thrown to the forward end and the primer charge 6 strikes the firing pin 13, fire from which travels through said member 2, the cylindrical member 11, and the valve member 3 into the chamber 19.

What I claim is:

In a percussion fuse, a body member, a transverse partition in said body member having an opening extending therethrough providing a valve seat, a tube aligned with said opening and normally terminating adjacent said valve seat and adapted to move away from said partition and direct an igniting flame towards said opening, a cup-shaped valve member interposed between said tube and said partition with the end of the tube extending into the cup-shaped valve member, said valve member having a hemispherical end portion projecting into said opening and resting on the valve seat to close said opening whereby the tube will be withdrawn from the cup-shaped valve member upon movement of the tube away from said partition so that the cup-shaped valve member is free for movement laterally of the opening.

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