May 21, 1940. F. SCHULTZE 2,201,209

FUSE

Filed March 23, 1939

Fig_3_

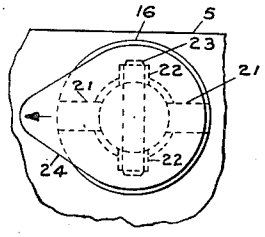


Fig_1_

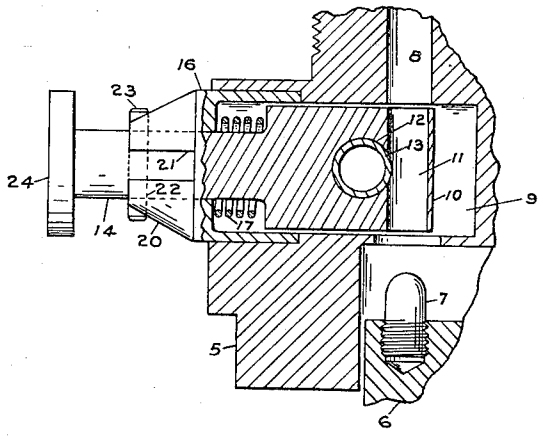


Fig_4_

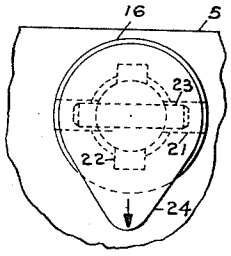
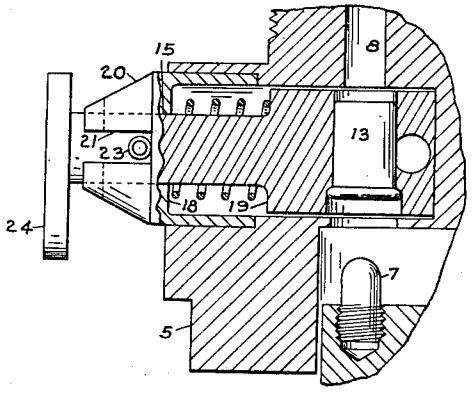


Fig_2_



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Patented May 21, 1940 2,201,209

UNITED STATES PATENT OFFICE

2,201,209

FUSE

Fred Schultze, Rockaway, N. J., assignor to the Government of the United States of America, as represented by the Secretary of War and his successors in office

Application March 23, 1939, Serial No. 263,621

2 Claims. (Cl. 102—36)

(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.

The subject of this invention is a fuse.

The purpose of the invention is to provide a simple and inexpensive unit for a combination fuse in which a bolt is manually adjustable to arm or unarm an instantaneous firing mechanism.

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:

Figure 1 is a longitudinal sectional view of a portion of a fuse with the bolt holding a primer in unarmed position;

Fig. 2 is a similar view with the bolt holding the primer in armed position;

Figs. 3 and 4 are fragmentary views in side elevation of Figs. 1 and 2, respectively.

Referring to the drawing by characters of reference there is shown a portion of a fuse comprising a body 5 and a relatively movable impact striker 6 carrying a firing pin 7 in line with a flash passage 8 in the body.

The body 5 is also formed with a radially disposed passage 9 intersecting the flash passage 8. A bolt 10 slidably and rotatably mounted in the passage 9 has an opening 11 in its inner end which is adapted in one position of adjustment of the bolt to be aligned with the flash passage 8 and to receive the firing pin 7. A second opening 12 is provided in the bolt on the outer side of the opening 11 and perpendicular thereto and this opening 12 carries a primer indicated at 13.

The bolt has a reduced stem 14 which extends through an aperature 15 formed in a bushing 16 that is fixed in the body. A spring 17 embracing the stem and confined between shoulders 18 and 19 respectively formed on the bushing and the bolt normally tends to move the bolt inwardly. The projecting portion 20 of the housing is conical and is provided with a set of deep slots 21 and a set of shallow slots 22. A pin 23 carried by the stem of the bolt is adapted to be selectively engaged in the slots to determine the "in" position of the bolt under influence of the spring 17. A knob 24 fixed on the outer end of the stem is parallel with the primer 13 and indicates its position.

In the unarmed position shown in Fig. 1 the pin 23 is engaged in the shallow slots 22 and the primer 13 is not only out of the path of the firing pin but it is also out of parallelism therewith. On impact the striker is moved inwardly and the firing pin enters the opening 11. In this instance auxiliary delay firing mechanism (not shown) will function.

In the armed position shown in Fig. 2 the pin 23 is engaged in the deep slots 21 and the primer 13 is in alignment with the flash passage 8 and the firing pin 7 so that on impact the fuse will be functioned with instantaneous action.

Adjustment is made by withdrawing the bolt to disengage the pin 23, imparting a quarter turn and then releasing it.

The bolt and the bushing may be shipped separately from the fuse and be easily and quickly installed at the time of use.

I claim:

1. In a fuse, a body having a longitudinally disposed flash passage and a radially disposed passage intersecting the flash passage, a bushing fixed in the outer part of the radial passage and having a portion projecting externally of the body, said portion formed with sets of deep slots and with sets of shallow slots, a bolt slidably and rotatably mounted in the radial passage and extending through the external portion of the bushing, a pin on the external part of the bolt selectively engageable in the slots, a spring seated on the bushing and acting on the bolt to normally hold the pin in the slots and to move the bolt inwardly, a primer carried by the bolt, said primer being out of line with the flash passage and out of parallelism therewith in one position of adjustment of the bolt and in alignment with the flash passage in another position of adjustment of the bolt, and a firing pin in line with the flash passage and movable relative to the body.

2. In a fuse, a body, a striker movable relative to the body, an element of a firing mechanism carried by the striker, a bolt mounted in the body for slidable and rotational displacement relative to the body and having a portion disposed exteriorly of the body whereby it may be displaced, an element of a firing mechanism carried by the bolt, and means for selectively holding the bolt in slidably and rotatably displaced positions with its firing element in or out of cooperative relation with respect to the firing element carried by the striker.

FRED SCHULTZE.