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FUSE FOR EXPLOSIVE SHELLS WITH SAFETY DEVICE.

APPLICATION FILED JULY 6, 1917.

1,310,855. Patented July 22, 1919.

Fig. 1.

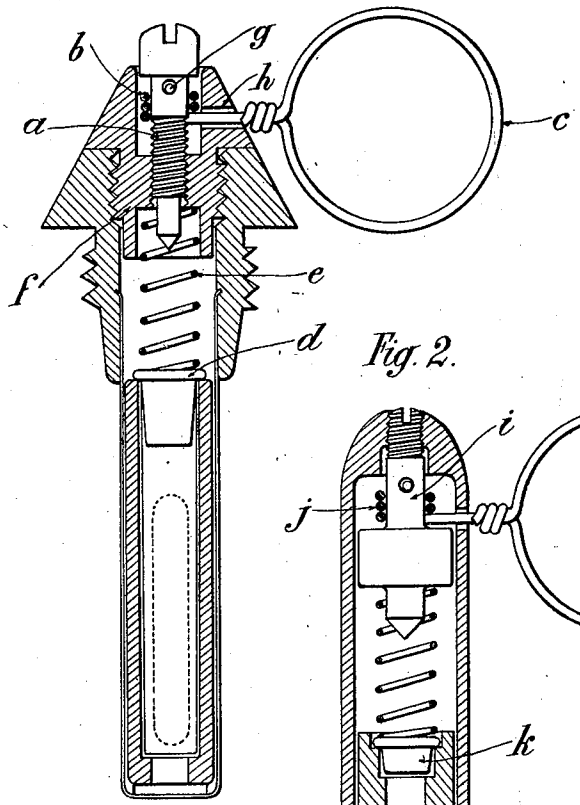
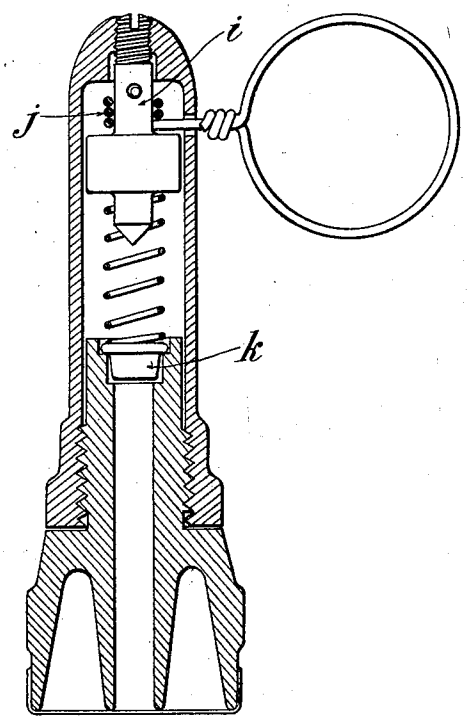


Fig. 2.



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FUSE FOR EXPLOSIVE SHELLS WITH SAFETY DEVICE.

1,310,855. Specification of Letters Patent. Patented July 22, 1919.

Application filed July 6, 1917. Serial No. 179,091.

To all whom it may concern:

Be it known that we, EDGAR WILLIAM BRANDT and CHARLES EMILE JULES BRANDT, citizens of the Republic of France, residing, respectively, at 101 Boulevard Murat, Paris, in the Republic of France, and 23 Rue Cavendish, Paris, in the Republic of France, have invented new and useful Improvements in Fuses for Explosive Shells with Safety Devices, of which the following is a specification.

The object of the present invention is to provide a fuse offering absolute safety, which is applicable to percussion shells, or in an alternative disposition can be employed with shells which require to be ignited at the time of firing.

In the annexed drawing Figure 1 is a view in longitudinal section of a percussion shell fuse constructed in accordance with the invention.

Fig. 2 is a similar sectional view of a modified construction more particularly adapted for use in the case of time fuses.

Fig. 1 shows the design of a percussion shell fuse which contains the screw *a* ending in a percussion point. Around this screw is wound the wire *b* which terminates on the outside in a drawing loop *c*. Movable within the cylindrical part of the fuse is an independent plug *d* containing a primed explosive charge, and the device is completed by the spring *e*. It will be observed that when the shell strikes an object, should the screw be placed in the position shown in Fig. 1, this will prevent all percussion, for the plug will strike against the stopper *f* or the spring *e* and the fulminating cap will not touch the pointed end of the percussion piece. But should the loop *c* be used to draw upon the wire, the screw *a* which works with an easy friction will now rotate after the manner of a drum and will make the desired number of revolutions before the unrolled wire comes out of the hole *g* of the screw.

The screw *a* is now in such position that a shock will move the plug so as to bring it in contact with the point of the screw, and this will set off the priming. It will be observed that the screw *a* with its wrapped wire is held in an absolutely fixed position, and this can never be altered by jarring or shocks. Rotation of the screw can only be produced by drawing on the wire and when absolute safety is thus suppressed when the shell is about to be used, there is still left a relative safety by the use of the spring *e*, this being suitably designed with reference to the weight of the plug, so that this relative safety is sufficient to allow for the handling of the shell immediately before firing.

The wire *b* is wrapped around the screw before putting in the stopper *f*, and to carry this out the percussion piece is screwed into the stopper up to the operative position, then the wire is inserted through the hole *h* of the stopper and into the hole *g* of the screw, then the screw is unscrewed by any mechanical means so as to wind the wire around it while it takes the inoperative position.

Fig. 2 shows an alternative method for the application of the same principle to a fuse in which the percussion piece *i* is held in a fixed position during the period of safety and can be set free by drawing upon the wire *j*, so that when the shell is fired, the mass of the percussion piece can act by inertia upon the priming piece *k* which is stationary in this case. This design can be employed for shells with retarded fire or for illumination shells.

Having now described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A fuse for shells, containing, in combination; a fuse body; a stopper fixed in said fuse body; a plug disposed within said fuse body; a fulminating cap disposed within said plug; a percussion piece with threaded portion screwing with very easy friction into the fuse stopper; a spring designed to prevent normal contact between the percussion piece and the fulminating cap of said plug; and a wire attached to the body of the percussion piece and wrapped around said body with the free end of the wire lying outside the fuse; substantially as described and for the purpose set forth.

2. A fuse for shells containing, in combination; a fuse body; a stopper screwed into said body; a movable plug disposed within said fuse body; a fulminating cap disposed within said plug; a spring disposed between the movable plug and the fuse stopper; a

percussion piece with threaded portion screwing with very easy friction into the fuse stopper; and a wire attached to the body of the percussion piece and wrapped around said body with the free end of the wire lying outside the fuse; substantially as described and for the purpose set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

EDGAR WILLIAM BRANDT.
CHARLES EMILE JULES BRANDT.

Witnesses:
LOUIS MOSES,
CHAS. P. PRESSLY.