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IGNITING APPLIANCE FOR SAFETY FUSES.
APPLICATION FILED MAR. 22, 1909.

932,077.

Patented Aug. 24, 1909.

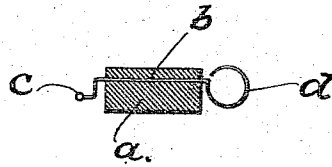


FIG. 1.

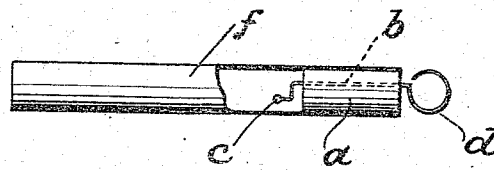


FIG. 2.

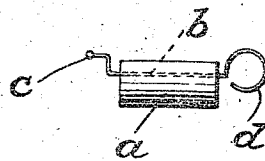


FIG. 3.

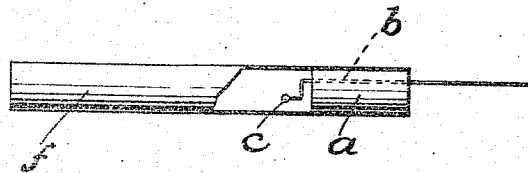


FIG. 4.

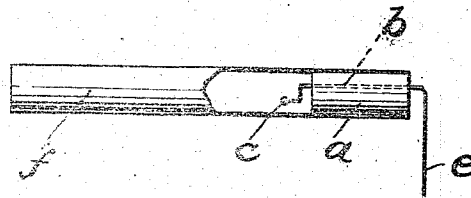


FIG. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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IGNITING APPLIANCE FOR SAFETY-FUSES.

932,077.

Specification of Letters Patent. Patented Aug. 24, 1909.

Application filed March 22, 1909. Serial No. 484,913.

To all whom it may concern:

Be it known that we, RUDOLF WEYEL and HEINRICH JÄGER, subjects of the King of Prussia, residing at Küppersteg, Kingdom of Prussia, and Empire of Germany, have invented a new and useful Improvement in Igniting Appliances for Safety-Fuses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

The object of our invention is to produce an igniting appliance for safety fuses that will effect the ignition of the fuse entirely within the shell and that will be simple in construction and operation.

In the drawings: Figure 1 is a longitudinal sectional view of the igniter in its normal inoperative position; Fig. 2 is a similar view showing the igniter applied to a shell; Fig. 3 is a view similar to Fig. 2 with the igniting wire turned into the position it assumes to effect ignition; and Figs. 4 and 5 are similar views of another embodiment of the invention.

a represents a wooden stopper eccentrically perforated in its length.

b is a wire extending through the opening in the stopper. One end of the wire is bent outwardly with respect to the axis of the wire, and forwardly, and is thickened at the end, this end carrying the igniting material *c*. The other end of the wire is bent into the form of a loop *d*, as shown in Figs. 1, 2 and 3; or it may be bent into any other suitable shape, as, for instance, that shown in Figs. 4 and 5, in which the projecting outer end of the wire, shortly before the same is used, may be bent rectangularly, as at *e*.

The igniter described is mounted in a shell *f* of pasteboard by inserting the stopper *a* into the open end thereof so that the igniting end of the wire projects within the shell and the other end projects without the shell, as shown in Fig. 2. When the wire is turned around its axis, the igniter head assumes the position shown in Fig. 3, in which it extends beyond the side of the wooden stopper. It will therefore be understood that when the igniter is applied to a shell, and the wire turned as described, the igniter head will touch and scrape against the inside wall of the paper shell, and with a sufficient

sensitiveness of the igniting mixture and a sufficiently strong friction, the same will ignite on the wall of the shell and will ignite a fuse that has been introduced into the shell. The ignition is therefore effected entirely inside the shell, thus insuring that fire in the powder core of the fuse cannot come into contact with coal dust or fire-damp.

It is advisable to together cover the outside of the stopper and the corresponding end of the shell with putty or cement, thus forming a tight cover through which the flame cannot pass, preventing the wooden stopper from turning when the wire is turned, insuring that the cover tightly adheres to the shell, and preventing the wire from turning accidentally.

If the igniter is more or less moist so that ignition of the fuse is not effected by turning the wire as described, ignition may be effected by means of a light blow in the direction of the turning axis of the wire. This mode of operation is especially applicable to the form shown in Figs. 4 and 5.

Having now fully described our invention, what we claim and desire to protect by Letters Patent is:

1. An igniting appliance for safety fuses comprising a stopper, a wire extending eccentrically therethrough, and an igniting head on one end of the wire extending beyond the plane of the side of the stopper.

2. An igniting appliance for safety fuses comprising a stopper, a wire extending eccentrically therethrough, and at one end bent outwardly with respect to the axis of the wire, and an igniter head on the end of the wire.

3. An igniting appliance for safety fuses comprising a stopper, a wire extending eccentrically therethrough, and at one end bent outwardly with respect to the axis of the wire and forwardly, and an igniter head on the end of the wire.

In testimony of which invention, we have hereunto set our hands, at Cologne, Germany, on this 5th day of March, 1909.

RUDOLF WEYEL.
HEINRICH JÄGER.

Witnesses:

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LESLIE TAYLOR.