April 12, 1938. H. C. CHRIST 2,114,176

FUSE IGNITER

Filed Oct. 19, 1936

Fig. 1

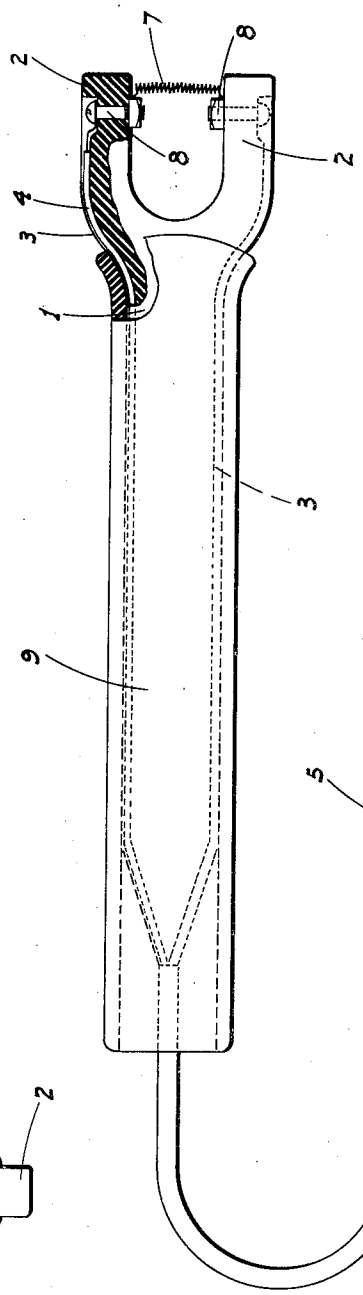


Fig. 3

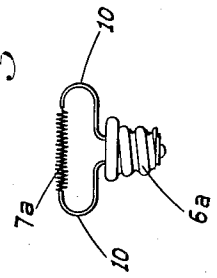
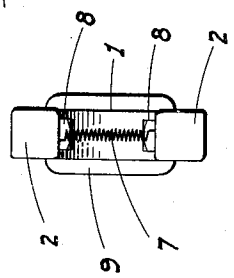


Fig. 2



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FUSE IGNITER

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1 Claim. (Cl. 219—32)

This invention relates generally to a device for igniting fuses for explosives and, in particular, relates to a fuse igniter especially designed for use in mines.

The common type of fuse igniter in use today employs a gas flame as the igniting means and is not particularly satisfactory due to the fact that the flame is difficult to control, is easily extinguished by draughts, and is inconvenient to re-light. In many places, the miners use their gas camp lamps as igniters; the use of these lamps as igniters also being subject to the above objections.

The principal object of my invention is to provide a fuse igniter in which the ignition of fuses is accomplished by means of an electrically heated resistance element.

Another object of my invention is to provide an electric fuse igniter which may be connected to and derive current from an electric miner's lamp or may be used in connection with a separate battery.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is an elevation of my improved fuse igniter.

Fig. 2 is a front end view of the igniter.

Fig. 3 is a side elevation of a modified form of the device.

Referring now more particularly to the characters of reference on the drawing and particularly to Figs. 1 and 2, my improved fuse igniter comprises a handle 1, preferably formed of dielectric material such as "bakelite". The forward end of handle 1 is formed with a pair of spaced fork elements 2 which project forward from the handle.

The handle and fork elements are grooved along their outer edges, as at 3, each groove receiving one of the separated wires 4 leading from a two-wire cord 5 secured at one end to the rear end of the handle 1. The other end of the cord is provided with a relatively small screw plug 6 of conventional type, adapted to screw into a flash light socket or the like.

A coiled resistance wire 7 is suspended between the outer end portions of the fork elements by means of terminal bolts 8 which extend transversely through the fork elements; each bolt being connected to the adjacent wire 4 in the groove along the corresponding fork element.

The entire handle 1 is encased in a sleeve 9 preferably formed of relatively soft rubber. This sleeve affords an effective grip for the handle and also protects the wires 4, in grooves 3 along the handle, from dampness. If desired, a hood or cap (not shown) may be provided to cover the fork elements and resistance wire when the device is not in use. This hood can be made either of leather or rubber.

Operation

In use, the screw plug 6 is connected into a socket provided for the purpose either on an electric miner's lamp or in connection with a separate battery. If a separate battery is to be used, a flash light, of usual construction but with the glass lens and globe removed, may be employed effectively; the socket of the flash light receiving the screw plug 6.

As the current passes through the coiled resistance wire 7, it becomes heated and soon "glows". The glowing wire is then pressed against the end of the fuse to be ignited and the powder at once begins to burn.

As my igniter cannot accidentally be extinguished by draughts, as often occurs with a flame igniter, and due to the ease with which it may be placed in operation, it is admirably suited for the purpose for which it is designed.

The modified device shown in Fig. 3 comprises a screw socket 6*a* from which spaced fingers 10 project; each finger being connected to one terminal of the plug. These fingers are rigid and support a coiled resistance wire 7*a*. This modified device is especially adapted for use with a flash light from which the glass lens and globe have been removed, the socket 6*a* being adapted to be screwed into the socket of the flash light. Of course, this modified device functions in the same manner as hereinbefore described relative to the device shown in Figs. 1 and 2.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure

from the spirit of the invention, as defined by the appended claim.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is:

A fuse igniter comprising a handle including a fork formed on one end thereof, said handle having wire receiving grooves in opposed edges thereof, a resistance element suspended between the prongs of the fork, a wire disposed in each groove and connected to the corresponding end of the resistance element, and a separate removable sleeve surrounding the handle through a substantial portion of its length whereby to maintain the wires against displacement from the grooves.

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