No. 713,878. Patented Nov. 18, 1902.

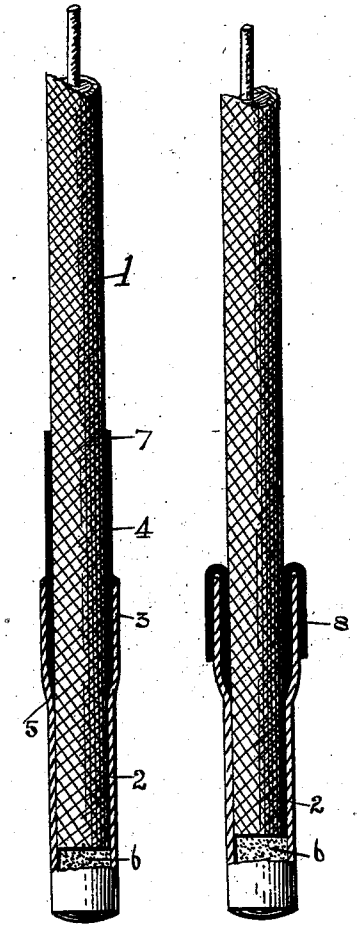
E. H. HEATH & E. E. TAYLOR.

BLASTING FUSE.

(Application filed Oct. 13, 1900. Renewed May 1, 1902.)

(No Model.)

Fig. 1. Fig. 2.



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UNITED STATES PATENT OFFICE.

EDWARD H. HEATH AND ELMER E. TAYLOR, OF CRIPPLECREEK, COLORADO.

BLASTING-FUSE.

SPECIFICATION forming part of Letters Patent No. 713,878, dated November 18, 1902.

Application filed October 13, 1900. Renewed May 1, 1902. Serial No. 105,543. (No model.)

To all whom it may concern:

Be it known that we, EDWARD H. HEATH and ELMER E. TAYLOR, citizens of the United States, residing at Cripplecreek, in the county of Teller and State of Colorado, have invented certain new and useful Improvements in Detonating-Caps and Fuse Connections; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to means designed to render the usual cap employed to detonate a charge of explosive matter tightly sealed, thereby rendering the contents of the cap wholly impervious even though the cap and the charge be disposed beneath the surface of the water.

The object of our invention therefore is to insure that a perfect connection will be established between the fuse and the detonating-cap.

Other objects of our invention will be made fully apparent from the following specification, considered in connection with the accompanying drawings, in which—

Figure 1 is a longitudinal section with the fuse in side elevation, showing the rubber jacket before it is turned down over the upper edge of the body-section. Fig. 2 is a similar view to that shown in Fig. 1 excepting that the rubber tubing designed to coöperate with the cap is disposed in a different position by being drawn over the outer end of the cap, as clearly set forth.

The details of our invention and their cooperating accessories will for convenience be designated by numerals, of which 1 illustrates a section of a fuse of the usual or any preferred construction, and adapted to receive the end of the fuse is the detonating-cap, comprising the main or body section 2, having the integral tubular extension or flared mouth 3, which latter is designed to afford a seat for the end of the fuse and the rubber tubing surrounding the same, it being understood that the usual or any desired quantity of explosive may be contained in the body-section 2.

The flared mouth or extension 3 may be readily formed upon the usual metallic shell by suitable treatment, inasmuch as said outer end or mouth may be stretched sufficiently to make it of larger diameter than the body-section 2, thereby affording a seat for the end of the fuse and the flexible tubing.

In order to insure that the fuse will tightly fit within the flared end 3 of the detonating-cap, we provide a section of flexible tubing, preferably of soft rubber, as indicated by the numeral 4, which is of sufficient diameter to tightly cling to the fuse, and thus insure that the water cannot enter between it and the outer surface of the fuse. This short section of rubber tubing or the equivalent is placed upon the fuse, preferably near one end thereof, when the end of the fuse may be readily entered in the enlarged end 3, when the contiguous edge of the rubber tubing will enter said flared end, when by forcing the fuse tightly inward the rubber jacket is crowded into the section 3, so that the inner edge thereof will be forced in the recess 5, formed by the converging neck or point of union between the enlarged section 3 and the body 2, thereby disposing the end of the fuse adjacent to or in contact with the detonating charge 6 and insuring that the fuse will ignite said charge.

The mere act of tightly thrusting the end of the fuse into the flared section 3 will insure that a water-tight joint will be provided around the fuse, inasmuch as the rubber jacket 4 will be tightly packed within the annular space formed between the outer surface of the fuse and the inner surface of the enlarged section.

The rubber jacket may be drawn downward, so that it will inclose the enlarged section 3 of the cap, as indicated by the numeral 8 in Fig. 2. The end of the rubber jacket is then turned down over the upper edge of the section 2, as seen in Fig. 2.

Our invention can be very cheaply manufactured and readily placed upon the fuse as now ordinarily constructed or upon any preferred variety thereof, it being only necessary to slightly change the size of the end of the cap in order to enable the fuse, with its accompanying rubber packing, to be entered in the enlarged end thereof.

What we claim as new, and desire to secure by Letters Patent, is—

A body portion having a flared open end, and a fuse with its end inserted in said body portion, combined with a protecting waterproof covering having its inner end frictionally held and compressed between the outer surface of the fuse and the inner surface of the flared portion with its outer end extended beyond the outer end of said flared portion and bent back over the end thereof and embracing its outer surface, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

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