

No. 649,384.

Patented May 8, 1900.

A. S. WILLIAMSON.  
FUSE WATERPROOF DETONATOR.

(Application filed May 22, 1899.)

(No Model.)

FIG. 1.

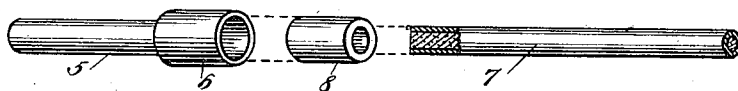


FIG. 2.

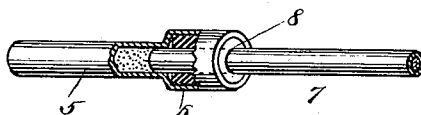
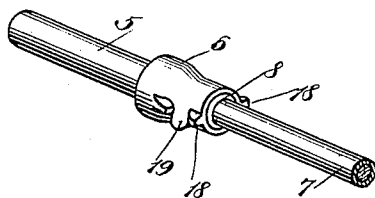


FIG. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ARTHUR SHEWAN WILLIAMSON, OF NELSON, CANADA.

## FUSE WATERPROOF DETONATOR.

SPECIFICATION forming part of Letters Patent No. 849,384, dated May 8, 1900.

Application filed May 22, 1899. Serial No. 717,788. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR SHEWAN WILLIAMSON, of Nelson, in the Province of British Columbia and Dominion of Canada, have  
5 invented a new Fuse Waterproof Detonator, of which the following is a full, clear, and exact description.

This invention relates to a construction of the caps or detonators for blasting-fuses by  
10 which they are rendered entirely waterproof, thus to insure their action in wet mines.

This specification is the disclosure of one form of my invention, while the claims define the actual scope thereof.

15 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view illustrating  
20 the cap and showing the parts detached and in section. Fig. 2 is a perspective view showing the cap or detonator partly in section and in position to be inserted between the jaws of a tool for the purpose of crimping or seal-  
25 ing the cap. Fig. 3 is a perspective view showing the cap in a finished state.

The cap has a body or charge-containing portion 5, the outer end of which is closed and the inner end of which is formed with a  
30 pliable enlargement or thimble 6, the outer end of which is open to receive the fuse 7, which, as shown in Fig. 2, should be projected through the enlargement into the body or charge-containing portion 5, so as to contact  
35 with the charge. Encircling the end of the fuse and fitting snugly in the enlargement or thimble 6 is a rubber gasket 8, and when the charge has been inserted in the body 5 and the fuse 7 and gasket 8 placed in position the  
40 thimble 6 should be crimped, so that the gasket 8 will be firmly compressed around the fuse 7, and by crimping the thimble the thimble is drawn firmly around the gasket and the displacement of the gasket and fuse rendered impossible. By this construction the  
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cap is held firmly on the fuse and the connection between the cap and fuse rendered absolutely waterproof, enabling the cap and fuse to be used in wet places without the liability of becoming dampened.

The tool for crimping the thimble may be of any desired form; but it is preferably of that disclosed in my copending application for fuse-crimping tools. In crimping the cap with the tool disclosed in such application the  
55 thimble is compressed, forming at each side thereof a welt-like projection 18. (See Fig. 3.) Immediately subsequent to this operation portions of the projections 18 are bent over against the sides of the thimble, as indicated at 19 in Fig. 3.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a fuse, of a fuse-  
65 cap comprising a body portion and an enlarged thimble at one end thereof, the end of the fuse being projected through the thimble into the body of the cap, and a gasket fitted in the thimble around the fuse, the thimble being pressed upon the gasket to seal the cap.

2. A fuse-cap, having a body portion and a thimble at one end thereof, through which  
75 thimble the fuse may be projected into the body of the cap, and a gasket fitted in the thimble and adapted to encircle the fuse, the thimble being capable of being crimped or compressed to hold the gasket securely in place and to seal the cap.

3. A fuse-cap having a separable, flexible  
80 gasket fitted in the open end thereof through which gasket the fuse may be passed into the body of the cap and the fuse-cap being formed of pliable material permitting it to be crimped around the gasket thus firmly pressing it on  
85 the fuse and sealing the cap.

ARTHUR SHEWAN WILLIAMSON.

Witnesses:

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