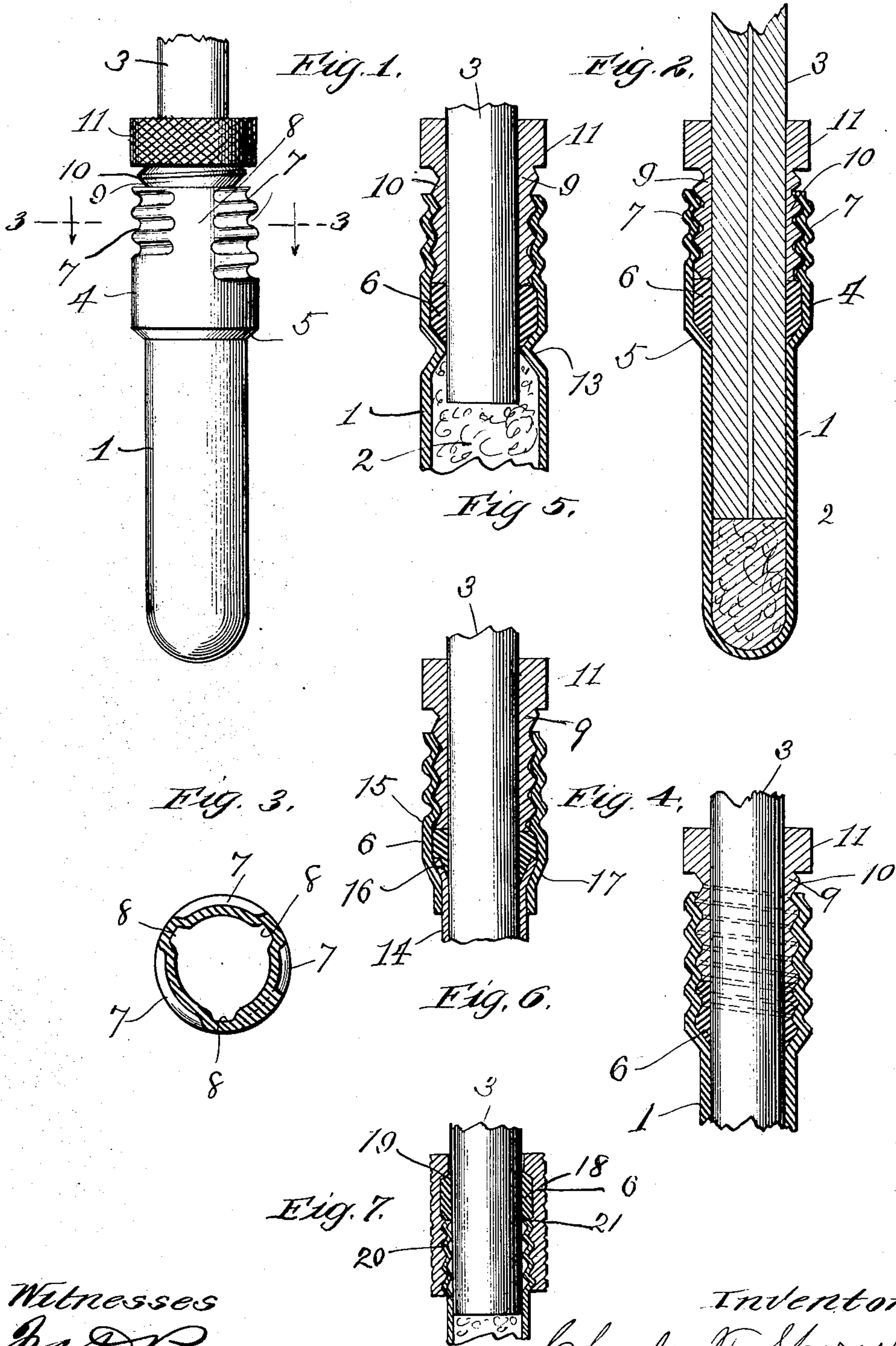


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MINER'S FUSE CAP.  
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954,595.

Patented Apr. 12, 1910.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## MINER'S FUSE-CAP.

954,595.

Specification of Letters Patent.

Patented Apr. 12, 1910.

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*To all whom it may concern:*

Be it known that I, CHARLES F. SPERY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Miners' Fuse-Caps, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification, in which corresponding characters of reference in the different figures indicate like parts.

The object of my invention is to provide a simple, cheap and effective waterproof fuse-cap, such as is ordinarily employed by miners and others for igniting explosive charges in mines or quarries,—all of which is hereinafter more particularly described and definitely pointed out in the claims.

In the drawings, Figure 1 is an elevation of a fuse-cap embodying the features of my invention, as it would appear when attached to a fuse; Fig. 2 is a central vertical sectional view thereof; Fig. 3 is a transverse sectional view in plan taken upon the line 3—3, Fig. 1, and Figs. 4, 5, 6 and 7 are central longitudinal sectional views showing modifications of said invention.

Referring to the drawings, 1, indicates the main body of a shell or casing, preferably formed from copper or other metal or metallic alloy, said casing being closed at one end and open at the other. An explosive material 2 is intended to be placed within the receptacle to be ignited by means of the usual fuse 3, the end of which is arranged to contact therewith.

The body of the casing is enlarged near its open end as shown at 4, thereby forming an inclined portion 5, which results in an internal shoulder adapted to form a seat for a packing ring 6 of rubber or other suitable elastic packing material of a nature which is impervious to water. Extending from the outer end of the enlarged portion toward the packing seat are screw-threads 7 which, by preference, surround only a portion of the circumference of the shell, as clearly shown in Figs. 1 and 3, leaving portions 8 without threads, of the full diameter of the enlarged cylindrical portion below. This construction enables the threads to be formed without injurious distortion of the metal, while permitting the packing to be more readily inserted.

An annular nut, generally designated by 9, is provided with a screw-threaded portion

10 adapted to enter the annular space around the fuse and force the packing 6 against the shoulder. An enlarged portion 11, having a knurled periphery, is formed upon the nut to enable it to be adjusted. When the nut is screwed firmly into place the packing 6 is caused to expand laterally thereby forming a water-tight joint around the fuse. It is obvious that the portion of the nut which enters the shell should be long enough to enable the packing to be thoroughly compressed without causing the shoulder of the enlarged portion to abut against the end of the casing.

In Fig. 4 I have shown a modified construction in which the threaded portion 10 extends to the packing shoulder and is circumferentially continuous.

In Fig. 5 the entire casing is of uniform diameter and the packing seat is formed by means of a peripheral groove 13.

In Fig. 6 a still further modification is shown, in which the shell or container is made in two parts 14 and 15 respectively. The part 14, which is the explosive container, is flared outwardly at the top as shown at 16, while the enlarged part 15 is made with an inwardly tapered portion 17 adapted to fit over the part 16, which latter forms a packing seat.

In Fig. 7 I have shown a modification in which the nut 18 is provided with an interior thread, an interior annular shoulder 19, while the upper end 20 of the container is constructed to form a seat 21 for the packing ring 6.

Having thus described my invention, I claim:

1. A fuse-cap in which is combined a shell for receiving an ignition charge, said shell being open at one end for the insertion of a fuse and provided with an internal annular shoulder near said open end, an annular nut arranged to fit within said cap, and an annular elastic packing interposed between said nut and shoulder to form a water-tight joint between the shell and a fuse when compressed by the nut.

2. A fuse-cap comprising a receptacle adapted to hold an explosive charge, said receptacle having an opening therein for the insertion of a fuse, a shoulder in said opening to form a seat for an annular elastic packing, a screw-threaded portion extending from the outer end of the opening toward said seat, and an annular nut having a por-



tion adapted to enter said opening to compress a packing against said seat.

5 3. A fuse-cap comprising a tubular receptacle open at one end, said receptacle being enlarged near said open end to form an internal packing chamber with a seat for packing, a portion between the end and said seat having threaded sections formed in parts only of the circumference, and an  
10 annular nut adapted to enter said open end, said nut being provided with suitable threads for engaging said sections.

15 4. A device of the class described, in which is combined a receptacle for holding an explosive charge, said receptacle being open at one end for the insertion of a fuse,

a shoulder within said opening to form a packing seat, an annular elastic packing, a fuse inserted within said opening, the same being surrounded with said packing, and an  
20 annular nut having a portion extended within said opening to compress said packing against said fuse.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses, this first day of December  
25 1909.

CHARLES F. SPERY.

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