

H. WALLACE & F. A. SWANSON.
 RECHARGEABLE SAFETY FUSE.
 APPLICATION FILED MAY 7, 1910.

985,082.

Patented Feb. 21, 1911.

Fig. 1

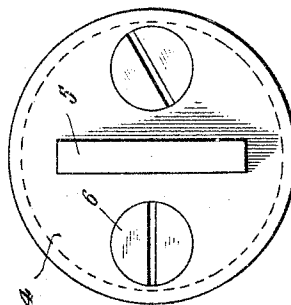
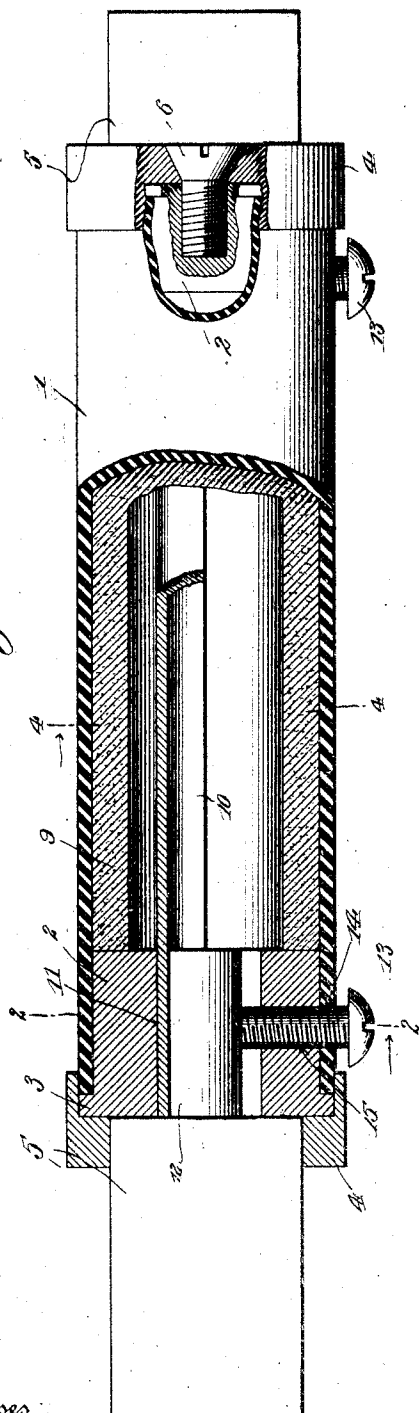


Fig. 2

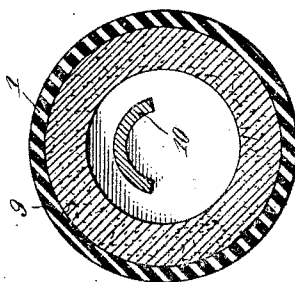


Fig. 3

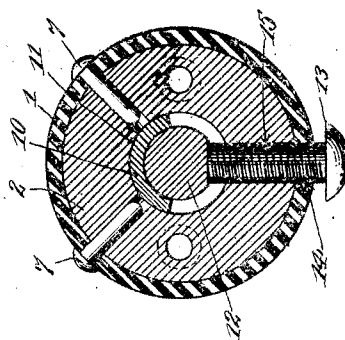


Fig. 4

Witnesses

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UNITED STATES PATENT OFFICE.

HUGH WALLACE AND FRANK A. SWANSON, OF CHICAGO, ILLINOIS.

RECHARGEABLE SAFETY-FUSE.

985,082,

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed May 7, 1910. Serial No. 559,991.

To all whom it may concern:

Be it known that we, HUGH WALLACE and FRANK A. SWANSON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Rechargeable Safety-Fuses, of which the following is a specification.

This invention relates to safety fuses for electric circuits and relates more particularly to a fuse in which the fusible element can be readily replaced when burned out.

The invention has for one of its objects to improve and simplify the construction of devices of this character so as to be comparatively simple and inexpensive to manufacture, reliable and efficient in use, and capable of being quickly and easily recharged without having to solder the fuse strip to the contact caps or terminals, nor requiring the removal of the incombustible material contained in the fuse casing.

Another object of the invention is the provision of a novel fuse strip and means for clamping the same in place.

With these objects in view and others as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention:—Figure 1 is a combined sectional elevation view of the fuse. Fig. 2 is a transverse section on line 2—2, Fig. 1. Fig. 3 is an end view of the fuse. Fig. 4 is a section on line 4—4, Fig. 1.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, 1 designates a fiber or other insulating tube or casing, which has fitted in each end an aluminum bushing or plug 2 that has an annular flange 3 at its outer end to limit the inward movement into the casing, and fitted over the outer ends of these plugs are terminal caps 4 having blades 5, the said caps being secured in place by screws 6 that screw into the plugs or bushings 2, and these bushings 2 are held in place in the casing by pins 7 passing radially through the ends of the casing and engaging in openings 8 bored in the bushings. Within the casing and extending

from one bushing to the other is an incombustible lining 9 of asbestos or the like. Extending longitudinally of the casing is a fuse strip 10 of semi-tubular form or circular cross-section, and the ends of this strip extend into openings 11 in the bushing and they are clamped therein by plugs 12 that fit the strip. These plugs are clamped against the strip by screws 13 that pass through openings 14 and 15 in the casing and bushing. As shown in Fig. 2, the screw engages the plug and forces it against the aluminum bushing so that good electrical connections will be obtained. With a fuse constructed in this manner, it is an easy matter to insert a fuse strip, it being merely necessary to take out the screws 6 for removing the terminal caps and then loosening the screws 13 so that the clamping plugs 12 can be removed. The fuse strip is then inserted longitudinally of the casing and its ends engage in the openings of the aluminum bushings and after this is done, the clamping plugs are inserted and clamped by the screws 13 and the terminal caps are then secured to the casing by the screws 6.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention relates, and while we have described the principle of operation of the invention, together with the device which we now consider to be the best embodiment thereof, we desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the claims.

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

1. A fuse comprising a casing, bushings fitted in the ends of the casing and each having an opening, a terminal cap secured to each bushing, a fusible element having its ends disposed in the openings of the bushings, plugs inserted in the openings of the bushing to hold the said element in contact therewith, and means on the caps for connecting the fuse in circuit.

2. A fuse comprising a hollow casing, metallic bushings secured to the ends thereof and each having an opening, a fusible element extending longitudinally of the casing and having its ends disposed in the openings of the bushings, plugs inserted in the open-

ings of the bushings to hold the strips therein, and a screw for clamping the plug against the strip.

3. A fuse comprising a tubular casing, 5
metallic members fitted within the ends of the casing and each having an opening, metallic caps fitting over the members and ends of the casing and having blades, screws extending through the caps and threaded in 10
the members, a fusible element extending longitudinally of the casing and having its ends extending into the members, plugs inserted in the members and engaging the fusible element, and screws extending 15
through the wall of the casing and into the members for pressing the plugs against the said element.

4. A fuse comprising a tubular casing, 20
metallic bushings inserted in the ends of the casing, metallic terminal caps fitted over the ends of the casing, fastenings securing the caps to the bushings, fastenings extending into the casing and into the bushings for retaining the latter in the casing, each bushing 25
having a bore of circular cross-section, a fusible element having its ends disposed in the bores of the bushings, members disposed in the bushing for clamping the element in contact with the bushings, and jam screws 30
extending into the casing and bushings for pressing the said members against the element and the element against the bushings.

5. A fuse comprising a tubular casing, 35
metallic bushings inserted in the ends of the casing, metallic terminal caps fitted over the ends of the casing, fastenings securing the caps to the bushings, fastenings extending

into the casing, each bushing having a bore of circular cross-section, a fusible element having its ends disposed in the bores of the 40
bushings, members disposed in the bushings for clamping the element in contact with the bushing, jam screws extending into the casing and bushings for pressing the said members against the element and the element 45
against the bushings, and a tubular incombustible lining in the casing extending from one bushing to the other.

6. A fuse comprising a tubular casing, 50
metallic bushings inserted in the ends of the casing, metallic terminal caps fitted over the ends of the casing, fastenings securing the caps to the bushings, fastenings extending into the casing and into the bushings for retaining the latter in the casing, each bushing 55
having a bore of circular cross-section, a fusible element having its ends disposed in the bores of the bushings, members disposed in the bushing for clamping the element in contact with the bushings, jam screws extending 60
into the casing and bushings for pressing the said members against the element and the element against the bushings, said fusible element being hollow and of semi-circular cross-section throughout its 65
length.

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

HUGH WALLACE.
FRANK A. SWANSON.

Witnesses:

S. E. DICKINSON,
HARRY J. FOX.