F. N. WAKE.

ELECTRIC FUSE.

APPLICATION FILED MAR. 22, 1915.

1,207,351.

Patented Dec. 5, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

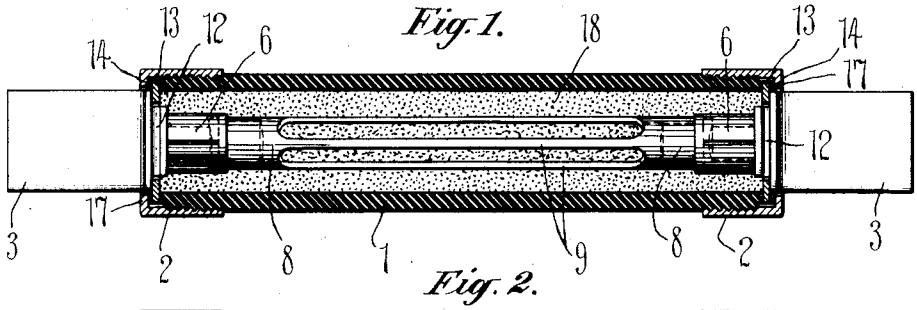


Fig. 2.

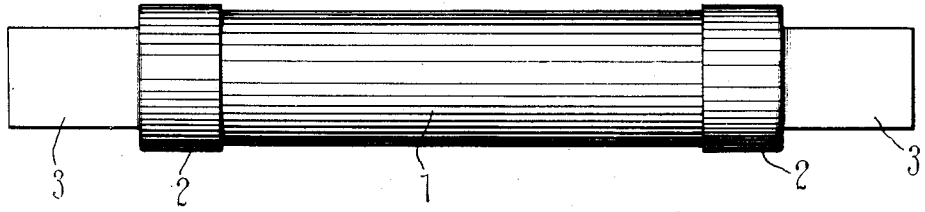


Fig. 3.

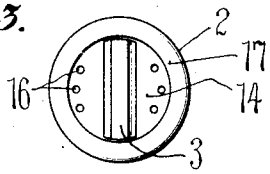


Fig. 4.

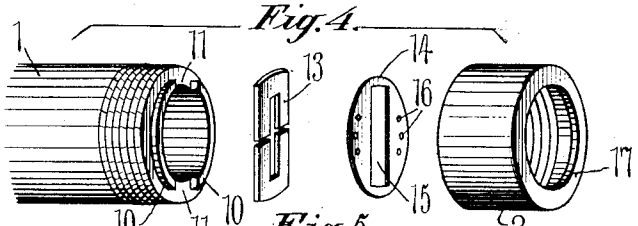


Fig. 5.

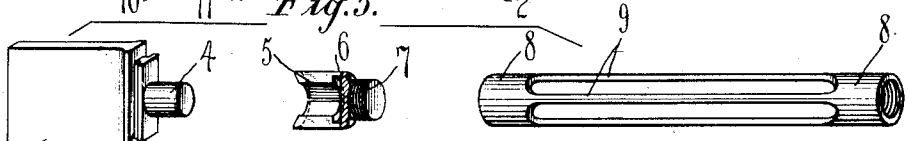
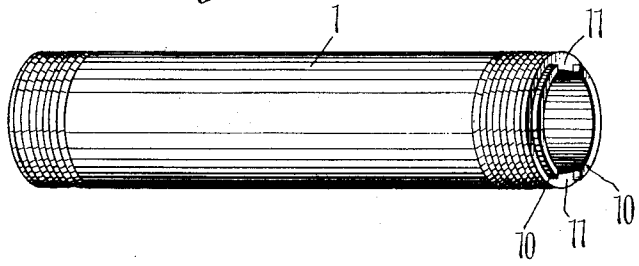


Fig. 6.



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2 SHEETS—SHEET 2.

Fig.7.

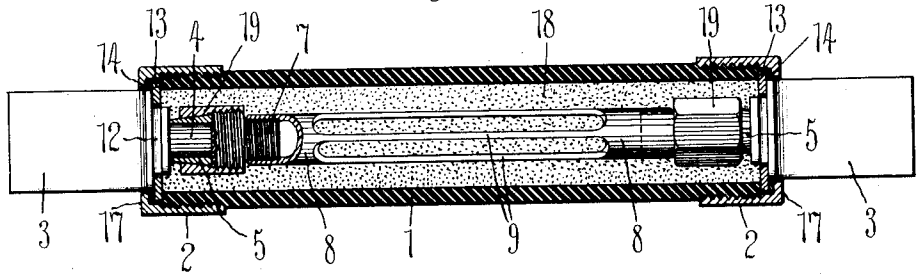


Fig.8.

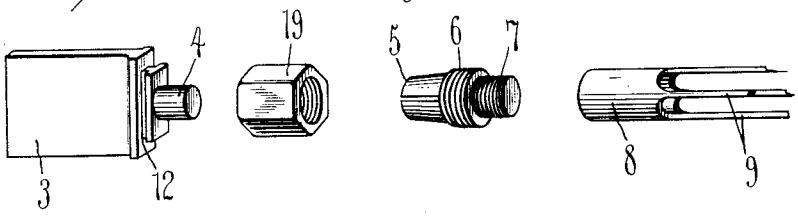
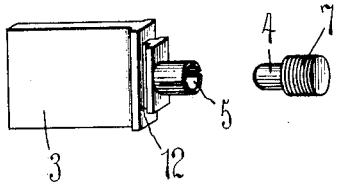


Fig.9.



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UNITED STATES PATENT OFFICE.

FREDERICK N. WAKE, OF NEW YORK, N. Y., ASSIGNOR TO STERETT R. PREVOST, J. MAXWELL COOTE, EDWARD F. FISHER, AND HIMSELF, TRADING UNDER NAME OF ELECTRICAL SAFETY APPLIANCE COMPANY, OF NEW YORK, N. Y.

ELECTRIC FUSE.

1,207,351. Specification of Letters Patent. **Patented Dec. 5, 1916.**

Application filed March 22, 1915. Serial No. 16,178.

To all whom it may concern:

Be it known that I, FREDERICK N. WAKE, a citizen of the United States, and resident of the borough of Bronx, in the city and State of New York, have invented a new and useful Improvement in Electric Fuses, of which the following is a specification.

This invention relates to improvements in electric fuses and particularly to improvements in what are known in the art as renewable fuses, in which the parts are not soldered but are arranged so that they may be taken apart and new parts substituted as desired.

One of the objects of my invention is to provide a fuse in which there will be a positive and unvarying contact between the fusible element and the fuse terminals.

Another object is to provide a fuse in which the parts may be quickly and conveniently renewed without injury to them.

Another object is to provide a fusible element which will be more efficient owing to its novel construction and form.

A further object is to provide a fuse of the type known as the knife blade fuse which is so constructed that when the elements are assembled the knife blade terminals are positively maintained in alinement and held against endwise thrusts and the parts are held against relative movement.

A still further object is to provide certain improvements in the form, construction and arrangement of the several parts whereby the above mentioned and other objects may be effectively carried out.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a longitudinal central section of the device partly in elevation, Fig. 2 is a view in side elevation of the fuse, Fig. 3 is an end view of the fuse, Fig. 4 shows, in perspective, detail views of one of the end caps, one of the end plates, one of the two pairs of locking rings, and of a portion of the casing, Fig. 5 shows in perspective detail views of the fusible element, one of the connecting heads and one of the terminal blades, Fig. 6 is a perspective view of the casing, Fig. 7 shows a longitudinal section of the fuse partly in side elevation, Fig. 8 shows, in perspective detail, views of the fusible element, one of its connecting heads, one of the clamping nuts and one of the terminal blades, and Fig. 9 is a perspective of a modified form showing a terminal blade and its connecting head.

The device comprises a casing 1 provided with removable end caps 2 adapted for screw threaded engagement with the casing. The caps 2 have a portion of their end walls cut away to permit of the insertion of the terminals 3. On the inner faces of the terminals 3 and projecting laterally therefrom are pins 4 which are adapted to enter and frictionally engage the split sockets 5 of the heads 6. The heads 6 are also provided with exteriorly screw threaded pins 7 which are, in turn, adapted to engage interior screw threads on the opposite ends of the fusible element 8. This fusible element 8 is tubular in form and has its sides cut away to form one or more connecting strips 9, as is clearly shown in Figs. 1 and 5. I prefer this fusible element to be in the form here described, but this particular embodiment is not essential in the broadest aspect of my invention as any well known and approved substitute for this element may be successfully used.

The casing 1 has, on its outer ends, flanges 10 which are partially cut away to form the transverse notches 11 and the terminals 3 have, on their inner faces, the transverse grooves 12. The notches 11 and the grooves 12 are adapted to receive a pair of slotted keys 13 which are inserted from opposite sides of the casing.

A pair of disks 14 having transverse slits 15 and ventilating holes 16, are adapted to fit into the end caps 2 and are held firmly in place between the flanges 10 and the end walls 17 on the caps 2 when the latter are screwed home.

The interior of the casing 1 is filled with an arc smothering composition 18 which surrounds the fusible element and its heads and it is retained in the casing by the disks 14.

If it is desired to more firmly clamp the split sockets 5 onto their respective pins 4, nuts 19 are provided. These nuts 19 have the outer portions of their bores tapered for engagement with the tapered surfaces of the split sockets 5, so that when the nuts 19 are screwed onto their heads 6 the sockets

5 will be firmly clamped on the pins 4 of the terminal blade, this form being shown in Figs. 7 and 8.

Fig. 9 is a modified form in which the split socket is shown on the terminal and its pin on the head.

The device is assembled in the following manner: The screw threaded pins 7 on the heads 6 are screwed into the ends of the fusible element 8 and the pins 4 on the terminals 3 are forced into the split sockets 5, thus forming a positive contact between the fusible element and its terminals. The casing 1 is now slipped over the assembled parts and the interior of the casing filled with an arc smothering material. The keys 13 are fitted into the notches 11 and the grooves 12 to lock the parts in the casing, after which the disks 14 are placed over the ends of the casing and are clamped in place by screwing on the end caps 2. Should the fusible element burn out, the device may be taken apart in a manner readily understood from the above description and a new fusible element inserted in a very short period of time.

It is evident that slight changes might be resorted to in the form, construction and arrangement of the several parts without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the structure herein set forth, but

What I claim is:—

1. In a fuse, a casing having transverse end notches, a fusible element, removable terminals frictionally connected to said fusible element and having transverse end slots in alinement with said notches and removable keys in said notches and slots for locking the parts in the casing.

2. In a fuse, a casing having transverse end notches, removable end caps for said casing, a fusible element, removable terminals frictionally connected to said fusible element and having transverse end slots in alinement with said notches and removable keys in said notches and slots for locking the parts in said casing.

3. In a fuse, a casing having transverse end notches, a fusible element, removable terminals connected to said fusible element and having transverse end slots in alinement with said notches and removable keys in said notches and slots for locking the parts in the casing.

4. A fuse, a casing having transverse end notches, removable end caps for said casing, a fusible element, removable terminals connected to said fusible element and having transverse end slots in alinement with said notches and removable keys in said notches and slots for locking the parts in said casing.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 19th day of March, 1915.

FREDERICK N. WAKE.

Witnesses:
STERETT R. PREVOST,
EDW. F. FISHER.