R. C. COLE.

INCLOSED ELECTRIC FUSE.

APPLICATION FILED APR. 3, 1917.

1,244,589. Patented Oct. 30, 1917.

Fig. 1

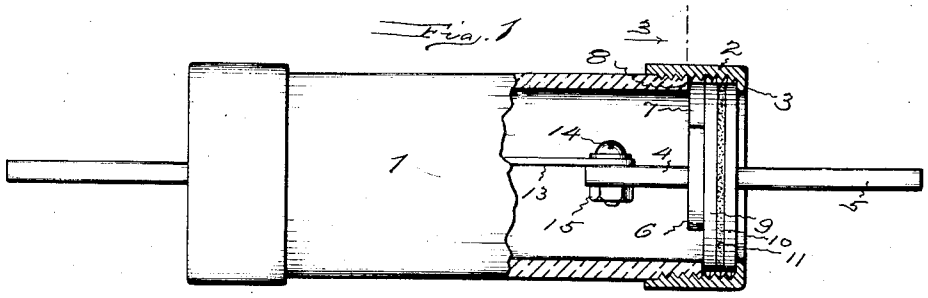


Fig. 2

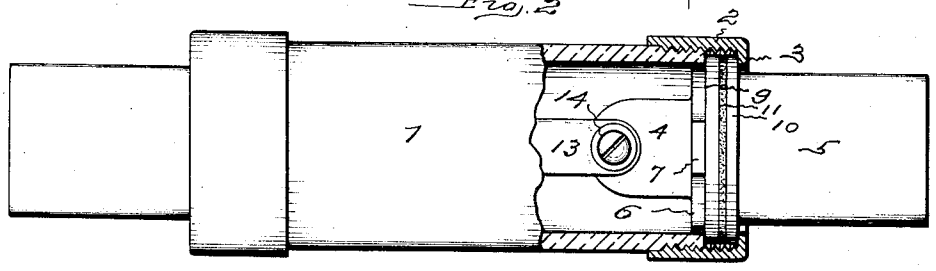


Fig. 3

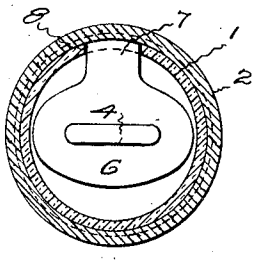


Fig. 4

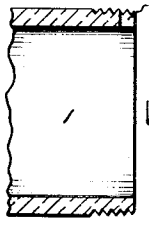


Fig. 6

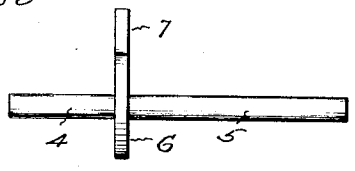


Fig. 8

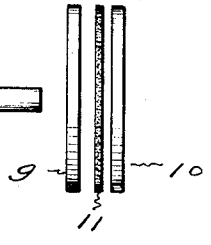


Fig. 5

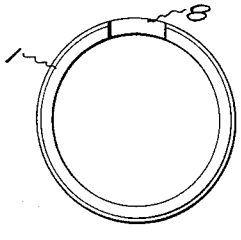


Fig. 7

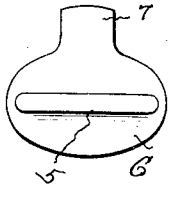
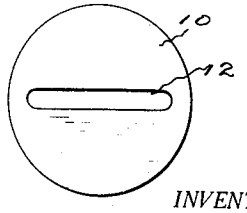


Fig. 9



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UNITED STATES PATENT OFFICE.

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INCLOSED ELECTRIC FUSE.

1,244,589. Specification of Letters Patent. Patented Oct. 30, 1917.

Application filed April 3, 1917. Serial No. 159,422.

To all whom it may concern:

Be it known that I, ROBERT C. COLE, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Inclosed Electric Fuses, of which the following is a specification.

This invention relates to that class of inclosed electric fuses which are commonly known as renewable fuses, that is, those fuses which when the fusible link is melted can be quickly taken apart and a new link substituted, and particularly to the type of knife blade contact fuses of this class.

The object of the invention is to provide a fuse of this class and type which is cheap to manufacture, easy to manipulate for originally assembling and for renewing, and efficient and durable in use.

Figure 1 of the accompanying drawings shows a side view of a fuse which embodies this invention, with a portion of the casing cut away in central section. Fig. 2 is a similar view with the fuse rotated ninety degrees. Fig. 3 is a transverse section taken on the plane indicated by the dotted line 3—3 on Fig. 1. Fig. 4 is a section of one end of the insulating casing. Fig. 5 is an end view of the casing. Fig. 6 is an edge view of one of the blades provided with a locating stirrup. Fig. 7 is an end view of one of the blades with its stirrup. Fig. 8 is an edge view of the washers that are slipped on the blade. Fig. 9 is a face view of the washers.

The casing 1 of this fuse is preferably made of a tube of insulating material, such as hard fiber. At each end this casing is exteriorly threaded. Screwed upon each threaded end of the casing is a metal ferrule 2 that has an inturned flange 3 at its outer edge.

Each knife blade, which is usually made of a strip of copper, has a perforated interior terminal 4 and an exterior contact terminal 5. On each blade intermediate the terminals is a stirrup 6 which is stamped to shape from metal with a slot that permits it to be slipped upon the blade. After each stirrup is located in the desired position on the blade it is secured thereto by solder, brazing or otherwise. Each stirrup has on one side an outwardly projecting lug 7 that when the parts are assembled extends to the outer diameter of the casing and lies in a notch 8 which is made in the end of the casing for receiving the lug. Slipped upon each blade outside the stirrup are washers, desirably three, the inner one 9 and the outer one 10 being of metal, and the intermediate one 11 of soft material which will act as a packing. These washers have an exterior diameter substantially the same as the exterior diameter of the casing and have a slot 12 which fits the blade.

In order to assemble the parts when first manufactured or when a fuse is renewed, a link 13 of fusible metal, preferably zinc, is clamped between the inner terminals of two blades provided with the locating stirrups by screw 14 and nut 15. The conducting element thus assembled is then inserted into the casing and the lugs projecting from the stirrups fastened on the blades are located in the notches in the ends of the casing. After this the washers are slipped upon the blades up to the ends of the casing at each end and finally the ferrules are screwed onto the threaded ends of the casing. When put together in this manner the stirrup lugs by engagement with the walls of the notches in the ends of the casing prevent the blades from rotating and also prevent the blades from being forced toward each other; and the caps hold the washers against the ends of the casing and lugs so that the blades are held central and are prevented from being drawn apart.

The invention claimed is:

1. An inclosed renewable fuse having an insulating casing, a conducting blade with an interior link terminal and an exterior contact terminal at each end of the casing, a stirrup having an area that is less than the cross sectional area of the interior of the casing permanently fastened to each blade between said terminals, said stirrup having on one side a projecting lug adapted to rest against the end of the casing, a washer with a perforation whereby it is slipped longitudinally on each blade outside of each end of the casing, and a ferrule screwed on each end of the casing for holding said washers and lugs in position.

2. An inclosed renewable fuse having an insulating casing with a notched end, a conducting blade with an interior link terminal and an exterior contact terminal at each end of the casing, a stirrup having an area that

is less than the cross sectional area of the interior of the casing permanently fastened to each blade between said terminals, said stirrup having on one side a lug projecting outward and resting in a notch in the end of the casing, a washer with a perforation whereby it is slipped longitudinally on each blade, each washer having a diameter substantially the same as the exterior diameter of the casing, and a ferrule screwed on each end of the casing outside of the washer for securing the several parts in position.

3. An inclosed renewable fuse having an insulating casing, a conducting blade with an interior link terminal and an exterior contact terminal at each end of the casing, a plate permanently fastened to each blade between said terminals, said plate on one side only extending to the outer diameter of the casing, a washer slipped longitudinally on each blade outside of each end of the casing, and a ferrule screwed on each end of the casing and clamping the projecting parts of the plates between the washers and the ends of the casing.

ROBERT C. COLE.