W. H. TIDMARSH.

ELECTRICAL FUSE.

APPLICATION FILED MAY 31, 1907.

**918,223.**

Patented Apr. 13, 1909.

Fig. 1.

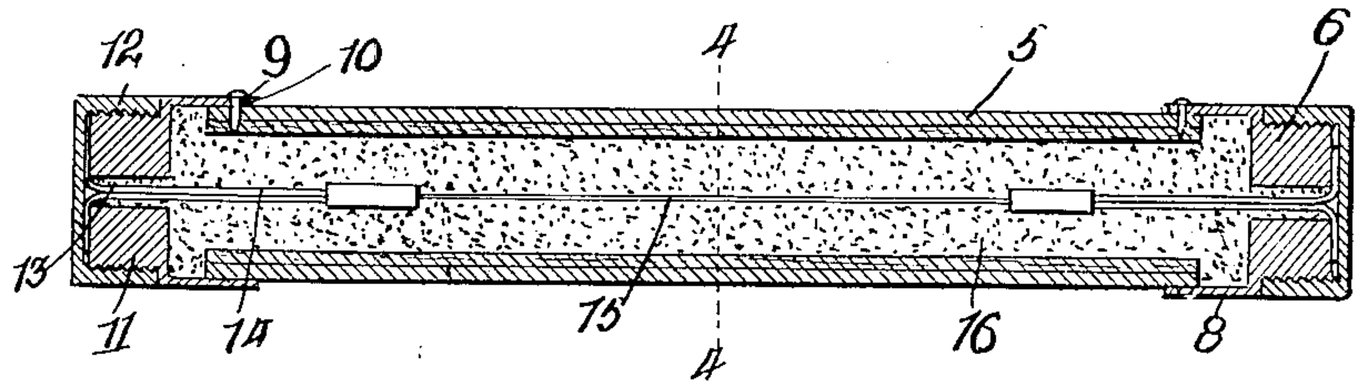



Fig. 2.

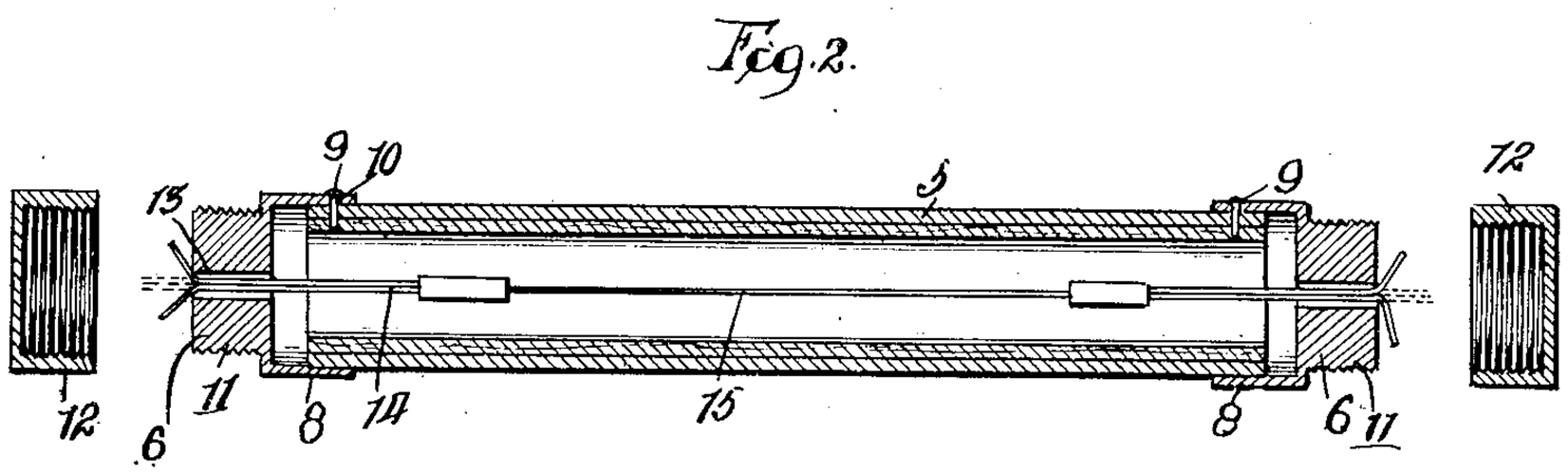
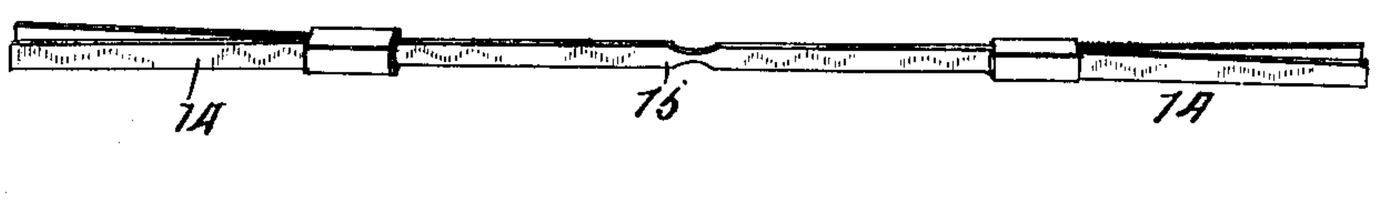



Fig. 3.




Witnesses

Wm. P. Bond

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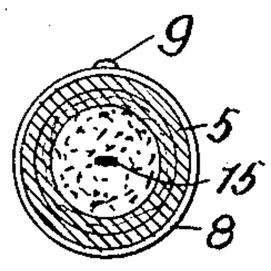
Fig. 4.




Inventor:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. TIDMARSH, OF ELGIN, ILLINOIS.

## ELECTRICAL FUSE.

No. 918,223. Specification of Letters Patent. Patented April 13, 1909.

Application filed May 31, 1907. Serial No. 376,633.

*To all whom it may concern:*

Be it known that I, WILLIAM H. TIDMARSH, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Electrical Fuses, of which the following is a specification.

This invention relates to fuses of the type generally employed in electrical circuits. When, in an electrical circuit, the fuse has, for any reason burned out, in most instances it is the cause of considerable trouble and delay; and especially does this entail loss and expense when a quick and secure circuit is required.

The present invention has for its object to provide suitable and efficient means for permitting a fuse that is burned out to be readily discarded and another one inserted and secured in its place, thus completing the circuit as before; to the means which permit of the quick engaging and disengaging of the circuit wires; and, finally, to the features of construction and combination of parts hereinafter described and claimed.

In the drawings Figure 1 is a longitudinal sectional view of the fuse member; Fig. 2 a similar view of Fig. 1 with the caps removed from the end plugs; Fig. 3 an elevation of the fuse; and Fig. 4 a cross section taken on line 4—4 of Fig. 1.

The electrical fuse of the present invention comprises a cylindrical body portion 5, preferably made of fiber. At both ends of this cylindrical fiber body suitable end plugs 6 are adapted to be secured, but, as the plugs at either end of the body are of the same construction, a description of one will, for present purposes suffice. The inner or securing portion of the plug 6 is recessed in such manner as to permit its rim or collar 8 to be inserted over and, as shown, to lie in close peripheral contact with the fiber body. The collar is secured to the cylindrical fiber body by means of pins or pintles 9 passed through openings 10 in the rim, as indicated in the drawings.

The rim or collar of the plug terminates in a screw-threaded member 11 which is adapted to receive thereon a cap or cover 12, the cap or cover being threaded on its interior so as to engage the same. A suitable slot 13 is provided in the end plug for the purpose of stringing wires therethrough. The fuse may be made of any suitable material having end wires 14, being necessarily of metal of greater conductivity than the fusible metal 15 with which it is soldered, and which, as shown, is adapted to lie normally about equi-distant from both ends of the plug, so that when the fusible metal is burned out the flame will come only in contact with the granular fire proof infilling material 16.

When it is desired to insert a fuse, the ends may be removed by simply withdrawing the pins 9 from the fiber body 5, thus permitting the infilling material to be removed therefrom. The caps 12 on either end are then unscrewed from the plugs, the ends of the fuse member inserted through the passages 13 in the end plugs so that their outer ends will outwardly project from the same, as indicated in dotted lines in Fig. 2, and then bent over in opposite directions from one another. The cap or cover 12 is then screwed over the threaded member 11 so that its inner face will contact the ends of the fuse. The end plugs being made of brass or other suitable material, afford a sure and effective means of making contact, precaution, of course, being taken to see that the caps are fully secured thereon.

From the foregoing description it will be seen that, when a fuse has burned out and another one is to be inserted in its place, the means devised by applicant afford a sure, easy and effective way of renewing the same, and this without much trouble or expense.

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

1. An electrical fuse, comprising a casing of non-conducting material open at both ends, a closing head for each end of the casing, each head having an inwardly extending peripheral wall receiving the end of the casing, a cross wall and an outwardly projected central neck with a longitudinal hole through the cross wall and neck, removable locking pins detachably connecting the peripheral wall of each head to the wall of the casing, a cap for each neck removably entered onto the neck, and a fuse consisting of a center of fusible metal and independent connecting terminals, united to and having a greater conductivity than the fusible center, each terminal formed double and passing through the central longitudinal hole of the cross wall and neck and having the extreme ends oppositely and laterally turned and clamped between the end faces of the neck and cap, substantially as described.

2. An electrical fuse, comprising a casing

of non-conducting material open at both ends, a closing head for each end of the casing, each head consisting of an inwardly extending peripheral wall receiving and engaging the end of the casing, a cross wall and an outwardly projected central neck, the cross wall and the neck having a central hole for the passage of the fuse terminal and the neck having an exterior screw thread, removable locking pins detachably connecting the peripheral wall of each head with the wall of the casing, a removable cap for each neck, each cap having an interior screw thread for entering the cap on the neck, and a fuse consisting of a center of fusible metal and independent connecting terminals united to and having a greater conductivity than the fusible center, each terminal formed double and passing through the central longitudinal hole of the cross wall and neck, and having the extreme ends oppositely and laterally turned and clamped between the end faces of the neck and cap, substantially as described.

3. The combination, in an electrical fuse, of an inclosing casing open at both ends, a closing head for each end of the casing, each head having an inwardly extending peripheral wall receiving and engaging the end of the casing, a cross wall and an outwardly projecting central nipple with a longitudinal hole through the cross wall and nipple, means for detachably connecting the peripheral wall of each head with the wall of the casing, a removable cap for each nipple, having a closed end wall to coact with the end wall of the nipple, and a fuse having double end terminals of greater conductivity than the body and extending longitudinally through the casing and through the longitudinal hole of the cross wall and nipple and having the projecting ends of each terminal laterally turned and clamped between the end faces of the nipple and cap, substantially as described.

4. The combination, in an electrical fuse, of an inclosing casing open at both ends, a closing head for each end of the casing, each head having an inwardly extending peripheral wall receiving and engaging the end of the casing, a cross wall and an outwardly projecting central nipple with a longitudinal hole through the cross wall and nipple, removable locking pins detachably connecting the peripheral wall of each head to the wall of the casing, a removable cap for each nipple, having a closed end wall to coact with the end wall of the nipple, and a fuse having double end terminals of greater conductivity than the body and extending longitudinally through the casing and through the longitudinal hole of the cross wall and nipple and having the projecting ends of each terminal laterally turned and clamped between the end faces of the nipple and cap, substantially as described.

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Witnesses:
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