

J. A. VOLK, JR.  
RENEWABLE FUSE FOR ELECTRIC CIRCUITS.  
APPLICATION FILED MAR. 25, 1908.

924,860.

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Fig. 1.

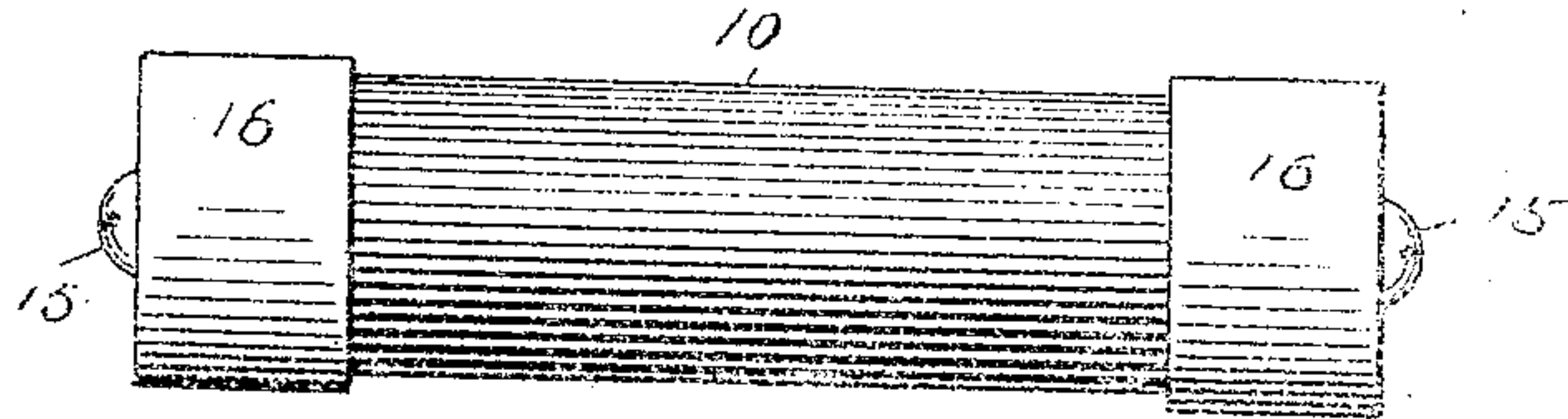


Fig. 2.

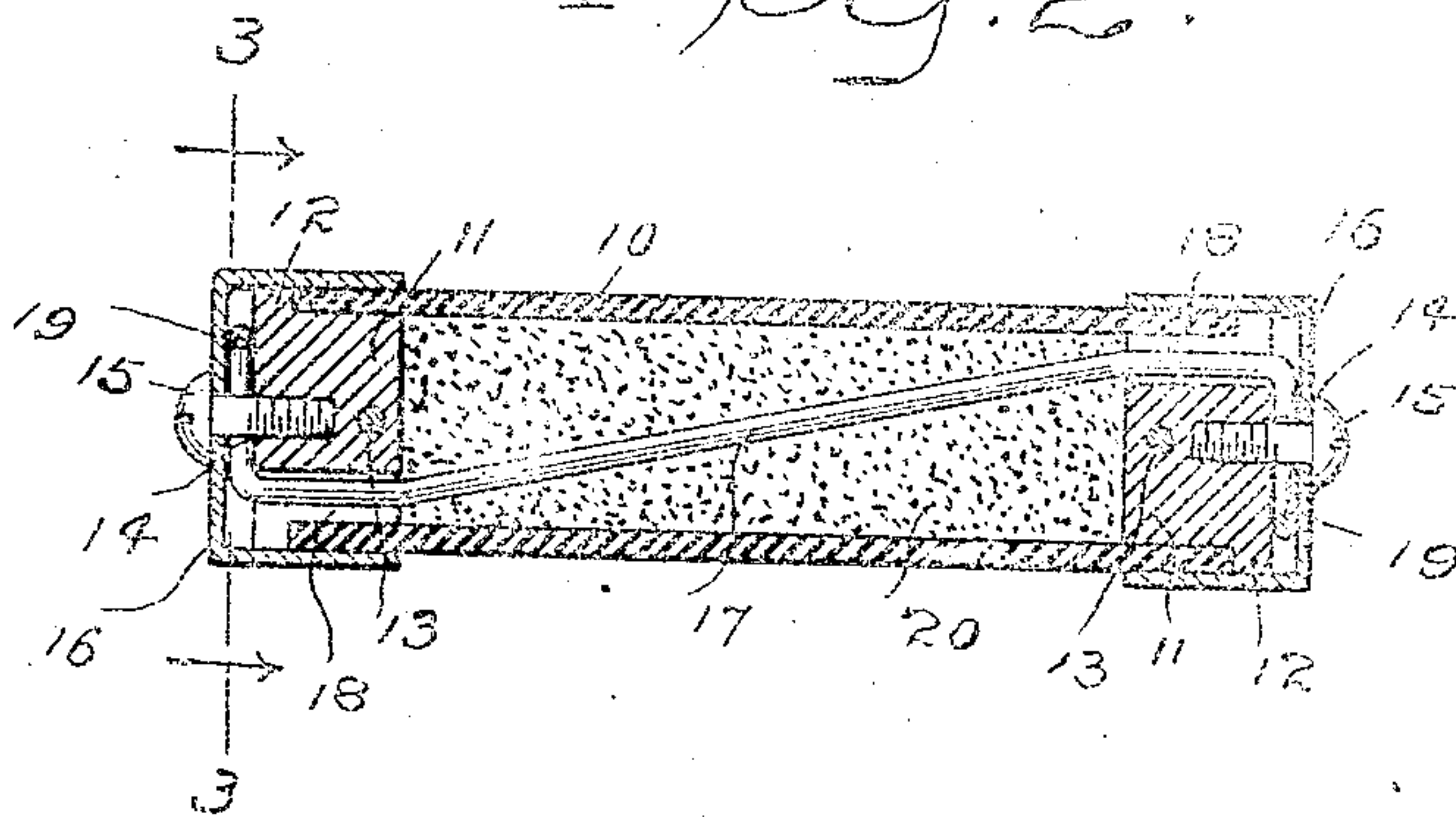
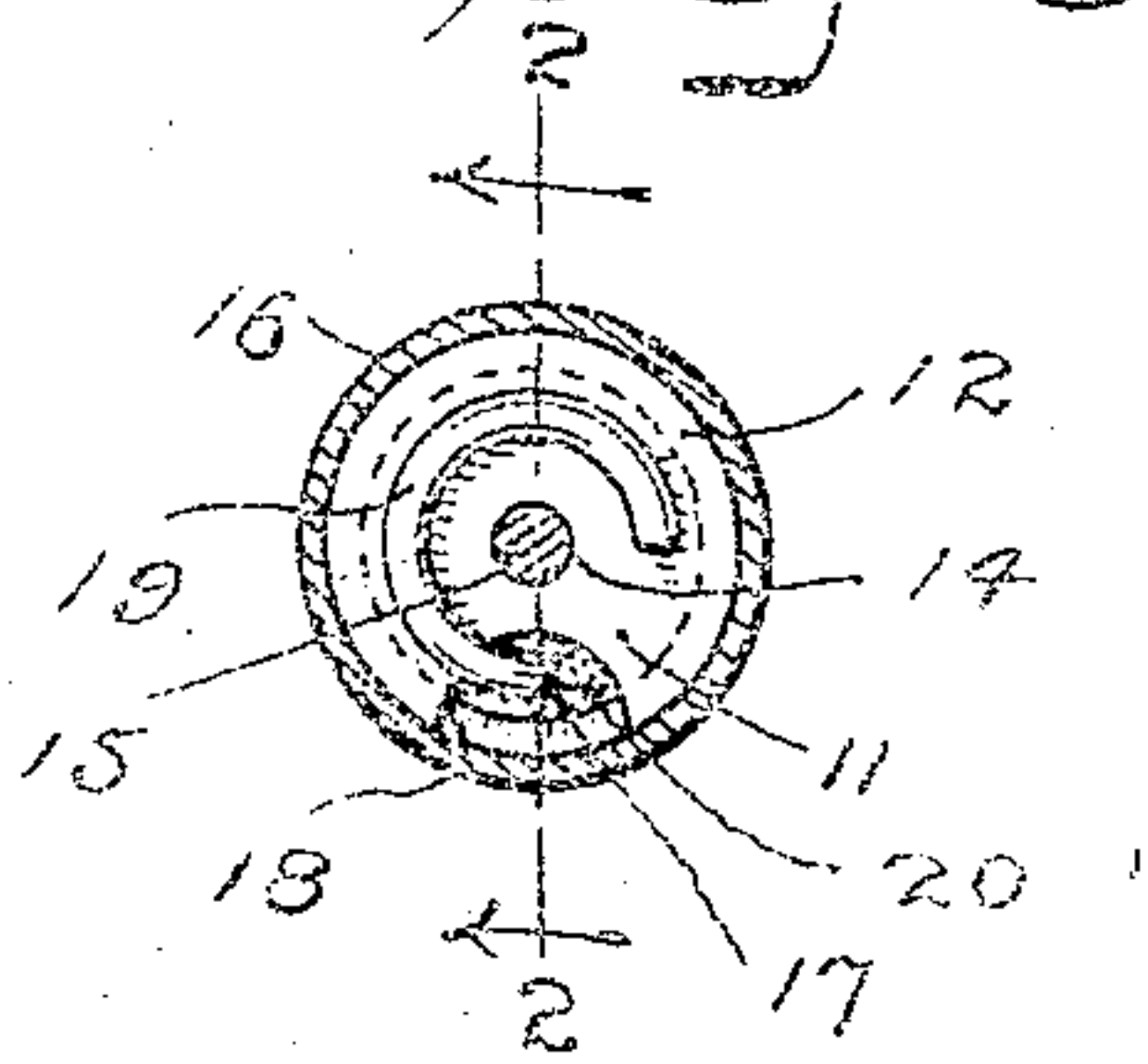


Fig. 3.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JOSEPH A. VOLK, JR., OF SOUTH NORWALK, CONNECTICUT.

## RENEWABLE FUSE FOR ELECTRIC CIRCUITS.

No. 924,850.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed March 25, 1908. Serial No. 423,176.

*To all whom it may concern:*

Be it known that I, JOSEPH A. VOLK, JR., a citizen of the United States, residing at South Norwalk, county of Fairfield, State of Connecticut, have invented a new and useful Renewable Fuse for Electric Circuits, of which the following is a specification.

This invention has for its object to provide a renewable fuse for electric circuits, which shall cost no more to make than ordinary fuses, will give increased contact between the cap and plug and the fuse proper and shall be practically indestructible and easily renewable, thus effecting a great saving in maintenance as ordinary fuses cost from twenty-five cents to several dollars and are useless and have to be thrown away when burned out, while the cost of renewing my novel fuse and making it as good as ever is but a cent or two.

With these and other objects in view I have devised the novel renewable fuse, of which the following description in connection with the accompanying drawing is a specification, reference characters being used to indicate the several parts.

Figure 1 is an elevation of my novel fuse; Fig. 2 a longitudinal section on the line 2—2 in Fig. 3, looking in the direction of the arrows; and Fig. 3 is a transverse section on the line 3—3 in Fig. 2 looking in the direction of the arrows.

The body of my novel fuse consists of a tube 10 of vulcanized fiber or any suitable non-conducting material. The ends of the tube are closed by means of metal plugs 11 ordinarily of brass having heads 12 which cover the ends of the tube. The plugs are preferably riveted to the tube, as at 13, or rigidly secured thereto in any ordinary or preferred manner. Each plug has a central threaded recess 14 which is engaged by a screw 15 in a cap 16 which covers the head of the plug and the end of the tube.

17 denotes the fuse proper which is made of lead or any suitable alloy that will melt at a low temperature. Each plug is provided with a longitudinal channel 18 in its periphery or edge through which the fuse passes, the ends of the fuse lying outside the heads and being preferably formed into coils 19 which are clamped between the heads of the plugs and the caps and provide ample con-

tact surface between the fuse and the heads of the plugs and the caps. The channels in the heads are shown as placed opposite to each other and the fuse is passed diagonally through the tube so that it may be surrounded by suitable non-fusible filling material 20 as sand, plaster of paris or granular asbestos. It should be noted that the fuse does not pass through the caps which are imperforate, the screws being soldered or otherwise secured thereto.

Should the fuse melt or "blow out", the caps are removed with the ends of the burned-out fuse. If necessary, one of the plugs may be removed by driving out the rivet. The non-fusible filling is poured out, a new fuse inserted in the manner described, the non-fusible filling placed about the fuse again, the plug replaced if it has been removed and the caps screwed to place. I find in practice that my novel plugs are not injured by burning out and may be renewed an unlimited number of times very quickly and at no expense except the cost of a new fuse, and possibly new non-fusible filling the cost of which is hardly appreciable.

Having thus described my invention I claim:

1. A renewable fuse comprising an insulating tube, plugs having heads covering the ends of the tube and provided with peripheral channels out of alinement with each other, and a low-melting fuse passing diagonally through the tube and through the channels of the plugs, the ends lying outside the heads.

2. A renewable fuse comprising an insulating tube, plugs having heads covering the ends of the tube and provided with peripheral channels out of alinement with each other, a low-melting fuse passing diagonally through the tube and through the channels of the plugs, the ends lying outside the heads, caps engaging the heads, the ends of the fuse having coils between the caps and heads, and screws passing through the caps and coils into the heads.

In testimony whereof I affix my signature, in presence of two witnesses.

JOSEPH A. VOLK, JR.

Witnesses:

EDWARD B. SMITH,  
FRANK T. BRUNDAGE.