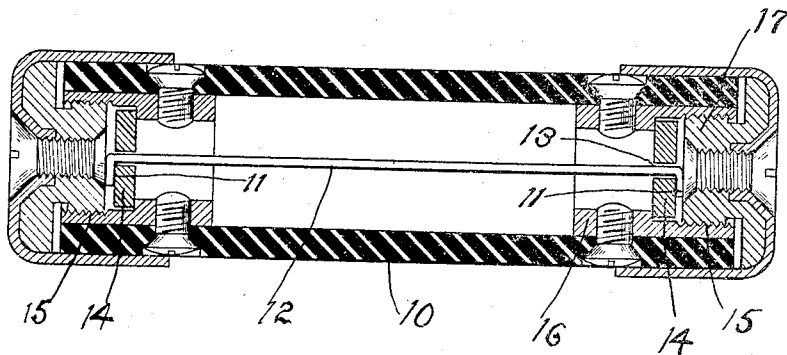


L. W. DOWNES.  
METHOD OF TREATING METAL PARTS TO PREVENT SOLDER ADHERING THERETO.  
APPLICATION FILED JULY 10, 1917.

1,254,663.

Patented Jan. 29, 1918



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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METHOD OF TREATING METAL PARTS TO PREVENT SOLDER ADHERING THERETO.

1,254,663.

Specification of Letters Patent.

Patented Jan. 29, 1918.

Application filed July 10, 1917. Serial No. 179,668.

*To all whom it may concern:*

Be it known that I, LOUIS W. DOWNES, a citizen of the United States, and resident of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Methods of Treating Metal Parts to Prevent Solder Adhering Thereto, of which the following is a specification.

The object of this invention is to provide a method of preventing the soldering together of the parts of an electric fuse when the link therein is blown, by treating the surfaces of the metal parts previous to positioning them in the casing so as to prevent the adhering of molten metal thereto.

It is found in practice that when a reloadable fuse of this character is constructed without a filling of granular material and that when a fusible element blows in it, the molten metal or metallic vapor in its effort to escape is forced into the joints at the ends, producing the effect of soldering the whole together, often times so rigidly that the fuse is destroyed in trying to get it apart.

The figure in the drawing illustrates one form of reloadable fuse designed to be constructed and operated without a filling of granular material, which is adapted to be treated by my new non-soldering method.

Reloadable fuses of the cartridge type are usually constructed with a tubular casing of fiber or other suitable insulating material, the ends of which are made up of a plurality of metal parts connected thereto, which parts may be constructed in any suitable or convenient way, one form of which is herein shown in the drawing.

In fuses of this character the opposite ends 11 of the fusible link 12 are connected to these metal parts, the link itself being formed of a thin body of metal capable of fusing at a comparatively low temperature and when melted the molten metal is blown with such violence against the metal parts of the casing ends that it finds its way into the joints which are thereby effectually soldered together, for instance in a fuse of the structure herein illustrated the molten metal will

find its way through the opening 13 in the washer 14 and into the threads 15 thereby soldering this washer rigidly to its sleeve 16 and the two threaded members 16 and 17 firmly together, rendering it practically impossible to get the fuse apart without breaking some portion thereof.

To obviate this serious difficulty I have provided a simple, practical and very effective method of treating these parts before they are positioned in the casing, so as to effectually prevent the adhering of the molten metal thereto. When so treated, no matter how violent the rupture, the parts will not be soldered together.

One simple method is to subject the parts to heat in an oxidizing medium before positioning them in the casing, but any suitable method of treating this metal to prevent the adhering of the solder thereto will fall within the spirit of my invention.

I have shown one of the many styles of fuse constructions, the parts of which may be treated with my improved method, but the parts of fuses of any construction may be so treated to effect this result.

The scope of this invention is defined and limited only by the terms of the appended claims.

I claim:

1. A method of preventing the soldering together of the metal parts of an electric fuse by the blowing of the inclosed fuse link consisting of treating the metal surfaces to prevent adhering of the molten metal thereto.

2. A method of preventing the soldering together of the metal parts of an electric fuse by the melting of the link therein, consisting of coating the exposed surface of the metal parts with a non-solder-adhering material.

3. A method of preventing soldering together of the metal parts of an electric fuse by the melting of the link therein consisting in oxidizing the surfaces of the metal parts.

4. A method of preventing soldering together of the metal parts of an electric fuse by the melting of the link therein consisting

in the application of chemicals to the surfaces of the metal parts to oxidize the same.  
5. A method of preventing the soldering together of the metal parts of an electric fuse when the link therein is blown consisting in subjecting the parts to an oxidizing heat before being positioned in the fuse.

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

LOUIS W. DOWNES.

Witnesses:

P. O. BAKER,  
GEORGE W. STEERE.