Feb. 6, 1934. B. K. SMITH 1,945,541

ELECTRIC FUSE

Original Filed Oct. 1, 1930

Fig. 1.

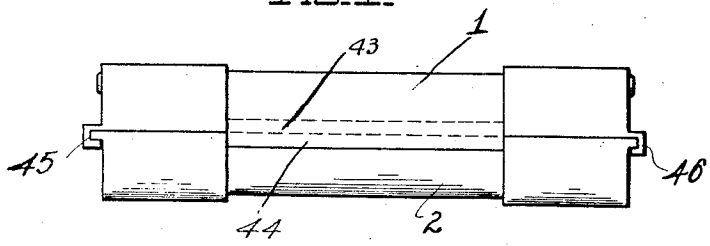


Fig. 2.

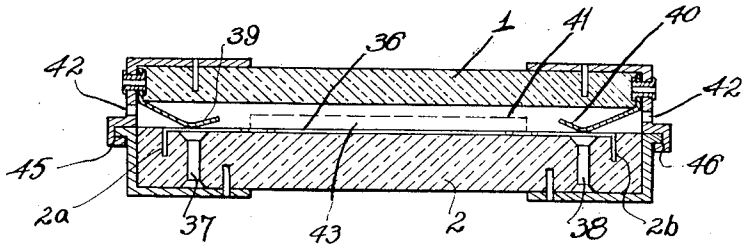


Fig. 3.

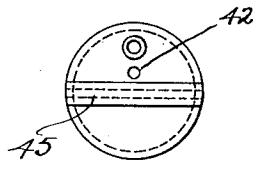
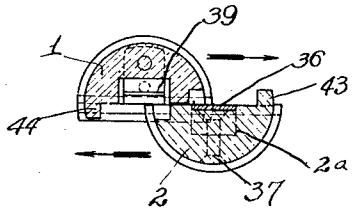


Fig. 4.



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UNITED STATES PATENT OFFICE

1,945,541

ELECTRIC FUSE

Bedford K. Smith, Alexandria, Va.

Original application October 1, 1930, Serial No. 485,731. Divided and this application March 1, 1933. Serial No. 659,156

2 Claims. (Cl. 200—131)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

My invention relates broadly to protective electric fuses and more particularly to a renewable fuse for the protection of electric circuits.

This application is a division of my copending application Serial No. 485,731, filed October 1, 1930 for electric fuse.

One of the objects of my invention is to provide a simplified construction of renewable fuse for protecting electric circuits which is inexpensive in manufacture and production and which may be refilled within minimum time without a large degree of skill.

Another object of my invention is to provide a construction of renewable electric fuse wherein the parts which house the fuse may be displaced one relative to another for receiving a renewal fuse and thereafter closed upon each other for housing the renewal fuse.

Still another object of my invention is to provide a simplified construction of renewable fuse having an insulated housing with parts arranged to slide laterally one with respect to another for housing a renewal fuse and establish electrical connection with opposite ends thereof.

A further object of my invention is to provide a construction of renewable fuse in which parts of the fuse may be assembled or disassembled by hand without the employment of tools.

A still further object of my invention is to provide a construction of electric fuse having a pair of insulating housing portions adapted to slide laterally with respect to each other into closed position with coacting end caps at opposite ends thereof adapted to slide relative to each other for providing a separable closure for a replaceable fuse.

Other and further objects of my invention reside in the design of a renewable fuse set forth in the specification hereinafter following by reference to the accompanying drawing, in which:

Figure 1 is a side elevation of the separable fuse housing of my invention; Fig. 2 is a longitudinal cross-sectional view taken through the renewable fuse of my invention; Fig. 3 is an end view of the fuse of my invention; and Fig. 4 is a cross-sectional view taken through the fuse of my invention in the process of assembly or disassembly.

My invention is directed to a simplified construction of renewable fuse plug capable of economic manufacture on a quantity production basis and adapted to be readily refilled after rupture of the fuse. I have had considerable experience with many different types of renewable fuse plugs. Heretofore manufacturers in endeavoring to produce a renewable fuse plug have rendered the construction thereof so elaborate that the filling and refilling operation requires the use of tools and the expenditure of a substantial time interval. In my construction of renewable fuse plug, the parts are reduced to a minimum and the construction thereof so simplified that a renewal operation may be effected without employing tools. The renewal operation in the construction of fuse plug of my invention requires only a brief interval of time for an operation which may be performed by a simple sliding movement.

Referring to the drawing in detail, the fuse housing is constituted by parts of insulation material represented at 1 and 2 which are slipped horizontally with respect to each other to form a closed housing. The end caps are provided with interengaging joints represented at 45 and 46 which slide endwise enabling the parts to be aligned one with the other by a quick horizontal movement in a lateral direction. Fig. 4 explains the manner in which the offset portions 44 and 43 align with each other in providing a tight casing. When the fuse 36 is burned out, any pressures built up in channelway 41 are dissipated through ports 42.

The fuse 36 is inserted in the fuse housing when the parts 1 and 2 are in disassembled relation. One end of fuse 36 is inserted in slot 2*a* while the other end of fuse 36 is inserted in slot 2*b*. The part 1 is then moved horizontally over part 2 with the upper portions of the end caps engaging the lower portions of the end caps at sliding points 45 and 46. Brushes 39 and 40 make contact with the opposite ends of fuse 36 and establish connection to the end caps which fit into the caps in the standard fuse plug.

The renewable fuse of my invention has been found extremely practical in its construction and practical in its operation. While I have described my invention in certain preferred embodiments, I desire that it be understood that modifications may be made and that no limitations upon my invention are intended other than those imposed by the scope of the appended claims.

The invention herein described may be manufactured and used by or for the Government of the United States of America for Governmental purposes without the payment of any royalty thereon or therefor.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. An electric fuse comprising a pair of insulating portions adapted to register one with

the other, a channelway formed between said insulating portions when in registered position, end caps each formed by a pair of slidably engaged coacting parts embracing opposite ends of said insulating portions, means projecting from the interior walls of the end caps into said channelway and a renewable fuse extending through said channelway and maintained in position at opposite ends therein by means of said brushes.

2. An electric fuse comprising a pair of semi-cylindrical insulating members having coacting side portions adapted to register with each other when said chambers are moved rapidly into engagement, a channelway formed between said insulating members for receiving a renewable fuse and end caps each comprising a pair of separable semi-cylindrical portions having coacting interengaging slidable joints for maintaining said insulating members in registered position.

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