Sept. 12, 1933. E. P. KLOPFENSTEIN 1,926,445

FUSE

Filed Jan. 27, 1932

Fig. 1.

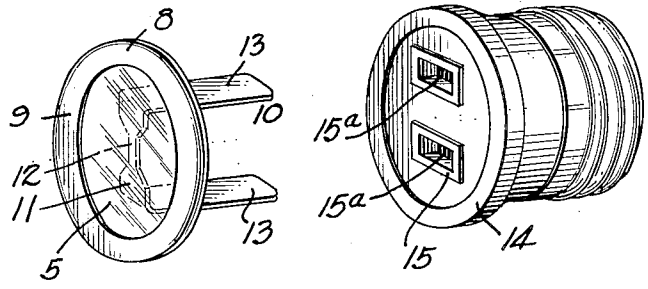


Fig. 3.

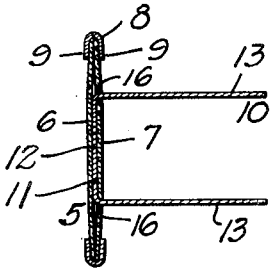
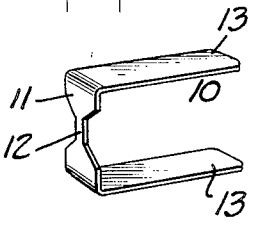


Fig. 2.



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FUSE

Emmett P. Klopfenstein, Los Angeles, Calif.

Application January 27, 1932. Serial No. 589,258

2 Claims. (Cl. 200—130)

My invention relates to non-reusable electrical fuses of the class designed ordinarily for use in conjunction with enclosed switches and adapted to be arranged in an electrical circuit to bridge the load carrying conductors normally and to automatically open the circuit upon an overloading thereof. Generally, fuses of this class include circuit-completing contact members which form parts of a composite structure or plug assembly wherein a fusible element is structurally constituted to effect a blowing of the fuse upon an overloading of the circuit.

Such fuse plugs, while not excessively expensive, are rendered totally unfit for further use when blown, and it is an object of my invention to provide extremely simple, yet positively acting means, capable of adapting itself to one section of a separable or two-part electrical connector whose plug section is adapted to be accommodated in a receiving socket and to receive the metallic prong-like contact members of the other section of the connector, the same being usually attached to one end of an electrical cord.

My invention essentially consists of fusible means having circuit completing prongs which will adapt themselves to a plug section of the type herein referred to and which, in view thereof, will lessen the cost of such devices and enable the section to be repeatedly supplied with a new fusible element whenever the necessity arises. A device such as I have designed is positively acting, simple of construction and may be manufactured and sold at but a small fraction of the cost of non-reusable plugs heretofore employed.

To the ends herein advanced and others that will manifest themselves as the description proceeds, the invention consists in certain improvements and combinations and arrangements of parts as will be hereinafter fully set forth, with the features of novelty pointed out in the hereto appended claims.

In the accompanying drawing:

Figure 1 is a perspective view of the device separated from the form of connector section of the type which I employ in combination with the device;

Figure 2 is a perspective view of the fusible element and its co-operable contact members; and

Figure 3 is a section cut through the device on a line with the contact members.

In carrying the invention into practice, use is made of what I shall hereinafter refer to as a transparent envelope 5, the same consisting preferably of two strips or disks 6 and 7 constructed of mica and permanently sealed at their edges by a metallic or other suitable well known binding 8 whose walls 9 are upset against the opposite faces of the respective disks 6 and 7 over such area thereof as is necessary to give proper strength and rigidity to the structure and to securely seal a fusible element 10 between the said disks.

The fusible element consists of a link portion 11 which is flatwise interposed between the aforementioned disks 6 and 7 so as to be visible from the front of the device when the latter is operatively connected in an electrical circuit. The said link is formed with a medial destructible portion 12 which may be of any suitable well known material that will normally adapt itself to such current voltage as it is intended the particular fuse shall stand, but will be instantly destroyed when the circuit is overloaded, thereby to totally destroy the bridge between the terminal conductors of the circuit. The said link is provided with a pair of legs or prongs 13—13 which are approximately in parallelism normally and of such length that they may be operatively projected into the receiving socket portions of the plug section 14 of a two-part connector of any construction. Connectors employing a section such as 14 herein referred to have a flat surface 15 at the point of entry of the prongs to their receiving sockets, the latter indicated herein at 15—15. The prongs are also proportioned so that the inner flat face of the disk-like envelope employed will fit snugly thereagainst when the device is fully applied. The said prongs 13—13 pass through slits 16 formed in the inner disk 7. The device is in the nature of an adapter for converting a connector section of the type referred to into a fuse.

It follows that from what has been said in the foregoing that the connector section when associated with the device may be connected in the circuit of an enclosed switch box in a manner common to the application to such boxes of general forms of non-reusable fuses. When the fuse element is destroyed by an overloading of the circuit this fact will be made visible by observing the condition of the medial portion of the link or bridge piece. Upon destruction of the link piece the device can be easily lifted or withdrawn from its coacting connector section and thrown away and a new one substituted therefor. It is not necessary, because of the characterizing features of my invention, to remove the connector section from its socket in the switch box with which it is employed.

I claim:

1. A device of the class described comprising a U-shaped metallic structure formed between its ends with a fusible portion and provided at its ends with spaced apart circuit completing legs adapted for insertion in the respective sockets of the plug, mica disks between which the fusible portion is interposed and from one of which said disks said legs are exposed, and a metallic reinforcement extending about the marginal edges of the disks.

2. The combination with a plug having a flat face at one end, the plug having contact receiving sockets opening at one end onto said flat face, of a disk-like structure consisting of companion plies of transparent insulating material removably connected with the plug and occupying a position in parallelism relative to said flat face of the plug, and a fusible element having an intermediate portion interposed between said plies of insulating material and a pair of legs exposed from one of said plies and insertable in and removable from said sockets and solely serving thereby to affix said structure to the plug and to place said intermediate portion in circuit with said sockets.

EMMETT P. KLOPFENSTEIN.