June 23, 1925. 1,542,822

H. P. CHANDLER

ELECTRIC FUSE CASING

Filed Feb. 1, 1923

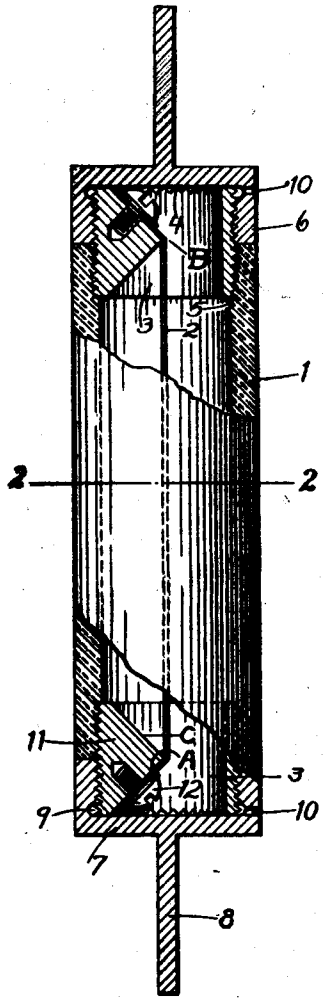


Fig. 1

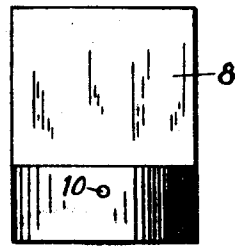


Fig. 4



Fig. 2

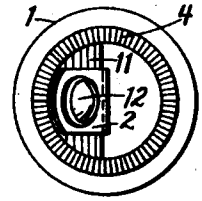


Fig. 3

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UNITED STATES PATENT OFFICE.

HOMER P. CHANDLER, OF MANSFIELD, OHIO, ASSIGNOR TO THE OHIO BRASS COMPANY, OF MANSFIELD, OHIO, A CORPORATION OF NEW JERSEY.

ELECTRIC-FUSE CASING.

Application filed February 1, 1923. Serial No. 616,270.

To all whom it may concern:

Be it known that I, HOMER P. CHANDLER, a citizen of the United States of America, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Electric-Fuse Casings, of which the following is a specification.

My invention relates to fused devices and has particular reference to the enclosed type of fuse.

The object of my invention is to produce an economic, efficient fuse casing in which the fusible element is easily replaced in case of its being blown. Another object of my invention is to produce a fuse casing which is vented so as to permit the escape of gases formed when the fuse is blown.

My invention resides in the new and novel construction, combination and arrangement of the various elements hereinafter fully described and shown in the accompanying drawings.

In the accompanying drawing:

Fig. 1 is a side view in partial section.

Fig. 2 is a section taken on the line 2—2 of Fig. 1.

Fig. 3 is an end view with the end connector cap removed.

Fig. 4 is a view of one of the end connector caps shown in Fig. 1 rotated 90 degrees therefrom.

In the preferred form of my invention I employ a casing 1 formed preferably of insulating material. This casing is usually circular and forms a chamber in which the fusible element 2 is positioned.

To each end of the casing 1 is secured a supporting terminal 3. The member 3 is shown as secured to the member 1 by a screw threaded attachment and is also shown as projecting beyond the ends of the casing 1 and externally threaded. The extreme outer face of the member 3 is corrugated or knurled or provided with serrations 4 forming a series of passages radiating across the end face thereof. The inner end of the member 3 is positioned against the shoulder 5 of the casing 1 which limits its inward movement. Threadably secured to each of the members 3 is a connector cap 6. The cap is provided with an end face 7 from which projects a tongue 8 by means of which the fuse is connected with the terminals of a fuse block as is well known in the trade. As the end face 7 may butt against the end face of the member 3, the cap is counter-bored at 9 in order to form a passage connecting the various serrations 4 and leading from the counter-bore 9 is an orifice 10 opening into the atmosphere by means of which the gases generated within the casing 1 may escape to the atmosphere. Of course, if the end face 7 is always arranged so as not to butt against the end face of the member 3 the serrations 4 would not be necessary, neither the counter-bore 9. Secured to the inner surface of the member 3 and forming an integral part thereof a bridge wall 11 is provided having oppositely disposed tapered sides. The bridge wall is arranged to secure the end of the fusible member 2 which is held to the bridge wall 11 by means of a screw 12. The face A of the bridge wall is angularly positioned, as shown, in preference to a bridge wall having a transverse face at right angles to the inner face of the member 3 for the reason that it permits less bending of the fuse at the point B, and at the same time provides a convenient angle for manipulating the screw 12.

Too sharp an angle at the point B in the fuse tends to weaken it, by changing the molecular characteristics of the metal and hence its fusible properties at this point, but by disposing the contacting face A of the bridge wall 11 as shown, the bend in the fuse at the point A is considerably reduced which is undoubtedly a benefit to the reliability of the fuse.

The face C of the bridge wall 11 is angularly disposed for the reason that when the fuse blows it is not infrequent that a large portion of the fuse extending between the bridge wall at either end of the casing may drop into the interior of the casing and if the wall C is transversely disposed to the inner face of the member 3 it offers a resistance to the easy removal of the old fuse but by making the inner face of the bridge wall C tapered, it is quite evident that any fusible material which may drop between the bridge walls will easily fall out without resistance from the bridge walls.

There are undoubtedly modifications which may be made in my invention herein disclosed which will be apparent to one skilled in the art, therefore, I do not wish to be limited other than by my claims.

I claim:

1. A fuse casing comprising a tubular casing of insulating material, a metallic bushing secured to the interior wall of the casing at each end and projecting from the casing, a metallic cap secured to the exterior projecting wall of each bushing, means on each cap to connect each cap to a terminal member, means on the bushing cooperating with means on the cap to provide a passage leading from the interior of the casing to the exterior to allow the escape of gases formed therein, and means on the interior of each bushing to receive the end of a fusible element, the last said means comprising a wedge shaped member projecting from a portion of the inner surface of the bushing, the base of the wedge united to the bushing and means on the outer face of the wedge members to secure the fusible element to each bushing.

2. A fuse casing comprising a tubular casing, a metallic bushing secured to the casing at each end of the casing, a metallic cap secured to each bushing, means on each cap to connect each cap to a terminal member, means on the bushing cooperating with means on the cap to provide a means, leading from the interior of the casing to the exterior to allow the escape of gases generated therein and means on the interior of each bushing to receive the end of a fusible element, the last said means comprising a wedge shaped member projecting inwardly from a portion of the interior surface of the bushing, the base of the wedge united to the bushing and means on the outer face to secure the fusible element to the bushing.

3. A fuse casing comprising a tubular casing of insulating material, a metallic member secured to each end of the casing, means on each member to attach the member to a terminal, and means projecting from each metallic member to receive an end of a fusible element, the last said means comprising a wedge shaped member projecting from the metallic member with the base of the wedge united to the metallic member and means on one face of the projecting means to secure an end of the fusible element thereto.

4. A terminal member for a fuse casing comprising a member to be secured to the casing, an enclosing member secured to the first member and butting against an end face of the first member, an annular counterbore in the enclosing member adjacent the end face of the first member, radiating passages in the end face of the first member and leading from the interior of the first member into the said counterbore, the enclosing member being provided with an outlet leading from the counterbore to the exterior of the enclosing member and means on the first member to secure the end of a fusible element thereto.

5. A fuse casing comprising an insulated casing, a metallic terminal at each end, a closing element for each terminal and means forming an integral part of each terminal to receive the end of a fusible link, said means each having an angularly disposed face towards the casing opening to receive the end of the fusible link and an angularly disposed face towards the interior of the casing to facilitate the removal of the remains from a burnt fuse.

In testimony whereof I affix my signature.

HOMER P. CHANDLER.