

1,056,862.

Fig. 1.

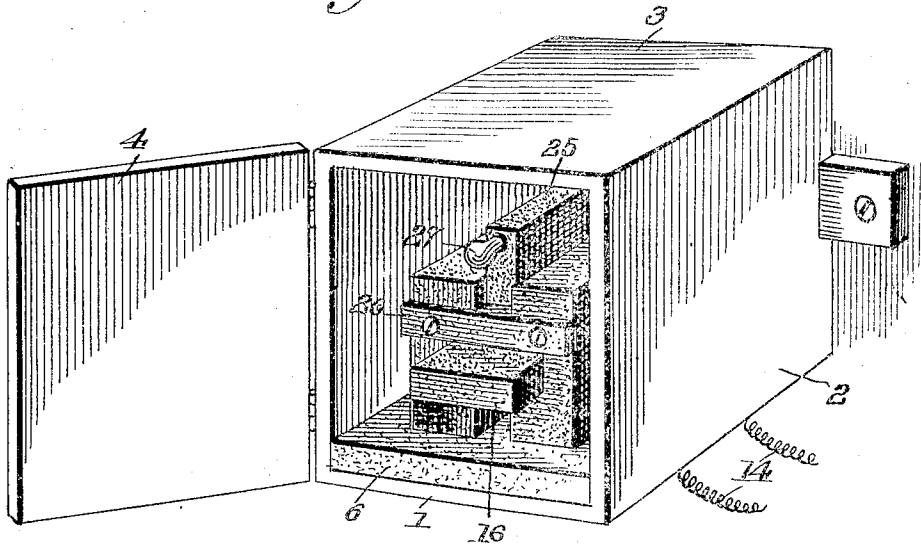
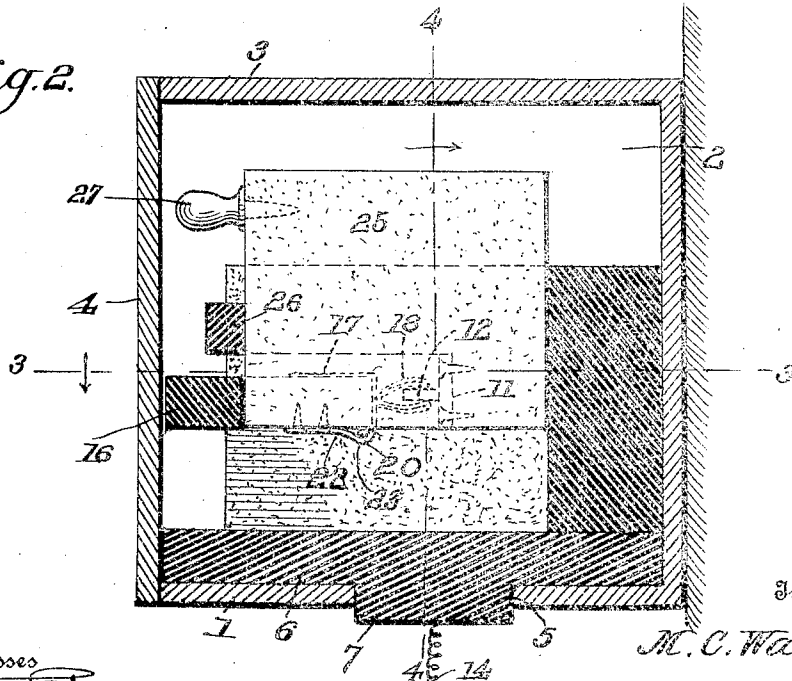


Fig. 2.



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Witnesses
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APPLICATION FILED JULY 31, 1912.

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UNITED STATES PATENT OFFICE.

MYCAGAH C. WARREN, OF COFFEYVILLE, KANSAS.

ELECTRIC FUSE.

1,056,862.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed July 31, 1912. Serial No. 712,611.

To all whom it may concern:

Be it known that I, MYCAGAH C. WARREN, citizen of the United States, residing at Coffeyville, in the county of Montgomery and State of Kansas, have invented certain new and useful Improvements in Electric Fuses, of which the following is a specification.

This invention relates to electric fuses and cut outs and has as its object to provide, in an electric fuse, means for automatically breaking the arc which is established at the time the fuse is destroyed.

In the ordinary construction of fuse boxes, when the fuse is destroyed, an arc is liable to be established between the fuse supports and if the current is heavy this arc is liable to destroy the entire box.

The present invention therefore contemplates the provision, in such a device of means arranged to move automatically to position between the fuse supports immediately after the fuse is destroyed.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a perspective view of the electric fuse and cut out embodying the present invention. Fig. 2 is a vertical sectional view taken in a plane from front to rear there-through. Fig. 3 is a horizontal section on the line 3—3 of Fig. 2. Fig. 4 is a vertical transverse section on the line 4—4 of Fig. 2. Fig. 5 is a perspective view of the fuse supporting plug.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

In the drawing the device is illustrated as housed within the casing the bottom of which is indicated by the numeral 1, the sides by the numeral 2 and the top by the numeral 3, the casing being provided at its front with a door 4. This casing is formed in its bottom with an opening 5 and for a purpose to be presently explained.

The base of the device embodying the present invention is indicated at 6 and is of porcelain or other heat resisting insulating material, and this base is formed upon its under side with a boss 7 which projects into the opening 5. Formed upon the upper side of the base 6 is an approximately rectangular body 8 which is recessed in its forward

side as at 9, the rear wall of the recess being in turn recessed as at 10. Secured upon the said rear wall of the recess 9 at opposite sides of the recess 10 are plates 11 which are so folded as to provide forwardly projecting tongues 12, and leading through openings 13, formed in the base 6 and body 8, are conductor wires 14, each of these wires leading to one of the plates 11 and the said plates 11 constituting terminals which are to be braced by the fuse plug. By referring to Figs. 3 and 4 of the drawings it will be observed that the side walls of the recess 9 are in turn recessed as at 15 and that it is at the inner ends of these recesses 15 that the terminals 11 are located.

The fuse plug comprises a substantially U-shaped body 16 of porcelain, or other suitable insulating material and the fuse supports and contacts are arranged one upon each arm of the body 16. Each of the contacts or terminals of the plug is preferably formed from a strip of metal bent to form attaching portions 17 and bent between the said attaching portions to form spaced fingers 18 which are slightly spaced at their forward ends as indicated by the numeral 19. It will be observed that the fingers 18 lie one above another so that when the fuse plug is inserted into its socket in the body 8, the arms 16 of the plug will enter the recesses 15 and the tongues 12 will be received between the fingers 18 of the respective fuse plug terminals and grip the ends of the fuse wires indicated at 23.

The device also includes in its structure a block 25 which is preferably of porcelain, and this block as illustrated in the drawing is substantially rectangular in form and is flat-sided and of a thickness to loosely fit between the walls of the recesses 9 and 10 in the manner illustrated in Figs. 3 and 4 of the drawing. A bar 26 also of insulating material is secured at its ends to the forward side of the body 8 and spans the forward end of the recess 9, and this bar serves to prevent withdrawal of the block 25 after it has been placed in position within the said recesses 9 and 10.

In assembling the parts, the fuse plug 16 is inserted into place in the recess 15 and with its fingers 18 in contact with the tongues 12, whereupon the current will flow from one of the terminals 11 across the fuse wire to the other terminal 11. In the meantime the block 25 has been lifted by means

of a handle 27 upon its forward edge, and after the fuse plug has been inserted into place, the block is lowered until its lower edge rests upon the said fuse wire 20.

5 Should an overload pass through the wire 20 and should the wire be destroyed, the block 25 will immediately fall by gravity to the position shown in dotted lines in Fig. 4 of the drawing, in which position it
10 will lie between the terminals 11 of the fuse plug socket, thereby destroying or preventing the formation of an arc between these terminals which would be liable to occur were it not for the provision of this block.
15 Having thus described the invention what is claimed as new is:—

1. In a cut-out of the class described, a recessed support of insulating material, a fuse wire support removably arranged within the
20 recess of the first mentioned support, a fuse wire carried by the fuse wire support, spaced contacts upon the first mentioned support, contacts upon the fuse wire support electrically connected with the fuse wire and ar-
25 ranged to engage with the first mentioned contacts when the fuse wire support is in place within the recess in the first mentioned support; and a member arranged to automatically move to position between the
30 contacts of the fuse wire support upon the destruction of the fuse wire, the said member being normally restrained against such movement by the said fuse wire.

2. In a cut-out of the class described, a
35 recessed support of insulating material, a fuse wire support removably arranged within the recess of the first mentioned support, a fuse wire carried by the fuse wire support, spaced contacts upon the first men-
40 tioned support, contacts upon the fuse wire support electrically connected with the fuse wire and arranged to engage with the first mentioned contacts when the fuse wire support is in place within the recess in the first
45 mentioned support, and a member arranged

to automatically move to position between the contacts of the fuse wire support upon the destruction of the fuse wire, the said member being supported solely by the fuse wire.

3. In a cut-out of the class described, a
50 fuse wire support including spaced portions insulated from each other, a contact carried by each portion, a support having spaced walls between which the fuse wire support
55 is removably disposed, contacts carried by the second mentioned support and engaged by the contacts upon the spaced portions of the fuse wire support, a fuse wire electrically connected with the said contacts upon
60 the said fuse wire support and extending between the spaced members thereof, and a block of insulating material disposed between the walls of the second mentioned support and between the spaced portions, of
65 the fuse wire support and resting by gravity upon the fuse wire and supported solely thereby.

4. In a cut-out of the class described, a
70 support of insulating material, spaced terminals upon the support, the support being recessed between the terminals, a fuse plug having spaced members each carrying a fuse wire terminal, a fuse wire extending be-
75 tween the said members of the plug and the terminals upon the members being arranged for engagement with the first mentioned terminals when the plug is inserted into the recess, and a block of insulating material supported within the recess solely by the
80 fuse wire and arranged to drop by gravity to position between the first and last mentioned terminals upon destruction of the fuse wire.

In testimony whereof I affix my signature 85 in presence of two witnesses.

MYCAGAH C. WARREN. [L. S.]

Witnesses.

R. E. McCULLOUGH,

C. E. STROMQUIST.