F. G. CRAIG, JR.

FUSE PLUG.

APPLICATION FILED APR. 8, 1913.

1,067,866. Patented July 22, 1913.

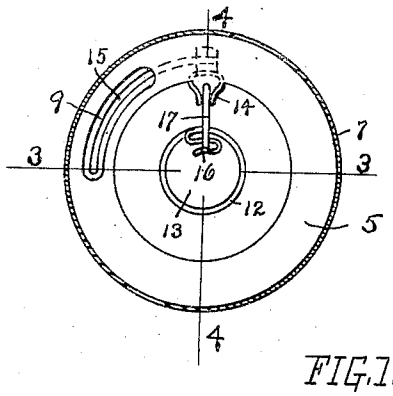


FIG. 1.

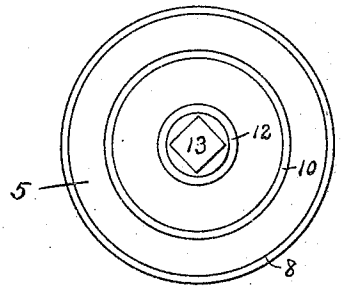


FIG. 2.

FIG. 3.

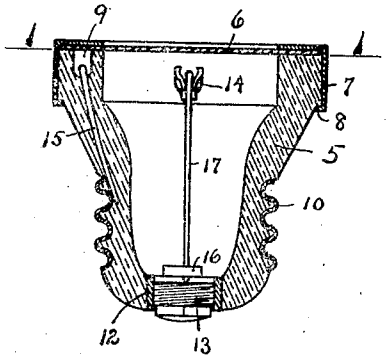
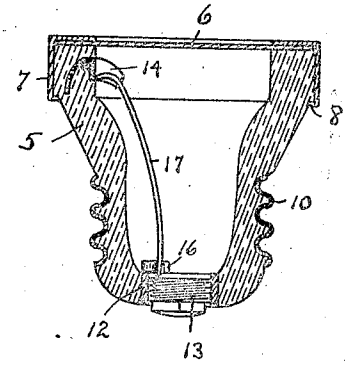


FIG. 4.



WITNESSES:

Hugo W. Freinbring

Elizabeth M. Brown.

INVENTOR

Frederick G. Craig, Jr.

BY

Edward N. Pagelsen,

ATTORNEY

UNITED STATES PATENT OFFICE.

FREDERICK G. CRAIG, JR., OF HIGHLAND PARK, MICHIGAN.

FUSE-PLUG.

1,067,866. Specification of Letters Patent. Patented July 22, 1913.

Application filed April 8, 1913. Serial No. 759,630.

To all whom it may concern:

Be it known that I, FREDERICK G. CRAIG, Jr., a citizen of the United States, and a resident of Highland Park, in the county of Wayne and State of Michigan, have invented a new and Improved Fuse-Plug, of which the following is a specification.

This invention relates to means for breaking electric circuits when an excess over the predetermined amount of current attempts to pass over the circuit; and its object is to provide a fuse plug with a plurality of fuses, one of which is of less carrying capacity than the other, the fuse of less capacity being readily replaceable, and the fuse of greater capacity being inaccessible without destroying the original construction.

In the accompanying drawing, Figure 1 is a section of a fuse plug on the line 1—1 of Fig. 3. Fig. 2 is a bottom plan of the plug. Figs. 3 and 4 are sections on the lines 3—3 and 4—4 of Fig. 1 respectively.

Similar reference characters refer to like parts throughout the several views.

Fuse-plugs are usually so made that when the fuse-wire burns out, a new plug must be inserted as the burned out plug is worthless and cannot be repaired.

The present invention is designed to supply safety devices as reliable as those now in use, and at the same time, be so constructed that the consumer can readily replace a burned out fuse. At the same time, an inaccessible auxiliary fuse is provided, which, while having slightly greater carrying capacity than the other, will burn out before the current passing over it becomes dangerous.

In the drawings, a body 5 of porcelain, glass, or other rigid non-conducting material, is formed hollow, and has a plate 6 of mica or other non-inflammable material permanently held in position by the metal ring 7, provided with a rolled-down edge 8. In the upper edge of the body is a fuse-chamber 9. The lower end of the body is molded into the screw-threaded shell 10, as is common with the usual fuse plugs now on the market, and this shell forms one of the contacts of the plug. In the lower end of the body is a sleeve 12, internally threaded to receive the removable threaded closure 13, which forms the other contact. Molded in the material of the body are the jaws 14 to which the fuse-wire 15 connects, which wire passes across the fuse-chamber 9 and then down to connect with the shell 10 as shown in Figs. 1 and 3. A small metal claw 16 is connected to the sleeve 12, preferably by soldering, and receives the lower end of the fuse-wire 17, the upper end of which is gripped between the jaws 14. The wire 15 has a slightly larger carrying capacity than the wire 17, sufficiently so that the wire 17 will burn out before the wire 15 is affected. When this occurs, the plug is removed and the closure 13 unscrewed, which will permit the ends of the old fuse-wire 17 to be removed and a new fuse to be inserted. By bending the end of the fuse-wire into a hook, it can be easily pulled down in between the jaws 14, as shown in Fig. 3, after which the lower end is forced into position between the folds of the claw 16, and the free end broken off. The closure 13 is then replaced and the plug may be inserted as before. In case the consumer uses a wire of too great capacity in place of the fuse-wire 17, the fuse-wire 15 will burn out at the next overload, which will entirely destroy the effectiveness of the fuse-plug. This secondary and auxiliary fuse-wire overcomes all danger which may result from ignorant or reckless persons using a conductor of high carrying capacity, such as copper wire, in place of the fuse-wire 17.

The sizes and proportions of the different parts may be varied by skilled electricians without departing from the spirit of my invention.

I claim.

1. In a fuse-plug, the combination of a hollow non-conducting body having a fuse-chamber in one end, a threaded shell around the other end, a fuse-wire molded in said body and connecting to said shell and passing across said fuse-chamber, a second contact mounted in the body, and a second fuse-wire connecting thereto and to the first.

2. In a fuse-plug, the combination of a hollow non-conducting body having a fuse-chamber in one end, a threaded shell around the other end, a fuse-wire molded in said body and connecting to said shell and passing across said fuse-chamber, a second contact mounted in the body, a second fuse-wire connecting thereto and to the first, and means to close the fuse-chamber.

3. In a fuse-plug, the combination of an annular non-conducting body having a fuse-

chamber in its upper end, a plate of mica over the upper end of the plug and a metal ring to hold the plate permanently in position, a contact shell around the lower end of the body, a removable contact member centrally mounted in said lower end, a fuse-wire of predetermined carrying capacity connecting to said shell and passing upward in the wall of the body and across through the fuse-chamber, a pair of jaws at the end of said wire projecting from the inner wall of the body, a connecting device in the lower end of the body connecting to the removable contact, and a second fuse-wire, of less carrying capacity than the first, engaged by the jaws and said connecting device.

4. In a fuse-plug, the combination of a hollow non-conducting body, having a fuse-chamber in its wall, contacts mounted on the body, a fuse-wire of predetermined capacity molded in the wall of said body in engagement with one contact and extending across said fuse-chamber, fuse-wire-engaging-devices connected to the fuse-wire and the other contact, and a second fuse-wire of less carrying capacity than the first extending between the fuse-wire-engaging-devices.

5. In a fuse-plug, the combination of a hollow non-conducting body, having a fuse-chamber in its wall, contacts mounted on the body, a fuse-wire of predetermined capacity molded in the wall of said body in engagement with one contact and extending across said fuse-chamber, fuse-wire-engaging-devices connected to the fuse-wire and the other contact, a second fuse-wire of less carrying capacity than the first extending between the fuse-wire-engaging-devices, and means to render the fuse-wire in the fuse-chamber inaccessible.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRED'K G. CRAIG, JR

Witnesses:
HUGO W. KREINBRING,
MARY A. HAWTHORNE.