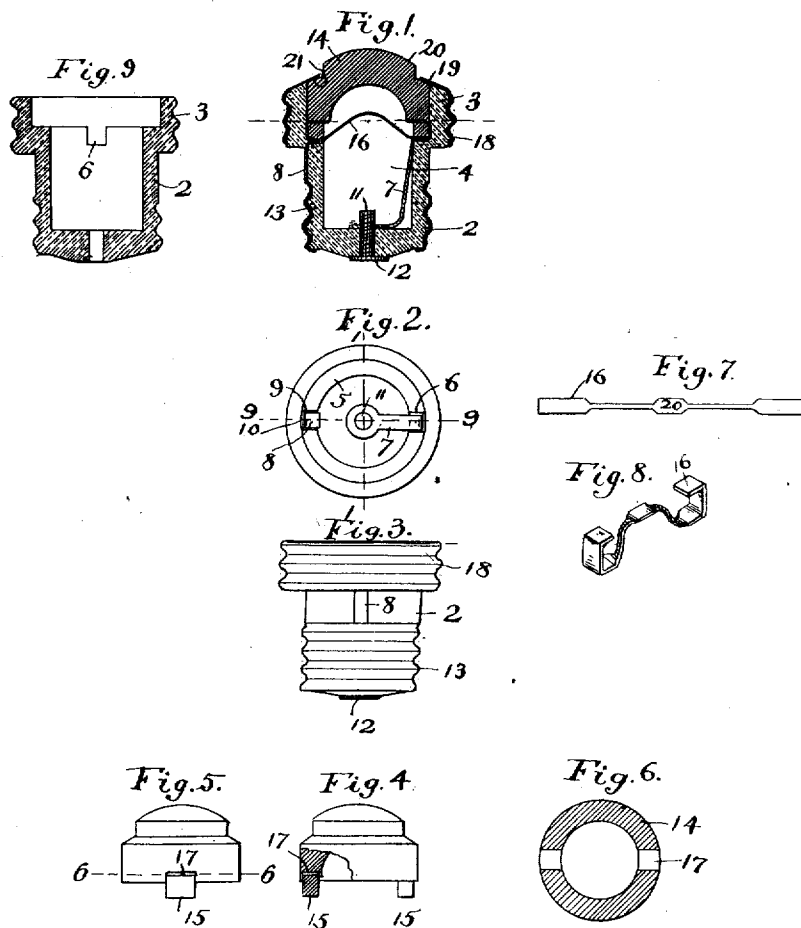


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RENEWABLE FUSE PLUG
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UNITED STATES PATENT OFFICE.

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RENEWABLE FUSE PLUG.

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To all whom it may concern:

Be it known that I, DON CARLOS HUBBARD, a citizen of the United States, residing at Auburn, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Renewable Fuse Plugs, of which the following is a specification.

My invention relates to a renewable fuse plug in which the fusible strip when burned out or melted can be quickly and easily replaced without the destruction of the entire plug, by simply putting in a new strip of fusible metal, the body of the plug remaining intact.

The advantage of this renewable plug is that it is only necessary to carry in stock a supply of the fusible metal strips and when a plug is burned out it is only necessary to put in a new strip which can be quickly and easily done.

According to my invention, my plug is constructed in its preferable form, of a hollow socket open at the top with an enlargement at the upper end forming a shoulder at the upper portion of the socket proper in which are formed a pair of recesses or depressions. A fusible metal strip extends across from one recess to the other, connecting in one recess with a contact strip which extends to the bottom of the socket and there connects with a headed rivet while the other end of the fusible strip connects in the opposing recess with a screw threaded sleeve which occupies the lower end of the socket with a connecting contact strip extending from the outside into said recess.

The ends of the flexible strip are turned up and tucked into openings formed in the lower end of a stopper provided with downwardly extending projections adapted to hold the ends of the fusible strip firmly in contact with the contact strips.

The stopper is held in place by a screw threaded sleeve fitting over the enlarged upper end of the plug.

I have illustrated my invention by means of the accompanying drawing in which is shown a renewable fuse plug as I prefer to construct it but it is to be understood that the invention may be constructed otherwise than as here shown.

Referring to the drawing:—

Fig. 1 shows a central vertical section taken on the line 1—1 of Fig. 2,

Fig. 2 is a plan of the socket with the stopper removed,

Fig. 3 is a side elevation of the completed plug,

Fig. 4 is a side elevation of the stopper with a portion in section,

Fig. 5 is a side elevation of the stopper at right angles to the position shown in Fig. 4,

Fig. 6 is a section through the stopper taken on the line 6—6 of Fig. 5,

Fig. 7 is a plan of the fusible metal strip,

Fig. 8 is the same bent into form as it finally appears in the plug and,

Fig. 9 is a section on the line 9—9 of Fig. 2.

Referring to the drawing, 2 represents a hollow socket formed of porcelain or other insulating material having an enlargement 3 at its upper end. The inner portion of the socket is hollowed out in the form of a cylindrical opening 4 terminating at its upper end in an enlargement forming a shoulder 5 in which are formed a pair of downwardly extending recesses 6 and 9. The upper cylindrical portion is, as here shown, the same diameter as the outer portion of the recesses from 6 to 9.

The upper end of the contact strip 7 is turned out horizontally and lies within the recess 6 and the other contact strip 8 which is positioned on the outside of the socket 2 extends upward through a suitable opening 10 and inward to a position within the recess 9. The lower end of the contact strip 7 is connected with a suitable rivet or screw extending through the bottom of the socket and having a flat head 12 for making the central electrical connection.

The contact strip 8 is soldered or otherwise connected with a screw threaded sleeve 13 which fits over and includes the screw threaded end of the socket for screwing the same into place in the opposite female socket.

A hollow stopper 14 fits within the cylindrical space in the enlargement 3 and it has a pair of downwardly extending projections 15 which extend into the recesses 6 and 9. The fusible metal strip 16 is formed with two flat ends and a flat portion in the center upon which may be stamped the standard amperage of the strip.

The flattened ends of the strip 16 are bent in such a way that the inner ends of the

flattened portion lie on the lower surface of the projection 16, thence extending up on the outside of the stopper, it enters the opening 17. The strip which is somewhat longer 5 than the direct distance between the opposite recesses is bent upward into the hollow portion of the stopper and assumes when in position the shape shown in Fig. 8.

The strip is fitted into the head solidly 10 before the latter is slipped into the opening in the upper end of the socket.

The stopper is pressed downward firmly clamping the ends of the fusible strip against 15 the two ends of the contact strips by means of a screw threaded sleeve 18 fitting on a screw threaded surface of the enlargement 3 and having an inwardly extending annular flange 19 fitting over the head 20 of the stopper and resting on a shoulder 21 formed 20 at the base of the head.

Thus, in order to supply the fusible plug with a fusible strip, it is only necessary to stick one of the ends into the opening 17 in the stopper, bring the strip down around 25 the lower end of the projection 15 across over the opposite projection 15 thence upward and insert it into the opposite opening 17.

The stopper thus prepared is put in place, 30 the projections 15 slipping into the two recesses 6 and 9, and the whole is forced downward by a screw threaded sleeve 18 clamping the fusible strip firmly against the two contact strips.

35 The stopper, as well as the socket, is constructed of insulated material as porcelain and the entire device constitutes a fuse plug cheaply made and easily renewable so that the user does not need to carry a variety of 40 completed plugs but can make use of a single plug with a variety of fusible strips according to the amperage required.

I claim:—

45 1. In a renewable plug, the combination of a hollow socket open at one end with an enlargement at said end forming an annular shoulder, a pair of recesses being formed in said shoulder, a contact rivet extending through the lower end of the socket, a contact strip with its lower end connecting with 50 said rivet and its upper end lying within

one of said recesses, a screw threaded sleeve on the lower end of the socket, a contact strip connecting with the said sleeve and with its upper end lying in the other recess, a hollow stopper for filling the enlarged 55 upper end of the socket having projections fitting into said recesses, a fusible strip extending from one of said recesses to the other and held in place by said projections 60 and means for holding said stopper in place.

2. In a renewable plug, the combination of a hollow socket open at one end with an enlargement at said end forming an annular 65 shoulder, a pair of recesses being formed in said shoulder, a contact rivet extending through the lower end of the socket, a contact strip with its lower end connecting with said rivet and its upper end lying within one 70 of said recesses, a screw threaded sleeve on the lower end of the socket, a contact strip connecting with the said sleeve and with its upper end lying in the other recess, a hollow stopper for filling the enlarged upper end of 75 the socket having projections fitting into said recesses, a slot being formed through the socket above each projection, a fusible strip extending from one of said recesses to the other and held in place by said projections 80 and with its ends extending through said slots from inside outwardly and means for holding said stopper in place.

3. In a renewable plug, the combination of a hollow socket open at one end with an 85 enlargement at said end forming an annular shoulder, a contact rivet extending through the lower end of the socket, a contact strip with its lower end connecting with said rivet and its upper end lying on said shoulder, a 90 screw threaded sleeve on the lower end of the socket, a contact strip connecting with the said sleeve and with its upper end lying on said shoulder, a hollow stopper for filling the enlarged upper end of the socket and 95 resting on said shoulder, a fusible strip extending from one side of said shoulder to the other to unite said contacts and held in place by said stopper and means for holding said stopper in place.

DON CARLOS HUBBARD.