

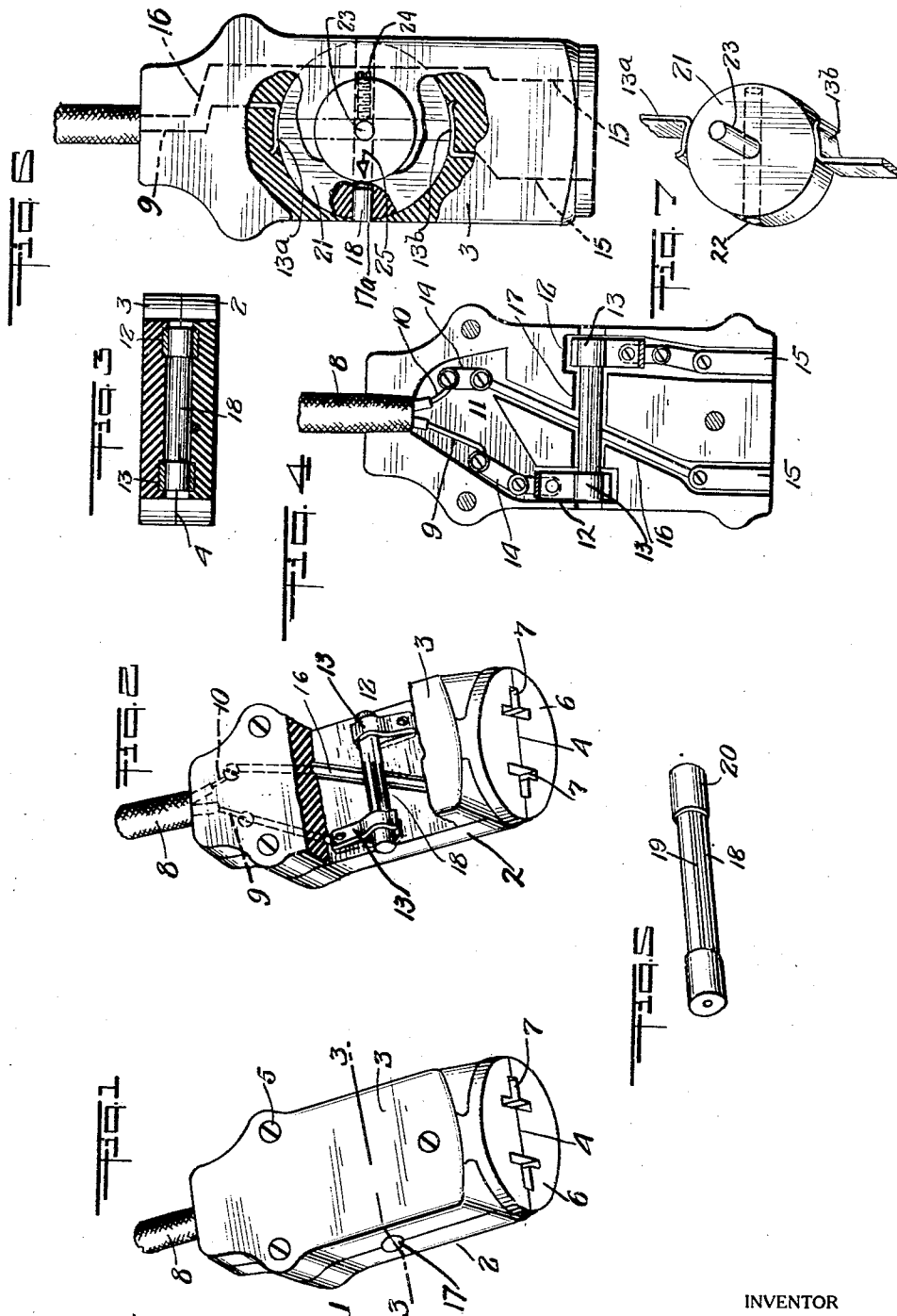
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ATTACHMENT PLUG WITH RENEWABLE FUSE

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ATTACHMENT PLUG WITH RENEWABLE FUSE

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This invention relates to improvements in plugs commonly employed for attaching such implements as electric sad irons, electric cooking utensils, electric soldering irons, etc., to a light or power circuit. More particularly the invention relates to such a plug having incorporated therewith a replaceable member containing a fuse to protect the attached electrical appliance from excessive current.

An object of my invention is to provide an attachment plug in which the fuse containing member can easily be replaced without the necessity of employing special tools.

Another object is to provide an attachment plug that is of strong construction and comprises relatively few parts which can be quickly and cheaply assembled and commercially manufactured at a low cost.

A further object of my invention is to provide an attachment plug that will not be damaged or catch fire when its self-contained fuse is burnt out.

With these and other objects in view, as may later appear, my invention consists in certain structural features, which will be hereinafter fully described, with the understanding that the several necessary elements comprised in my invention may be varied in construction, proportion and arrangement of parts without departing from the spirit thereof, or the scope of the appended claims.

On the drawings, in which the same reference numerals indicate the same parts in the several views,

Figure 1 is a perspective view of my improved plug seen from one end and above.

Figure 2 is a similar view partly broken away on top to show the internal arrangement of the several parts.

Figure 3 is a cross sectional view along the line 3—3 of Figure 1.

Figure 4 is a top plan of part of said plug, with the cover removed.

Figure 5 is a perspective view of an ordinary fuse and casing for same.

Figure 6 is a top plan view partly in section of a modified form of attachment plug in which the fuse containing casing is to be

mounted, so as to not only provide a fuse, but also serve as a switching member; and

Figure 7 is a view of a detail, showing how the combined fuse member and switch are mounted.

The numeral 1 indicates an oblong moulded housing, flattened on its opposite faces and formed of two portions 2, 3, in contact with each other along the line 4 and secured together by retaining means or screws 5. The halves 2 and 3 each have one end flattened and semi-circular in contour, so that when said halves are assembled with said ends adjacent, surface 6 results which is provided with two T-shaped orifices 7 formed by recesses in the halves 2 and 3 and intended to receive the prongs or tongues of any standard supplemental connecting plug, or the prongs carried by the particular electrical appliance that is to be connected to the power circuit. In the construction of this housing any suitable heat-resisting, high grade insulation that can be die-moulded may be used; for example some varieties of bakelite either with or without a filler of ground mica, asbestos or the like. In plugs for some electric appliances, formed porcelain may advantageously be employed.

The half 2 of the moulded housing has certain grooves and recesses therein and the various conductive parts of my plug affixed to it. At the extremity opposite the end 6, the halves 2 and 3 have registering grooves to enable the housing to receive the cable 8, containing wires 9, 10.

The half 2 of the housing, adjacent the end at which the cable 8 enters, has a recess 11 in its surface which is overlaid by the cover 3, and this recess communicates with a smaller recess 12 in the same surface, receiving a contact clip 13. This recess 12 is at one side of the half 2, and adjacent the opposite side is a similar recess having therein a similar clip. In the recess 11 is a contact 14 united to the wire 9 and the first-mentioned clip 13; while the other clip 13 is connected to a contact strip or element 15, in the groove of the half 2 forming part of the adjacent T-shaped recess 7, which is in line therewith. The other wire 10 is connected to a similar

contact 14 fixed in the recess 11. From this recess leads an embedded conductor 16 in the same surface of the half 2 to the groove in said surface forming part of the other recess 7, which contains a similar contact strip 15. Across the opposed faces of the half 2 and cover 3 extend grooves which register to form a bore 17 to receive the envelope or casing 18, containing the fuse 19. This envelope is usually a small length of glass tubing, with end caps or closures 20, to which the fuse 19 is connected. This member comprising the fuse 19 can be slipped into the bore 17, so that the caps 20 make contact with the two clips 13, thus connecting the wire 9 to the first-mentioned strip 15.

In practice, the member comprising the fuse is put into place by forcing it into either open end of the bore 17. When the ends of caps 20 are flush with the opposite sides of the plug, the caps 20 are engaged by the contacts or clips 13 bridging the space between these clips, and the electrical appliance can be used by connecting its terminals to the terminals or strips 15. If the fuse is blown the member is simply pushed out of the bore 17, and a new one substituted. Any convenient implement, such as a nail, match, stick, etc., can be utilized, and no particular tool is needed.

The under or inner face of the cover 3 is of course recessed to fit over and make room for the clips 13 which engage the caps 20 of the casing 18.

In the modification shown in Figures 6 and 7, the plug comprises a portion 2 and a cover 3, as before. But the clips 13 are omitted. In place of these clips, the portion 2 carries a contact or brush 13^a, connected to one of the wires or conductors 9 and placed opposite a similar contact or brush 13^b connected to one of the terminal strips 15 in one of the orifices 7. The brushes 13^a and 13^b may be placed about in the middle of the portion 2. The other conductor or wire 10 is connected as before by a conductor 16 embedded in the part 2, to the other strip 15 in the remaining orifice 7.

The cover 3 is made hollow and has a sufficiently large recess therein to receive a carrier or switch member 21 in the form of a disc or flattened cylinder, having a diametric bore 22 passing therethrough from one side to the other and open at both its ends, similar to the bore 17. This disc is provided with a journal or stem 23 which projects through the cover 2 and on the top of this cover is a knob 24 affixed to the stem 23. This knob carries an indication 25. If a fuse is slipped into the bore 22, and the carrier 21 is turned to bring the bore 22 into line with the brushes 13^a and 13^b, the caps 20 of the fuse member will make contact with the brushes 13^a and 13^b, and connect same. Of course, the diameter of the carrier 21 will

be about equal to the length of the fuse member, or a little less, so that when the knob 24 is operated to turn the carrier to bring the fuse member into line with the brushes, one cap 20 will make contact with one brush, and the other cap 20 with the remaining brush. Along with the indication 25, the words "On" and "Off" may be put upon the top of the cover 2 to indicate the position of the carrier 21 when it is holding the fuse member in position to bridge the brushes 13^a and 13^b, and when it is turned to disconnect these brushes. Thus, the fuse member serves not only as a fuse, but also as a switch to open and close the circuit.

The portions or halves 2 and 3 may be so shaped that the half 2 may also be recessed to some extent to receive part of the carrier 21 and the sides of the two halves 2 and 3 may have registering recesses to form openings 17^a which will be in line with the bore 22 when the knob 24 is turned to move the carrier, so as to disengage the fuse member from the contacts 13^a and 13^b.

Having described my invention, what I believe to be new and desire to secure and protect by Letters Patent of the United States is:—

1. A connecting plug comprising a pair of contacts, and a rotatable carrier bearing a fuse member, to be moved into and out of engagement with said contacts, said fuse member being insertible into the carrier and removable therefrom through the side of the plug.

2. A connecting plug comprising a pair of contacts, a rotatable carrier between said contacts, a fuse member in said carrier to be actuated into and out of engagement with said contacts, said member being insertible into the carrier and removable therefrom through the side of the plug, and a knob on the exterior of the plug to actuate said carrier.

In testimony whereof I affix my signature.
JOHN ALFRED GRIER.