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H. D. GEYER
ELECTRIC CONNECTER PLUG
Filed July 30, 1932

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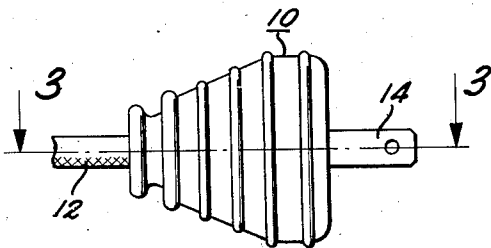


Fig. 1.

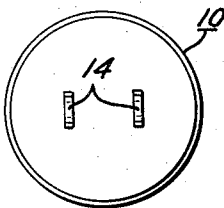


Fig. 2.

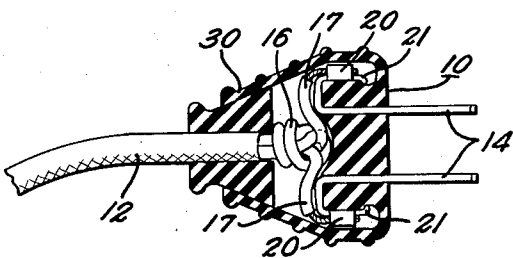


Fig. 3.

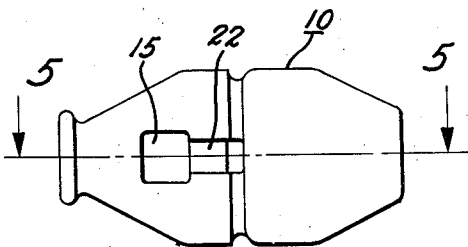


Fig. 4.

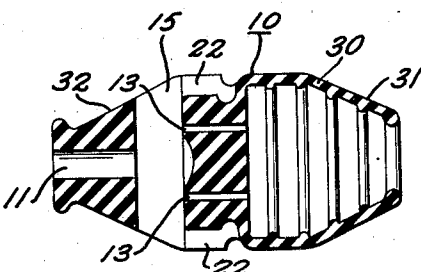


Fig. 5.

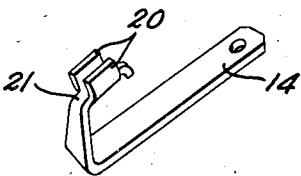


Fig. 6.

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UNITED STATES PATENT OFFICE

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ELECTRIC CONNECTER PLUG

Application filed July 30, 1932. Serial No. 626,989.

This invention relates to connector plugs for electric conductors such as are adapted for use as push plugs for connecting household electric devices to electric convenience outlets located in the walls or floor.

Such connector plugs made of soft rubber to render them unbreakable are now known but in most prior designs the plug is provided with molded in situ metal inserts which necessarily substantially increase the cost of manufacture thereof. In some prior designs the soft rubber plug is molded directly upon the end of the electric conductor which of course greatly limits the universality of use to which the plugs can be put as well as increases the cost thereof.

Now the object of this invention is to provide a simple and efficient soft rubber connector plug which has no molded in situ inserts of any kind whereby to reduce its cost, and which can be easily attached to the metal contact member or members and the end of the electric conductor and at the same time provide a neat external appearance.

Another object is to provide such a plug which is molded in one piece thereby reducing the cost of molding and assembling same.

Another object is to provide such a plug which is substantially waterproof after it is attached to the end of the electric cord.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing, wherein a preferred embodiment of one form of the present invention is clearly shown.

In the drawing:

Fig. 1 is a side elevation of the completely assembled plug.

Fig. 2 is an end view thereof.

Fig. 3 is a section on line 3—3 of Fig. 1.

Figs. 4 and 5 are elevation and section views respectively of the soft rubber portion in the form in which it is molded.

Fig. 6 is a perspective view of a metal contact member in the form in which it is inserted in the soft rubber body shown in Fig. 5.

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

The soft rubber body, designated as a whole by numeral 10, is molded in the shape shown in Figs. 4 and 5 in suitable molding dies. The die cores which form the various apertures and recesses therein may be easily withdrawn from the molded body due to the flexibility of the soft rubber of which it is made. This body 10 has an axial aperture 11 adapted to snugly receive the end of the electric cord 12, and two spaced apertures 13 adapted to snugly receive the two metal contact members 14, one of which is shown in detail in Fig. 6 in the form it has when it is inserted in body 10. A relatively large transverse aperture 15 intercepts the apertures 11 and 13 and permits during assembling the easy manipulation of the two wires of the cord 12, such as the tying of the knot 16 therein and the projection of the two separated leads 17 out of opposite ends of the transverse aperture 15. The size of aperture 15 also permits the insertion of the two contact members 14 through the apertures 13 from the inside ends thereof to their positions substantially as shown in Fig. 3. The bare ends of the wire leads 17 are then connected to the inner ends of contact members 14 by tightly clamping said ends between the metal tangs 20 and also soldering the connection if desired. Such clamping and soldering operations are easily done since at the time such connections are made the return bent ends 21 of contact members 14 are preferably not bent down as shown in Fig. 3 but project at an angle outwardly from the rubber body 10. After said connections are made these ends 21 are bent inwardly into the recesses 22 and into tightly clamped relationship with the rubber body so that said contact members 14 are firmly retained against being forced inwardly. All the above assembling operations are of course made while the flexible skirt 30 is in its original molded position shown in Fig. 5. After the other parts are fully assembled as above described, this soft rubber skirt 30 is simply telescoped back upon the other rubber portion to form a neat tight fit thereupon, as shown in Fig. 3. The conical surface 31 of skirt 30 fits tight upon the conical surface 32

and thus provides a substantially waterproof plug since the cord 12 fits tight within the aperture 11 and the metal contacts 14 fit tight within the apertures 13. Hence this connector plug gives the advantages and has the appearance of a plug vulcanized upon the electric cord and contact members as inserts. This plug however can be easily connected to any electric cord right "at the job" and hence can be made and sold separately from the cord and at a greatly reduced price.

While the form of embodiment of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows:

1. An electric connector plug for an electric conductor, comprising: a molded soft rubber body having an aperture for receiving a metal contact member, an aperture for receiving the electric conductor, and a laterally open recess permitting access to connect said contact member and conductor after they are inserted in said apertures, and having an integral soft rubber skirt adapted to be doubled back upon and form a snug casing for said soft rubber body after said connection is made.
2. An electric connector plug for an electric conductor, comprising: a molded soft rubber body having a transverse aperture extending through said body, an aperture for receiving a metal contact member, an aperture for receiving the electric conductor,

said latter two apertures extending into said transverse aperture whereby to permit access to connect said contact member to said conductor after they are inserted in their respective apertures, and having a projecting integral resilient rubber skirt adapted to be snapped back over said body to snugly enclose said transverse aperture after said connection is made.

3. An electric connector plug for an electric conductor, comprising: a molded soft rubber body having apertures therein for receiving a metal contact member and the electric conductor, and an open recess intercepting said apertures and permitting access to connect said contact member and conductor after they are inserted in their respective apertures, and a soft rubber skirt molded integral with said rubber body and adapted to be doubled back over said body after said connection is made.

4. An electric connector plug for an electric conductor, comprising: a molded soft rubber body having apertures therein for receiving a metal contact member and the electric conductor, and an open recess intercepting said apertures and permitting access to connect said contact member and conductor after they are inserted in their respective apertures, and an integral rubber skirt foldable over said body after said connection is made to form a substantially waterproof enclosure for said open recess.

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