April 29, 1941. A. H. GIFFORD 2,239,846

ELECTRICAL CONNECTION PLUG

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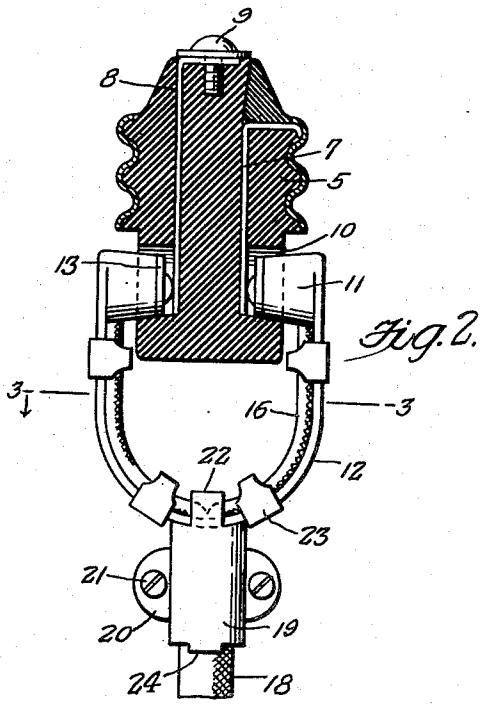


Fig. 2.

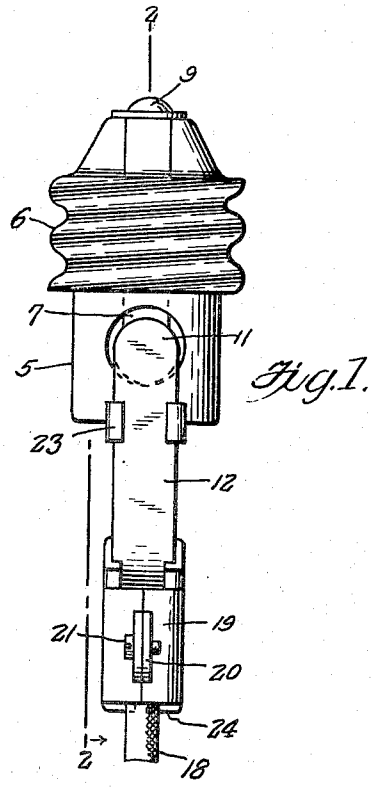


Fig. 1.

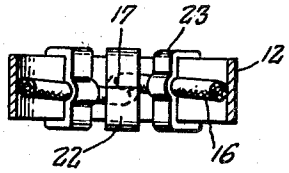


Fig. 3.

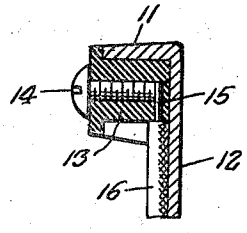


Fig. 4.

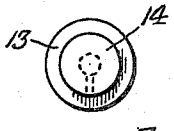


Fig. 5.

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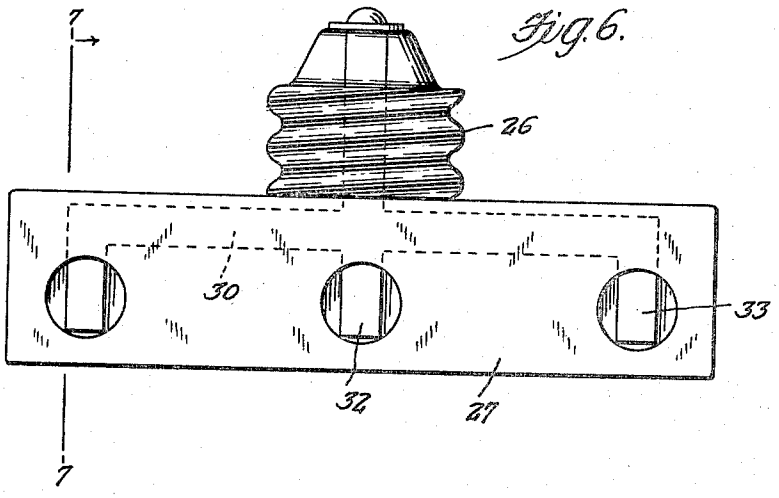
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Fig. 6.



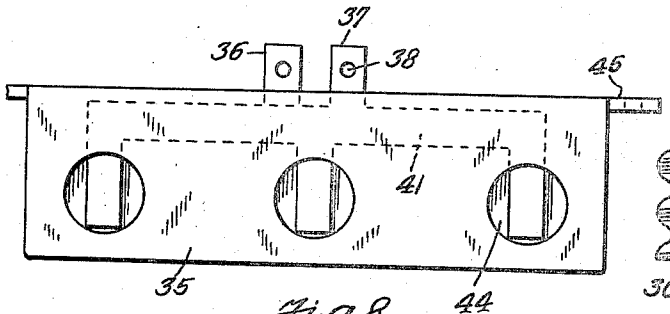


Fig. 8.

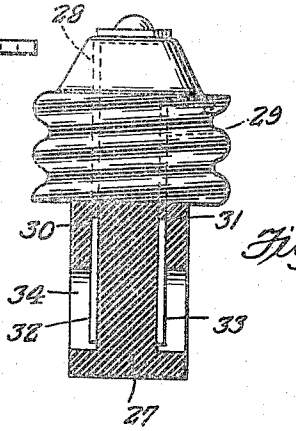
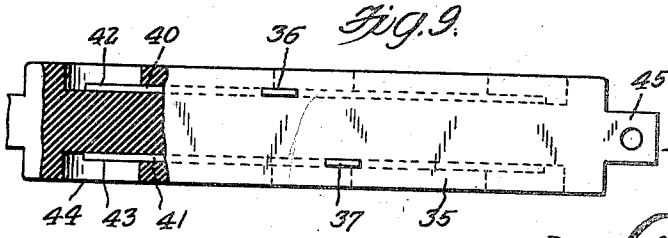


Fig. 7.

Fig. 9.



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UNITED STATES PATENT OFFICE

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ELECTRICAL CONNECTION PLUG

Arthur H. Gifford, Santa Maria, Calif.

Application January 30, 1940, Serial No. 316,427

1 Claim. (Cl. 173—324)

The present invention relates to electrical connection devices adapted for connecting electrical appliances to floor, wall or ceiling receptacles or other fixtures, and has for its primary object to provide an adapter plug for engaging the receptacle and having recesses therein communicating with the electrical conductors and also providing a spring clamping member on the wire leading to the appliance and embodying a pair of conductor heads adapted for insertion in the recesses of the adapter for making the connection with the conductors therein.

A still further object is to provide an electrical connection plug of this character by means of which a plurality of appliances may be attached to a common receptacle.

A still further object is to provide a device of this character of simple and practical construction, which is neat and attractive when in use, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which—

Figure 1 is a side elevational view embodying one form of the connector plug showing the clamping member secured thereto.

Figure 2 is a longitudinal sectional view through the plug.

Figure 3 is a transverse sectional view taken substantially on a line 3—3 of Figure 2.

Figure 4 is a sectional view through one of the heads of the clamp.

Figure 5 is an end elevational thereof.

Figure 6 is a side elevational view of a modified form of the plug for attaching a plurality of the clamping members thereto.

Figure 7 is a sectional view taken substantially on a line 7—7 of Figure 6.

Figure 8 is a side elevational view of a further modification of the connector adapted for use on a wall receptacle, and

Figure 9 is a top plan view thereof with parts broken away and shown in section.

Referring now to the drawings in detail, and with particular reference to the form of the invention illustrated in Figures 1 and 2, the numeral 5 designates an electric plug of insulation material including a threaded shell 6 adapted for threaded engagement in an electrical receptacle of conventional construction, the plug having a pair of conductors 7 and 8 embedded therein, one of the conductors having contact with the shell 6 and the other of said conductors having connection with the terminal screw 9 inserted on the end of the plug.

At diametrically opposite sides of the outer portion of the plug is a pair of recesses 10 providing access to the respective conductors 7 and 8.

Adapted for insertion in the recesses 10 is a pair of clamping heads 11 of frustro-conical form, the heads being formed on the ends of a U-shaped spring clamping member 12, the heads extending transversely at the end portion of the clamping member and in opposed relation with respect to each other, as more clearly shown in Figure 2 of the drawings.

Mounted on the inner ends of each of the heads is an insulation plug 13 in which a terminal screw 14 is threaded, the head of the screw being adapted for contacting the respective conductors 7 and 8 of the plug 5. The exposed end 15 of an electric wire 16 is inserted laterally through the plug 13 for engagement by the inner end of the terminal screw 14.

The circuit wire 16 extends along the inside of the U-shaped clamping member 12 and through an opening 17 formed in the bight portion of said clamping member, the converging portion of the circuit wires being enclosed in a common insulation housing 18 which extends to a suitable electrical appliance (not shown). The bight portion of the spring clamping member 12 is secured to a split clamping member 19 which encloses the housing 18 for the circuit wire, the opposite sides of the clamping member 19 being provided with ears 20 for receiving screws 21 for attaching the same to a suitable supporting structure.

The split sections of the clamping member 19, at one end, are provided with lugs 22 which are bent inwardly in opposed relation for engaging the circuit wires 16 for securing the same in position in the opening 17.

The spring clamping member 12 is provided with a plurality of clips 23 for securing the circuit wires in position thereto. The end of the clamping member 19 opposite from the lugs 22 is also provided with inturned lugs 24 adapted for engaging the housing 18 of the circuit wires to secure the clamping member 19 in position relative thereto.

In the form of the invention illustrated in Figures 6 and 7 of the drawings the plug is shown at 26 which is formed on one longitudinal edge of an elongated insulation block 27 of rectangular

shape and which extends transversely at the outer end of the plug. The conductors embedded in the plug are shown at 28 and 29, respectively, and which include longitudinal extensions embedded in the block 27, as shown at 30 and 31, each of the extensions having contact fingers 32 and 33, respectively, which are exposed in the recesses 34 formed in the opposed faces of the block 27. The conductor heads 11 of the spring clamping member 12 are adapted to be selectively positioned in the recesses 34 in a manner that will be apparent.

In Figures 8 and 9 I have illustrated a modified form of the multiple type of adapter which includes the rectangular insulation block 35 from one longitudinal edge of which project the conductors 36 and 37 having the screw openings 38 formed therein for attaching circuit wires directly thereto. The conductors 36 and 37 have the extensions 40 and 41 embedded in the block and from which the fingers 42 and 43 respectively, project therefrom at spaced intervals, the fingers being exposed in the recesses 44 formed in the block as heretofore explained. At each end of the block 35 are ears 45 adapted for attaching to a wall receptacle.

It is believed the details of construction, advantages and manner of use of the device will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention, what I claim is:

A connector plug comprising an insulated body including a connector part adapted for insertion in an electric outlet receptacle and an extension outwardly of said connector part, said extension having a plurality of recesses therein arranged in pairs at opposite sides of the extension, conductors embedded in the extension having portions exposed at the bases of said recesses and a conductor clip detachably engageable with the extension and having opposed inwardly projecting contacts adapted to enter a pair of the recesses for contacting said first named conductors.

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