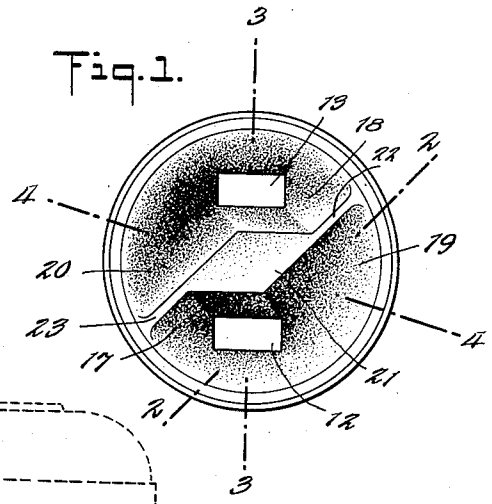
June 30, 1931. D. W. JOHNSON ET AL 1,812,343

ELECTRICAL CONNECTING DEVICE

Filed May 11, 1929

Fig. 1.



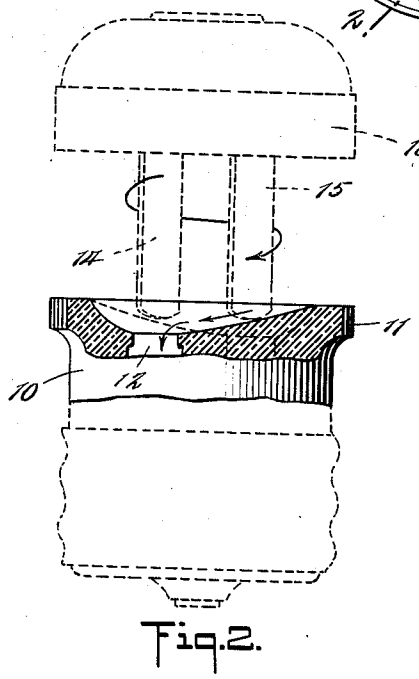


Fig. 2.

Fig. 3.

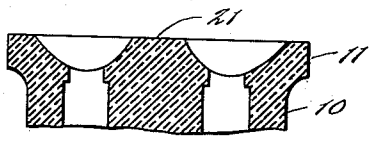
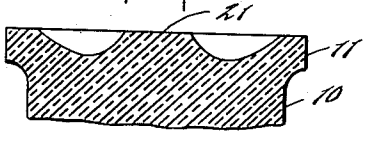


Fig. 4.



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UNITED STATES PATENT OFFICE

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ELECTRICAL CONNECTING DEVICE

Application filed May 11, 1929. Serial No. 362,402.

This invention relates to electric connecting devices and more particularly to means for facilitating the insertion of the blades of an attachment plug cap into the contact apertures of electric connecting devices, such as attachment plug bodies, flush receptacles, outlets, cord connectors and the like. In brief, by providing the face of an attachment plug body, flush receptacle, cord connector, outlet or like device with grooves leading to the contact apertures, according to our invention, we provide an effective and certain means whereby the insertion of the attachment plug cap contact blades into an attachment plug body or like device is facilitated. The invention finds particular use when the attachment plug body, flush receptacle, cord connector or like device is inconveniently located, for example, behind furniture or overhead. Devices of this type in the prior art have been subject to many disadvantages and it is an object of our invention to provide a groove to guide the attachment plug cap contact blades into contact apertures of an attachment plug body or like device in a more direct and certain manner than heretofore.

Other objects will become apparent as the invention is described in connection with the accompanying drawings in which

Fig. 1 is a top plan view of an attachment plug body provided with a spiral groove according to our invention.

Fig. 2 is a broken elevation section view of the plug shown in Fig. 1 with the section taken on line 2—2 of Fig. 1. The attachment plug cap and the bottom of the plug body are shown in dotted lines.

Fig. 3 is a broken elevation section view of the head of the attachment plug body shown in Fig. 1, with the section taken on line 3—3 of Fig. 1.

Fig. 4 is an elevation section view of the head of the attachment plug body shown in Fig. 1 with the section taken on line 4—4 of Fig. 1.

Referring now to the drawings it will be apparent that our invention may be applied to an attachment plug body of the customary structural features, that is, with the body portion 10 cylindrical and flaring out to an enlarged head portion 11 which is also cylindrical. The attachment plug body is provided with two rectangular spaced apertures 12 and 13 in which conventional attachment plug contacts (not shown) may be located to cooperate with attachment plug contact blades 14, 15 on a conventional attachment plug cap 16.

The flat top face of the attachment plug body is hollowed out around the contact apertures 12 and 13 to form inclined grooves 17, 18, 19 and 20, the sides of which grooves slope downwardly from the periphery of the plug and on one side, on the other side, downwardly from crooked or stemmed diamond-shaped barrier 21 skewed to the apertures and separating the grooves and apertures. The stems 22, 23 of the barrier comprise extensions of those parallel sides of the diamond portion which are oblique to the contact apertures. These stems extend to the periphery of the plug. By making the barrier skewed, as described, the chance of placing both the contact prongs upon it is minimized.

It will be noted that we make the inclined grooves 19, 20 with long gently sloping paths which extend from the points of intersection of the stems 22, 23 with the periphery of the plug, downwardly to the contact apertures. We make the grooves 17, 18 with steep short paths which extend in the direction opposite to the paths 19, 20, upwardly from the contact apertures to those points of the diamond barrier from which the stems 22, 23 extend.

When the blades of an attachment plug cap are pressed against the face of the attachment plug body in attempting to insert the blades in the apertures 12, 13, the blades will normally rest upon some portion of the grooved surfaces and the person who is holding the plug cap, in rotating the cap as is usual in attempting to insert the blades, 14, 15 into the contact apertures 12 and 13, will naturally allow the blades to be guided by the grooves into the apertures 12, 13.

It should be noted in the construction just described there is a minimum amount of flat surface for the contact fingers to rest upon and hence the contact prongs or blades will practically always fall upon a portion of the

grooves 17, 18, 19 and 20, and be guided thereby into the apertures 12, 13 as described. It should also be noted that the short grooves are approximately in alignment with the contact apertures but the long grooves are oblique to the apertures and extend from them to the periphery of the plug at a point across and beyond the median line between the contact apertures. By the different angular approach of the long and short grooves to the contact apertures, we make use of the natural tendency of persons attempting to connect the plug and cap, to rotate or twist the cap until the blades "find" the apertures. It should therefore be noted that in case the prongs of an attachment plug cap are placed on the face of our plug so as to fall on the median line between the contact apertures, the prongs even then will fall on surfaces which decline into the contact apertures. Thus, the prongs will be speedily guided thereinto.

While we have shown our invention as applied to an attachment plug body, it will be apparent that our invention may as well be applied to cord connectors, outlets, flush receptacles, and the like, whether round in shape or otherwise, and in practicing our invention we apply it to articles of those types, as well as to attachment plugs.

If preferred, contact apertures of the double T, L, or circular types may be used instead of the rectangular apertures which we have shown by way of illustration and not with intent to limit our invention to rectangular slots.

Therefore we do not limit our invention to the specific embodiment shown, but we claim—

1. An electric connecting device having contact apertures in its face adapted to receive contact blades, a long and a short groove leading to each aperture.

2. An electric connecting device having contact apertures in its face adapted to receive contact blades, a long and a short groove leading to each aperture, said long grooves being oblique to the contact apertures and said short grooves being in approximate alignment with said apertures.

3. An electric connecting device having contact apertures in its face adapted to receive contact blades, a long and a short groove leading to each aperture, and a barrier separating said grooves and apertures.

4. An electric connecting device having contact apertures in its face adapted to receive contact blades, a long and a short groove leading to each aperture, said long grooves being oblique to the contact apertures and a barrier separating said grooves and apertures.

5. An electric connecting device having contact apertures in its face adapted to receive contact blades, a long and a short groove leading to each aperture, and a crooked barrier separating said grooves and apertures, said long groove being of gradual slope, and said short groove being of steep slope.

6. An electric connecting device having contact apertures in its face adapted to receive contact blades, a long and a short groove leading to each aperture, said long grooves being oblique to said apertures and extending from said apertures across and beyond the median between said apertures.

In testimony whereof we have signed our names to this specification.

ARVID H. NERO.
DAVID W. JOHNSON.