Dec. 17, 1940. J. J. HOLLANDER 2,225,218

REVOLVABLE ELECTRICAL PLUG

Filed March 16, 1939

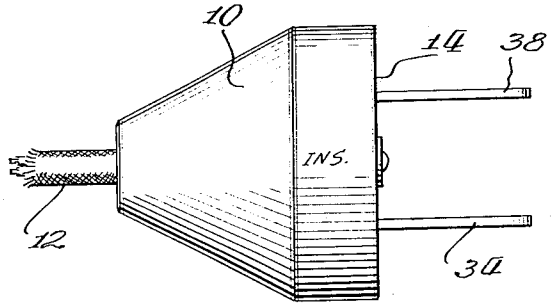


Fig. 1.

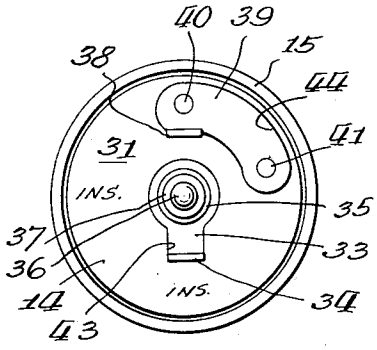
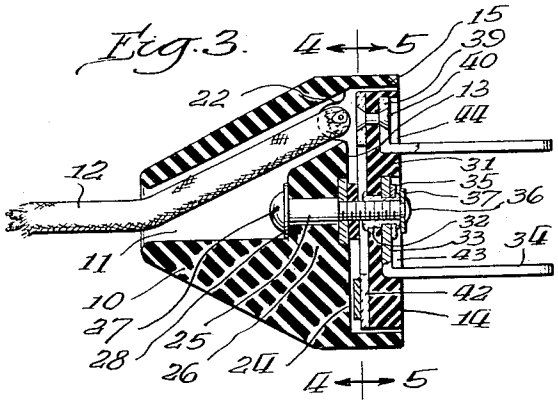


Fig. 2.



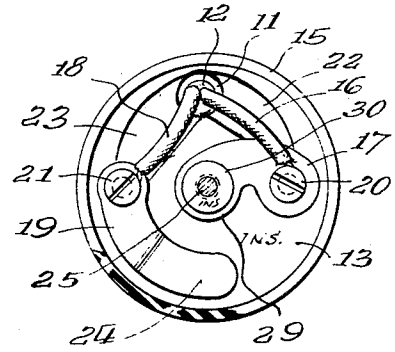


Fig. 4.

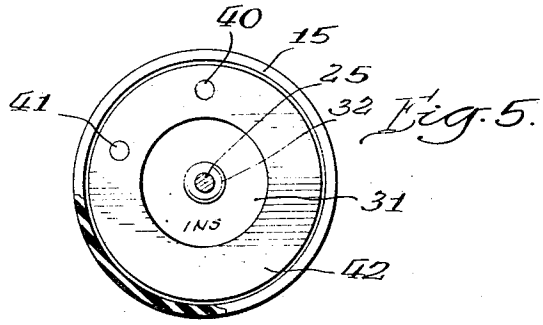


Fig. 5.

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Patented Dec. 17, 1940 2,225,218

UNITED STATES PATENT OFFICE

2,225,218

REVOLVABLE ELECTRICAL PLUG

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Application March 16, 1939, Serial No. 262,161

1 Claim. (Cl. 173—324)

This invention relates to an electrical utility plug and has for its main object the provision of an electrical plug which will efficiently maintain electrical contact with the electrical socket with which it is used regardless of its rotatory disposition relative thereto.

A further object of the present invention is to provide an electrical plug of the character described, which will be convenient for economical manufacture along lines of quantity production and which will at the same time effectively discharge the duties for which it is designed.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists in certain novel features of construction, arrangement and combination of parts hereinafter fully described, illustrated in the accompanying drawing, and particularly pointed out in the appended claim, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawing, a preferred embodiment thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawing in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawing:

Fig. 1 is an elevational view of my present invention;

Fig. 2 is an end on elevational view of the same;

Fig. 3 is a transverse sectional view of the same;

Fig. 4 is a mid-sectional view taken along the line 4—4 of Fig. 3 and in the direction indicated;

Fig. 5 is a mid-sectional view taken along the line 5—5 of Fig. 3 and in the direction indicated.

Referring to the constructional details, the reference character 10 represents a plug member formed of Bakelite or some other insulating material. Said plug is provided with a passageway 11 therethrough which accommodates the lead in wire 12. Said wire 12 communicates with the face 13 of said plug member 10 for a purpose to be described. Said face 13 is set below the outer face 14 of the device by reason of its being defined by an annular flange 15 formed integrally with the member 10.

One lead end 16 of said wire is connected to member 17 and the other lead end 18 of said wire 12 is connected to the spring member 19. Both of said connections are made to the screws 20 and 21, respectively, which also serve to hold the members 17 and 19 to the face 13. Said wire lead ends are disposed in recesses 22 and 23, and the members 17 and 19 are set into conforming recesses in said face 13, so that no portion of the said wire lead ends or members 17 and 19 protrude substantially above said surface 13. However, the free end 24 of the spring member 19 normally would extend quite a substantial distance outward from the surface 13 if allowed to do so.

Centrally of the plug member 10 a pin member 25 is placed, extending through the body of the member 10 as at 26 and further extending out from the face 13. Said pin member 25 is provided internally of the plug member 10 with a head 27 and a bearing washer 28 to permit the pin to be screwed on to the member 17 at one end 29 thereof. An insulating spacer washer 30 is mounted above the member 17 and serves to space the member 31 from the face 13.

Said member 31 is formed as a cylindrical plate of insulating material and is rotatively mounted on said pin member 25 by reason of said pin member passing through the tubular rivet 32. Said rivet 32 retains the supporting arm 33 of a male electrical prong 34 to the member 31 together with the washer 35. The end of the pin member 25 is flattened out as a rivet head 36 over the washer 37 to make the said mounting permanent. The entire assembly is rendered firm by reason of the resilient action of the free end 24 of the spring member 19 urging the member 31 to the right as viewed in Fig. 3.

The second male electrical prong 38 is provided with a supporting arm 39 which is held to the member 31 by the rivets 40 and 41. Said rivets also serve to aid in holding an annular ring 42 to the inside face of said member 31. Said ring 42 serves as a bearing and electrical contact for the free end 24 of the member 19.

Both of said prong arms 33 and 39 are set into recesses 43 and 44, respectively, of said member 31, so that the outer surface thereof is substantially flush with the annular flange 15.

It is to be noted that since the member 31 is formed of lesser diameter than the recess formed

within the flange 15, the same will be free to rotate on that account.

Electrical contact is established from the lead ends to the prongs as follows: lead end 16 to screw 20 to member 17 to pin member 25 to rivet 32 to arm 33 of prong 34; lead end 18 to screw 21 to spring member 19 through free end 24 to annular ring 42 through rivets 40 and 41 to arm 39 of male prong 38.

It will obviously be seen that electrical contact will be maintained between said leads and said prongs as described regardless of the rotatory disposition of said member 10 with respect to said member 31 and the wall or other electrical outlets to which said member 31 is attached by means of the prongs 38 and 34 thereof.

Since it is believed that the above disclosure of the construction of the preferred embodiment of my invention will obviously disclose the entire and complete operation thereof, further explanation will be dispensed with.

If desired, the said member 31 may be detachably fastened to the member 10, whereby the said members may be readily separated whenever found necessary or desirable, such, for example, as for replacing the leads 16 and 18 should the latter become injured or disconnected from their respective contacts 20 and 21. One means of accomplishing such a detachable engagement may be by providing adjacent the free end of the pin or stud 25 an opening through which a suitable cotter pin may be passed for securely locking the said members 31 and 10 in operative engagement with each other.

While reference and disclosure have been made with regard to a more or less specific embodiment of my invention, it is to be noted that the details and less important features are capable of assuming diversified forms and wide variations without departing from the purview of my invention. I do not wish to be limited in my Letters Patent to specificities as disclosed, but rather would be protected for the broad generalities to which my invention entitles me and which are herewith stated in the appended claim.

I claim:

In a device of the character described, a plug member of insulating material provided with a recessed face at one end thereof, an annular flange surrounding said face, an opening at the opposite end of said plug member for leading electrical conductors to the said recessed face, said opening leading to a passageway extending through the said plug member to one side of the center thereof and opening up to said recessed face, a pair of electrical contacts set in said recessed face, one of said contacts being of resilient metal and having a portion normally extending obliquely outwards away from said face in a direction about a portion of the circumference of said recessed face, the other of said contacts extending to the center of said plug member, a pin member extending longitudinally of said plug member and attached thereto and having said second contact electrically connected therewith, shallow depressions in said recessed face adapted to accommodate the ends of said electrical conductors and enable same to be connected to said contacts on said face, a relatively flat member of insulating material disposed in said recessed face and rotatively mounted on the end of said pin member substantially flush with said annular flange, a pair of male prongs fixed to the outer face of said flat member, one of said prongs electrically and rotatively attached to said end of said pin member, an annular metallic member fixed to the opposite face of said flat member, the second prong being electrically attached thereto, the obliquely extending portion of said first mentioned contact being in constant wiping electrical contact with said annular ring and adapted to urge said flat member away from said plug member to eliminate slack therebetween and permit the maintenance of constant electrical connection between said conductors and said male prongs regardless of the rotatory disposition of said prongs with respect to said plug member.

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