Sept. 19, 1939. J. R. DINKINS 2,173,533

INTERLOCKING ELECTRIC PLUG

Filed April 14, 1938

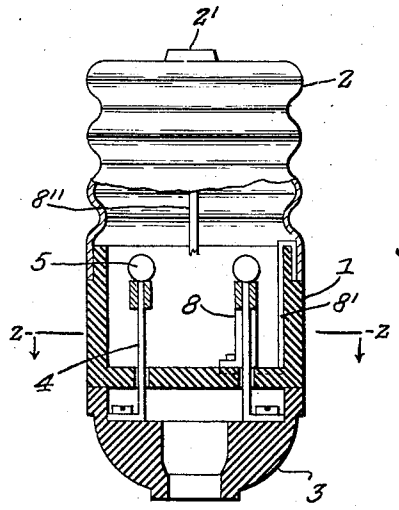


Fig. 1.

Fig. 3.

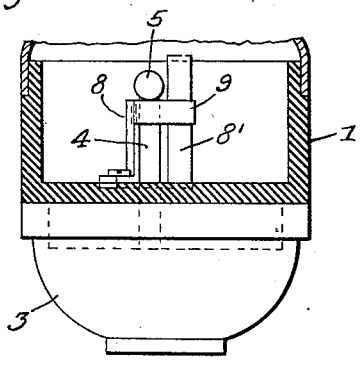


Fig. 2.

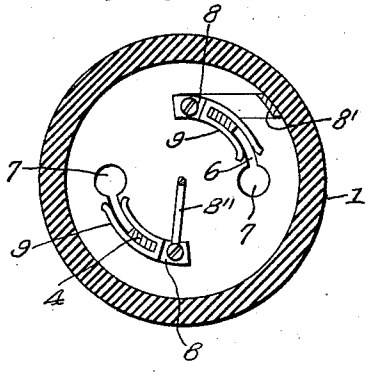
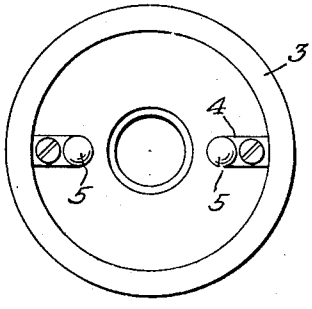


Fig. 4.



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Patented Sept. 19, 1939 2,173,533

UNITED STATES PATENT OFFICE

2,173,533

INTERLOCKING ELECTRIC PLUG

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Application April 14, 1938, Serial No. 202,081

1 Claim. (Cl. 173—343)

This invention relates to an interlocking plug, the general object of the invention being to provide means for locking the prong carrying part of the plug to the socket part by a partial turning movement of one part relatively to the other, with means for insuring an efficient electrical connection between the prongs and the contact members in the socket part.

This invention also consists in certain other features of construction and in the combination and arrangement of several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claim.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is an elevation with parts in section of the complete device.

Figure 2 is a section on the line 2—2 of Figure 1 looking in the direction indicated by the arrows.

Figure 3 is a fragmentary sectional view taken at right angles to Figure 1.

Figure 4 is a view looking into the inner end of the prong carrying part.

In these views the numeral 1 indicates the socket part of the plug which is provided with the usual threaded portion 2 and the numeral 3 indicates the prong carrying part, the prongs of which are shown at 4 and each prong has a ball 5 at its free end. The prong receiving end of the part 1 is formed with a pair of arcuate slots 6 each of which terminates at one end in a circular hole 7, the hole being large enough for the passage of the ball 5. Within the socket are the pair of spring contact members 8 each of which has its free end formed with a pair of spring arcuate-shaped jaws 9 for receiving the prongs 4 below the heads or balls 5, and these jaws are aligned with the slots 6 so that when the prongs are passed through the holes 7 and then the part 3 given a partial turning movement the prongs will enter the jaws and be gripped thereby below the balls. One of the members 8 has an extension 8' which engages the metal part 2 and the other member 8 is connected with the metal strip 8'' which connects with the center contact 2' which, of course, is insulated from the part 2.

Thus it will be seen that when the prongs are placed through the openings 7 and one of the members slightly turned the prongs will engage the jaws and the two members 1 and 3 will be connected together in such a manner that they cannot be pulled apart without turning one member in a reverse direction to place the balls 5 in registry with the openings 7 and when this is done the prongs will move out of engagement with the jaws. As will also be seen the balls 5 also act to prevent the prongs being pulled from the jaws until one member is turned relative to the other to place the prongs in registry with the holes 7.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

Having described the invention, what is claimed as new is:

In an electric connector, a pair of plug and socket members, respectively, adapted for mating end to end, and means to lock said members together against endwise separation comprising a pair of diametrically opposite prongs extending from said end of the plug member including flat shanks having enlarged spherical terminals, a web extending across the mating end of the socket part and provided therein with a pair of arcuate diametrically opposite and concentric keyhole slots having their larger ends arranged at relatively opposite ends of said slots, whereby said terminals may be inserted in said plug through said larger ends and the plug rotated to enter said shanks in the reduced parts of said slots, a pair of arms extending from said web inwardly of the socket member from adjacent the reduced ends of said slots, respectively, and secured to said web, said arms terminating in a pair of resilient jaw members, respectively, curved concentrically to said slots and spaced apart in conformity therewith, said pairs of jaws opening towards the larger ends of the slots to receive the shanks of said prongs therein under rotation of the plug member to enter the shanks in the reduced parts of the slots, and said pairs of jaws and terminals coacting under such rotation of the plug member to cam said members together.

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