Oct. 9, 1934. J. E. RANDEL 1,976,515

ATTACHMENT PLUG

Filed Nov. 19, 1928

Fig. 1.

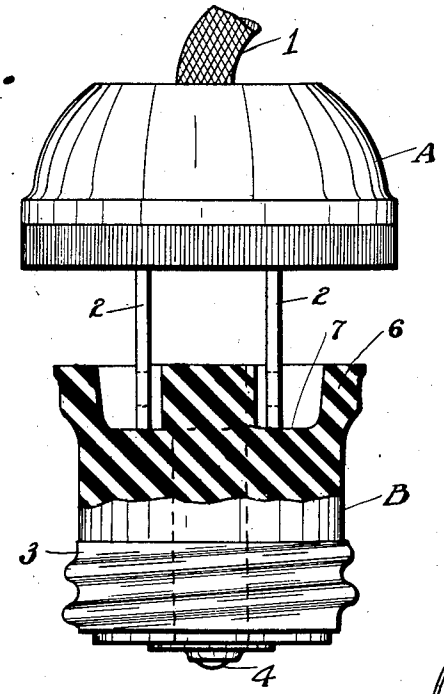


Fig. 3

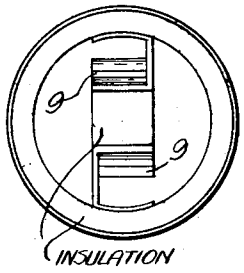
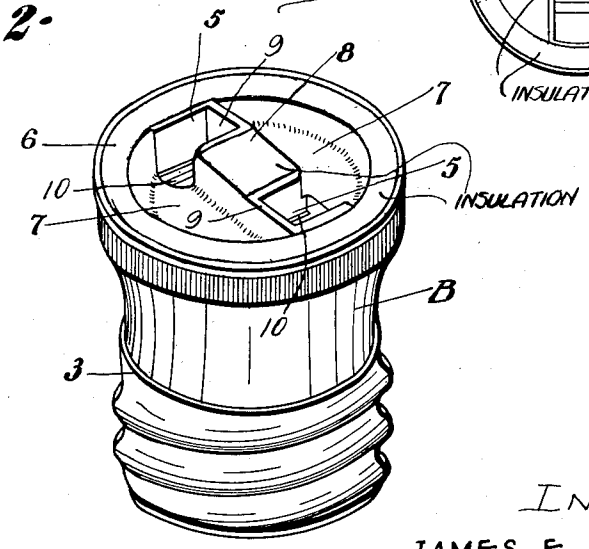


Fig. 2.



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ATTACHMENT PLUG

James E. Randel, St. Louis, Mo.

Application November 19, 1928, Serial No. 320,228

1 Claim. (Cl. 173—343)

My invention relates to improvements in electrical devices, and more particularly to those devices known as attachment plugs, and has among its objects, the improvement of such devices, so that they will be more convenient to use, easily accessible, handy, durable, sturdy, and reliable and efficient for use wherever found applicable.

Practically everyone who has connected up electrical devices, such as lamps, fans, toasters, heaters, etc., for detachable engagement with the nearest tap or socket, has noted that it is very difficult to make the prongs of the relatively movable part or member register with the spaced prong-receiving apertures of the relatively fixed member, when the latter are positioned at some point that is hidden by furniture or the like, or is otherwise obstructed, or where the light is poor, or where the fixed attachment part is out of easy reach, or for other innumerable reasons.

The principal object of my invention is to construct and design the relatively stationary member of the attachment plug or tap, so that the relatively movable co-operating plug part will easily center itself relatively to the former part and be aligned therewith, and the prongs of said co-operating movable part will be brought into registry with the prong-receiving openings of the stationary member simply through rotation of the movable member.

Other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art to which this invention appertains, from the disclosures herein given.

To this end, my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and uses mentioned, and more particularly pointed out in the claim.

In the drawing, wherein like reference characters indicate like or corresponding parts throughout the views,

Figure 1 is a partially dis-assembled view, showing one of the co-operating plug elements in elevation, and the other element partially in elevation and the rest in section;

Figure 2 is a perspective view of the improved attachment member; and

Figure 3 is a plan view of the element shown in Fig. 2.

Practically all of the electrical devices used in the home, office, factory, store, etc., are not fixedly attached to the source of current, but upon the contrary are detachably connected to the same, by means of the well-known two-part attachment plug or similar attachment devices.

When the relatively movable attachment element is provided with the pair of spaced contact prongs as is most usually the case, it is very difficult to engage the prongs in the prong-receiving openings of the relatively stationary attachment element under certain circumstances, such as where the latter element is positioned in an obscured place, nearly out of reach, or in a poor light, or the like.

I have therefore so designed one of these attachment elements that the two elements will easily and positively come into alignment practically instantly upon attempting to attach one to the other, and whereby it will require but a simple rotative movement of one of these elements relatively to the other, to bring the prongs into correct registry with the prong-receiving openings of said co-operating elements, so that the connection may be completed.

A indicates the relatively removable attachment member or element, the same being carried at the end of the electrical conduit 1, which in turn leads to the device to which the current is to be carried or conducted. The part A is of any suitable shape, size and material, and has the usual well-known pair of contact prongs 2—2 projecting forwardly therebeyond, substantially parallel to the axis of the element A and spaced apart.

B indicates the relatively fixed or stationary attachment member, part or element, the same being either detachably connected within a suitable electrical socket (not shown) or the same may be irremovably fixed in place as an integral part of the socket assembly to form an outlet tap.

The member B is formed of suitable insulating material and is provided with a pair of contacts adapted to transmit the current from the source of electrical energy, one of these contacts being the shell 3 and the other one being the end nib 4. A pair of longitudinally extending openings 5—5 are provided in said member and in which are located the usual spring contacts 10 which lead from said contacts 3 and 4 to adjacently below the face of the member B, said openings being spaced apart approximately the same distance as the spacing between the prongs, so that in connecting the members A and B the prongs are adapted to be received in said opening and make contact with the contacts in the latter.

In order to secure the alignment of the element A with the element B when the former is moved into engagement with the latter, the face of the latter element, indicated at 6, is cut back, grooved or recessed to form a substantially deep guideway, preferably made in the pair of segments or portions 7—7, into which the prongs 2—2 may enter with freedom and ease and without the danger of slipping out of place, the central portion 8 of said face being of such size and shape that the pair of prongs will easily straddle thereacross without binding thereagainst, and as a matter of practice, it is preferable to have a fair amount of play between the prongs and the central portion 8, somewhat as indicated in Fig. 1 of the drawing.

A composite wall 9 extends substantially radially across the depressions 7—7, one part of said wall adjacent each of said openings 5, and to one side of the latter. This forms a pair of prong-receiving guideways, each leading arcuately or circumferentially from one of said longitudinally extending prong-receiving openings to the stop wall 9 adjacent the other similar opening. Hence, these depressions or guideways, of substantially uniform depth, will easily and naturally receive the prongs of the cooperating element when the latter is arranged for placement thereon and therein, and insure perfect mating of the parts.

Obviously, when the relatively movable element A is brought into juxtaposition with the relatively stationary element B, the pair of prongs of the former will readily straddle the central area 8, one of said prongs being well within each depression, and upon simple rotative movement of the first-mentioned element, the prongs will be moved along said depression in the generally arcuate direction until such rotative movement will be stopped by the prongs abutting against the closed portion of the bounding wall of the prong-receiving openings, at which position the prongs will be in exact registry with said last-mentioned openings, and at which time a simple pressure upon the prong-carrying element will direct the prongs into connective position and detachable assembly.

The depressions 7—7 are preferably of a width larger than the thickness of the prongs, and made deep, so that the prongs will readily and positively enter thereinto easily and swiftly, but it is best that some margin be left to form a rim radially outwardly of the arcuate depressions, whereby no part of the prongs will be left exposed after assembly.

Special attention is directed to the depth and width of the prong-receiving arcuate groove, because if they were made shallow and narrow, the prongs will easily slip past the groove when attempting to assemble the parts and the grooves would therefore fail to accomplish their desired function.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, arrangement, construction and combination of parts herein shown and described, or uses mentioned, except as limited by the claim.

What I claim as new and desire to secure by Letters Patent is:

An electrical attachment plug member having a circumferentially extending groove substantially uniform in depth in an end face thereof, a pair of prong-receiving diametrically spaced contact openings extending longitudinally through said member from the bottom of said groove, and a pair of walls each extending substantially radially across said groove at opposite sides of each of said openings to form a pair of stops to prevent rotational movement of said prongs therepast, and separating said groove into a pair of arcuate depressions each leading from one of said stop walls to the other and communicating with only one of said prong-receiving openings.

JAMES E. RANDEL.