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P. SICKINGER

2,277,161

ELECTRICAL PLUG

Filed Dec. 24, 1940

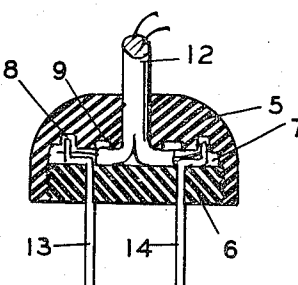
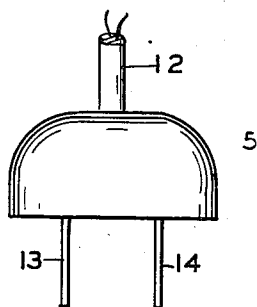


Fig. I.

Fig. II.

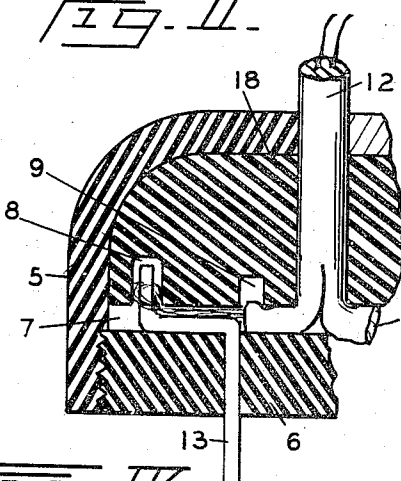
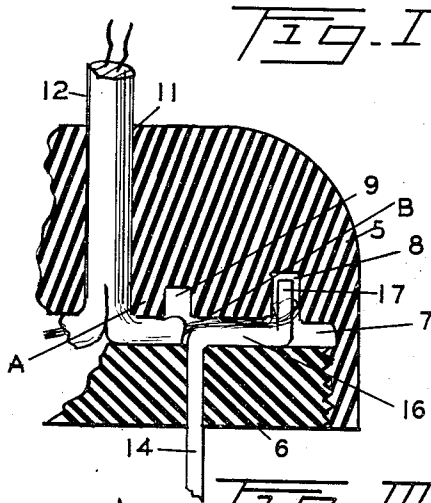


Fig. III.

Fig. IV.

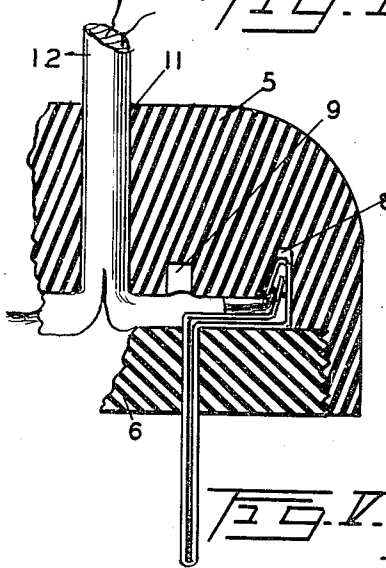


Fig. V.

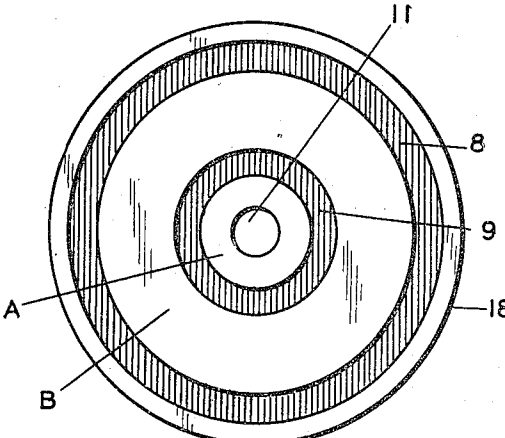


Fig. VI.

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ELECTRICAL PLUG

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3 Claims. (Cl. 173-361)

This invention relates to improvements in electrical plugs and has particular reference to that type of plug used for connecting flexible electrical appliance cords to an electric outlet.

The principal object of this invention is to provide a plug wherein the ends of the wire of the flexible cord may be quickly attached to the plug without the use of screws.

A further object of the invention is to provide means whereby the ends of the wire will be held in intimate contact with the prongs of the plug.

A further object of the invention is to provide means for locking the insulating portion of the cord to the plug in such a manner that all strain incident to a pull upon the cord will be taken up by the cord and not transferred to the connecting wires.

A further object of the invention is to produce a device of this character which in all appearances will conform to the usual type of plug.

A still further object of the invention is to produce a device which is economical to manufacture, and one which may be assembled by a person without the use of tools.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. I is a side elevation of my plug;

Fig. II is a vertical cross section through Fig. I;

Fig. III is an enlarged fragmentary view, showing the clamping action;

Fig. IV is a view similar to Fig. III, showing a modified form of my plug;

Fig. V is a view similar to Fig. III, showing a modified form of prong; and

Fig. VI is a bottom plan view of the interior of Fig. IV.

The ordinary electric plug consists of a shell having a hollowed out portion within which are secured binding posts, which are in turn connected to terminal prongs. It is common to split the ends of an electric cord so that the two wires therein may be individually bared, a portion of the bared wire wrapped around the binding post, and the screw tightened. After both wires have been connected, a thin insulating disc is slipped over the prongs and is held in position by friction.

The result of this construction is that if a person pulls upon the cord and the prongs should for any reason stick in the socket, which is often the case, an excessive pull on the cord will often tear the wires from the binding posts. It is to

overcome this difficulty that I have devised my improved socket, which consists of a shell and a threaded member which carries the prongs. When this shell and threaded member are screwed together, a binding action takes place, locking the end of the cord between the body and the threaded member and also squeezing the strands of the wire into more intimate contact with the ends of the prongs.

In the accompanying drawing wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates the body portion of the plug, which may be made of any desired material suitable for the purpose. The numeral 6 designates a threaded member which screws into a recess 7 formed in the underside of the body 5. Circular grooves 8 and 9 are formed in the body member and are concentric with a bore 11 through which the cord 12 passes. Extending through and carried by the threaded member 6 are prongs 13 and 14. These prongs, after passing through the threaded member, are bent, as shown at 16 (see Fig. III), and thence at right angles, as shown at 17, so that the end thereof will lie within the groove 8.

The end of the cord 12 is split, as is customarily done, and the split ends are then bared so that the wire is exposed, which wire is threaded through an opening in the end 17 of the prong and is twisted thereabout. When both wires have been attached to their prongs, the threaded member is screwed into the body, with the result that the portion A will squeeze upon the split ends of the cord, while the portion B will press the bare wire into contact with the portion 16 of the prong.

In the modified form shown in Fig. IV, the construction is identical, with the exception that the body is recessed so as to receive a filler 18.

In the form shown in Fig. V, the groove 8 is somewhat tapered so as to form a pinching operation on a modified form of prong, which is formed of relatively thin material bent upon itself in a manner which is obvious. With this form the end of the wire may be passed between the overlapped ends of the prong and the pinching operation will complete the proper electrical contact between the wire and the prong.

It will thus be seen that I have produced a device which will perform all the functions herein set forth.

It is to be understood that the form of my invention herewith shown and described are to be taken as preferred examples of the same and that various changes relative to the material,

size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In an electrical plug, a body portion having a central opening therethrough for the reception of an electric wire carrying cord, a recess formed in said body portion, concentric grooves formed in said body portion within said recess and concentric with said opening and forming two concentric circular portions, the inner of which impinges on the insulation of said electric cord and the outer of which impinges on the wire of said cord, and a prong carrying threaded member engaging said body portion, the inner and outer concentric portion of said body portion and said threaded member serving to compress the ends of said cord and the wires thereof individually to produce a locking effect between said cord and said threaded member and an electrical contact between the wires and said prongs.

2. In an electrical plug, a body portion having a recess formed therein, a filler positioned in said body portion, a central bore extending through said filler and said body portion, grooves formed in said filler concentric with said bore and forming an inner and outer concentric portion, a threaded member engaging said body portion,

and prongs carried by said threaded member, said prongs having offset ends in alignment with one of said grooves, whereby when said threaded member is moved toward said filler, the split insulation of a cord extending through said bore will be engaged by said threaded member and the inner concentric portion of said filler about said bore and the wires of said cord will be held in contact with said prongs by the outer of said concentric portions.

3. In an electric plug, a body portion having a recess formed therein, a filler rotatably mounted therein, a central bore extending through said body portion and said filler, said filler having a pair of grooves formed upon its bottom face concentric with said bore, a threaded member engaging said body portion, prongs carried by said threaded member, said prongs having upturned ends lying in the outer of said grooves and a portion thereof disposed between said filler and said threaded member, the surface portion of said filler lying between said bore and the inner of said grooves serving to engage the insulation of a conductor passing through said bore, and the surface portion of said filler between said grooves serving to force the bared ends of said conductor into intimate engagement with said prongs when said threaded member is moved toward said filler.

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