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ELECTRICAL LOCKING RECEPTACLE

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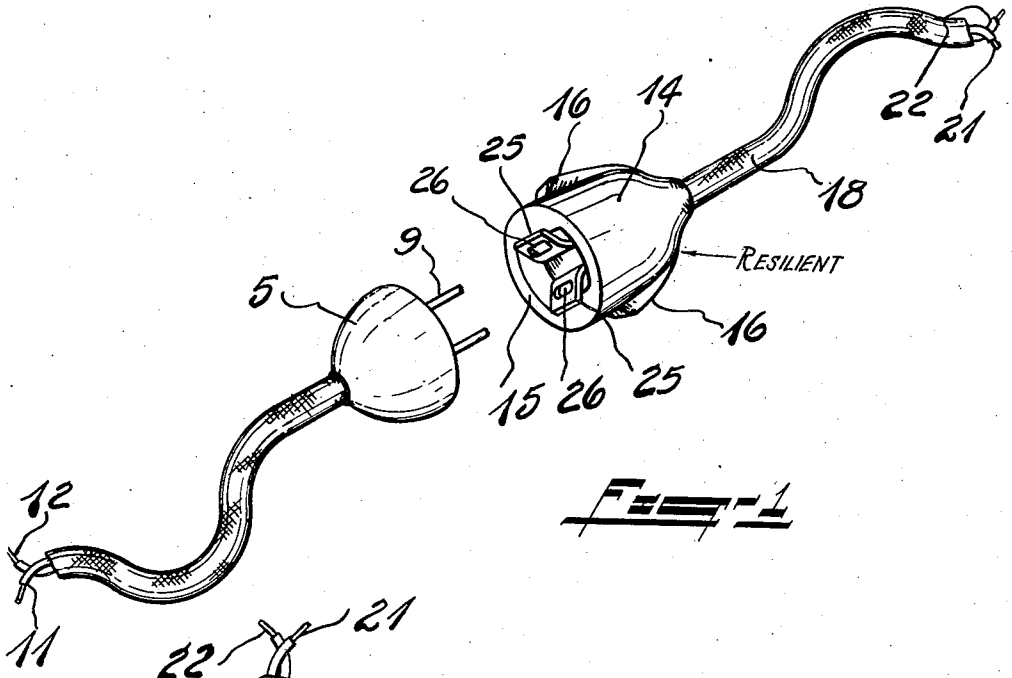

FIG-1

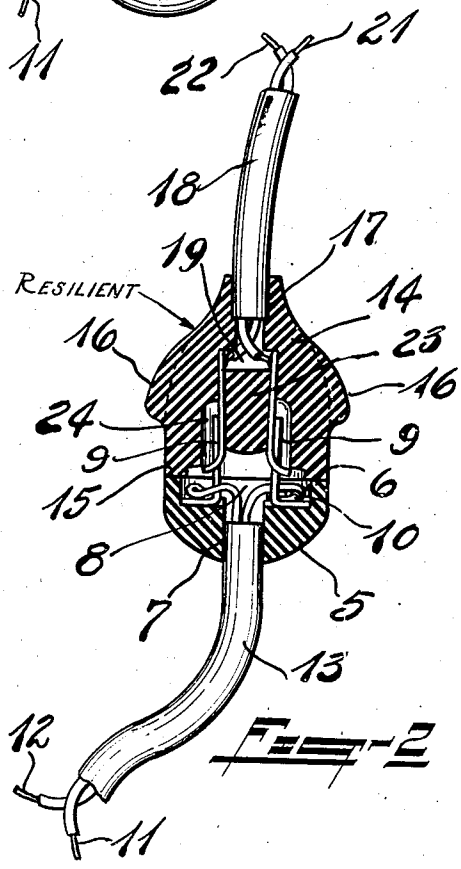

FIG-2

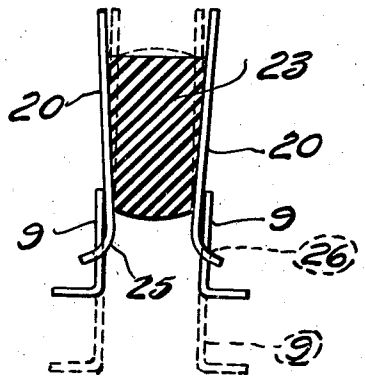

FIG-3

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ELECTRICAL LOCKING RECEPTACLE

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4 Claims. (Cl. 173—328)

This invention relates to a receptacle adapted to receive the prongs of a plug and to rigidly secure said prongs in position.

One of the prime objects of the invention is to design a simple, practical and efficient receptacle which readily receives and firmly locks the prongs of an electrical plug therein, and which cannot become accidentally disconnected when the plug cord is subjected to accidental jerks or pulls such as occur in everyday use.

Another object of the invention is to design a very simple, economical, and substantial receptacle composed of few parts, all of simple yet sturdy construction, which can be readily manufactured, and which can be easily and quickly assembled.

A further object is to provide a device of the character described, the body of which is formed of resilient material, which resiliency is utilized to accomplish the locking and release of the plug prongs inserted therein.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawing, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion and minor details of construction, without departing from the spirit, or sacrificing any of the advantages of the invention.

In the drawing:

Fig. 1 is a view of my new electrical receptacle showing also a pronged plug for insertion therein.

Fig. 2 is a vertical sectional view showing the plug prongs locked in the receptacle.

Fig. 3 is an enlarged detail sectional view, the solid lines showing the prongs locked in the receptacle, the broken lines showing the position of the contact prongs to permit removal and also the position when removed.

In the drawing the numeral 5 represents a standard conventional pronged plug. This is formed of resilient material, (but not necessarily) and the face or prong end thereof is circular in shape and recessed to form a rim 6, the opposite end of the plug being conical in shape as clearly shown in Fig. 1 of the drawing.

The plug 5 is centrally bored as at 7, and opens into an enlarged recess 8 in which the prong members 9 are mounted, the inner ends of the prongs being bent at right angles to the main body, and screws 10 are anchored therein and serve to secure the prongs in position, as well as serving as terminals to which the terminal ends 11 and 12 respectively of the cord 13 are connected, said cord leading through the bore 7 as usual. This is all of conventional design and forms no part of the present invention. I wish to direct particular attention to the fact that the prongs 9 are of standard size and shape such as used on conventional plugs at present in general use in the electrical field.

The receptacle is formed as clearly shown in Figs. 1, 2 and 3 of the drawing, the body 14 being also formed of resilient material, the face being recessed to form a rim 15, the opposite end being conical in shape, and oppositely disposed bosses 16 are provided on the outer wall of the receptacle and serve as finger grips for a purpose to be presently described.

The receptacle is provided with an axle bore 17 to accommodate the electric cord 18, said bore opening into an enlarged recess 19 which accommodates the spaced contact prongs 20, said prongs being connected to the terminal ends 21 and 22 respectively of the cord 18 in any approved manner.

A resilient separator 23 of predetermined size is interposed between the contact prongs 20, and serves to secure them in proper position, the upper end section of the separator being of dimensions to snugly fit the recess 19, said recess opening into a larger recess 24, and through which the contact prongs 20 extend.

The projecting ends of the prongs 20 are outwardly curved as at 25, and rectangular shaped openings 26 are provided in said curved ends, and are of a size to freely accommodate the plug prongs 9 which are inserted therethrough, the inner ends of said prongs being so located with relation to the bosses 16 that when the plug is grasped and the bosses squeezed to force them towards each other, the upper ends of the contact prongs 20 will also be forced toward each other and as indicated in broken lines in Fig. 3 of the drawing; this brings the openings 26 in direct alignment and register with the prongs 9 which are inserted therein, the plug and receptacle being forced together until the ends are in facial contact and as clearly shown in Fig. 2 of the drawing. The squeezing action on the receptacle is then released and the body springs back to original position, the sharp adges of the openings 26 firmly engaging the prongs 9, and this together with the curvature of said contact prongs serves to firmly lock the plug prongs on the receptacle.

The release of the plug from the receptacle is affected in exactly the same manner, it is merely

necessary to place the fingers on the bosses 16, and squeeze the base body so that the upper ends of the contact prongs 20 are forced towards each other, this releases the binding action of the edges of the openings 26 on the prongs 9, and the prongs can then be easily withdrawn.

The resilient locking feature exerts a constant binding action of the contact prongs on the plug prongs, there is positive electrical contact at all times, and the unlocking action is simple and easy.

A suitable disc or cover (not shown) is inserted in the end of the receptacle to form a closure therefor.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. An electrical receptacle the body of which is formed of resilient material, prong contact members mounted therein and having outwardly curved outer end sections provided with sharp-edged slotted openings therein adapted to accommodate the prongs of a standard plug, and a resilient spacer separating said prong contact members.

2. An electrical receptacle formed of resilient material having prong contact members mounted therein in spaced relation and formed with outwardly curved end sections, rectangular shaped openings provided in said curved end sections and adapted to receive the prongs of a standard plug, bosses formed integral with said receptacle body and located in predetermined relation to the inner ends of said contact prongs whereby when said bosses are pressed towards each other, the inner ends of the prongs will also be pressed towards each other and their corresponding free ends will be correspondingly separated.

3. An electrical receptacle of the class described and including an inherently resilient hollowed-out body, contact prongs fixed in said hollowed-out body, a resilient member interposed between said prongs, the free end of each prong being outwardly curved and formed with a rectangular shaped opening therein adapted to accommodate the prongs of a standard plug when the resilient body is squeezed to bring the outer ends of said contact prongs into a certain predetermined position, the edges of the rectangular openings being sharp-edged for gripping and locking the standard plug prongs in the receptacle when the squeezing action is discontinued.

4. An electrical receptacle comprising an inherently resilient hollowed-out body having integral bosses arranged thereon in predetermined relation, contact prongs mounted in said hollowed-out body in predetermined relation to said bosses, resilient means forcing the inner ends of the prongs from each other, a curved section of predetermined radius on the free end of each prong, a rectangular shaped opening in each section, adapted when the bosses are gripped and the body squeezed, to so space said contact prongs and openings to receive the prongs of a standard pronged plug, and resilient means between said contact prongs for forcing them back to original position when the squeezing action is discontinued.

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