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ELECTRICAL CONNECTOR

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Fig. 1.

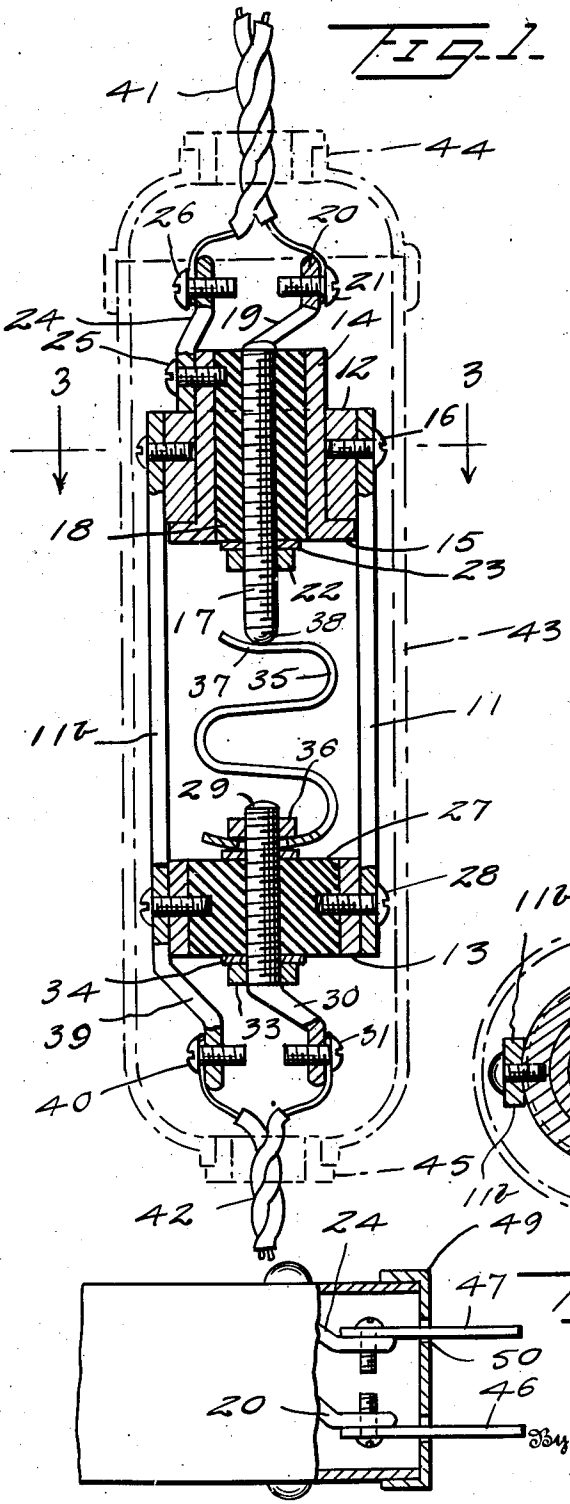


Fig. 2.

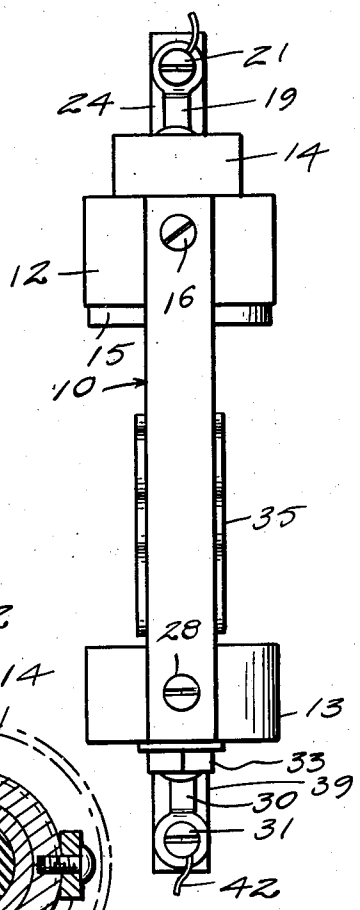


Fig. 3.

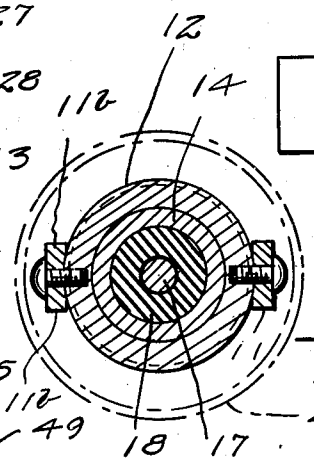


Fig. 4.

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ELECTRICAL CONNECTOR

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1 Claim. (Cl. 173—324)

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This invention relates to electrical connectors.

An object of this invention is to provide a connector or coupling which is so constructed that the wires extending into one end of the device may rotate relative to the other end, so that the wires will not become twisted as is the case where the wires are fixed relative to the connector or plug.

Another object of this invention is to provide a connector of this kind which can be adapted to connect extension cords together or can be used as a plug connector, so that in the use of the appliance the cord will not be twisted or kinked.

Another object of this invention is to provide a swivel type of connector or plug wherein the wires may freely rotate for a complete circle, the device embodying few parts which can be sturdily made at small cost, the inner parts being encased in a housing of insulating material.

With the above and other objects in view, the invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claim.

In the drawings,

Figure 1 is a longitudinal section, partly in elevation, of an electrical connector constructed according to an embodiment of this invention,

Figure 2 is a detail side elevation of the device removed from the housing,

Figure 3 is a sectional view taken on the line 3—3 of Figure 1,

Figure 4 is a fragmentary side elevation, partly broken away and in section, of the connector used as a male plug for an outlet box.

Referring to the drawing, the numeral 10 designates generally a frame which is formed of a pair of elongated parallel frame bars 11, having secured to the opposite ends thereof sleeves 12 and 13. The sleeve 12 has rotatably mounted therein a cylindrical member 14 formed with an inner annular flange 15. The sleeve 12 is fixed to the arms or bars 11 by means of fastening members 16.

A centrally disposed contact carrier 17 is threaded through an insulating tubular member 18 which extends through the bore of the cylindrical member 14, and the contact carrier 17 at its outer end is formed with a laterally extending arm 19, terminating in a lug 20 through which a terminal screw 21 is adapted to be threaded.

A lock nut 22 is threaded on the inner portion of the contact carrier 17, and a washer 23 is interposed between the nut 22 and the inner end of the insulating sleeve 18. A terminal member 24

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extends from the cylindrical member 14, being secured to the latter by means of a fastening member 25.

A terminal screw 26 is threaded through the outer end of the terminal member 24 for securing one end of a conductor to the terminal member. The sleeve or cylindrical member 13 has mounted therein an insulating body 27 and fastening members 28 secure the lower ends of the arms or bars 11 to the sleeve 13 and to the insulating body 27.

A screw 29 is threaded through the body 27 and has formed on the outer end thereof a laterally extending terminal arm 30 through which a terminal screw 31 is threaded. A lock nut 32 is threaded on the outer portion of the screw 29 and a washer 34 is interposed between the nut 33 and the outer end of the body 27.

A resilient longitudinally bent contact member 35 is secured to the screw 29 by means of a nut 36. The contact member 35 is formed at its inner or free end with a bowed portion 37 with which a contact 38, carried by the carrier 17, is adapted to rotatably engage. The other bar or arm 11b of the pair of elongated arms or bars is formed with an inwardly projecting terminal member 39 with which a terminal screw 40 is threadably engaged.

A two wire conductor 41 is adapted to be connected to the terminals 20 and 24, being secured by the terminal screws 21 and 26, and a second two wire conductor 42 is adapted to be secured to the terminal screws 31 and 40. A tubular housing 43 formed with opposite end bushings 44 and 45 is adapted to encompass the connector, the conductors 41 and 42 extending through the bushings 44 and 45 respectively.

Referring now to Figure 4, there is disclosed a modified form of this invention wherein the terminals 20 and 24 have secured thereto a pair of flat bars 46 and 47 respectively. These bars are adapted to be inserted in a conventional plug type outlet connection. The housing 48 which encompasses the connector is provided with a flanged cap 49 having openings 50 through which the bars or fingers 46 and 47 loosely engage.

The connector hereinbefore described may be used as a coupling between a pair of extension conductors and will provide for rotation of one of the conductors relative to the other without causing the conductor to becme twisted or therwise injured or broken during the use of the electrical appliance.

It will, of course, be understood that this connector may also be used for interposing in a telephone conductor such as the conductor which con-

nects the transmitter-receiver with the switch box.

We do not mean to confine ourselves to the exact details of construction herein disclosed, but claim all variations falling within the purview of the appended claim.

What we claim is:

A swivel type electrical connector comprising a pair of spaced apart sleeves, a pair of diametrically opposed bars connecting said sleeves together, an inner sleeve rotatably engaging in one of said pair of sleeves, an annular flange carried by said inner sleeve abutting the inner end of said one sleeve to thereby hold said inner sleeve against outward endwise movement, a terminal member, means securing said terminal member on said inner sleeve in a position whereby the inner end of said terminal member will abut the outer end of said one sleeve and hold said inner sleeve against inward sliding movement, an insulating bushing carried in said inner sleeve, a second insulating bushing fixed in the other of said pair of sleeves, a screw threaded through each of said bushings, a terminal carried by the outer end of each screw, said screws projecting inwardly through said bushings, a contact fixed on the inner end of one screw, a second resilient contact fixed on the inner end of the other screw and extending in the direction of and engaging said first named contact, and a terminal connected to said other of said pair of sleeves.

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