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3,204,215

ELECTRICAL PLUGS

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Fig. 1

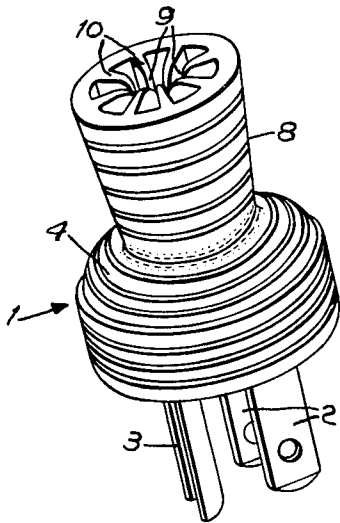


Fig. 2

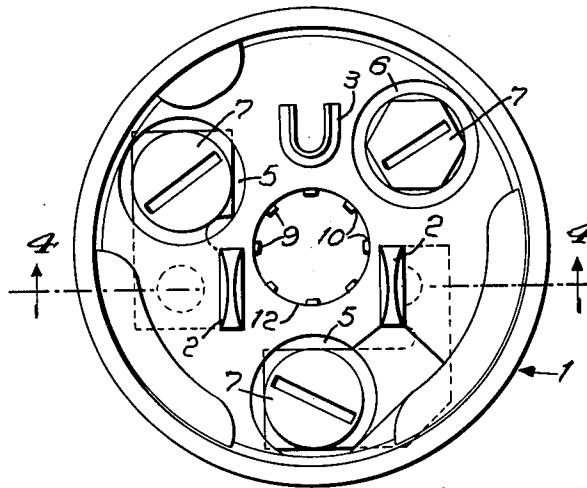


Fig. 3

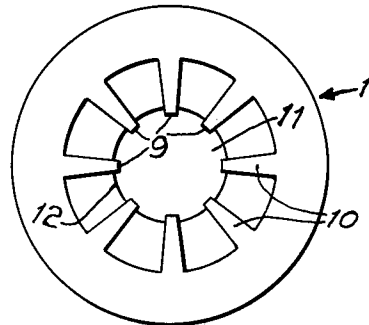
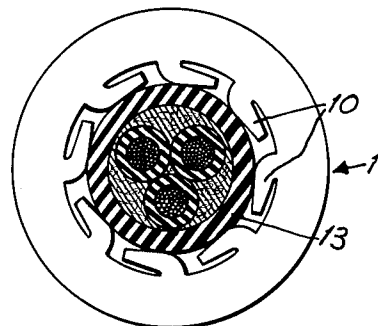
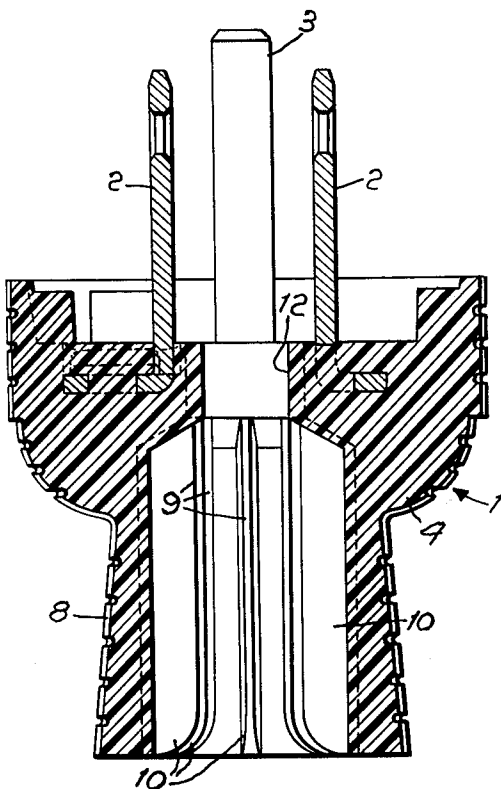


Fig. 4



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ELECTRICAL PLUGS

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3 Claims. (Cl. 339-103)

This invention relates to electrical plugs and more particularly to a novel wire cord sleeve for electrical plugs.

It is well known to provide means for retaining the wire in an electrical plug other than by the screws which conductively connect the conductors in said wire to the blades of the plug. These retaining means are used for added strength in holding the plug and the wire together and for retaining the wire in a desired position. One known means consists of movable plates disposed on either side of the wire and clamped onto the wire so that more than one size wire can be accommodated.

It is an object of this invention to provide means for aligning a wire in an electrical plug which will accommodate various sized wires without special adjustments.

It is another object of this invention to provide an electrical plug with an entrance sleeve which retains wires of different diameters and presents a neat appearance after assembly.

A feature of this invention is a wire cord sleeve which is formed by a plurality of flanges.

It is another feature of this invention to provide an electrical plug with a wire cord sleeve having a circular channel defined by the inner edges of a plurality of radially disposed flexible flanges which will bend to firmly accommodate wires having a larger diameter than said circular channel.

The above-mentioned and other features and objects of this invention will become more apparent by reference to the following description taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is a perspective view of an electrical plug in accordance with my invention;

FIGURE 2 is an end view of the electrical plug of FIGURE 1;

FIGURE 3 is an end view of a wire cord sleeve in accordance with my invention;

FIGURE 4 is a cross-sectional view of an electrical plug in accordance with my invention; and

FIGURE 5 is a cross-sectional view of a wire cord sleeve in accordance with my invention retaining a wire therein.

Referring now to FIGURES 1 and 2, there is shown an electrical plug 1 in accordance with my invention. Blades 2 and ground 3 are integrally united with insulating body 4 and are electrically insulated from each other. Metal plates 5, connected to blades 2, and metal plate 6, connected to ground 3, have threaded holes (not shown) in which screws 7 can be rigidly retained. The inner conductors of wires held by electrical plug 1 can be connected to blades 2 or ground 3 by being held in contact with plates 5 and 6, respectively, by screws 7. Wire cord entry 8 is integrally united with insulating body 4.

Plates 5 and 6 may be composed of different materials which correspond to blades 2 and ground 3, respectively

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to which they are connected. They may also be color coded to aid in determining which plate is associated with which terminal. In FIGURE 2 it can be seen that screw 7 connected to plate 6 has an hexagonally shaped head so that the connection to ground 3 may be easily distinguished from the connections to blades 2.

In FIGURES 3 and 4 it can be seen that the inner edges 9 of the radially disposed flanges 10 define a circular channel 11. It is to be noted that circular channel 11 is smaller than hole 12 through which the conductors can be passed and connected to plates 5 and 6. Upon insertion of a wire having a diameter larger than the circular channel formed by the flanges, the flanges are approximately uniformly deformed or bent and thus exert approximately an equal pressure around the entire periphery of the inserted wire due to the stiffness of flanges 10 (FIGURE 5). I have found that vinyl is a particularly desirable material for the insulating body and wire cord sleeve.

The use of a wire cord sleeve in accordance with my invention provides an electrical plug which retains both small and large wires neatly in a desired position. The channel 11 corresponds in size to the small wires normally used and flanges 10 will bend to accommodate larger wires such as 13 shown in FIGURE 5. The length of the wire cord sleeve prevents transverse stresses from being applied to the conductors at hole 12. Thus the wire will withstand more transverse movement without work hardening and snapping than it would without my wire cord sleeve. The transverse stresses will be applied to the entire wire at the end of my wire cord sleeve rather than the conductors at hole 12. My wire cord sleeve also facilitates the assembly of a wire to the plug as the wire is rigidly retained in place while the conductors are connected to plates 5 and 6.

While I have described above the principles of my invention in connection with specific apparatus, it is to be clearly understood that this description is made only by way of example and not as a limitation to the scope of my invention as set forth in the objects thereof and in the accompanying claims.

I claim:

1. An electrical plug for connecting a wire to a source of electricity comprising: an insulating body having a tubular channel formed therein, blades retained by said insulating body and electrically insulated from each other, means for connecting the conductors of the wire to said blades, and means including longitudinally disposed flexible ribs disposed within said tubular channel, along the length of said channel which will flex toward the wall of the channel when gripping said wire.

2. An electrical plug for connecting a wire to a source of electricity comprising: an insulating body, blades retained by said insulating body and electrically insulated from each other, means for aligning and holding said wire in a fixed position relative to said insulating body comprising a tubular channel for receiving said wire, said channel being defined by the inner edges of longitudinally disposed flexible ribs in said insulating body, whereby wires having a size greater than the cross-sectional size of said channel are rigidly held in said channel due to the pressure of said flexible ribs which flex toward the wall of the channel to allow the entry of said wires.

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3. A wire cord sleeve comprising a hollow body having a plurality of radially disposed flexible ribs extending longitudinally along the inside of the hollow body along the length thereof, the inner edges of said ribs defining a tubular channel to receive snugly a wire of corresponding size, said ribs being adapted to grip a wire of larger size, by flexing towards the wall of the hollow.

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10 JOSEPH D. SEERS, *Primary Examiner*.
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