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CAP FOR ELECTRICAL PLUG CONNECTIONS

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FIG. 1.

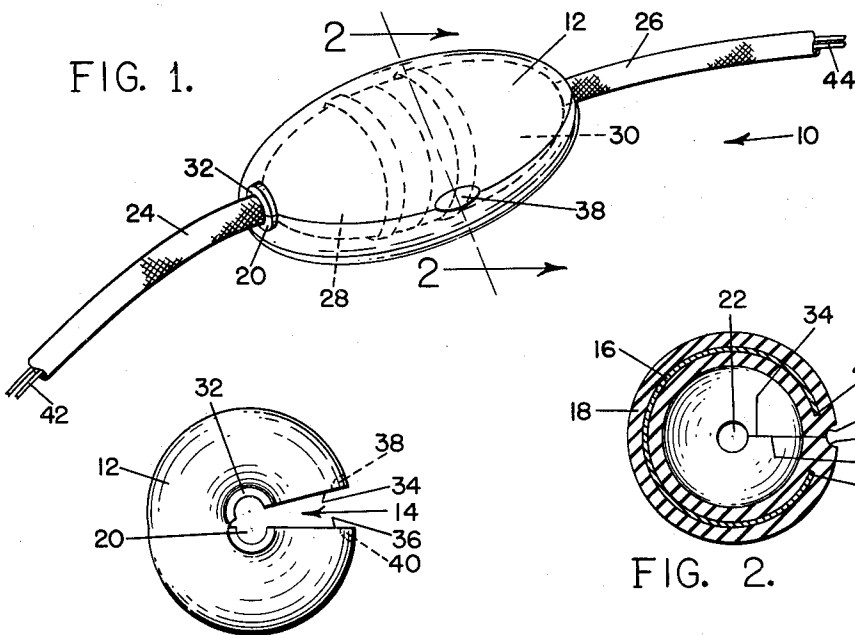


FIG. 2.

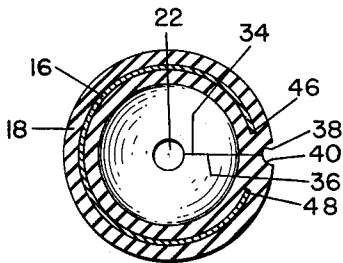


FIG. 3.

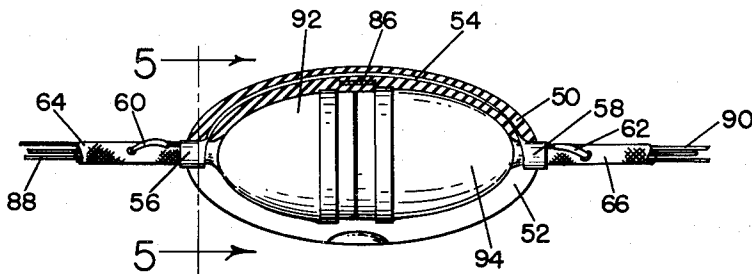


FIG. 4.

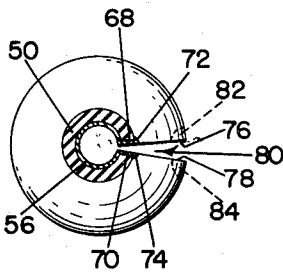


FIG. 5.

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CAP FOR ELECTRICAL PLUG CONNECTIONS

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1 Claim. (Cl. 339-75)

This invention relates to a protective cover for electrical plug and socket connections and, more particularly, it is an object to provide a new cover concept which through a combination of features attains the best total of the following advantages:

(a) Ready removability of the cover for disconnection.

(b) A cover sufficiently flexible and resilient as to be durable enough to prevent excessive distortion or weakening from frequent opening and closing, a problem not present in wire splice-type coverings.

(c) A sufficient firmness and shape for holding a plug and socket in electrical connection, a feature also not involved in splice-type connections.

(d) A springlike attached or imbedded band providing resiliency for frequent removal and for urging portions of the body at the sides of a slit opening into meeting relation to protect the plug and socket from conductive foreign material such as moist dirt or iron filings and to firmly hold the plug and socket together in electrical connection at times when considerable tension is placed on the cords that would otherwise tend to pull them apart.

(e) An interior of a size for receiving a plug and socket yet also sufficiently small to prevent the plug and socket from becoming electrically disconnected, a problem and feature not present in splice covers.

Further object is to provide a cover as described which has notch means on its outer side adjacent a slit therein for facilitating the prying apart of said cover by the insertion of fingertips in said notch means for rapid removal for insertion of a plug and socket.

Further object is to provide a cover having at least most of the features above described, and further having a conductor extending therethrough, said conductor having exposed portions at ends of cover at which ground wires of electrical cords can be connected.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings, wherein:

FIGURE 1 is a perspective view showing the improved cap or housing positioned over plugs of electric cords.

FIGURE 2 is a cross section through the device, taken on line 2-2 of FIGURE 1.

FIGURE 3 is an end elevational view of the cap showing the device held in an open position, in which position plugs and cords may be inserted therein and removed therefrom.

FIGURE 4 is a longitudinal section through the cap showing a modification wherein a ground connection between two cords is extended through the wall of the cap.

FIGURE 5 is a view taken on line 5-5 of FIGURE 4 showing a section through one end of the device.

While one embodiment of the invention is illustrated in the above-referred-to drawings, it is to be understood that they are merely for the purpose of illustration and that various changes in construction may be resorted to in the course of manufacture in order that the invention may be utilized to the best advantage according to circumstances which may arise, without in any manner departing from the spirit and intention of the device, which is to be limited only in accordance with the appended claim. And while there is stated the primary field of utility of the invention, it remains obvious that it may be employed in any other capacity wherein it may be found applicable.

In the accompanying drawings, and in the following

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specification, the same reference characters are used to designate the same parts and elements throughout, and in which the numeral 10 refers to the invention in its entirety, numeral 12 indicating a case of rubber, or other suitable insulating material and having a slit 14 extended continuously through one side thereof, and numeral 16 a band of spring material embedded in the wall 18 of the case or housing.

The ends if the housing are provided with openings 20 and 22 through which cords 24 and 26 of plugs 28 and 30 extend, and the openings are surrounded with beads 32, as shown in FIGURE 3. The surfaces 34 and 36 of the housing at the sides of the slit are forced open, as shown in FIGURE 3, to facilitate inserting and removing the plugs and cords, by prying elements such as the thumb nails of an operator, inserted in notches 38 and 40. The cords 24 and 26 are provided with wires, such as the wires 42 and 44.

The spring band 16 is embedded in the material of the cap or housing and, as shown in FIGURE 2, the ends of the band terminate at the points 46 and 48 wherein the ends are spaced from the surfaces 34 and 36. With the band 16 positioned in this manner the surfaces 34 and 36 are urged together substantially sealing the interior of the cap, so that should the cap drop into water the connecting elements of the plugs will not be short circuited.

In the design shown in FIGURES 4 and 5, a cap 50, which is provided with a continuous slit 52, is provided with a connector 54 that extends from a sleeve 56 at one end to a sleeve 58 at the opposite end, providing a ground or connection between the ground wire of a three wire circuit, ends 60 and 62 of the ground wires of the cords 64 and 66 being connected to the sleeves 56 and 58, as shown in FIGURE 4. The ends of the sleeves 56 and 58 are provided with flanges 68 and 70, and the extended ends of the flanges are provided with projections 72 and 74 that project into the surfaces 76 and 78 of the cap at the sides of the slit 80. The edges of the wall of the cap are also provided with finger or thumb nail receiving notches 82 and 84, and the cap 50 may be provided with a spring band 86, similar to the band 16, of the design shown in FIGURES 1 and 2.

The cords 64 and 66, in which wires 88 and 90 are positioned, extend through the sleeves 56 and 58 and the current carrying wires thereof are connected to terminals of the plugs 92 and 94 in the cap.

The wall of the cap, casing, or housing may be made of rubber, plastic, or other suitable insulating material, and the material should have sufficient stiffness inherent therein to respond to the spring band so that the device remains closed except when opened to insert or remove wires.

Operation

With the parts formed as illustrated and described the male and female plugs of an electric cord are assembled in the conventional manner and with the surfaces at the sides of the slit forced apart the plugs are forced through the slit with the wires in the openings or sleeves at the ends of the cap, and with the plugs and wires in positions in the device the portions at the sides of the slit are released so that the plugs are substantially sealed therein. The device, therefore, provides a safety guard whereby plugs of electric cords are retained in assembled relation and the possibility of fire, or other damage resulting from accidental separation of plugs of electric cords is obviated.

From the foregoing specification, it will become apparent that the invention disclosed will adequately accomplish the functions for which it has been designed and in an economical manner, and that its simplicity, ac-

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curacy, and ease of operation are such as to provide a relatively inexpensive device, considering what it will accomplish, and that it will find an important place in the art to which it appertains when once placed on the market.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Changes in shape, size, and arrangement of details and parts, such as come within the purview of the invention claimed may be resorted to in actual practice, if desired.

Having now described the invention that which is claimed to be new and desired to be procured by Letters Patent, is:

A device for enclosing an electrical plug and socket comprising in combination: a body flexible enough for durability and firm enough to maintain itself biased toward a normal shape, said body having a hollow interior large enough to receive a plug and socket yet small enough to prevent said plug and socket from becoming electrically disconnected, said body having a wall of insulating material with a continuous slit in one side and cord receiving openings in the ends of much smaller size than the interior of said body for fitting closely about cords, and a concavo-convex spring band engaging the intermediate part of said body, the spring band being posi-

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tioned to urge portions of the body at the sides of the slit into meeting relation to protect a plug and socket from conductive foreign material and to firmly hold a plug and socket together, said body and said spring band being sufficiently flexible and resilient that said body can be pried apart frequently and sufficiently for ready removal and replacement of a plug and socket with sufficient durability to prevent excessive distortion or weakening, and a conductor imbedded in said cover and extending from one end of said cover to the other, portions of said conductor extending outwardly of said cover at the ends of said cover for the connection thereto of ground wires of cords.

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