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SOCKET FOR ELECTRIC JACK PLUGS

Filed March 30, 1965

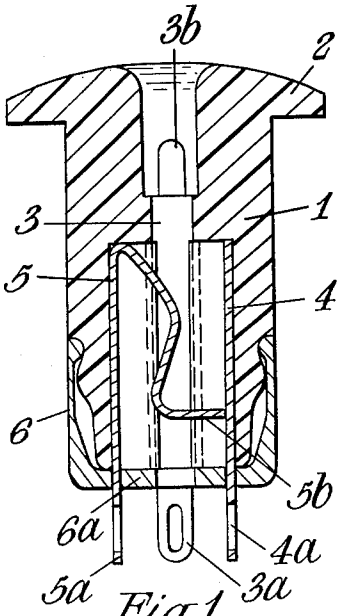



Fig.1.

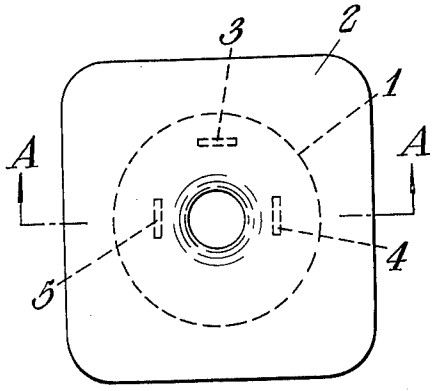



Fig.2.

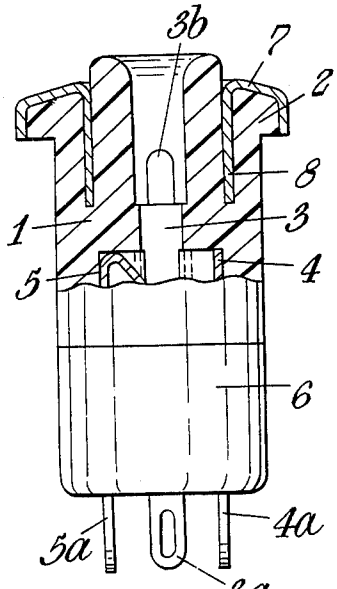



Fig.3.

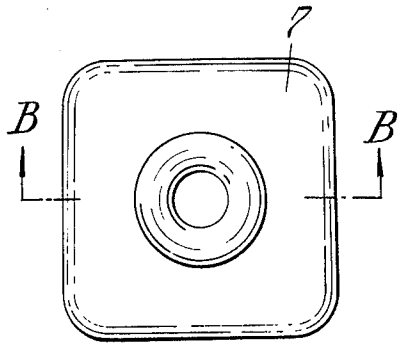



Fig.4.

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# SOCKET FOR ELECTRIC JACK PLUGS

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This invention relates to an improved socket for receiving what is termed a jack plug, that is a plug in which the pin (which is inserted into the socket) is divided transversely to its length into two co-axial contact making portions which are insulated one from the other.

The primary object of the present invention is the provision of a socket for receiving a jack plug which is very simple in construction and therefore easy and inexpensive to manufacture.

A subsidiary object of the invention is the construction of a socket which is adapted to receive a decorative bezel which can be matched with the equipment on which the socket is used and which enhances the appearance of the socket.

According to this invention there is provided a socket for receiving a jack plug which comprises a unitary hollow body of insulating material having an axis and two axial end faces. An internal face of the body defines a bore having respective orifices in the end faces and is formed with axially elongated parallel channels which extend radially outward from the bore and are axially spaced from one of the end faces of the body whose orifice is adapted conformingly to receive a jack plug. Contact strips are mounted on the body by having inner elongated portions received in corresponding channels in sliding engagement, and have tag portions which project from the other axial end face of the body.

A cap covers the last-mentioned end face and closes the orifice therein, but is formed with slots through which the tag portions of the contact strips respectively pass.

An annular flange integral with the body projects from the same transversely of its axis adjacent the above-mentioned one end face.

In a preferred embodiment, the body and cap define a common enveloping surface of uniform cross section which extends axially from the flange to the axial end of the body and of the cap remote from the one end face, the body having an axial portion contiguously adjacent the flange and extending to the enveloping surface, the remainder of the body having a cross section smaller than the cross section of the enveloping surface. The cap is approximately cup-shaped and envelops said remainder of the body with a snap fit.

When used, the socket can be engaged through an opening in a panel or chassis until said flange abuts against the face of the panel or chassis at one side of the opening, and the opposite face of the panel is engaged by a spring retaining plate or washer which can be slid over the outside of the body part. This spring plate or washer is formed with a bore around the edge of which extend a plurality of teeth which incline outwardly from one side of the bore and towards the axis of said bore. The arrangement is such that when the washer is slid onto the outside of the socket the teeth yield to enable the washer to be pushed home against the panel but any tendency for the socket to move axially bodily is resisted by said teeth which then tend to dig into the outside surface of the socket.

It will be appreciated that the socket only comprises two main parts which require to be connected together, these being the body part and the contact retaining cap which is slidable over one end of the plug so that the plug is simple and inexpensive to construct.



If desired the flanged end of the body part may be fitted with a decorative bezel which can be matched with the equipment with which the socket is used and which enhances the appearance of the socket.

To enable the invention to be clearly understood two embodiments thereof will now be described by way of example with reference to the accompanying drawings wherein:

FIGURE 1 is a vertical section through a socket according to one embodiment and taken on the line A—A of FIGURE 2.

FIGURE 2 is a plan view of FIGURE 1.

FIGURE 3 is a vertical section through a socket according to a second embodiment and taken on the line B—B of FIGURE 4, and

FIGURE 4 is a plan view of FIGURE 3.

Referring firstly to FIGURES 1 and 2 of said drawings the socket comprises a body part **1** of a synthetic plastic insulating material formed with an integral flange **2** which can be abutted against one side of a panel in an opening in which the socket is mounted and is retained in position by a spring retaining plate or washer (not shown) which is mounted on the outside of the body part **1** and co-acts with the other side of the panel as hereinbefore explained.

The body part **1** is made hollow and the wall of the bore is formed with three parallel axially directed channels or grooves which terminate at some distance from the upper end of the bore, as viewed in FIG. 1, and in which are located contact strips or fingers **3**, **4** and **5** the ends **3***a*, **4***a* and **5***a* of which are extended beyond the end of the socket to form solder tags.

The upper end of the contact **3** is cranked at **3***b* and is engaged by the outer co-axial contact making portion of the pin of a jack plug.

The contact **4** is engaged by a portion **5***b* of the contact **5** until such time as the jack plug is inserted into the socket when it makes contact with the outer end of extremity of the pin of the jack plug and is flexed away from the contact **4**.

The arrangement and disposition of these contact strips is known per se.

After the contact strips **3**, **4** and **5** have been arranged in position within the bore of the socket, an outer cap or sleeve **6** having a closed end wall **6***a* formed with very small slit-like openings through which the tags **3***a*, **4***a* and **5***a* can pass, is slid over the lower end of the socket to retain the contacts in position. This cap or sleeve **6** is cup-shaped and a snap fit over the reduced lower portion of the body part **1**. The cap **6** may extend over the body part **1** of the socket to a greater or lesser extent to that illustrated.

The shape and styling of the flange **2** as shown in FIGURE 2 is optional and can be square as shown, or alternatively can be of circular or any other desired shape or style to match the equipment to which the socket is to be fitted. The common cylindrical enveloping surface of the body part **1** and the cap **6** is indicated by a broken circular line **1** in FIG. 2.

The arrangement illustrated by FIGURES 3 and 4 is generally similar to that shown by FIGURES 1 and 2, but in this case a metal decorative bezel **7** is pressed on the moulded flange **2** where a styling contrast is desired. This metal bezel comprises a shaped flange to match the moulded flange **2** and a central drawn fixing tube **8** which engages in an annular groove or slot in the moulded body **1**.

I claim:

**1**. A socket for an electric jack plug comprising, in combination:

(a) a unitary hollow body of insulating material having an axis and two axial end faces,

(1) an internal face of said body defining a bore having respective orifices in said end faces,

(2) said internal face being formed with a plurality of axially elongated parallel channels extending radially outward from said bore and axially spaced from one of said end faces,

(3) the orifice of said bore in said one end face being adapted conformingly to receive a portion of a jack plug;

(b) a plurality of contact strips, each of said strips having an inner elongated portion received in a respective one of said channels in sliding engagement, and a tag portion projecting from the other end face of said body;

(c) a cap member covering said other end face and closing the orifice therein, said cap member being formed with a plurality of slots therethrough, the tag portions of said contact strips passing through said slots respectively;

(d) an annular flange integral with said unitary body and adjacent said one end face, said flange projecting from said body transversely of said axis.

**2.** A socket as set forth in claim **1**, wherein said body is formed with an annular groove extending axially inward from said one end face and spaced from the orifice therein, the socket further comprising a bezel member having a tubular fixing portion received in said groove, and another annular portion integral with said tubular portion and extending radially outward therefrom and contiguously overlying said flange.



**3.** A socket as set forth in claim **1**, wherein said body and said cap member define a common enveloping surface of uniform cross section axially extending from said flange to the axial end of said body and of said cap member remote from said one end face.

**4.** A socket as set forth in claim **1**, wherein said body has an axial portion contiguously adjacent said flange and defining an enveloping surface of uniform cross section perpendicular to said axis, said surface enclosing the remainder of said body and said cap member.

**5.** A socket as set forth in claim **4**, wherein said remainder of said body has a cross section smaller than the cross section of said enveloping surface, said cap member being substantially cup-shaped, and enveloping said remainder with a snap fit.


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