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2,953,768

ELECTRIC CORD CONNECTOR

Filed Dec. 7, 1956

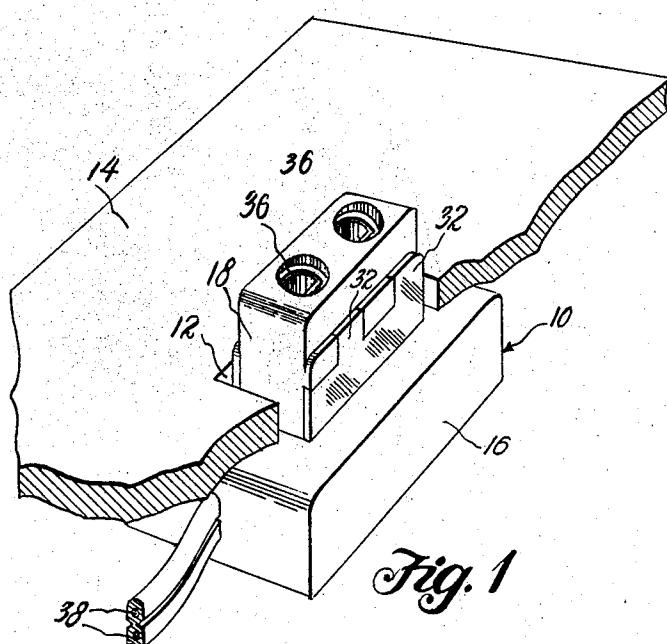


Fig. 1

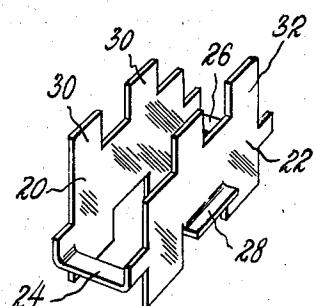


Fig. 2

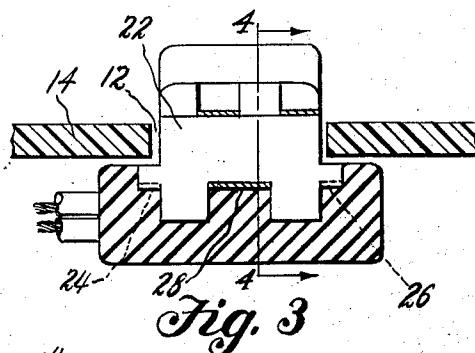


Fig. 3

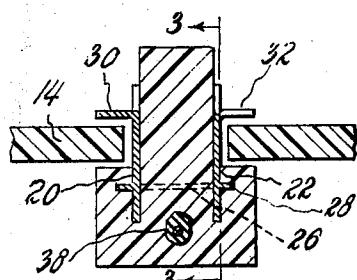


Fig. 4

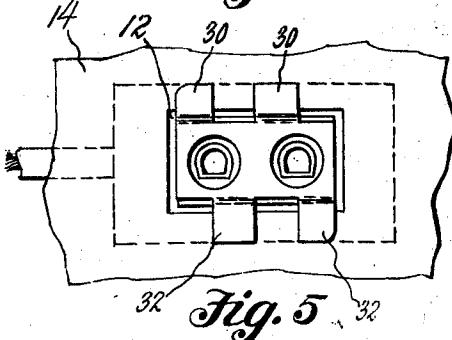


Fig. 5

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## ELECTRIC CORD CONNECTOR

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2 Claims. (Cl. 339—131)

This application relates to electrical cord connectors and more particularly to a cord connector adapted to be mounted in the back panel of a television or radio receiving set. Since some of the parts of such appliances are often charged with dangerously high voltages when connected to a power source, it is required that the cord connector be so mounted that the removal of the back panel will automatically disconnect the set from the power source. It is further required that the connector be mounted in the panel in such a way that it cannot be removed therefrom without the use of tools.

Heretofore the customary means for mounting cord connectors on television panels has been rivets. It is an object of the present invention to dispense with rivets and to provide a better fastening means which will allow sufficient looseness and will facilitate the assembling and disassembling of the connector and panel.

A cord connector customarily mounted in the back panel of a television receiving set is usually the female member of a male-and-female connector, the male member of which is rigidly mounted on the chassis of the set. When the back panel is placed in position, the female connector member mounted therein must engage and connect with the male connector member which is on the chassis. If the two members are not in line, difficulty may be experienced in installing the back panel, especially in new sets which are being assembled for the first time. According to the present invention, a cord connector is provided that meets the stated requirements and is also loosely mounted in the panel so as to have limited transverse play in any direction and also a limited play in the front to rear direction. This facilitates the making of a good connection even though the male connector member on the chassis is not exactly where it ought to be.

For a more complete understanding of the invention reference may be had to the following description thereof, and to the drawing, of which—

Figure 1 is a perspective view of a cord connector inserted in a panel, part of the latter being broken away;

Figure 2 is a perspective view of the metal skeleton forming part of the connector;

Figure 3 is a section on the line 3—3 of Figure 4;

Figure 4 is a section on the line 4—4 of Figure 3; and

Figure 5 is a plan view of the connector mounted in a panel.

Figure 1 shows a cord connector 10 embodying the invention, the connector having been inserted in a rectangular aperture 12 in a panel 14. The connector 10 comprises a base 16 of insulating material such as rubber or synthetic plastic which is preferably but not necessarily substantially rectangular in shape. Integral with the base is a body 18 of the same material. The dimensions of length and width of the base 16 are substantially greater than those of the aperture 12 which in turn are substantially greater than those of the body 18, the sides and ends of the body being offset inwardly from those of the base. When therefore the connector is inserted in an

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aperture 12, the body 18 projects therethrough with considerable lengthwise and widthwise play, but the top margins of the base 16 engage the under face of the panel to limit the distance of insertion.

5 For convenience of description in the specification and claims, the panel will be regarded as horizontal although in actual use it is usually vertical. References to upper and lower portions of various members will therefore merely indicate relatively positions as shown on the drawing and not necessarily as when in use.

To lend stiffness and strength to the connector as a whole, a stiff metal skeleton is incorporated therein. As shown in Figure 2, this skeleton is a sheet metal object having two parallel plates 20 and 22 joined by two transverse cross-links 24 and 26 at their ends.

10 The plates 20 and 22 are within the mold when the base and body are molded. They are so located that their upper portions are against the side faces of body 18 and extend from end to end thereof. The lower portions of the plates project into the interior of the base 16 so that the cross-links 24 and 26 are embedded in the base as are also a pair of horizontal fins 28, which project outward from the plates to anchor the skeleton more firmly within the base. The upper portions of the plates 15 20 and 22 extend upward from the base 16 against the side faces of the body 18. At the upper edge of each of these plates one or more tongues extend upward. Two such tongues 30 are shown on the upper edge of the plate 20 and similar tongues 32 on the upper edge of the plate 25 22. After the connector has been inserted through the 30 aperture 12 as indicated in Figure 1, the tongues 30 and 32 are bent outward to extend from the side walls of the body over portions of the margins of the panel 14 around the aperture 12, the tongues being made long enough to 35 overlap the margins around the aperture even when the aperture is large enough to allow considerable looseness of the connector therein. When connectors and panels are assembled in a factory, power press tools (not shown) 40 may be used for rapid assembling, such tools being adapted to bend the tongues outward to act as lugs to keep the connector in the aperture. In servicing or repairing a television set, the tongues can be bent in or out as required by simple tools such as pliers and a screw driver.

45 The skeleton is preferably arranged in the connector so that the tabs are spaced from the top of the base a distance substantially greater than the thickness of the panel 14. This, as shown in Figure 4, provides considerable play in a direction perpendicular to the plane of 50 the panel.

The connector is equipped with the usual contact elements 36 which are connected respectively to wires 38, the connections being embedded in the insulating base 16. The wires 38 may be arranged to emerge from the base 55 at any desired or convenient point. In the example shown in Figure 1, the wires emerge from an end face of the base 16.

If desired, an overhand knot may be tied in the wires 38 near the contact elements 36, the base then being 60 molded about the knot as well as about the elements 36. The knot, being embedded in the base, takes the strain if the cord 38 is strongly pulled, and prevents the cord from pulling out of the base.

I claim:

65 1. An electrical cord connector comprising a base of insulation, a body of insulation rising from said base and integral therewith, said body having sides and ends offset inwardly from the sides and ends respectively of the base, and a metal skeleton partially embedded in said base, 70 said skeleton including two parallel plates the upper portions of which are against the side walls of said body, the lower portions of said plates extending into the interior

of said base, said skeleton also including cross-links within the base connecting said plates, said skeleton having tongues along the upper edges of said plates adapted to be bent out from the sides of said body to serve as anchoring lugs.

2. An electric cord connector adapted to be mounted in an aperture in a panel, said connector comprising a base having dimensions of length and width greater than the corresponding dimensions of said aperture, a body integral with said base, said body having side walls and dimensions of length and width substantially less than the corresponding dimensions of said aperture, and a metal skeleton partially embedded in said base, said skeleton including two parallel plates the upper portions of which are against the side walls of said body and extend above the top of the base a distance substantially greater than the thickness of the panel on which the connector is to be mounted, the lower portions of said plates extend-

ing into the interior of said base, said skeleton also including cross-links within the base connecting said plates, said skeleton having tongues projecting from the upper ends of said plates adapted to be bent out from the sides of said body and of sufficient length to project beyond the edges of said aperture.

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