

[54] **ELECTRICAL SOCKET ASSEMBLY**
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 [22] Filed: **Nov. 9, 1972**
 [21] Appl. No.: **305,207**

[30] **Foreign Application Priority Data**
 Nov. 10, 1971 Great Britain 52175/71

[52] **U.S. Cl.** **339/127, 339/17 D, 339/176 L, 339/206 L**

[51] **Int. Cl.** **H02b 1/02**

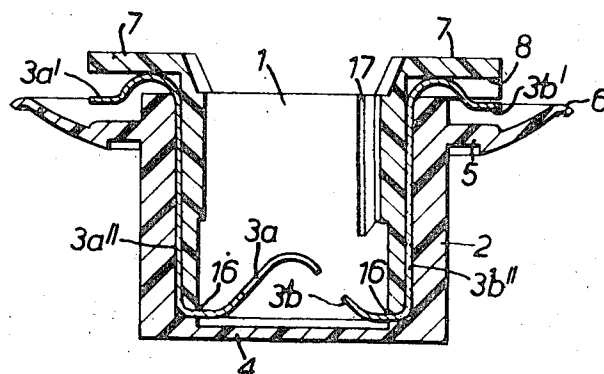
[58] **Field of Search** **339/17 R, 17 C, 17 CF, 339/17 D, 45 T, 50, 59, 63, 119, 125, 127, 128, 145, 154, 174, 176 L, 177 L, 183 R, 184 L, 188 R, 191, 193, 194, 196, 199, 200, 206 L, 210, 220, 221 L**

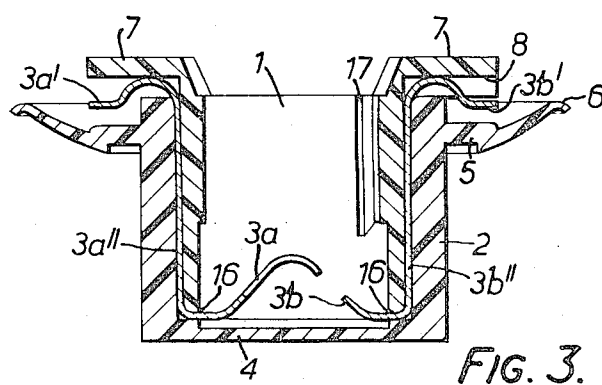
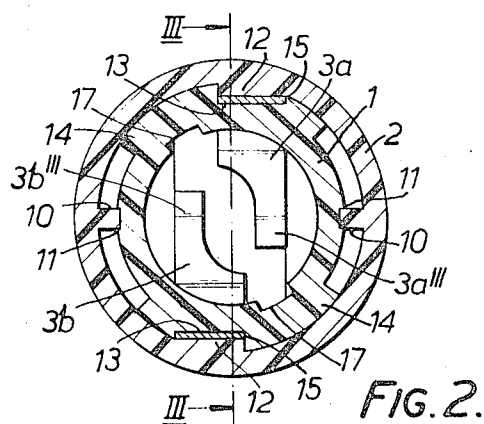
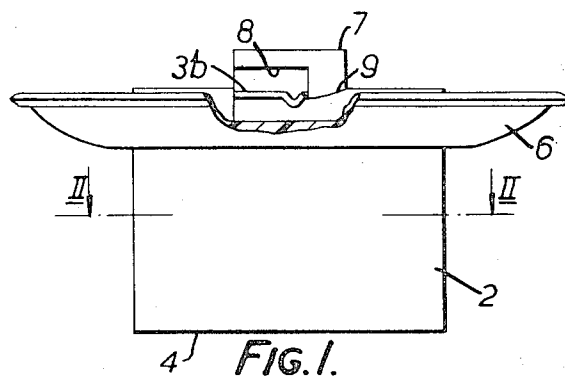
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[57] **ABSTRACT**
 An electrical socket assembly for a lamp or a plug is formed of two body parts in mutual mating engagement. Contact members are positively located in cavities defined between the body parts, and may be shaped to engage directly with conductors on a printed circuit board with which the socket is assembled.

3 Claims, 3 Drawing Figures





ELECTRICAL SOCKET ASSEMBLY

This invention relates to an electrical socket assembly.

According to the present invention, there is provided an electrical socket assembly for a lamp or other plug-like member, comprising a two-part body constituted by a first lamp- or plug-receiving member and a second member in mating engagement with and secured to the first member, and at least one contact member which is positively located in a corresponding cavity defined between the first and second members and is arranged to provide electrical contact on the one hand with a corresponding lamp or other plug-like member engaged in the body, and on the other hand with external circuit means.

Conveniently the two members constituting the body may be telescopically engaged one within the other. In one particular arrangement of this type, the second member consists of a blind cup within which the first member is nested, the cup carrying adjacent its open end a radially outwardly extending sealing flange which in use abuts the face of a member on which the socket is mounted. The, or each cavity may conveniently include a portion defined between the telescoping surfaces of the body members and extending parallel to their common axis.

Indexing means may be provided to ensure correct relative alignment of the first and second members during assembly of the socket.

The socket may be provided with locking means enabling it to be mounted on a printed circuit board, and the, or a contact member may be arranged to make contact directly with the conductors of the printed circuit board when the socket is engaged therewith.

The invention will now be explained in greater detail with reference to the drawings accompanying the Provisional Specification, of which:

FIG. 1 is a side elevation of one embodiment of the invention, partly broken away to show detail,

FIG. 2 is a transverse cross-section taken on the line II—II of FIG. 1, and

FIG. 3 is a central longitudinal cross-section of the embodiment taken on the line indicated at III—III in FIG. 2.

As illustrated in the drawings, the specific socket described below consists of a body constituted by first and second hollow cylindrical members 1 and 2 respectively, and a pair of metal contact members 3a and 3b. The member 2 is closed at one end, 4, and adjacent its other, open, end carries an outwardly projecting annular flange 5, which in turn merges into a peripheral sealing skirt 6. The member 1 nests within the member 2, making a tight fit therein, and, at its end adjacent the open end of the member 1, carries a pair of lugs 7 for locking engagement in a suitably shaped aperture in a mounting panel. The lugs are recessed at 8 to accommodate the ends 3a', 3b' of the contact members, which are shaped as illustrated to engage printed conductors on the mounting panel, and chamfered at 9 to provide camming surfaces which assist application of the socket to its mounting panel.

Correct alignment of the socket body members 1 and 2 during assembly is ensured by co-operating shaped portions on the two parts as seen in FIG. 2. Firstly, longitudinally extending radially inwardly projecting ribs 10 on the inner wall surface of the member 2 engage

closely within corresponding longitudinal grooves 11 in the outer wall surface of the member 1. Secondly, the inner wall surface of member 2 is formed with two inwardly projecting longitudinally extending ribs 12, which engage in corresponding slots 13 in lobes 14 on the member 1 which fit closely within the cylindrical wall of the member 2. The ribs 12 and slots 13 define corresponding elongated cavities 15 between them, with a cross-section equal to that of the contact members 3a and 3b which, as will be seen from the drawings, each includes an elongated central portion 3a'' and 3b'' located within its corresponding cavity 15.

The ends 3a''' and 3b''' of the contact members 3a and 3b extend through cut out regions 16 in the corresponding end of the inner member 1, and are shaped to effect contact with a double contact bayonet fitting lamp engaged in the inner member by means of bayonet slots 17 formed in the inner surface of the wall of that member.

The parts 1 and 2 are moulded from nylon, while the contact members 3a and 3b are fabricated from phosphor-bronze strip. During manufacture, the parts are assembled into the relative positions shown in the drawings, and the parts 1 and 2 are then welded together. The contact members 3a and 3b are then securely and permanently held in their correct positions in the socket.

As remarked above, the socket is intended for assembly in an aperture in a printed circuit board. The aperture has a diameter equal to the outer diameter of the member 2, and its margin is slotted symmetrically in two places so that the lugs 7 may pass through the board when the socket is applied, after which rotation of the socket through 90° in a clockwise direction about its axis, viewed from the end 4, will cause the lugs 7 to ride behind the unslotted parts of the board to lock the socket in position. When so assembled, the sealing skirt 6 engages the face of the board, and because of the closed character of the member 1, the aperture in the board is effectively sealed.

It will be appreciated that the invention is not restricted to sockets for any particular pattern of lamp, nor, indeed to sockets for lamps, since any other plug-like member may be accommodated. Also, the means of mounting the socket, and of establishing external connections may be varied at will.

We claim:

1. An electrical socket assembly, for a lamp or other plug-like member, comprising in combination a two-part body constituted by a first, lamp- or plug-receiving member and a second member in mating telescoped engagement with, and secured to, said first member and defining therebetween a cavity, said second member being in the form of a cup, closed at one end and open at its other end, in which said first member is nested, and which carries adjacent its open end a radially outwardly extending sealing flange, and a contact member positively located within said cavity, said contact member comprising a first, lamp or plug receiving, region and a second, terminal, portion.

2. An electrical socket assembly according to claim 1 wherein indexing means define correct relative alignment of said first and second members.

3. An electrical socket assembly according to claim 1 wherein a plurality of contact members are provided, each located within a corresponding cavity region.

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