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D. L. BENSON
ELECTRICAL ASSEMBLY
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3,050,705

Fig. 1.

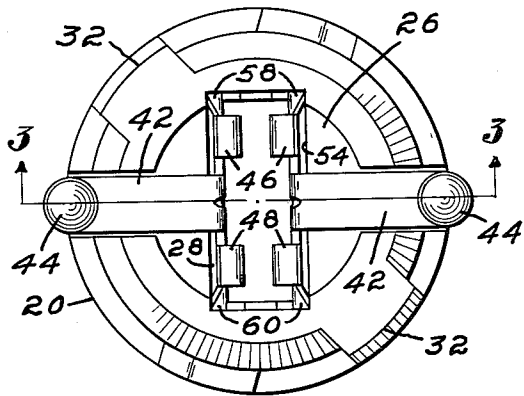


Fig. 2.

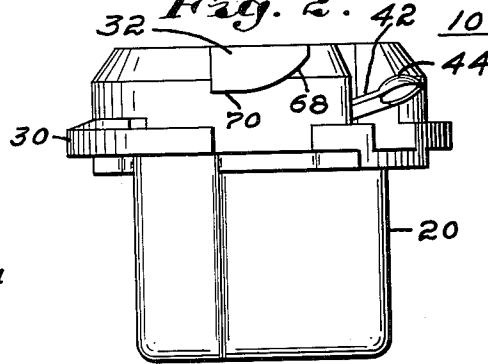


Fig. 4.

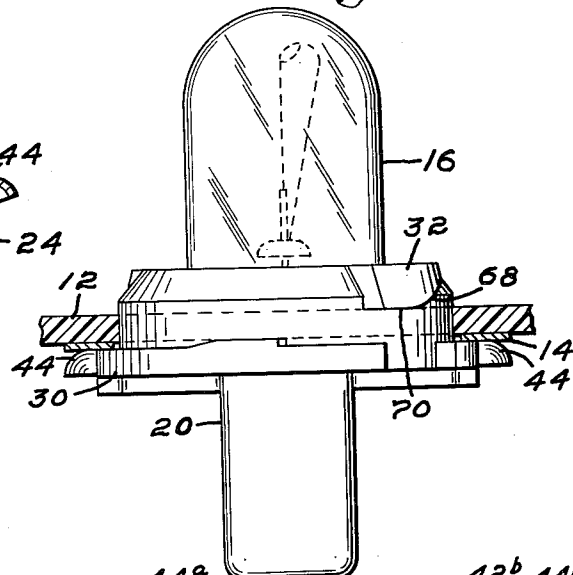


Fig. 3.

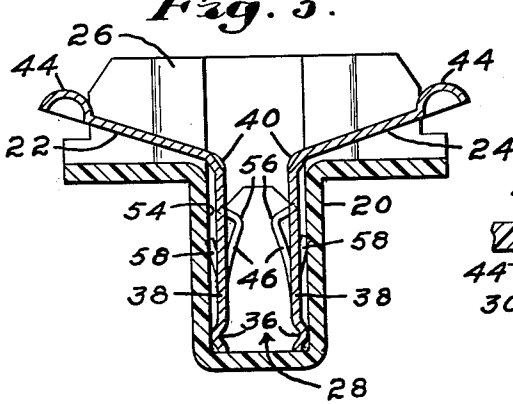


Fig. 5.

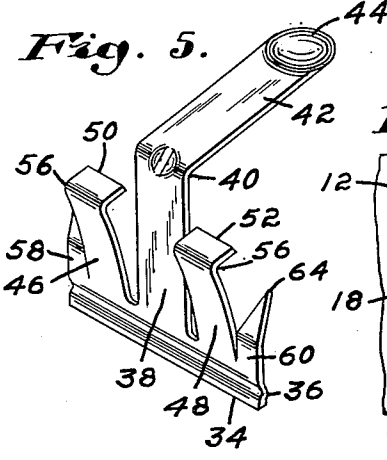


Fig. 6.

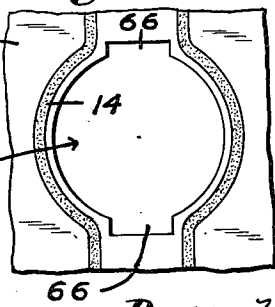
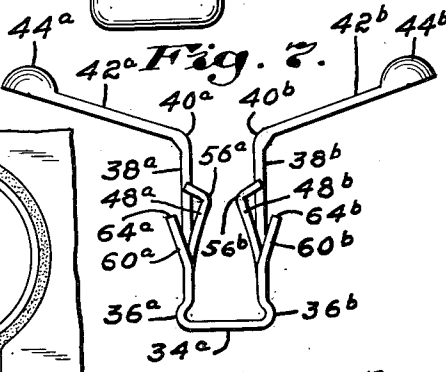


Fig. 7.



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ELECTRICAL ASSEMBLY

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1 Claim. (Cl. 339-17)

This invention relates generally to electrical apparatus and specifically to a lamp socket component for use with printed circuit panels.

Recent developments in the construction of lamps where the standard metallic base has been eliminated and the glass envelope drawn to provide a wedge type base has necessitated improvements in lamp socket constructions.

The object of this invention is to provide a lamp socket adapted to retain a wedge type bulb.

A further object of this invention is to provide a lamp socket for use with a wedge type bulb in which the lamp retaining means are integral portions of the circuit.

Other objects of the invention will, in part, be obvious, and will, in part, appear hereinafter.

In the drawing:

FIG. 1 is a top plan view of the lamp socket embodying the features of the invention;

FIG. 2 is a view in side elevation of the socket;

FIG. 3 is a view in section taken on line 3-3 of FIG. 1;

FIG. 4 is a view in side elevation partly in section of the socket, mounted on a printed circuit board having the lamp in assembly;

FIG. 5 is a view in perspective of one contact as shown in FIG. 3;

FIG. 6 is a bottom plan view of the printed circuit panel illustrating the aperture adapted to receive the socket; and

FIG. 7 is a view in front elevation of a modified form of the contact.

Referring to the drawing, there is illustrated a lamp socket 10 which is adapted for insertion within a panel 12 having a continuous circuit 14 on one surface thereof to maintain electrical continuity to a lamp bulb 16.

The panel may be of the type commonly known as a printed or etched circuit board having suitable apertures 18 therein to receive electrical components such as lamp sockets or the like.

The lamp socket 10 comprises a body portion 20 which may be molded from a suitable plastic and contains symmetrical right and left contact members 22 and 24.

As illustrated in FIG. 3, the body portion 20 includes a central aperture 26 opening to one end thereof and a slot 28 extending downward from the aperture 26 adapted to receive the base of the lamp bulb 16. The body 20 is provided with a radial flange 30 spaced from the open end and a pair of tabs 32 extending from the upper periphery and spaced from the flange 30 a distance equivalent to the thickness of the panel 12 for a purpose to be described hereinafter.

The contact members 22 and 24 as shown in FIG. 3 are formed of resilient metal and have a continuous base 34 with a laterally extending rib 36. A central finger 38 extends upwardly from the base 34 having a bend 40 at substantially its mid portion defining an angular extension 42. The distal end of the extension 42 is dished upwardly forming a smooth surfaced hemisphere 44 adapted for sliding engagement with one surface of the panel 12. A pair of spring members 46 and 48 extend upwardly from the base 34 and inclined in a direction opposite to extension 42 and are laterally spaced from the central finger 38, one member lying on each side. The terminal ends 50 and 52 of the spring members are bent in the direction of the extension 42 and as illustrated in FIG. 3, bear against the walls 54 of the slot upon insertion of the

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base of the bulb 16 so that the curved portion 56 will resiliently bear against the external leads (not shown) of the bulb 16 to maintain effective electrical continuity. A pair of tabs 58 and 60 extend upwardly from the base 34 on either side of the spring members 46 and 48 and are inclined in the direction of the extension 42 having their terminal ends 62 and 64 sharply pointed and adapted for biting engagement with the walls 54 of the slot 58 to retain the contacts in assembly. The socket 10 is adapted for assembly with the panel 12 by inserting it within the aperture 18 and rotating it into a predetermined angular relation to the panel so that the hemispheres 44 on the ends of the extension 42 bear against the continuous circuit 14.

To assemble the socket 10 with the panel 14, the socket is inserted within the aperture 18 with the tabs 32 entering the cutout portion 66 and the socket rotated in a clockwise direction. It will readily be seen that the tab 32 having inclined surfaces 68 will ride upwardly on one surface of the panel 14 simultaneously with the downward flexing of the angular extension 42 of the finger 38 allowing the panel 12 to be firmly retained between the radial flange 30 and the lower portion 70 of the tab 32. After the socket 10 has been rotated approximately 90° the hemispheres 44 will lie in abutting relationship and in mechanical and electrical contact with the continuous circuit 14. Furthermore, the pressure exerted by the panel 12 on the angular extension 42 causes the contact members 22 and 24 to exert pressure on the base of the bulb by tending to move toward each other thereby increasing the retention power of the contact members.

Referring to the modified form of the contact as shown in FIG. 7, there is illustrated a base 34a with a pair of laterally extending ribs 36a and 36b with a pair of fingers 38a and 38b with bends 40a and 40b at the mid portion defining angular extensions 42a and 42b. The hemispheres 44a and b found at the distal ends are substantially the same as shown in the original form and adapted for the same purpose. The spring contact members 48a and 48b are adapted to flex outwardly upon insertion of the bulb base and due to their inherent resilient characteristics, retain the bulb in assembly. The contact is maintained in position within the socket by means of tabs 60a and 60b having sharply pointed ends 64a and 64b entering into biting engagement with the walls of the socket.

Since certain other obvious modifications may be made in this device without departing from the scope of the invention, it is intended that all matter contained herein be interpreted in an illustrative and not in a limiting sense.

I claim:

A lamp socket for axial insertion within a continuous circuit panel, said socket comprising an insulated housing, a radial flange spaced from one end of said housing cooperating with cam means on the periphery of said end of the housing to retain the socket within the panel and a pair of contact members in spaced relation to each other, each of said contact members having a base, a central finger extending from said base having means for engaging said circuit panel, a pair of spring members extending from said base in the same direction as said central finger, spaced from said central finger on each side thereof and in angular relation with said base and at least two tabs extending upwardly from said base spaced from said central finger and from said spring members on opposite ends of said base, said tabs having pointed terminal ends in biting engagement with said housing.

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