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L. L. STOFFEL
LAMP SOCKET AND RESISTOR THEREFOR
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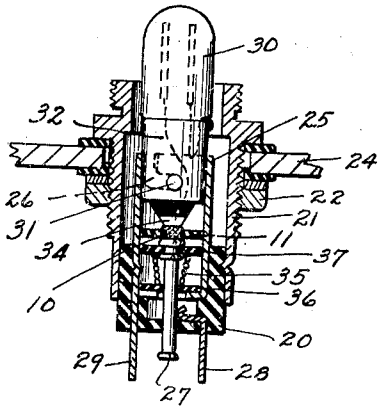


FIG. 1

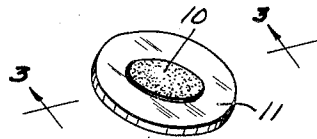


FIG. 2

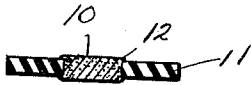


FIG. 3

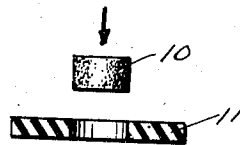


FIG. 4

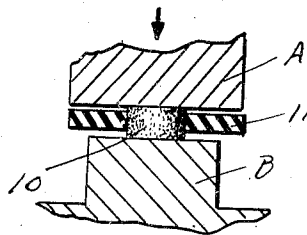


FIG. 5

INVENTOR.
LESTER L. STOFFEL
BY
Sales, Teare, & McLean
ATTORNEYS

UNITED STATES PATENT OFFICE

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LAMP SOCKET AND RESISTOR THEREFOR

Lester L. Stoffel, Lakewood, Ohio, assignor to
The Ohio Carbon Company, Cleveland, Ohio,
a corporation of Ohio

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9 Claims. (Cl. 201-49)

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This invention relates to a resisting socket for an electric lamp and to the resistor itself, formed for mounting in such socket. Thus a high resistance conductive medium is provided in the socket between one terminal of the lamp 5 mounted in the socket and the corresponding socket terminal, so that a comparative low voltage lamp may be supplied by a current from a much higher voltage line.

The general object of the invention is to provide such a resisting unit adapted for inexpensive manufacture and which when produced shall be durable and effective and very readily mounted in the socket for a lamp. My invention provides an insulating disc carrying the high resistance conducting member, the disc being adapted to be snugly positioned within the socket with such high-resistance member in engagement with a socket terminal. This application includes both the resistor per se and the combination of the resistor with the socket.

The drawings illustrate one embodiment of my invention, in which Fig. 1 is an axial section through a socket having my resistor and showing in elevation a lamp in position in the socket; Fig. 2 is a perspective of the resistor itself; Fig. 3 is a diametric cross-section of the resistor, as indicated by the line 3-3 on Fig. 2; Fig. 4 is a view of the parts of the resistor unit separated, and Fig. 5 is a view in section indicating such parts between coacting plungers adapted to form the unit.

As shown in Figs. 2 and 3, my resistor unit comprises a central disc 10 of high resistance material and a surrounding washer-like carrying member 11 of insulating material. The resisting member is preferably a carbonaceous substance and the washer preferably a phenol formaldehyde thermo-setting resin, as Bakelite for instance, though it may be of ceramic nature.

In the manufacture of the resistor, the pellet 10 is placed within the opening of the insulating washer 11 and suitably treated to peen the edges of the pellet over the washer, as indicated at 12 in Fig. 3. This peening over may be effected by placing the pellet within the washer between two coacting plungers, indicated at A and B, in Fig. 5. Then pressure of these plungers toward each other will flatten and reduce the thickness of the pellet and cause its edges to overlie the opposite faces of the washer.

Preliminary to the compression of the pellet it may be softened by heating it to approximately 350° F. just preceding its insertion in the press or, if desired, the pellet may be softened by 55

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immersing it in suitable material, for instance alcohol, and squeezing it while cold.

Fig. 1 shows a socket of the bayonet type. As shown, this socket has an insulating base 20 carrying a metallic sleeve 21 adapted to receive a threaded nut 22 and insulating washers to clamp the socket to a support 24 through which the sleeve extends. Within the socket is a cylindrical metallic sleeve 25 adapted to carry the lamp designated 30. If the connection between the lamp and sleeve is of the bayonet type, the lamp will be provided with diametrically opposed pins 31 adapted to enter and move laterally in a pair of diametrically opposed undercut notches 26 in the sleeve 25.

The internal sleeve 25 carries in an insulating manner, a central terminal 27 with which one of the supply conductors 28 contacts. The other supply conductor 29 is electrically connected with the sleeve 26.

The resistor unit 10, 11 is of such external diameter that it may be snugly mounted in the sleeve 26 and hold itself in position therein by friction with the resisting portion 10 contacting 25 with the free end of the central terminal 27. When the lamp is inserted its pins 31, as well as its metallic sleeve portion 32, make an electric contact with the metal sleeve 25 of the socket. At the same time the central terminal 30 34 of the lamp contacts with the resistor unit 10.

A suitable spring within the socket tends to force the central terminal 27 outwardly and thus maintain a tight engagement between the central terminal and the resistor pellet 10 and between the resistor pellet and the central terminal of the lamp, also a tight engagement of the lamp pins 31 with the overhanging portion of the sleeve 25. As shown in Fig. 1, the spring is a coiled compression spring 35 between a washer 36, resting on the inturned base of the socket sleeve 25, and a slidable washer 37 within the sleeve and engaging a groove in the central terminal 27.

It will be seen that my resisting unit may be very readily placed within the socket sleeve and will retain itself therein by friction and is effective whenever the lamp is inserted.

While the resistance of this resisting unit will vary according to the use to which it may be put, I may state merely as an example, that such resistor, having a resistance of the order of 200,000 ohms, has been used satisfactorily as a current limiting device for a gaseous tube lamp supplied with current from an ordinary 110 volt line.

I claim:

1. The combination of a socket having a sleeve and a terminal therein insulated from the sleeve and a resisting unit having a pellet of high resistance conductive material tightly mounted in a comparatively stiff insulating disc, said disc being positioned within the sleeve to hold the resisting material in registration with the terminal.

2. The combination of a socket having a sleeve and a central terminal insulatingly carried within the sleeve, the sleeve having means for holding a lamp with a central terminal, and a resistor unit mounted within the sleeve beyond the lamp and free therefrom and comprising a central pellet of high resistance conductive material and a flat thin insulating washer surrounding the pellet and adapted to have its periphery engage frictionally the interior of the sleeve, whereby a lamp inserted in the socket sleeve may press its central terminal against the resistor and press the resistor against the central terminal of the socket.

3. A socket having a sleeve, a central terminal insulatingly carried within the sleeve, the sleeve having an undercut groove to receive a pin on a lamp and the terminal being pressed outwardly under spring pressure, combined with a resistor unit mounted within the sleeve and comprising a central pellet of high resistance conductive material and an insulating washer surrounding the pellet and adapted to engage the interior of the sleeve to hold itself in position therein by friction whereby a lamp inserted in the socket sleeve may press its central terminal against the resistor and press the resistor against the central terminal of the socket.

4. A resistor unit comprising a pellet of high resistance conductive material and a comparatively stiff insulating disc in which the pellet is tightly mounted.

5. A resistor unit comprising a pellet of high resistance conductive material and an insulating

disc snugly surrounding the pellet, the peripheral edges of the pellet being peened over onto the upper and under surface of the disc.

6. A resistor unit comprising a flat thin insulating washer and a pellet of carbonaceous material filling the central opening of the washer and tightly attached to the washer.

7. A resistor unit comprising a flat insulating washer and a pellet of granular carbonaceous material occupying the opening of the washer and snugly engage the inner periphery thereof and having its peripheral edges overhanging the flat surfaces of the washer.

8. The combination of a socket for an electric lamp, said socket having a sleeve and a central terminal therein insulated from the sleeve, of a resisting unit having a central pellet of high resistance conductive material surrounded by a comparatively stiff insulating washer, said washer being longitudinally shiftable within the sleeve and free from the lamp to hold the resisting material in contact with said terminals of the socket and the corresponding terminal of the lamp when the lamp is mounted.

9. A resistor unit comprising a pellet of carbonaceous material and a washer of thermo-setting resin surrounding the pellet and firmly united thereto.

LESTER L. STOFFEL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,954,355	Handy	Apr. 10, 1934

FOREIGN PATENTS

Number	Country	Date
423,078	Great Britain	Jan. 24, 1935