

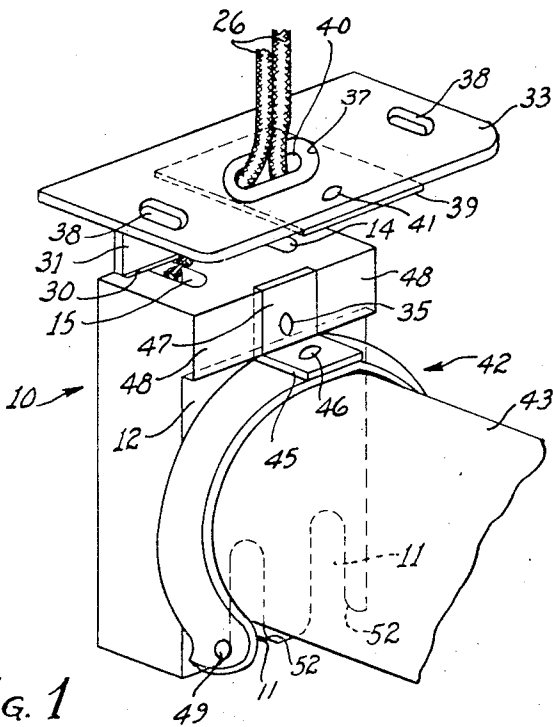
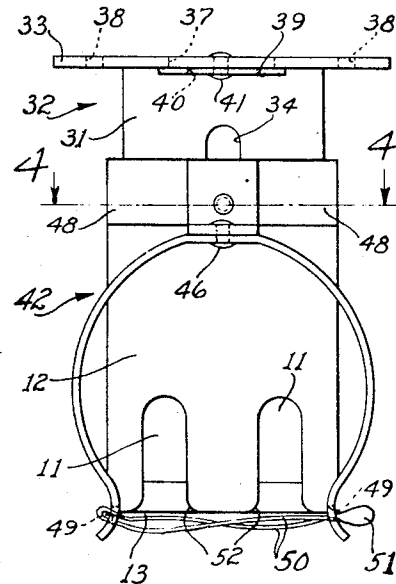
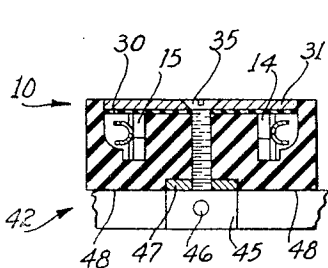
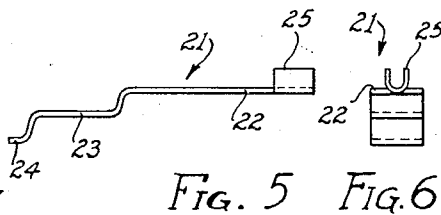
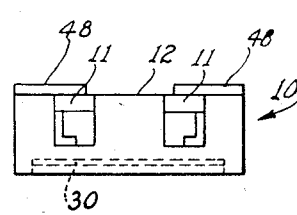
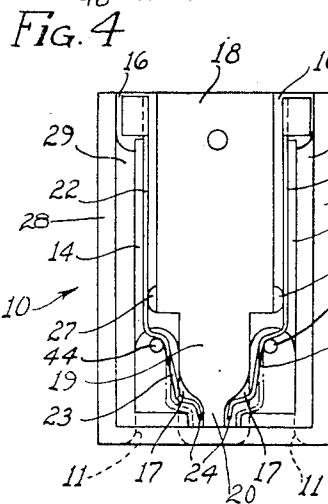
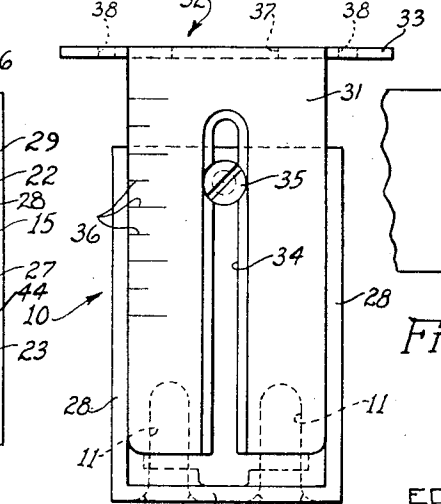
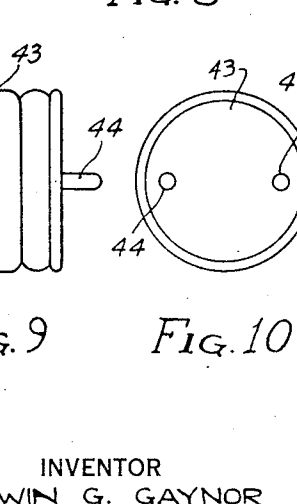
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FLUORESCENT LAMP SOCKET

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FLUORESCENT LAMP SOCKET

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Application July 11, 1939, Serial No. 283,849

3 Claims. (Cl. 173—328)

This invention relates to new and useful improvements in lamp sockets and has particular relation to sockets for the tubular type of lamp known as a fluorescent lamp.

The objects and advantages of the invention will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing wherein a satisfactory embodiment of the invention is shown. However, it is to be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawing:

Fig. 1 is a perspective view showing a socket made in accordance with the invention, a portion of a lamp being shown associated with the socket;

Fig. 2 is a front elevational view of the socket;

Fig. 3 is an end elevational view of the socket, the view being taken as looking at the lower end of Fig. 2 and the lamp holding clip being omitted;

Fig. 4 is a transverse sectional view taken as along the plane of the line 4—4 of Fig. 2 but with a portion of the lamp holding clip being shown;

Fig. 5 is an edge elevational view of a socket contact element employed;

Fig. 6 is an end elevational view of such contact;

Fig. 7 is a rear elevational view of the socket, the mounting bracket and rear cover plate being removed;

Fig. 8 is a rear elevational view of the socket complete;

Fig. 9 is a side elevational view of a portion of one of the fluorescent lamps; and

Fig. 10 is an end elevational view of such lamp.

Referring in detail to the drawing my improved socket includes a body of insulating material generally designated 10 and provided with a pair of spaced entrance slots 11 opening through the front face 12 and the lower end 13 of the body and adapted for the entrance of lamp terminals as will appear. Body 10 is provided with channels 14 and 15 opening through its rear side and through its upper end and in their lower portions aligning with the entrance slots 11. Channels 14 and 15 are laterally enlarged outwardly toward their upper ends as at 16 and inwardly toward their lower ends as at 17.

The body portion 18 which separates the channels 14 and 15 is of reduced width toward its lower end as at 19 whereby the laterally enlarged

portions 17 of the channels are formed and below such portion 19 the separator is further reduced in width to include a tongue-like portion 20. Within the channels 14 and 15 are contact elements 21 of identical construction. Each said element is made of a piece of metal of the proper gauge and having a certain spring or resiliency and includes a body portion 23 and a short free end portion 24. At the upper end of the body 22 is a transversely curved portion 25. Portion 25 receives the inner end of a lead 26 (two such leads being shown—one for each contact element) and has such end soldered or otherwise permanently secured therein.

From Fig. 7 it will be clear that the laterally enlarged channel portions 16 receive the portions 25 of the contact elements 21 and that the channel portions 17 receive the off-set portions 23 and 24 of said elements. Within each channel is a protuberance 27 which, engaging the contact element serves to tension the same in the channel. Portions 23 of the elements are to be engaged by the terminals of a lamp when the socket is in use and are therefore opposite the entrance slots 11.

About the side edges and the lower end of the rear side of the body 10 is a raised bead 28 and fitting within said bead and resting against the separator portion 18 and body portions 29 at the outer edges of the channels is a closure plate 30 comprising a thin stiff sheet of suitable insulating material. Disposed against said closure 30 is one portion 31 of a socket mounting bracket generally designated 32 and including, in addition to the portion 31, a portion 33 at right angles to the portion 31 and projecting across the upper end of the body 10.

Bracket portion 31 fits snugly between the beads 28 and is bifurcated or provided with a longitudinally extending slot 34 through which passes a securing means (here shown as a screw) 35 serving to secure the bracket to the body 10 and also serving to secure the closure 30 in place. Obviously on loosening of the screw 35 the bracket 32 may be adjusted longitudinally of the body. For assisting in any adjustments the bracket portion 31 is provided with graduations or markings 36 to be used as will appear.

Bracket portion 33 is provided with an opening 37 through which the leads 26 are carried as in Fig. 1. Such bracket portion is wider than the body 10 and in its parts beyond the edges of the body is provided with perforations 38 for the passage of securing screws or the like used in securing the body in place. Since the perfora-

tions are beyond the side edges of the body 10 it will be understood that a screw driver or other tool may readily be used to force home any securing means passed through the perforations 38. A sheet-like piece of electrical insulating material 39 is secured to bracket portion 33 by an eyelet 41 and has a relatively small opening 40 aligned with opening 37. Leads 26 pass through opening 40 and are thus held spaced from the edge of the opening 37 in the metal bracket.

Mounted at the front of the body 10 is a lamp supporting clip 42. The socket of the invention is as above set forth particularly adapted for use with the fluorescent type lamp and a portion of such a lamp is shown at 43. The lamp includes a body in the form of a tube of glass and at each end is provided with a pair of terminals 44. The clip 42 is designed to engage the side walls of the lamp and support the latter while its terminals are in engagement with the contact elements 21 above described.

To this end the clip is in the form of an inverted U and is arranged with its open side toward the lower end of the body 10. A small L-shaped member 45 riveted to the clip at 46 has its arm 47 tapped for the reception of the screw 35 above mentioned. Such arm 47 is received between a pair of projections 48 at the upper forward corners of the body and thus when the screw 35 is tightened it not only secures the bracket 32 in adjusted position on the body but also serves to secure the clip 42 against casual movement. Since the arm 47 is held between the projections 48 such arm may not pivot about the end of the screw.

The clip 42 being arranged as shown and described when a lamp is to be associated with the socket the terminals of the lamp are brought under the lower open ends of the slots 11 and the lamp moved vertically or otherwise, to move the terminals 44 into the slots to engage contact portions 23. As this is done the end portion of the body of the lamp is forced into the clip 42 and resiliently held by the arms of the latter. The free end portions of the arms of the clip are provided with perforations 49 through which a wire or the like 50 may be passed and secured as by a lead seal 51 whereby theft of the lamp from the socket is prevented. If desired other means for connecting the ends of the arms of clip 42 and thus preventing surreptitious removal of the lamp from the clip may be used. It will be clear that with this arrangement the weight of the lamp will be supported by the clip and not by the terminals 44.

It will be understood that the socket of the invention is used by placing a pair of them in spaced relation facing one another, the space between them depending on the length of the lamp to be mounted. The lamp is inserted (both ends at the same time) by a movement toward the space between the sockets, after the terminals of the lamp have been aligned with the open ends of the slots 11.

To facilitate the mounting of the lamp the body portion between the slots or entrances 11 is cut away or rounded on its lower ends as at 52 whereby the lower ends of the slots are flared. Due to the adjustable mounting of the bracket 32 on the body 10 it will be clear that by proper adjustments of the brackets a pair of the bodies 10 may be mounted directly opposite and in line with one another although the support to which the brackets must be attached are not in the

same plane. Where the same adjustment is required in connection with each bracket the adjustment on one may readily be had on the other by noting which of the markings 36 of the adjusted bracket is at the upper edge of the body 10 and then arranging the parts of the other socket accordingly.

When the sockets are not in use the contact element portions 23 are spaced apart a distance slightly greater than the distance between a pair of the lamp terminals 44. Thus in Fig. 7 the elements are shown in their normal positions by the dotted lines and the full lines show the positions of the elements when engaged by the lamp terminals 44. Thus a good electrical contact is insured it being noted that the contact elements 21 have been slightly flexed about the protuberances 27. Due to the off-set between the portions 23 and 24 of the elements the latter will pass between the lamp terminals as such terminals are moved into the slots 11.

With respect to the clip 42 it is noted that as the lamp is being moved into place between a pair of the sockets, when the lamp passes partly into the clip the spring action of the arms of the latter will assist the movement of the lamp to its fully inserted position. Additionally when the lamp is fully in place its weight is supported by the clips on the sockets at the ends of the lamp and not by the terminals of the lamp.

Owing to the construction of the contact elements 21 the sockets of the invention will function with a lamp despite any inaccuracies in the location of the terminals of the lamp. Since two sockets are used, one at each end of a lamp, it will be clear that when the lamp is in place and the sealing means is connecting the ends of the arms of the clips the lamp may not be casually removed. Thus theft of the lamp is prevented.

The socket body portion between the entrance slots 11 acts as a guide to facilitate the insertion of the lamp and since it is inserted with a straight sidewise movement there is no trouble in locating the slots 11. Adjustable bracket 32 and the clip 42 are both secured in place by the same screw thus simplifying the construction. Additionally the contact elements 21 are identical with one another and require but one set of tools for the making of both the socket contact elements. The leads 26 being permanently attached and carried out of the socket make for easy installation of the socket. Obviously different size clips 42 for different diameters of lamps may be provided and applied to the body 10.

Having thus set forth the nature of my invention, what I claim is:

1. In a lamp socket, a body of insulating material, spaced contacts within said body, spaced lamp terminal entrance slots in said body and opening through the front wall and one edge of the body and positioned to give access to said contacts, a spring clip mounted on the body and located at the front thereof, said clip having an entrance opening aligned with the lamp terminal entrance slots through the edge of the body, and said clip including arms disposed at the sides of the slotted portions opening through the front wall of the body whereby as a lamp is moved to carry its terminals edgewise into said slots from the edge of the body the body of the lamp will enter between said arms of said clip and be supported thereby with its terminals engaging the contacts of the body.

2. In a lamp socket, a body of insulating ma-

terial, spaced contacts within said body, spaced lamp terminal entrance slots in said body and opening through the front wall and one edge of the body and positioned to give access to said contacts, a substantially U-shaped spring clip 5 mounted on the body and located at the front thereof, said clip having the entrance opening between the free end portions of its arms aligned with the lamp terminal entrance slots through the edge of the body whereby as a lamp is moved 10 to carry its terminals edgewise into said slots from the edge of the body the body of the lamp will enter between the arms of said clip and be supported thereby with its terminals in contact 15 with the contacts in the body, said clip arms adapted for yieldingly engaging the side wall portions of the lamp body, and said arms perforated for the passage of means to connect them and prevent removal of the lamp from the socket.

3. In a lamp socket, a body of insulating ma-

terial, spaced lamp terminal entrances in said body, socket contacts in said body in position to be engaged by lamp terminals inserted through said entrances, a mounting bracket including a 5 first portion disposed against a side of said body and a second portion at an angle to said first portion and disposed over an end of said body, said second portion having perforations therein for the passage of securing means, securing 10 means passing through said first portion and into said body and securing the bracket to the body, said first portion having an elongated opening therethrough and through which said securing means passes whereby the bracket is 15 adjustable on said body, leads connected with said body contacts and extending outwardly of said body, and said second bracket portion having an opening therethrough and through which said leads pass.

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