CLIP FOR FLUORESCENT LAMP SOCKETS

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Application September 21, 1945, Serial No. 617,764
9 Claims. (Cl. 173—328)

This invention relates to a clip for fluorescent lamp sockets adapted to retain the lamp in the socket and prevent its falling. A common means of mounting fluorescent tubular lamps is by means of a socket at each end depending from its support, which socket is provided with grooves opening through a lower part thereof into which the projecting pin contacts on the end of the lamp are inserted to engage proper contacts in the socket to establish electrical connection therewith. Due to variations in the length of the lamp and in the mounting of the socket and other reasons, these pins may not extend to the full length into the socket, and for other reasons they may jar out so that the lamp falls, with resultant breakage of the lamp and possible injury to people.

It is therefore an object of the present invention to provide a simple and effective clip which may be attached to the socket and arranged to effectively retain the lamp in the socket.

It is also an object to provide such a device which is not built into the socket as a part thereof, but is a separate device to be applied to the socket and, therefore, may be applied to sockets already installed.

Another object is to provide such a device which will effectively retain the lamp in position, but it may be readily shifted to permit removing the lamp from the socket or installing the lamp therein.

With the foregoing and other objects in view, I have devised the construction illustrated in the accompanying drawing forming a part of this specification. It is, however, to be understood the device is not limited to the specific details of construction and arrangement shown, but may embody various changes and modifications within the scope of the invention.

In this drawing:

Fig. 1 is a side elevation of a socket for a fluorescent tubular lamp showing my improved clip mounted thereon and showing one end of the lamp held in position with its contacts in the socket;

Fig. 2 is a section substantially on the line 2—2 of Fig. 1;

Fig. 3 is a bottom plan view of the socket and clip with the lamp removed; and

Fig. 4 is a side elevation of the end portion of a common type of fluorescent lamp with which this device may be used.

The fluorescent lamp shown comprises a glass tube 10 having a metal ferrule 11 at its end provided with an annular peripheral groove 12. The lamp is also provided with a pair of projecting pin contacts 13 leading through the ends thereof to the electrodes, (not shown) within the lamp. The socket for mounting the lamp comprises a number 14 of molded insulating material including a base 15 adapted to be mounted by some suitable means, such, for example, as a screw (not shown) seated in a recess 16 opening through one end of the base and securing it to any suitable support (not shown). The socket also includes a depending or body portion 17 provided with a pair of L-shaped slots 18, opening through its lower end and inner side leading to suitable electrical contacts 19 and 20 within the socket connected by suitable lead wires (not shown) to a source of current supply. The lamp is mounted in a manner well known, by inserting the contact pins 13 in the slots 18 at the lower ends thereof, and sliding them to the upper or angular portions of the slots into engagement with the contacts 19 and 20, by one or more of which they are retained in the slots. Due to variations in the lamp and also the mounting of the socket, the lamp contacts may not be as properly positioned in the socket as they should be, with the result that they may work or jar loose, permitting the lamp to fall. To prevent this, I have provided a clip which is not built into the socket, but is constructed as an attachment to be applied to the socket, and so does not require a reconstructing of the socket, and may be applied not only to new sockets but also to old sockets already installed.

This improved clip comprises a supporting member, or clamp 21 adapted to be mounted on the socket. In the form shown it comprises a strap of flexible metal wrapped about the depending portion 17 of the socket and clamped on the socket by means of a clamping screw 22 passing through one free end of the clamp and threaded into the other free end. Mounted on this support or bracket is a pair of pivot lugs 23 forming a pivot support for a lamp retaining member 24. This member may be of different shapes,
3 but is so constructed as to be able to hold the lamp in position in the socket. In the preferred construction it comprises a curved loop of substantially U-shape extending around the end portion of the lamp with the free ends of the sides pierced at 23 to receive pivot lugs 25, which are notched, as shown at 26, to retain these ends of the loop on the pivot lugs. The loop may be bent outwardly and back wardly upon itself, as shown at 27, to form a handle or grip by means of which the loop may be swung laterally out of position, as indicated by dotted lines Fig. 1, to permit insertion and removal of the lamp into or from the socket, and then swung back to the holding position.

Means is provided for retaining this loop in the lamp holding or retaining position, and in the form shown it comprises inwardly extending nubs or projections 28 pressed inwardly from the sides of the loop and adapted to engage a shoulder on the ferrule 11 of the lamp to retain the loop and prevent its accidentally swinging out of position. In the form shown these projections seat into the groove 12 formed in the ferrule of the lamp and cooperate with the shoulder provided thereby to hold the loop in position. This loop may be a strip of thin metal, and as it has a certain amount of spring and resiliency it will yield to permit the projections 28 to pass over the end of the lamp into the groove and spring into the groove, so that this action will retain them in the groove and retain the loop in the lamp holding position. It will, however, permit the loop to be swung outwardly, as shown in dotted lines, Fig. 1, to permit insertion of the lamp into or removal from the socket.

It will be understood from the above that the device is a very simple one, involving a minimum number of parts. It is not built into the socket as a part thereof and, therefore, does not require a rebuilding or redesigning of the socket or a change of the socket in any way, but it is mounted on the socket as a distinct and separate device, and, therefore, may be applied not only to new sockets, but also to old sockets already installed. The mounting of this device on the socket is a very simple operation, and it in no way interferes with quick and easy insertion or removal of the lamp when it is desired to install or renew a lamp, but effectively retains the lamp in position and prevents its accidental loosening or jarring out in operation.

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

1. In combination with a fluorescent lamp socket including a base and a depending portion provided with slots opening through the lower part thereof for entrance of the projecting pin contacts at the end of the lamp, a supporting member comprising a loop embracing the socket, and a loop hinged to said member adapted to embrace the end of the lamp and retain it in position in the socket and movable on its hinged connection to and from said holding position.

2. In combination with a fluorescent lamp socket including a base and a depending portion provided with slots opening through the lower part thereof for entrance of the projecting pin contacts at the end of the lamp, of a supporting member comprising a loop embracing the socket, means detachably securing the loop to the socket, and a separate retaining member mounted on said supporting member and including means to retain the lamp in the socket, and means for mounting the retaining member so that it may be shifted to and from the retaining position to permit insertion and removal of the lamp.

3. In combination with a fluorescent lamp socket including a base and a depending portion provided with slots opening through the lower part thereof for entrance of the projecting pin contacts at the end of the lamp, of a supporting member including a band embracing said depending portion, means for clamping the band on said portion, and a retaining member pivotally mounted on the band and including means extending under the lamp to retain it in the socket, said retaining member being swingable on its pivotal mounting to and from lamp retaining position to permit insertion and removal of the lamp.

4. In combination with a fluorescent lamp socket including a base and a depending portion provided with slots opening through the lower part thereof for entrance of the projecting pin contacts at the end of the lamp, of a supporting member comprising a band embracing said depending portion, means for clamping the band on said portion, a supporting loop pivoted to said band adapted to embrace the end of a tubular lamp to retain it with its contacts in position in the socket and swingable to and from said position to permit insertion and removal of a lamp, and means to retain said loop in the lamp retaining position.

5. A retaining clip for a fluorescent lamp comprising a supporting member including a loop to embrace a fluorescent lamp socket, a separate retaining member mounted on the supporting member and pivotally mounted on the lamp and retaining it in the socket, and means for mounting the retaining member that may be shifted on the supporting member to and from retaining position to permit insertion of a lamp in and its removal from the socket.

6. A retaining clip for a fluorescent lamp comprising a supporting member including a loop to embrace a fluorescent lamp socket, a separate retaining member mounted on the supporting member and pivotally mounted on the lamp and retaining it in the socket, and means for mounting the retaining member so that it may be swung on its pivotal mounting to and from the retaining position to permit insertion of a lamp in and from said position.

7. A retaining clip for a fluorescent lamp including a supporting member comprising a band adapted to embrace a lamp socket, means for clamping said band on the socket, a retaining member pivotally mounted on the supporting member and comprising a loop to embrace the lamp to retain it in the socket, said retaining member being swingable on its pivot to and from lamp retaining position to permit insertion of the lamp in and its removal from the socket.

8. A retaining clip for a fluorescent lamp comprising a band adapted to embrace a lamp socket, means for clamping the band to the socket, and a supporting loop pivoted to said band and adapted to embrace a tubular lamp to retain it with its contacts in the socket and swingable on its pivot to and from said lamp retaining position to permit insertion of a lamp in and its removal from the socket.

9. A retaining clip for a fluorescent lamp comprising a band adapted to embrace a lamp socket, means for clamping the band to the socket, a re-
taining member comprising a loop of somewhat flexible and resilient material pivotally mounted on the band and adapted to embrace a lamp to retain it in the socket, means on the loop adapted to be held by the resilient action of the loop in engagement with a shoulder on the lamp to retain the loop in position about the lamp, and said loop being adapted to be swung on its pivot to and from its lamp retaining position to permit insertion of a lamp in and its removal from the socket.

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