Aug. 21, 1951 L. C. CARLSON 2,565,064

RESILIENT MOUNTING FOR FLUORESCENT LAMP SOCKETS

Filed Nov. 5, 1949

FIG. 1.

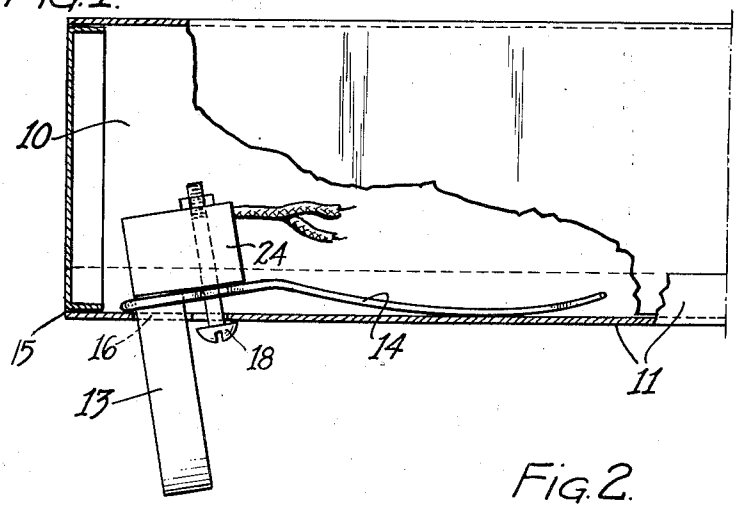


FIG. 5.

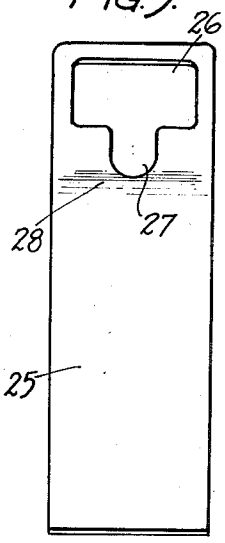


FIG. 2.

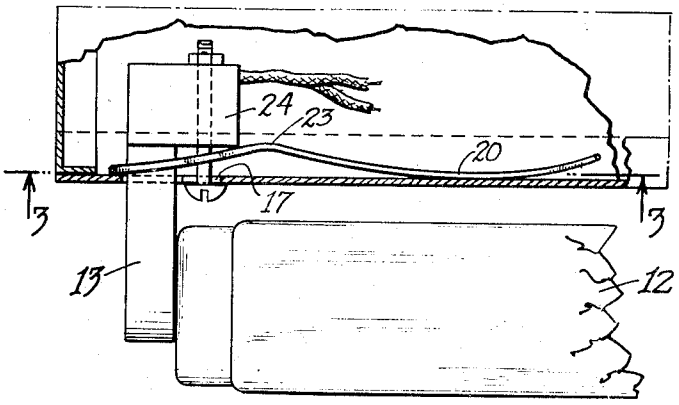
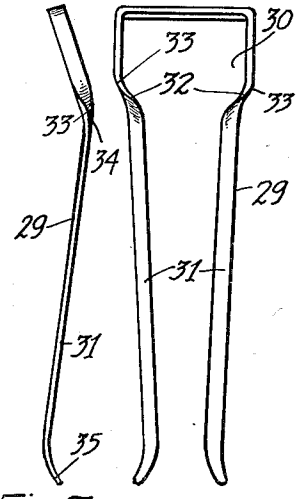


FIG. 6.



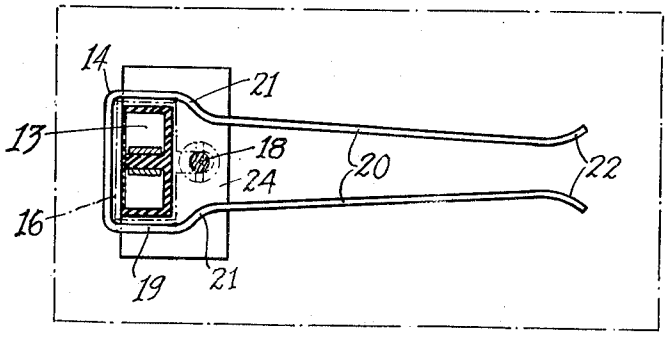


FIG. 7.

FIG. 3.

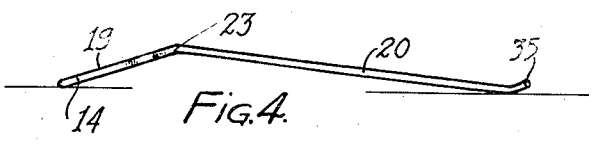


FIG. 4.

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RESILIENT MOUNTING FOR FLUORESCENT LAMP SOCKETS

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1 Claim. (Cl. 173—328)

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This invention relates to a clip for use in conjunction with a fluorescent lighting fixture.

Fluorescent lighting tubes, mounted at their contact ends in sockets, forming parts of overhead or wall fixtures, are constantly becoming detached at one end or the other due to vibration, looseness of the sockets in the fixture housing or other reasons and falling to the floor or striking a person. The tubes are somewhat explosive and toxic and breakage thereof accidentally, as by falling out of a fixture, creates a hazard that has long been recognized.

An object of my invention is to secure the tube in place so that it will not be accidentally dislodged from the fixture.

A further object is to provide a clip that can be applied to fixtures in use without the necessity of removing them from the ceiling or wall.

Further objects are to provide a clip of simple structure that needs little manipulation to insert and seat in the fixture; to provide a clip that is concealed in use and does not detract from the ornamental appearance of the lighting fixture; to provide a clip that will apply constant pressure to a socket so that firm contact at all times is maintained between the ends of the tube and the sockets in which it is supported so that waste of current and deterioration of the lighting qualities of the tube, due to variations in current feed, are avoided; and to provide a clip which will yieldably resist movement of the tube socket by shaping the clip so that it will coact with the socket and holding screw and provide an even steady tension on the socket in the direction of the end of the tube supported therein.

With these and other objects in view, the invention comprises certain construction hereinafter described and then particularly pointed out in the claims and a preferred embodiment of my invention is illustrated in the accompanying drawing in which:

Figure 1 is a side view of one end of a fluorescent tube mounting fixture with a wall broken away to show the use of my novel clip and the position of one socket before a tube is placed in the fixture,

Figure 2 is a view similar to Figure 1 showing the position assumed by a socket when one end of a tube is positioned therein,

Figure 3 is a section taken on the line 3—3 of Figure 2 showing the shape of the clip and its position with respect to the socket,

Figure 4 is a side view of a clip showing its shape in free position,

Figure 5 is a flat face view of a form of clip

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that may be used but requires some dismantling of the parts for application,

Figure 6 is a flat face view of a clip made from strip stock shaped to provide for flexing in two directions, and

Figure 7 is an edge view of the clip shown in Figure 6.

Referring to the drawing in detail, 10 indicates one end of a well known box type fluorescent tube mounting fixture which is closed by a detachable cover 11 in which are suspended the sockets that support between them a fluorescent light tube 12. Only one end socket 13 is shown for the purpose of illustrating the use of the clip 14 which constitutes, in combination with the housing and socket, my invention. Suitable means are used for securing the housing 10 to a support, such as a wall or ceiling, in the well known manner. The housing and cover usually made of thin gauge metal, can be separated slightly at the ends so that the clip 14 can be forced into the cover at the point 15 by slightly flexing the end of the cover 11.

The cover is provided with a socket opening 16 and a slot 17 opening therefrom in the latter of which a screw 18 is positioned for mounting the socket 13. Vibration causes the screw to loosen and the hole 16 allows play of the socket with the result that the distance between the sockets increases to such an extent that the light flickers or the tube falls out.

My invention contemplates the use of a tempered metallic clip 14 which in one form, as shown in Figure 3, is made of wire stock bent to provide a socket receiving loop 19 having free flexible leg extensions 20 connected to the loop through offset portions or shoulder 21. The legs 20 converge slightly throughout the major portion of their length and terminate in diverging end portions 22. As seen in Figure 4, the clip, adjacent the open side of the loop 19, is shaped to provide a hump 23 extending laterally thereof. When the screw 18 is loosened and the clip pushed in between the cover and the base 24 of the socket to the position shown in Figure 1, the hump 23 will cause the socket to tilt to the limit permitted by the head of the screw. The long legs 20 of the clip yield slightly as the clip is positioned and are kept under tension by reason of the engagement of the loop 19 about the socket. In positioning the clip, the legs being flexible allow the offset portions of the loop to pass beyond the socket and snap to position to retain the clip in place to prevent endwise displacement thereof relatively to the socket.

When the end of the light tube 12 is to be put into the socket the latter will be tilted from the Figure 1 position to that shown in Figure 2 against the yieldable resistance of the loop end of the clip bearing on the corner of the base portion 24 of the socket. The spring action of the clip will forcibly hold the socket in contact with the end of the tube and in exerting endwise force or thrust on the tube will in turn cause it to forcibly engage the socket at the other end of the housing. In this manner the tube is prevented from accidentally rotating, good contact at the ends of the tube is maintained and the tube is prevented from dropping out of the sockets due to vibration or loosening of the sockets.

While the wire stock form of clip 14 may be included in the original assembly of the fixture or applied thereto after it is in use, I may use an elongated rectangular plate type clip 25 as shown in Figure 5 which is made of spring metal shaped to provide an end loop opening 26 and a notch 27 opening therefrom to receive the screw 18. The shape of the plate clip 25 in longitudinal section is the same as the shape of the clip 14 and is provided with a hump 28 adjacent the loop opening 26.

In Figures 6 and 7 a strip type clip 29 is shown having a loop opening 30 at one end terminating in legs 31 with the stock twisted as at 32 in the shoulder portions 33 of the clip so that the loop may be forcibly opened to pass about the socket when the clip is positioned. This type of clip is also humped as at 34 to provide the necessary flexibility to yieldably resist straightening movement of the socket as explained in connection with clip 14. It will be noted that the ends of the clips 14 and 29 are slightly upturned as at 35 to facilitate their insertion into place.

It will be noted that the action of the clip is to keep the socket tilted and that force applied

thereto in order to straighten it acts through the screw 18 as a fulcrum to apply yielding pressure to the clip, the counteraction of which presses the socket against the end of the tube when the latter is in place.

My invention is not to be restricted to the precise details of construction shown since various changes and modifications may be made therein without departing from the scope of the invention or sacrificing the advantages to be derived from its use.

What I claim is:

The combination with a lighting fixture including a housing having an opening therein, socket means including a base for supporting an end of a light tube and holding means for mounting the socket in the opening loosely; of a wire clip of substantially U-shape having extended flexible leg portions, an enlarged closed end portion fitting about said socket between the base and the adjacent wall of the housing, a hump in the clip for sustaining said base in spaced relation with said wall and the socket in yieldable detachable relation with the end of the light tube and said leg portions converging and then diverging to form end sections for yieldable passage about said socket when the clip is forced into position therebeneath.

LOUIS C. CARLSON.

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