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HOLDER FOR TUBULAR LAMPS

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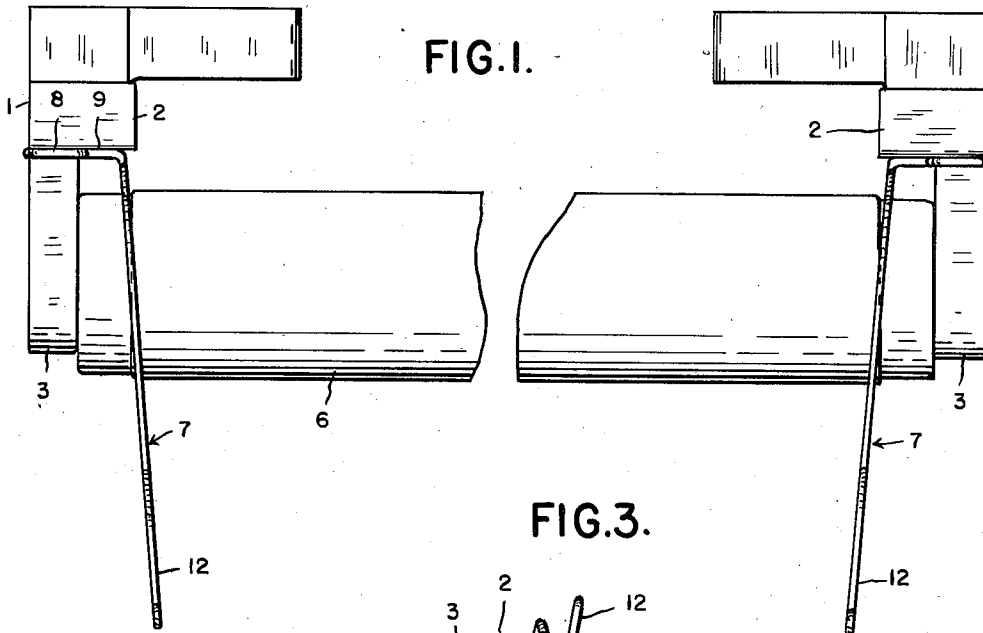


FIG. 1.

FIG. 3.

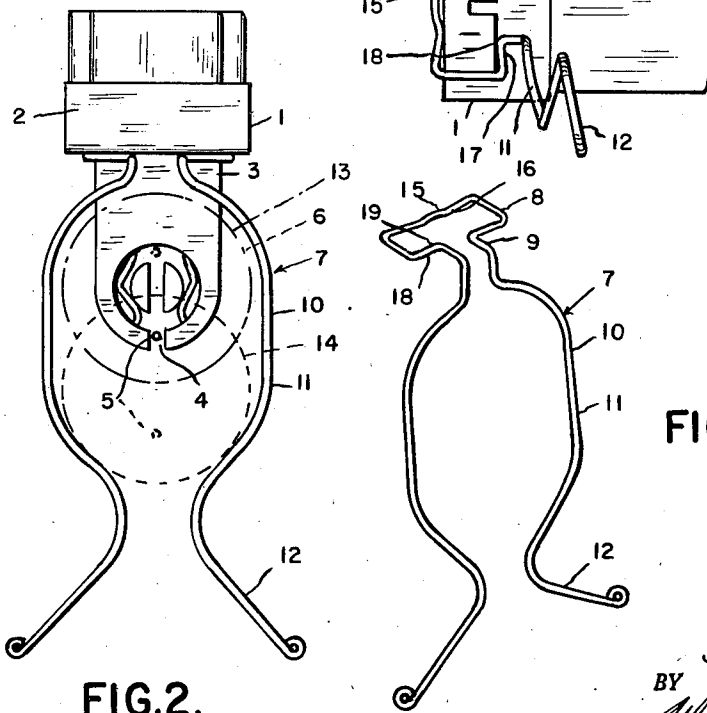


FIG. 2.

FIG. 4.

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HOLDER FOR TUBULAR LAMPS

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5 Claims. (Cl. 173-328)

1 The invention relates to holders for tubular lamps and refers more particularly to holders for preventing accidental disengagement of fluorescent lamps from the end sockets of fluorescent lamp fixtures.

The invention has for one of its objects to provide a holder of simple construction which may be readily secured to an end socket of the lamp fixture.

The invention has for other objects to provide a holder which is resilient and has a loop which may be readily moved over the body of an end socket and clamped in place by its inherent resiliency; to provide a holder which clears the lamp when in operative position and engages the lamp when in inoperative position and in partial engagement with an end socket; and to provide a holder which additionally serves to guide the lamp while being installed to align its end contacts with the entrance channel of the adjacent end socket.

With these as well as other objects in view, the invention resides in the novel features of construction, combination and arrangement of parts, as more fully hereinafter set forth.

In the drawings:

Figure 1 is an elevation of a tubular lamp fixture and attached holders for the tubular lamp embodying the invention;

Figure 2 is an inside elevation of one of the sockets of the lamp fixture and an attached lamp holder;

Figure 3 is a bottom plan view thereof;

Figure 4 is a perspective view of a lamp holder prior to attachment.

The invention is designed particularly for use with a standard construction of fluorescent lamp fixture having the end sockets 1 each of which is provided with the head 2 and depending body 3 of generally rectangular cross-section having at its lower end the longitudinally extending open ended entrance channel 4 through which the pair of substantially parallel contacts 5 of the lamp 6 are moved during the installation or removal of the lamp from the sockets. The contacts are in the nature of pins extending longitudinally of and beyond the ends of the lamp.

7 are the lamp holders at the opposite ends of the lamp 6. Each lamp holder comprises a one-piece spring clip preferably formed of resilient wire of circular cross-section and having the loop 8 which during attachment of the clip is movable upwardly and longitudinally over a body 3 to a position adjacent the associated head 2. The loop embraces the body and secures the clip in

2 place by reason of the inherent resiliency of the material forming the loop. The clip also has the integral parts 9 which extend transversely of the body 3 from the ends of the loop 8 at the inner side of the body and the integral arms 10 which extend downwardly or depend from the ends of the transverse parts 9 transversely of the loop and the transverse parts. The arms have the curved parts 11 which are concave with respect to each other to embrace the lamp 6 when in operative position in the sockets 1, the lower ends of these arms forming a gap of appreciably less width than the diameter of the lamp and located at the lower side of the lamp opposite the loop 8 and transverse parts 9. The arms also have the terminal parts 12 which diverge downwardly with respect to each other. The curved parts 11 clear the lamp when the latter is in operative position in the sockets as shown by the dash lines 13 in Figure 2 but the lower end portions of these curved parts engage the lamp when it is in the position shown by the dotted lines 14 in Figure 2 at which time the lowermost contact is below the socket and the uppermost contact is located in the entrance channel of the socket. The vertical median line, between the diverging terminal parts 12 and the lower ends of the curved parts 11, is in alignment with the entrance channel 4. As a result, when the lamp is being assembled with its sockets the diverging terminal parts and the lower end portions of the curved parts of the clips serve to guide the lamp to the sockets by aligning the contacts at the ends of the lamp with the entrance channels of the sockets. Furthermore, by reason of the inherent resiliency of the material forming the clips, these clips assist in moving the lamp to bring its uppermost contacts into the entrance channels after the horizontal center of the lamp has been moved upwardly past the gaps at the lower ends of the curved parts of the clips.

The loop of each spring clip is of generally rectangular shape corresponding to the cross-section of the support body 3 and for the purpose of effectively frictionally securing each clip to its support body, I preferably curve the bottom 15 of the loop to form the contacts 16 and I preferably incline the top legs 17 of the loop to have the contacts 18 adjacent the junctions with the transverse parts 9 substantially opposite the contacts 16 and spaced therefrom a distance less than the transverse distance between the outside and inside faces of the support body.

This construction provides for ready assembly or attachment of the spring clips to the supports

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by spreading and pulling outwardly the transverse parts 9 by gripping the curved parts 11 adjacent to these transverse parts. At the same time firm gripping of the clips is assured at both the outside and inside of the support bodies of the sockets.

From the above description, it will be seen that I have provided a simple construction of holder which may be economically manufactured and readily applied to a standard construction of fluorescent lamp fixture. It will also be seen that the holder serves to prevent accidental disengagement of the lamp. Furthermore, it will be seen that the arrangement of holder is such that it serves to guide the lamp to place while the lamp is being installed and it permits the lamp to be installed or removed by a lamp changing device operated by a person remote from or out of reach of the lamp sockets.

What I claim as my invention is:

1. Means for holding a fluorescent lamp from accidental disengagement from its fixture comprising a spring wire clip having a loop movable over and adapted to embrace a socket of the fixture and be clamped to the socket by the inherent resiliency of the wire, integral parts extending transversely of the socket from the ends of said loop and integral arms extending from the ends of said transverse parts transversely of said loop and parts, said arms having curved parts concave with respect to each other to embrace the lamp and having their free ends located to be at the side of the lamp opposite said transverse parts and spaced from each other a distance less than the transverse dimension of the part of the lamp for engagement by the holder and terminal parts extending from said free ends and diverging with respect to each other, said terminal parts and free ends serving to guide the lamp to align the contacts at one end thereof with the entrance channel of the socket.

2. Means for holding a tubular lamp from accidental disengagement from its fixture comprising a spring clip having a loop movable over and adapted to embrace a socket of the fixture and be clamped to the socket by the inherent resiliency of the material forming the loop and integral arms extending transversely of and laterally offset with respect to said loop, said arms having curved parts concave with respect to each other to embrace the lamp and having their free ends located to be at the side of the lamp opposite said loop and spaced from each other a distance less than the transverse dimension of the part of the lamp for engagement by the holder.

3. Means for holding a fluorescent lamp from accidental disengagement from its fixture comprising a spring clip having a loop movable over and adapted to embrace a socket of the fixture and be clamped to the socket by the inherent resiliency of the material forming the clip and integral arms extending transversely of and laterally offset with respect to said loop, said arms

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having curved parts concave with respect to each other to embrace the lamp and having their free ends located to be at the side of the lamp opposite said loop and spaced from each other a distance less than the transverse dimension of the part of the lamp for engagement by the holder, and terminal parts extending from said free ends and diverging with respect to each other and serving to guide the lamp to align the contacts at one end with the entrance channel of the adjacent end socket.

4. Means for holding a fluorescent lamp from accidental disengagement from its fixture comprising a spring clip having a loop movable over and adapted to embrace a polygonal socket of the fixture, said loop having contacts at opposite sides of the socket frictionally clamping said loop to the socket, and integral arms extending transversely of said loop having curved parts concave with respect to each other to embrace the lamp and having their free ends located to be at the side of the lamp opposite said loop and spaced from the lamp, said free ends being spaced from each other a distance less than the transverse dimension of the part of the lamp for engagement by the holder and forming a gap substantially in alignment with the socket channel for receiving the end contacts of the lamp.

5. Means for holding a fluorescent lamp from accidental disengagement from a socket of its fixture provided with a channel for the passage of end contacts of the lamp comprising a spring wire clip having a loop movable over and adapted to embrace the socket, said loop having its bottom curved and its top legs inclined at opposite sides of the socket and forming contacts frictionally clamping said loop to the socket and integral arms extending transversely of said loop having curved parts concave with respect to each other to embrace the lamp and having their free ends located to be at the side of the lamp opposite said loop and spaced from each other a distance less than the transverse dimension of the part of the lamp for engagement by the holder to form a gap substantially in alignment with the channel of the socket, said curved parts being positioned to hold the lamp with an end contact in the body channel, and terminal parts extending from said curved parts and diverging with respect to each other and serving to guide the lamp to align the end contacts with the socket channel.

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