May 22, 1945. I. I. KLONER 2,376,363

SOCKET SUPPORT FOR FLUORESCENT LIGHT FIXTURES

Filed Nov. 13, 1942

FIG. 1.

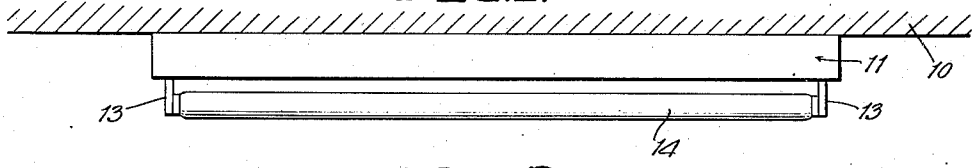


FIG. 2.

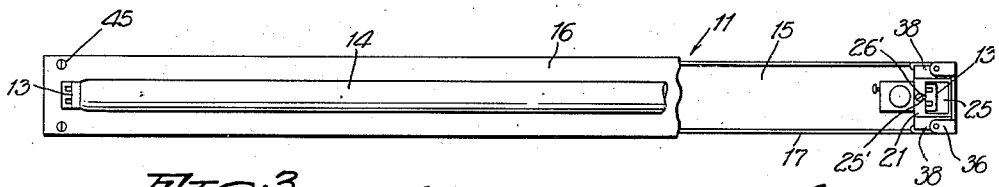


FIG. 3.

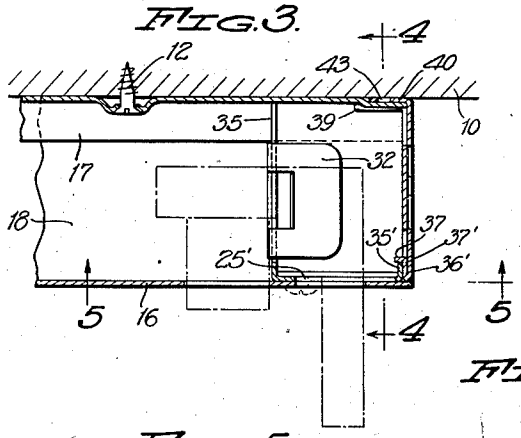


FIG. 4.

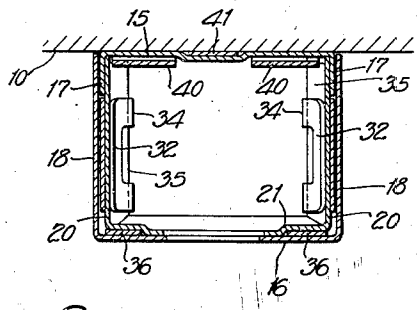


FIG. 9.

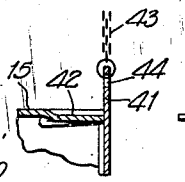


FIG. 5.

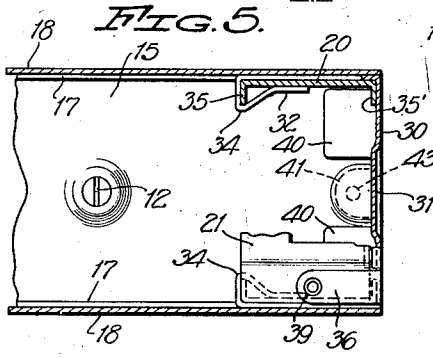


FIG. 6.

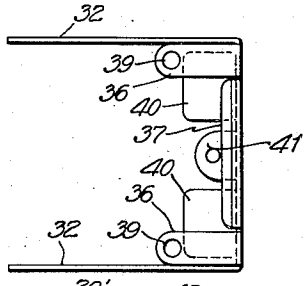


FIG. 7.

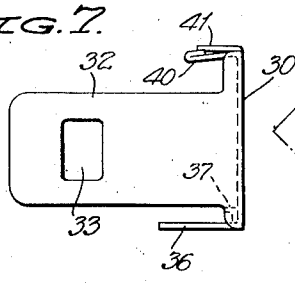
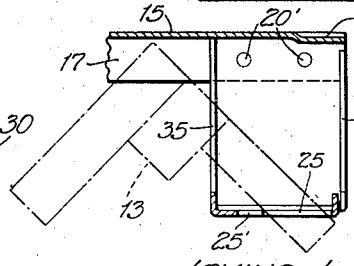


FIG. 8.



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SOCKET SUPPORT FOR FLUORESCENT LIGHT FIXTURES

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Application November 13, 1942, Serial No. 465,446

6 Claims. (Cl. 240—1)

This invention relates to lighting fixtures and more particularly it pertains to lighting fixtures of the fluorescent type, and this application is a continuation in part of my prior application for Fluorescent lighting fixture cabinets, Serial Number 365,151, filed November 12, 1940.

The housings of fluorescent light fixtures wherein the light socket supporting member is rigidly attached to the housing are of a considerable depth. This is necessarily so because of the fact that the lamp sockets employed in holding and supporting the tubes or bulbs of fluorescent lights are of such construction that in order to position them in the housing, a considerable depth of the housing is necessary. The depth required in this type of housing is such that it produces the effect of bulkiness and materially detracts from the appearance thereof.

In some types of housings, the lamp socket supporting members are in the form of a supporting element which is detachably engaged with the housing and the lamp socket is attached thereto before the supporting element is placed in position.

In this type of construction, the depth of the housing is immaterial since the lamp supporting socket is attached to its supporting member before the supporting member is positioned in the housing.

This last mentioned type of housing, however, requires assembly of the lamp socket supporting member at the point of installation of the fixture.

Thus, one object of the present invention is to provide a fluorescent lamp housing in which the lamp socket support or carrying member is rigid or immovable with respect to the housing and yet provide a housing in which the conventional lamp socket may be placed in position in such a manner as to permit of the reduction of the depth of the housing thus giving a more attractive apearance thereto.

It is a further object of the invention to provide a housing for lamps of the type described which is simple in construction and in which all of the several parts may be rigidly secured in position.

It is a further object of the invention to provide a fluorescent light housing in which certain of the parts are both rigidly held in position and yet they may be removed and replaced without injury thereto.

It is a further object of the invention to provide a new and novel construction whereby the lighting fixture may be suspended instead of rigidly attached to a ceiling, wall or other surface.

With the above and other objects in view, reference is had to the accompanying drawing, in which,

Figure 1 is a view in elevation illustrating a fluorescent lamp housing constructed in accordance with the present invention, in position upon a ceiling,

Figure 2 is a view in elevation partly broken away taken at right angles to Figure 1 and on an enlarged scale,

Figure 3 is a detailed vertical sectional view taken substantially through the center of the housing with the housing in the position illustrated in Figure 1,

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 3,

Figure 5 is a sectional view taken substantially on the line 5—5 of Figure 3,

Figure 6 is a top plan view illustrating an end member for closing the ends of the housing,

Figure 7 is a view in side elevation of the end member,

Figure 8 is a fragmentary sectional view illustrating the manner in which the lamp socket is positioned in the lamp socket supporting member of the housing, and;

Figure 9 is a fragmentary detail sectional view ilustrating the manner in which the housing may be suspended.

Referring to the drawing by reference character, 10 designates a ceiling, the lamp housing being designated 11. The housing may be secured to the ceiling 10 by screws 12, as illustrated in Figures 3 and 5. Projecting from the housing there are two lamp sockets 13 of the conventional type and a fluorescent bulb or tube 14 is supported by these sockets in the conventional manner.

The housing 11, in Figure 2, consists of a channel member 15 and a cover 16 therefor. The channel member has relatively narrow side flanges 17, and the cover member 16 has relatively wide side flanges 18, which when the cover is placed in position upon the channel member overlap the side flanges 17 thereof as illustrated in Figure 5 of the drawing.

At each end of the channel member, there is a lamp socket supporting member which conforms in shape to the interior of the channel member. This lamp socket supporting member is U-shaped, having two legs 20 connected by a base portion 21. The lamp socket supporting member is placed in inverted position, with relation to the base wall of the channel member and secured thereto by securing its legs to their respective flanges 17 of the channel member preferably by spot welding as at 20', see Figure 8, to rigidly secure the lamp

socket supporting member to the channel member and the base portion 21 of the lamp socket supporting member provides a lamp socket supporting platform which occupies a position in spaced parallel relation to the base wall of the channel member. The socket supporting platform is cut out to provide a lamp socket receiving opening 25.

By reference to Figures 2 and 8, it will be apparent that this opening 25 in the base portion of the lamp socket supporting member is considerably greater in width than the thickness of the socket member and this is an important feature of this invention for it permits of the socket being rocked into position with the socket carrying member rigidly secured to the channel member 15 in the manner illustrated in dot and dash lines in Figure 8 of the drawing.

The inner side edge of the opening 25 in the socket supporting member is formed with a slot 25' for the reception of a bolt 26' which serves to secure the socket to the socket supporting member, it being understood that when the lamp socket is positioned in the opening 25, it is moved to the inner edge thereof.

While there has been but one lamp socket supporting member described, it is to be understood that there is one of these members at each end of the housing and that they are similar in construction.

By means of the construction just described, it is obvious that the provision of the enlarged opening 25 which permits of the rocking of the lamp socket to position in the lamp socket supporting member, also permits of reducing the depth of the housing thus giving a more attractive appearance to housings of this character. In addition it permits of wiring of the sockets before they are placed in position upon the socket supporting members thus permitting of their shipment in wired condition and their placing in operative position when the housing is assembled, thereby permitting of use of housings of relatively shallow depth.

Means is provided to close each end of the housing and as these means are of the same construction, a description of one will be deemed sufficient.

Referring to the drawing, the end closing member is designated 30 and it may be provided with one or more knockouts such as 31, and extending inwardly from each of the opposite side edges of the end member 30 there are wing members 32 preferably formed with an opening 33.

It will be noted upon referring to Figure 5 of the drawing, that the legs 20 of the lamp supporting member are positioned within their respective flanges 17 of the channel member 15, which construction permits of the wing members 32 of the end member being bent around their respective legs 20 of the lamp socket supporting member as at 34 in Figure 5 without offering interference with the proper positioning of the cover member of the housing.

It will also be noted by reference to Figure 5, that each of the legs of the lamp socket supporting member is formed with two side flanges, one of which is designated 35, the other being designated 35' and that the wing members 32 bend around their respective side flanges 35 and 35' to provide attaching means for the end members 30. It is one purpose of the openings 33 to render the bending of the wing members 32 more easily accomplished than would be possible were these openings not provided.

By this means it will be obvious that the end members may be anchored in position by bending the ear members 32 around the legs of the socket supporting member and that when it is desired to remove the end member it is only necessary to bend the ear members 32 out of engagement with the legs of the socket supporting member by means of a screw driver or other suitable tool which may be inserted in the openings 33 to facilitate this operation.

The end member also has extending from its top edge two extensions 36 which, when the end member is in position, overlie the base 21 of the lamp socket supporting member. These extensions 36 are spaced with respect to each other and are adapted to overlie the base portion of the lamp socket supporting member as illustrated at 38 in Figure 2. That edge of the end member upon which the extensions are formed is also turned over upon itself as at 36' and again as at 37' to provide an inwardly turned flange 37 which extends between the extensions 36 and overlies the edge of the adjacent portion of the flange 35' of the base of the lamp socket supporting member as illustrated in Figure 3.

Each of these extensions 36 is provided with an opening 39, the purpose of which will be hereinafter described. Projecting from the opposite edge of the end member there are two extensions 40 which are spaced from each other and which are adapted to overlie the inner face of the base wall of the channel member 15 in order to provide stability for the end member.

The end member is also formed with a tongue 41 which is positioned between the extensions 40 and which, when not in use, lies within a depression or recess 42 in the outer face of the base wall of the channel member.

When it is desired to secure the fixture rigidly in position by means of the screws 12 heretofore mentioned, the tongues 41 are positioned within their recesses 42. When, however, it is desired to suspend the fixture, the tongues 41 may be bent to the position in which one is illustrated in Figure 9 to provide for the attachment of chains or other suspension devices 43 which may be engaged with openings 44 in the tongues.

By this construction, it will be obvious that the fixture may be either rigidly secured in position or suspended as desired and that when the tongues 41 are not employed, they will be flush with the outer surface of the base wall of the channel member.

The cover member 16 is provided with openings 45 which register with the openings 39 in the extensions 36 when the cover is placed in position to close the housing. It is also to be understood that the base portion 21 of the lamp socket supporting member is provided with openings which register with the openings 39 when the end members are in position. With the openings 39 and 45 in registration with each other and in registration with the openings mentioned in the lamp socket supporting member, a self threading screw or similar means may be inserted in these openings to secure together, the channel member, the cover member and the lamp socket supporting member in a unitary structure.

It is also to be understood that the cover member is provided with openings through which the lamp sockets project when the cover member is placed in position upon the channel member.

With the several parts of the housing assembled as described, it will be apparent that the end members will be rigidly retained in position to

close the ends of the housing and that the cover member will be securely retained in position by reason of its attachment to the lamp socket supporting members which are welded to flanges 17 of channel member 15.

From the foregoing, it will be apparent that the present invention provides a novel construction by means of which the lamp socket supporting members may be rigidly mounted in a housing which is of no greater depth than housings heretofore constructed in which the lamp socket supporting element is in the form of a removable member. Furthermore, the new construction permits of the housing being formed with considerably less depth than housings of the type in which the lamp socket supporting members are rigidly and permanently attached to the channel member.

The construction herein presented also reduces the number of loose or separate parts in transit as well as reducing the number of assembly operations required at the installation point.

Having thus described the invention, what is claimed as new is:

1. In a lighting fixture housing, a channel member having relatively narrow side flanges, a cover member having side flanges adapted to overlap the side flanges of the channel member to form the housing, U-shaped lamp socket carrying members having the free ends of their leg members secured to the relatively narrow side flanges of the channel member with the bases of the lamp socket carrying members forming lamp socket supporting platforms, means for securing lamp sockets to said platforms, separate end members for closing the ends of the housing, extensions projecting from the end members and overlying their respective lamp socket supporting platforms, and means passing through the cover member, the extensions of the end members and the lamp socket supporting platforms for securing the channel member, the end members and the cover member together in a unitary structure.

2. In a lighting fixture, a channel member, U-shaped lamp socket carrying members having their legs secured to the channel member with their bases in spaced parallel relation to the channel member, a cover member adapted to receive the channel member and enclose the lamp socket carrying members to form a housing having open ends, end plates for closing the open ends of the housing, extensions on each of said end plates for bending around the legs of its respective lamp socket carrying member to secure the end plates in the housing to close the ends thereof, projections extending from the end plates adapted to overlie the lamp socket carrying members when the end plates are in the housing closing position, and means passing through the housing, the extensions of the end plates which ovelie the lamp socket carrying members and the lamp socket carrying members for securing the channel member, the end plates and the housing together in a unitary structure.

3. In a lighting fixture in combination, a channel member, a cover member for receiving the channel member to form a housing having open ends, lamp socket supporting members rigidly mounted within the housing, end plates for closing the ends of the housing, means carried by the end plates for engagement with the lamp socket supporting members for retaining the end plates in position to close the ends of the housing, separate means having operative engagement with the lamp socket supporting means for securing the cover member and channel member together, and means carried by the end members and extending between the cover and the lamp supporting means for aiding in retaining the end members in their proper positions.

4. In a lighting fixture, a relatively shallow elongated open channel base member closed at opposite ends, a rigidly formed lamp socket supporting platform at each of the closed channel member ends permanently attached to the channel and bridging the open side of said channel member, lamp sockets each of a greater length than the depth of the channel member end, said lamp socket supporting platforms each having a socket receiving opening therein, the ratio of the width to the length of said opening is proportionately greater than the ratio of the thickness to the width of the socket so as to permit catacornering each socket end into a seated position through one of said openings from the interior of the channel base member in a direction longitudinal thereof so that the socket end projects beyond the platform, means for retaining the sockets firmly in seated position on the platforms, and a cover member having side flanges fitted over the base member and against said platforms, said cover member having openings through which said socket ends project.

5. In a fluorescent tube lighting fixture of the character described, an elongated channel base member having closed ends and a shallow open side between said ends, a rigidly formed supporting platform projecting inwardly from each of said closed ends to bridge over the channel open side, L-shaped fluorescent tube terminal sockets each having a greater length than the distance between its supporting platform and the closed side of said base channel member, said lamp socket supporting platforms each having an opening for receiving the mid-portion of a socket, said opening being of a larger area than the cross section of the socket mid-portion and arranged for catacornering the socket into seated position on moving the socket in a longitudinal direction in the channel member and through said opening whereby an end of said socket projects beyond its supporting platform, means engaging a portion of each L-shaped socket within the channel for firmly securing the sockets in seated position on the platforms, and a U-shaped cover member adapted to receive the channel member and mounted on the platforms to form a housing having spaced openings through which the socket ends project.

6. In a lighting fixture housing, a channel member having side flanges, a cover member having side flanges adapted to overlap the side flanges of the channel member to form the housing, lamp socket carrying members secured to the side flanges of the channel member, means for securing lamp sockets to said lamp socket carrying members, separate end members for closing the ends of the housing, extensions projecting from the end members and overlying portions of their respective lamp socket carrying members, and means passing through the cover member, the extensions of the end members and portions of the lamp socket carrying members for securing the channel member, the end members, and the cover member together in a unitary structure.

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