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SOCKET ASSEMBLY FOR FLUORESCENT LAMP FIXTURES

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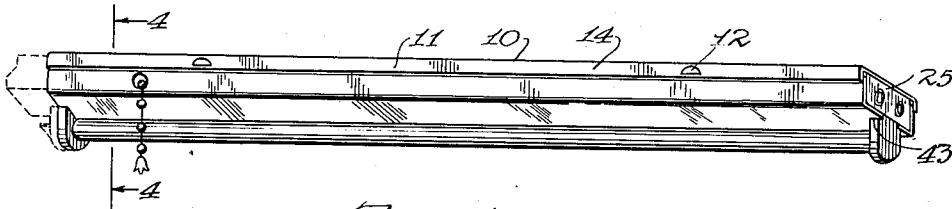


Fig. 1

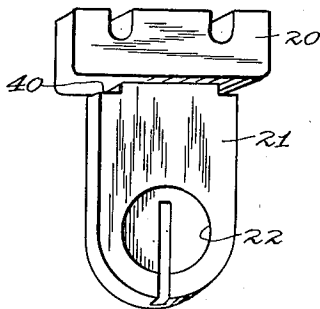


Fig. 2

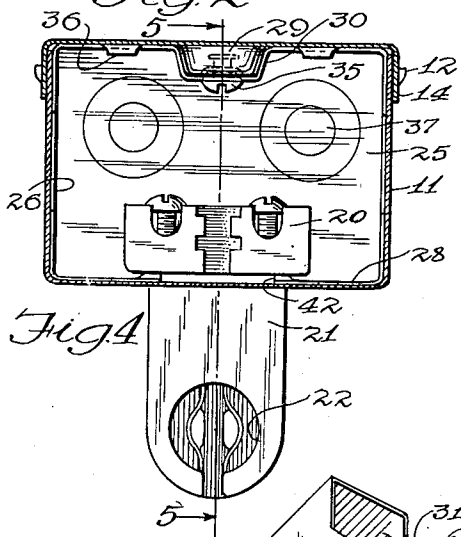


Fig. 4

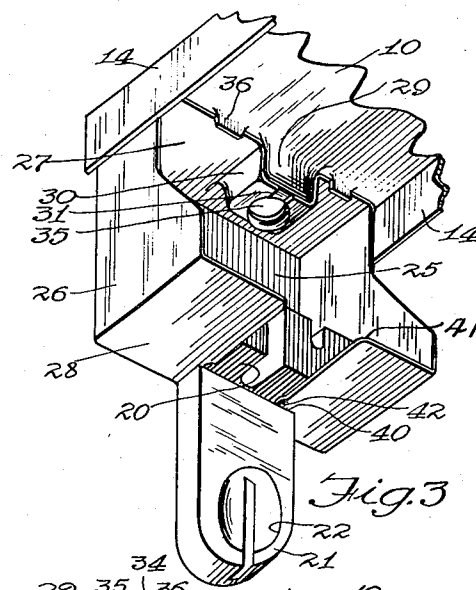


Fig. 3

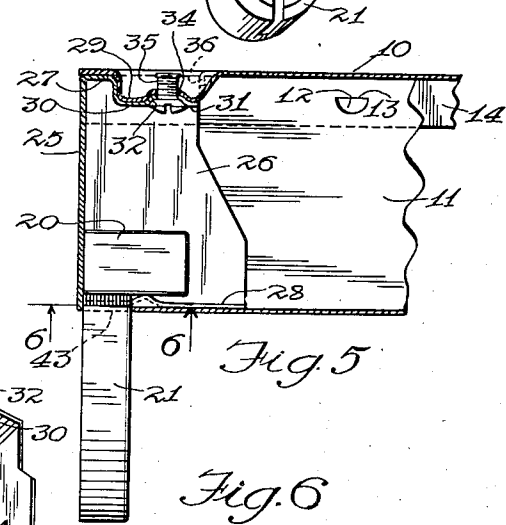


Fig. 5

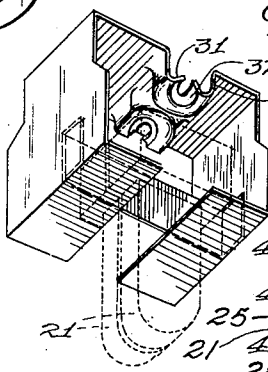


Fig. 7

Fig. 6

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SOCKET ASSEMBLY FOR FLUORESCENT
LAMP FIXTURES

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5 Claims. (Cl. 240—51.11)

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My invention relates to fluorescent lamp fixtures of the overhead type, and more particularly to means for retaining the sockets thereof, and one object is to provide a receptacle and socket assembly which retains the socket firmly and requires no screws or other special means to secure the same.

A further object is to provide a socket receptacle which is simply and firmly attachable to the fluorescent lamp fixture.

Another object is to design the assembly in a manner to save labor and fatigue in the assembling or servicing of the fixture.

With the above objects in view, and any others which may suggest themselves from the description to follow, a better understanding of the invention may be had by reference to the accompanying drawing, in which—

Fig. 1 is a perspective view of a fluorescent lamp fixture incorporating the present improvements;

Fig. 2 is a perspective view of a lamp socket adapted for the invention;

Fig. 3 is a perspective view of a single socket and a corresponding type of receptacle, with the receptacle secured on the top member of a supporting casing and with the bottom member of the casing removed;

Fig. 4 is an enlarged section on the line 4—4 of Fig. 1;

Fig. 5 is a section on the line 5—5 of Fig. 4;

Fig. 6 is a section on the line 6—6 of Fig. 5; and

Fig. 7 is a perspective view of a twin type of receptacle.

Fluorescent fixtures of the type under consideration comprise a long casing containing the electrical wiring and units accessory to the fluorescent lamp; and the sockets for the latter depend from the ends of the fixture to receive the lamp between them. Usually, the casing is an inverted trough, with a cover attachable at the bottom. In the improved fixture as shown in the drawing, I prefer to dispose the cover 10 at the top and as a carrier of the electrical wires and accessories; and the casing member 11 is suspended from the cover and of a sufficient depth to accommodate the parts carried by the cover. The removal of the casing therefore allows freedom of access from all sides to the space under the cover for the purpose of installing or servicing parts of the fixture. While the casing member 11 may be attachable to the cover 10 by any suitable means, I prefer to do this by means of snap tongues 12 projecting from the walls of the

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casing into perforations 13 made in the flanges 14 of the cover.

Lamp sockets for the fixture under consideration are more or less standard and comprise a block 20 extended downwardly with a hanger 21, the latter having the necessary recessed formation 22 for fitting the corresponding lamp terminal. While sockets of this character may receive devices of various types to attach them to the fixture, I have found that such devices add substantially to the cost of the fixture; also, the installation of the socket, because of the overhead position of the fixture involves labor and fatigue, rendering the fixture inefficient from the installing point of view; and sockets attached by conventional means often develop looseness and insecurity, prejudicing the stability and performance of the lamp. To overcome these deficiencies I have developed a novel receptacle for the socket, and slightly altered the latter to make for an assembly which is simple, quickly installed and serviced, and rigid in relation to the fixture and the lamp.

Accordingly, the receptacle is in the form of an endplate 25 formed with side walls 26, a top 27 and laterally-spaced bottom sections 28. The receptacle is designed to be set in the end of the cover 10 as clearly shown in Fig. 3; and the cover is pressed downwardly at a point near its end so as to provide a cup 29 having a flat bottom and parallel sides as one component of a joint to seat and secure the receptacle to the cover. As shown, the receptacle top 27 is also pressed downwardly so as to provide a well 30 opening on the inner edge of the top 27; and the bottom of the well has an entrance slot 31 extending into the center of an internal crown 32 formed from such bottom. When the receptacle is applied as shown, the crown 32 seats in a counter-sink 34 of the cup bottom while the sides of the well—which are also parallel—fit those of the cup. This assembly locates the receptacle against lateral or twisting movement; and the cup bottom is tapped in the center to receive a screw 35 directed from the inside of the crown 32 through the slot 31 to firmly secure the assembled parts. As an additional safeguard, the cover is struck downwardly with a pair of tongues 36 along the inner edge of the receptacle top, providing stops for the location and proper retention of the receptacle in respect to the cover. The receptacle, secured as described, has the conventional facility of terminal “knock-out” blanks 37, in case the passage of wires or other means is desired through its end wall.

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The application of the socket 20 to the receptacle involves the bottom sections and end wall of the latter. Also, an alteration of the standard socket is made by cutting the sides of the hanger 21 with a pair of slots or notches 40 adjacent to the base 20. The depth of the slots is such that the distance between the bottom faces of the notches is the same as the spacing of the bottom sections 28 of the receptacle, so that the hanger for each receptacle can be slid into the entrance of the said sections, which is rounded as indicated at 41, and backed until the socket base meets the receptacle wall 25, as shown in Figs. 1 and 5. The sliding action of the socket base is resisted by a pair of bosses 42 pressed up from the bottom sections 28 at the outer ends thereof in position to engage the notches 40, so that the socket becomes firmly lodged in the outer end of the receptacle at the end of its sliding movement.

While the socket, fitted as shown in Figs. 3 to 5, may be considered as locked vertically, laterally and outwardly, means are also provided to lock the socket inwardly. Thus, Figs. 1 and 6 indicate that each end of the casing bottom is formed with a rectangular notch 43 suitable to receive the hanger 21. When the casing has been attached to the cover 10, the notches 43 serve as stops to check the possible inward movement of the sockets.

Lamps of the type considered herein are often installed in linear multiple arrangement. In such cases the adjoining the pairs of sockets are necessarily spaced and form a noticeable shadow or dark spot when the lamps are lighted. A modified receptacle is shown by means of dotted lines at the left-hand end of Fig. 1, and enlarged in Fig. 7. The modification is designed to reduce the shadow or dark spot referred to. Thus, the receptacle is a double form of the original one with the wall 25 excluded. This construction permits one receptacle to serve two lamps; and the sockets applying to the receptacle may be grouped together, as indicated by dotted lines in Fig. 7 to materially lessen the shadow or dark spot referred to.

It is now apparent that the novel socket assembly is an arrangement which is simple, easy to install or take apart, and dependable. First, the provision of the cover as a shallow support for the casing and receptacles allows easy access from all sides for the application or removal of the supported parts. Further, the receptacles are self-aligning to properly fit the cover by reason of the raised formations 29 and 30, these being made fast by the mere application of a screw driver. Further, the cover tongues 36 serve as simple stops or guides when the receptacles are set in place, keeping them spaced the proper distance, the formations 29 and 30 and the flanges 14 of the cover locking the receptacles against rotating or twisting influences. The locked installation of the sockets has been described, to the end that they maintain their proper positions and cannot loosen, vibrate or deviate in respect to the lamp. The features described involve but few parts which are steady and capable of being installed, serviced or removed with ease and dispatch.

I claim:

1. In a fluorescent light fixture, the combination of a cover member in the form of a channel

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adapted to be secured to a ceiling with its side flange portions extending downwardly, a receptacle formed of sheet metal comprising a top wall portion, an end wall portion formed integrally with said top wall portion at its rear edge and extending downwardly therefrom, oppositely-disposed side walls also formed integrally with said top wall portion and extending downwardly in parallel relationship to each other therefrom, and spaced flanges extending inwardly from the bottom edges of said side walls, a lamp socket having notches in its sides adapted to have snug sliding engagement with said spaced flanges for gripping the socket so as to hold it removably in position at the end of said cover member, and means for holding said receptacle firmly in releasable position in said cover member with its top wall portion engaging the top wall portion of said cover member.

2. The structure of claim 1, said flanges being provided with raised offset lugs adapted by engagement with said notches to hold said socket frictionally in position with respect to said receptacle.

3. The structure of claim 1, the means for holding said receptacle releasably in position comprising a cup pressed downwardly from said cover member in position to engage a well pressed downwardly from the top wall portion of the receptacle, and a screw mounted by means of screw-threads in said cup in position for its head portion to engage a notch in said well opening to the edge of the top wall portion of the receptacle, said screw being adapted to be tightened for preventing withdrawal of the receptacle from said cover member.

4. The structure of claim 1, said fixture having a casing depending from said cover member so as to form a housing therewith, and having a notch in its end portion making a snug fit about a portion of said socket so as to hold the socket non-rotatably in position with respect to said housing.

5. The structure of claim 1, the means for holding said receptacle releasably in position comprising a cup pressed downwardly from said cover member in position to engage a well pressed downwardly from the top wall portion of the receptacle, and a screw mounted by means of screw-threads in said cup in position for its head portion to engage a notch in said well opening to the edge of the top wall portion of the receptacle, said screw being adapted to be tightened for preventing withdrawal of the receptacle from said cover member, and said cup and well having parallel sides to be non-rotatable about a vertical axis in respect to each other.

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