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FIXTURE FOR TUBULAR ELECTRIC LAMPS

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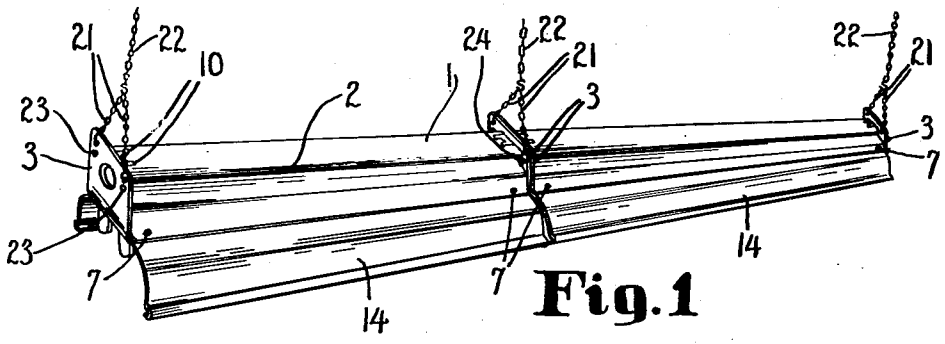

Fig. 1

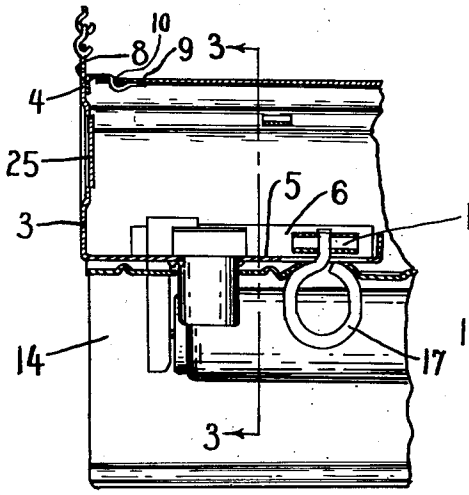

Fig. 2

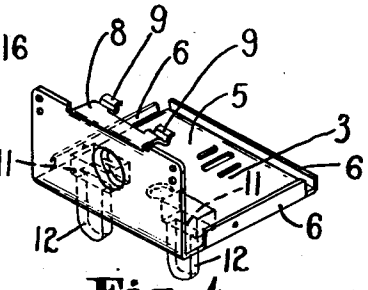

Fig. 4

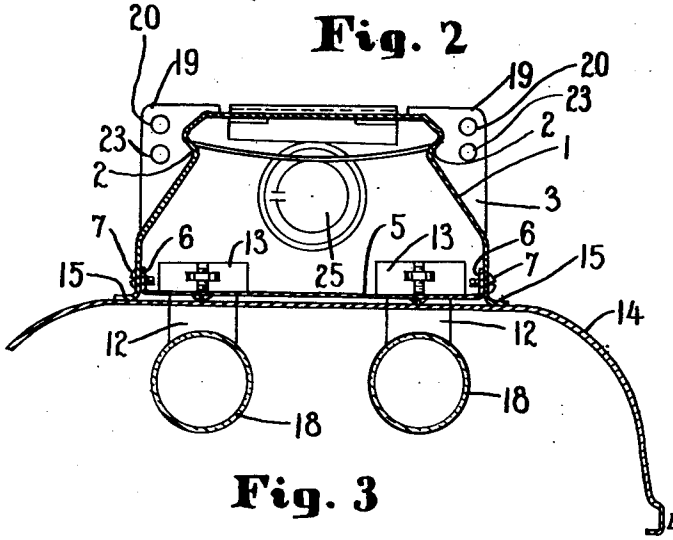

Fig. 3

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FIXTURE FOR TUBULAR ELECTRIC LAMPS

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1 Claim. (Cl. 240—51.11)

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This invention relates to electric lighting fixtures and particularly to fixtures for tubular fluorescent lamps.

In the art of making fixtures of the above suggested type it is important that they possess a high factor of safety and also that they possess minimum weight. In line with these desirable characteristics efficiency of design and ease of assembling also become extremely important. The present invention supplies these desirable qualities to create an article of high efficiency and utility.

It is an object of the invention to provide a fixture having valuable inherent safety features.

A further object of the invention is to provide a fixture having rigid and durable construction.

A further object of the invention is to provide a fixture which is readily assembled and disassembled.

A further object of the invention is to provide a fixture having a minimum number of parts arranged to provide ready accessibility for replacement of parts and repair of the fixture.

The fixture is composed of a chassis member within which is received the necessary auxiliary equipment for operation of the lamp. The chassis is a one piece structure of inverted channel shape open at its ends. The ends are closed by a combination end cap and lampholder support having a vertical portion to close the end of the chassis and a horizontal portion to which the lamp holders and other elements are secured.

The end cap member is provided with a quick detachable means at its upper margin for engaging the top portion of the chassis and screw means such as a plurality of bolts for securing its lower horizontal portion to the chassis. The only other element of the fixture besides the necessary lamps, lampholders and wiring is a reflector which is constructed to provide a closure for the bottom of the chassis and has means for detachably securing it to the fixture.

To provide a better understanding of the invention a specific embodiment thereof will be described herein and illustrated in the accompanying drawings in which:

Figure 1 is a perspective view of a pair of fixtures embodying the invention and shown interconnected in operating position.

Figure 2 is a longitudinal sectional view through the end portion of the fixture.

Figure 3 is a cross section on line 3—3, Figure 2.

Figure 4 is a perspective view of the combined end cap and lampholder support.

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The main body or chassis 1 is preferably formed in generally channel shape cross section. The chassis may be provided along its sides with inwardly formed grooves 2 to provide means for receiving the legs of the conventional clamp type of supporting bracket not shown, however chain supporting means is shown herein and will be described hereinafter.

The ends of the chassis 1 are closed by a combination end plate and lampholder support strap 3. The member 3 has a vertical portion 4 (Fig. 2) which serves to close the end of the chassis and a horizontal portion 5 which extends a short distance inward from the end closure. The portion 5 desirably is provided with marginal flanges 6 along its sides and back edges which serve as strengthening and stiffening means. The portion 5 serves as what is conventionally known as a socket strap usually a separate member having special means to support it in the chassis. In the present invention however this member is integral with the end cap 4 and derives support therefrom as well as giving support thereto.

Suitable means are provided for securing the member 5 to the chassis. This may be done in any desired manner such as by one or more bolts or screws 7 projecting through holes in the sides of the chassis member 1 and thence into the flanges 6 at the sides of the member 5. The flanges may be provided with a threaded aperture or nuts may be provided for the screw 7 to fasten the member 5 rigidly to the chassis at both sides as shown in Fig. 3.

The vertical portion 4 of the member 3, which is termed herein the end cap is secured to the end of the chassis in any desired manner. As shown herein the attaching means is so constructed as to be readily attached or detached. To accomplish this the upper edge of the end cap is provided with a horizontal extension 8 having a pair of lugs or studs 9 projecting therefrom. The member 8 may be integral with or secured to the end cap 4. A pair of apertures 10 are formed in the top wall of the chassis near the end margin thereof and in position to receive the studs 9. The studs 9 are provided with a downwardly bent outer portion which engage the outer edges of the apertures 10 when the end cap itself is closely received against the end of the chassis.

To assemble the members 3 upon the chassis they are tipped at an angle to permit the studs 9 to enter the apertures 10 and then moved down into operating position with the portion 5 horizontal. To complete the assembly it is only necessary to insert the screws 7.

Desirably the strap portion 5 is provided with apertures 11 through which the lamp receiving portions 12 of the lampholders 13 are extended. The lampholders and the necessary starting devices are secured to the strap portion 5 in the conventional manner or in any suitable way. The chassis 1 and its two end members 3 when assembled provide an extremely durable safe and efficient body member for the fixture within which the necessary ballast and wiring are received.

All that remains to be done to complete the fixture is to mount a reflector 14 upon the bottom of the chassis. The reflector desirably has a substantially flat central portion which fits closely against the bottom edges of the chassis 1. These edges may be bent outwardly as at 15 to constitute a flange against which the reflector rests and which serve to add rigidity to the whole fixture.

Desirably the reflector is bowl shaped in cross section and is held in place by a conventional quick detachable means such as the latch device 16, mounted on and projecting downwardly through the strap portion 5, which locks the reflector when in the position shown in the drawings and which releases it when its latch 17, which extends through a slot therefor in the reflector, is rotated 90°. The reflector is provided with apertures through which the lampholders project when it is in operating position. After the reflector has been secured in position the lamps 18 may be placed in the holders 13.

To remove the reflector the lamps are removed and the latches rotated to releasing position. The reflector is thus readily removed for cleaning and when removed also permits ready access to the interior of the fixture for repair, adjustment or replacement of parts.

The fixture of the invention may be installed by using a conventional clamp type bracket interengaging with the grooves 2 in the chassis 1 or it may be chain supported as shown in the drawings. To provide means for connecting the chains to the fixture the end caps 4 desirably are extended beyond their points of contact with the ends of the chassis to present ears 19. The ears have apertures 20 therein within which the chains 21 are secured. The chains 21 form an inverted Y shape connection with the main support chain 22. The chains 22 are secured to the ceiling or other supporting area.

The ear 19 also serves another purpose. Desirable another aperture 23 is formed in each ear for the purpose of receiving bolts 24 to serve as connections between abutting ends of fixtures when they are arranged in line as shown in Fig. 1.

It will be apparent that the chain type of support in connection with the present invention forms a very rigid and efficient supporting means in that the chain is directly connected to the combined one piece end cap and lampholder support 3, which in turn supports all of the other elements of the fixture in as much as the other elements are all connected to and hang therefrom.

A knockout 25 may be provided in the end cap portions 4 to accommodate the wiring from one fixture to another when the fixtures are installed in line.

We claim:

A fixture for tubular electric lamps comprising: an open-ended channel shaped chassis; an L-shaped, unitary end plate and lampholder strap disposed at each end of said chassis and attached thereto, each end plate being connected to the top of the chassis at the ends thereof and each lampholder strap being connected to the sides of the chassis near the lower longitudinal edge and near the ends thereof; lampholders mounted on each lampholder strap and depending therefrom; a reflector lying beneath said chassis and in engagement with the lower longitudinal edges thereof; and a latch mounted on each lampholder strap and depending therefrom, a portion of each latch extending through an elongated slot therefor in said reflector to secure the reflector in mounted position.

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