June 24, 1947. H. U. SCHOCKETT 2,422,857

FLUORESCENT LAMP FIXTURE

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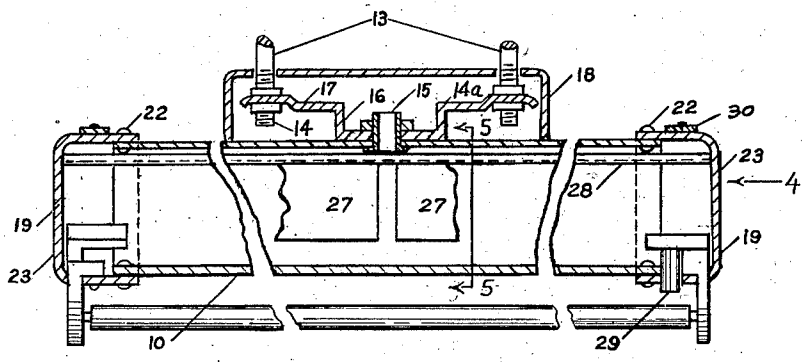


FIG. 1

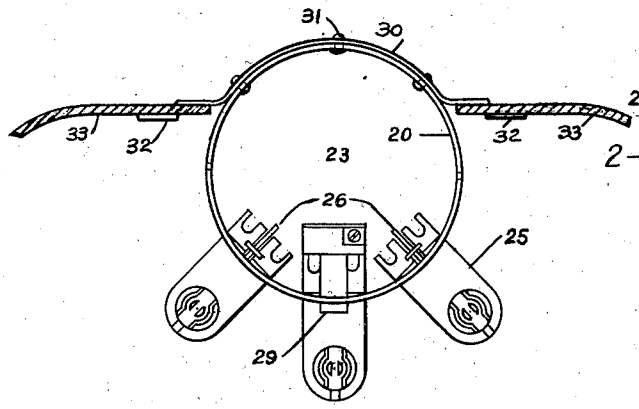


FIG. 2

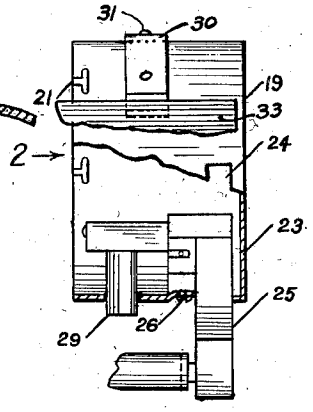


FIG. 3

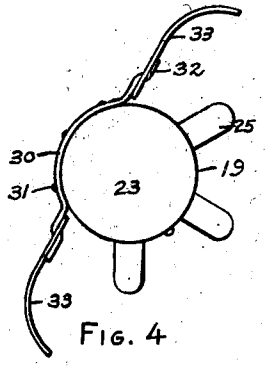


FIG. 4

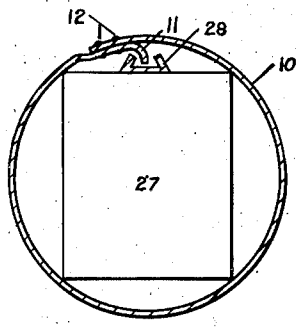


FIG. 5

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FLUORESCENT LAMP FIXTURE

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3 Claims. (Cl. 240—51.11)

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This invention relates to improvements in fluorescent lamp fixtures.

It is the object of this invention to produce a fixture that can be manufactured, assembled and installed with the expenditure of less labor and cost than the usual fixture.

In some fluorescent fixtures the lamp sockets are secured to the ends of tubular bodies which are provided with notches for the reception of certain portions of the sockets, and after the sockets are thus positioned, the ends are closed with some suitable closures.

It is the object of this invention to produce a lamp fixture of the type indicated in which the lamp sockets are permanently connected with end caps in such a way that the sockets can be assembled in the caps and properly spaced at the factory. Caps thus equipped can be positioned on the ends of a tubular body member in any rotary position.

Another object of this invention is to provide a fixture in which the reflectors are attached to the end caps which also carry the sockets, and in which the reflectors will retain a predetermined relation to the lamps in whichever rotary positions these may have relative to the body of the fixture.

Having thus briefly described the invention and its objects, the invention will now be described in detail and for this purpose reference will be had to the accompanying drawing in which the invention has been illustrated, and in which:

Figure 1 is a longitudinal diametrical section through a fluorescent lamp fixture embodying the invention;

Figure 2 is a plan view of the interior of an end cap looking in the direction of arrow 2 in Figure 3;

Figure 3 is a side elevation of the end cap shown in Figure 2, a portion being broken away to better disclose the construction;

Figure 4 is an end view of the end cap looking in the direction of arrow 4, Figure 1; and

Figure 5 is a cross section of the fixture taken on line 5—5, Figure 1.

In the drawing reference numeral 10 designates a tubular fixture body which is usually made from sheet metal rolled into cylindrical form. In the present construction the edges of the sheet from which the body is made are overlapped in the manner shown in Figure 5, and a portion of the end of the sheet that is on the inside is turned inwardly as indicated by reference numeral 11 in Figure 5. The seam may be welded or the

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ends may be connected by screws or rivets 12, as shown in Figure 5.

The tubular body 10 has been shown as substantially circular in cross section, but this is not an essential condition so far as the present invention is concerned because it may be polygonal cross section, if desired. However, a cylindrical cross section is believed to be preferable.

The body of the fixture is supported from the ceiling or from some elevated support by means of bolts or pipes 13 that are connected at their upper ends to a support from which they extend downwardly. The lower ends of the supporting members are threaded as indicated by 14. The tubular body is provided with a bracket 14a comprising a flat steel bar that is secured to the body by means of a hollow bolt 15. In the present embodiment the bracket is offset upwardly at point 16 and extends laterally as shown at 17. The extreme ends of the bracket are provided with inwardly extending notches or openings in which the supports 13 are positioned. A canopy 18 covers the supporting assembly. To complete the fixture two end caps 19 are provided. The caps are cup-shaped and have cylindrical walls 20 which, in the present embodiment, are quite long, forming cup-shaped caps of considerable depth. The inside diameter of the cap is so proportioned to the body 10 that it will receive the end of the latter telescopically as shown in Figure 1. Each cap is provided with the bayonet slots 21 for the reception of securing screws 22. Each cap has several bayonet slots spaced angularly about its edge so that it may be positioned in several rotary positions with respect to the tubular body. The side walls of the end caps are provided adjacent the bottom 23, with a plurality of openings 24 for the reception of the outwardly extending portions 25 of the fluorescent lamp sockets. The actual construction of the lamp sockets has not been shown because the ordinary standard sockets now on the market are employed. The caps may be provided with as many openings 24, as may be necessary to accommodate the desired number of lamps. In the drawings three lamp sockets have been shown spaced either 30 or 45 degrees from each other, as shown in Figures 4 and 2, respectively. The lamp sockets are held in place by means of bolts 26.

It will be evident from the above description that the end caps form assemblies which carry the required number of sockets for the number of lamps desired. The end caps and the sockets can be assembled at the shop or factory and can then be applied to a body 10 of the required

length. Since the ends of the tubular body do not have to be provided with notches for the reception of the sockets they are made straight and this makes it possible to arrange the caps rotatably so as to position the lamps either directly underneath, as in Figures 1 and 2, or to one side, as shown in Figure 4. The vertical position of the body 10 is, of course, determined by the supporting means. Positioned inside of the body 10 are the number of ballasts 27 required for the number of lamps used. In the embodiment illustrated, the ballasts have been shown as having a square cross section and of such size that the diagonals are substantially equal to the diameter of the tubular body. In this way lateral movement is prevented. Secured to the ballasts is a strap 28 that holds them in spaced relation. This strap is preferably channel shape, as shown in Figure 5, and so positioned that the edge 11 of the plate that forms the body member extends into the channel. This interlock prevents relative rotation between the body 10 and the ballasts and the strap being channel shaped is quite rigid and therefore when it is cut the proper length to abut the inner surfaces of bottom 23 of the end caps, it holds the ballasts from moving longitudinally. The fixture is, of course, provided with the proper wiring connections which have not been shown in the drawing. Starter coils 29 are provided for each lamp in the usual manner.

Where reflectors are necessary they may be secured to the caps by means of transversely extending brackets 30 in the manner shown and claimed in my copending application Serial No. 490,114, filed June 7, 1943, which became Patent No. 2,360,448 on October 17, 1944.

In the drawing the brackets 30 are secured to the caps by screws or rivets 31 and have offset ends 32 that pass through openings in the reflectors 33. Since the lamps and the brackets are both connected with the caps, it is evident that their relative positions will remain the same, regardless of the relative rotary positions of the end caps and the tubular body. This arrangement makes it practicable to direct the light in an inclined direction as well as vertically as illustrated in Figures 4 and 2.

From the above description it will be evident that one feature of novelty resides in the end cap assembly which comprises a number of fluorescent lamp sockets permanently secured to the end caps in properly spaced angular positions. With such end caps the construction and manufacture of the tubular body 10 are greatly simplified and the body can be used with any number of lamps because the ends are not notched for the reception of the sockets as is now done where tubular bodies are used. In case it should be desirable to position the lamps to one side of a vertical plane as shown in Figure 4, this can be easily effected by the simple expedient of positioning the caps in this relation to the body member and its support. In Figure 2, the lamps have been spaced 30 degrees apart, whereas with the arrangement shown in Figure 4, they are spaced 45 degrees apart. The angular relationship of the lamps is a matter of choice because if the body member 10 has a greater diameter, the angular spacing can be much smaller than if the body member has a small diameter, the minimum requirement being that space must be provided as shown in Figure 2. Since the reflectors are supported by brackets carried by the end caps, they will necessarily always be in the proper position relative to the lamps.

The end cap assemblies form articles of manufacture that are subject to independent sale and distribution and can be furnished to manufacturers of fluorescent fixtures with any number of lamp sockets and of any desired diameter.

Having described the invention what is claimed as new is:

1. A fluorescent lamp fixture comprising a tubular body of round cross section, means for supporting the body, and a removable cap at each end, the caps having side walls adapted to telescope over the ends of the body, means for securing the caps to the body in any desired relative rotary position, the cap walls having holes for the reception of fluorescent lamp sockets, lamp sockets positioned in the holes and operatively secured in place, whereby the caps and sockets can be assembled as independent units and attached to the body fully assembled.

2. In a fluorescent fixture having an elongated tubular body of round cross section open at both ends and means for supporting it, end caps comprising relatively deep cup-like members of a size for telescopic engagement with the ends of the tubular body in any of several rotary positions, the walls of the caps having at least one opening adjacent the bottom, a fluorescent lamp socket having a portion extending through the opening, and means for securing the socket to the cap, whereby the caps and sockets form a unit that may be preassembled and then attached to the fixture body in any relative rotary position.

3. A fluorescent lamp fixture comprising, in combination, a tubular body, means for supporting the body and for holding it against accidental rotation, a cap at each end of the body telescopically connected therewith, a plurality of lamp sockets carried by each cap, a reflector bracket secured to each cap and reflectors connecting the corresponding ends of the brackets whereby the reflectors will retain a fixed position relative to the caps in all relative rotary positions between the caps and the body.

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