Jan. 16, 1945. H. U. SCHOCKETT 2,367,472

FLUORESCENT LAMP FIXTURE

Filed May 31, 1943

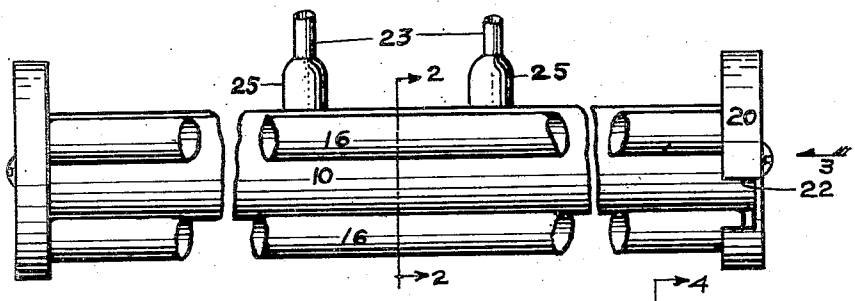



Fig. 1

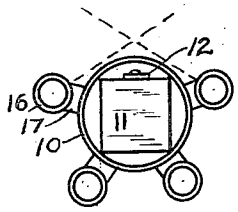



Fig. 2

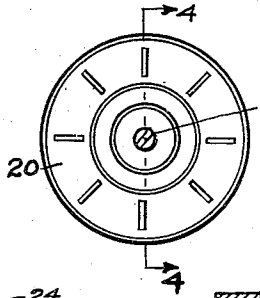



Fig. 3

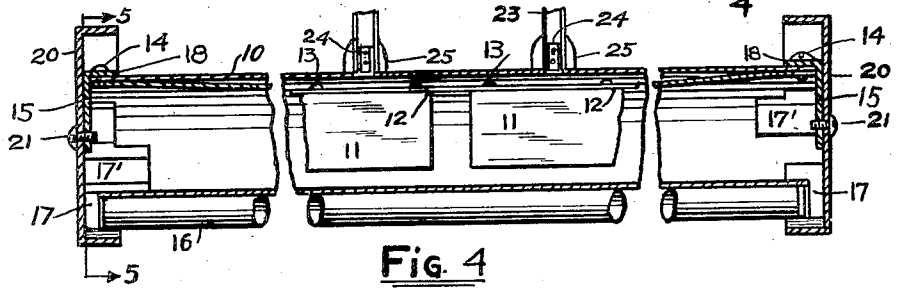



Fig. 4

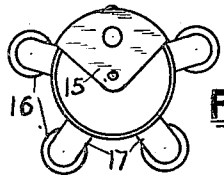



Fig. 5

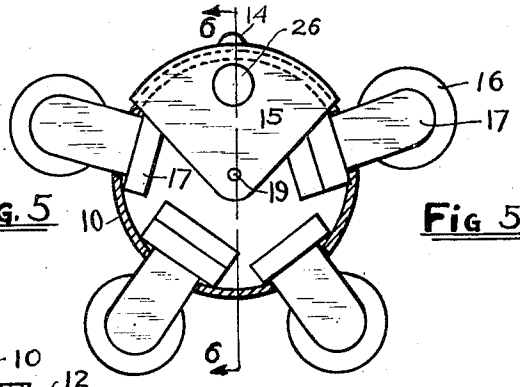



Fig 5a

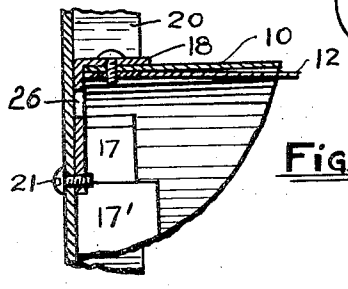



Fig. 6

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## FLUORESCENT LAMP FIXTURE

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Application May 31, 1943, Serial No. 489,236

4 Claims. (Cl. 240—78)

This invention relates to improvements in electrical fixtures and has reference more particularly to an improved construction of fluorescent fixture.

The use of fluorescent lamps for industrial and commercial illumination is progressing very rapidly and a large number of fixtures for use in connection with such lamps have been invented and patented.

At the present time, due to the scarcity of metal, the weight of metal is limited to a prescribed amount which makes it very difficult to provide suitable fixtures for forty-eight inch lamps and still remain within the minimum weight.

It is the object of this invention to produce an electric fixture of such a construction that a solid and substantial fixture can be constructed within the prescribed limits of metal.

Another object is to produce a fixture of such a construction that it can be manufactured and assembled at a comparatively low cost in labor.

A further object of the invention is to produce a fixture of such a construction that the lamps can readily be removed and replaced and in which this operation does not require the removal of any parts of the fixture.

A further object of the invention is to produce a fixture of such construction that light from the lamps will strike that portion of the ceiling directly above the fixture, as well as to the sides and underneath thereof.

The above and other objects that may become apparent as this description proceeds are attained by means of a construction and an arrangement of parts that 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 in its preferred form, and in which:

Figure 1 is a side elevation of a fluorescent lamp fixture constructed in accordance with this invention;

Figure 2 is a cross section taken on line 2—2, Figure 1;

Figure 3 is an end elevation looking in the direction of arrows 3, Figure 1;

Figure 4 is a longitudinal section taken on the vertical diameter 4—4, Figure 3;

Figure 5 is an end view looking through plane 5—5, Figure 4;

Figure 5*a* is a view similar to that shown in Figure 5, but to a somewhat enlarged scale; and

Figure 6 is a fragmentary section taken on line 6—6, Figure 5*a*.

In the drawing reference numeral 10 designates the body of the fixture which, in this case, is in the shape of an elongated tubular cylinder formed from sheet metal. Reference numeral 11 designates two ballasts which, in the embodiment illustrated, are substantially square in cross section as shown in Figure 2. The inner diameter of the body 10 is so chosen that it is substantially equal to the diagonal dimensions of the ballasts and when the latter is of square cross section, the four corners will engage the inner surface of the body as shown in Figure 2 and this will hold the ballasts from transverse movement. For the purpose of holding the ballasts in a predetermined longitudinal position, they have been shown as secured to a strap 12 by means of screws 13. The strap extends from each end of the ballast or ballasts and is either longer or of substantially the same length as the body 10, and therefore terminates adjacent the ends of the latter. Screws 14 may be used to hold the strap from longitudinal movement relative to the body. Screws 14 also serve to hold the sector-shaped bracket 15 in place. The purpose and the construction of this bracket will be more fully explained hereinafter.

At this point it will be explained that although the ballasts have been illustrated as having a square cross section, this is not essential, the idea being that regardless of the cross sectional shape of the ballast, the inner dimension of the tubular body shall be such as to hold the ballast from transverse movement by contact with the wall surface.

In the present embodiment a fixture employing four fluorescent lamps, which have been designated by reference numeral 16, is employed and this necessitates two ballasts. Each lamp required two sockets, one at each end, and these have been designated by reference numeral 17 and 17'. The sockets are of the type shown in Patent No. 2,137,174, to one of which a starter is attached. Due to the fact that the sockets are of well known construction, they have not been illustrated in detail. The four sockets are arranged radially as shown in Figures 2, 5 and 5*a* and the uppermost lamps are at such a height that the light will cross the body in the manner shown by dotted lines Figure 2 and will therefore illuminate the ceiling directly above the fixture, as well as light the walls and floor. In many fixtures of this type there is an unilluminated area above the fixture. The bracket 15 to which reference has already been made, is provided with an arcuate flange 18 through which the screws

or stove bolts 14 pass and which serve to secure this bracket firmly to the end of the fixture body. This bracket is made of sheet metal of sufficient thickness to give the required rigidity. At the point coinciding with the axis of the cylinder, a tapped hole 19 is positioned and the end closures 20 are secured to the brackets by means of screws 21. Referring to Figure 1, attention is called to the cut-out or gap 22 in the flange of one end closure. This gap can be moved into radial position with respect to any of the four lamps and makes it possible to remove and replace the lamps without removing the end closure. The fixture is supported by two tubular members 23 that are attached to the fixture by means of pins or bolts passing through the upwardly projecting metal parts 24. Housings 25 enclose the lower ends of the supporting pipes 23 to give the fixture a finished appearance. Electrical connections between the wires may also be positioned inside of the housing 25. Although screws 14 have been shown as securing the strap and the end brackets in place, it is evident that stove bolts or any other suitable means can be employed for this purpose. It will be observed that the brackets 15 are provided with openings 26 through which the person assembling the fixture can insert his finger so as to position the nut or for urging the ends of the strap upwardly.

The use of a cylindrical tubular body for the purpose indicated makes it possible to construct a fixture having a more pleasing appearance than if other shapes were used. A cylindrical body is very rigid and is more easily formed than other shapes. Ballasts having rectangular or some other form of non-circular cross section can be held firmly in position within a cylindrical housing by making the diameter of the latter substantially equal to or slightly less than the greatest transverse diagonal dimension of the ballast as is clearly evident from Figure 2. With a ballast of rectangular cross section and a cylindrical housing, spaces are provided for wires and/or anchoring straps. In the drawing the overlapping of the edges of the body has not been shown, but it is to be understood that the body is constructed in accordance with usual sheet metal shop practice and in the present instance, the body is formed by curving a sheet of metal, overlapping the edges and then securing them by spot-welding.

By securing a strap 12 to one or more ballasts, the latter can be inserted and positioned with the minimum amount of labor for the reason that where two ballasts are employed, they are properly spaced along the strap before the assembly is inserted and during the operation of positioning the ballasts the strap can be used for moving them in either direction. The method of fastening the ends of the strap to the body can be varied from that shown in the drawing without departing from the invention which is not limited to this specific detail.

Where the term "anchoring" is used in the claims in connection with strap 12 it is to be understood as covering any suitable means for resisting forces tending to move the strap and the ballast longitudinally in the tubular body. Since the strap has considerable rigidity and can be made as rigid as desired, it is evident that since it is the same length as body 10, its engagement with brackets 15 will prevent longitudinal displacement even though screws 14 are omitted.

From the above description it will be apparent that the fixture shown and described herein is of a simple and substantial construction; that it can be readily assembled; that the lamps can be readily inserted and removed for replacement or for cleaning and that the fixture will require a minimum amount of metal.

Having described the invention what is claimed as new is:

1. In a fluorescent lamp fixture having a ballast and sockets for effecting electrical connections between the ballast and a lamp, an elongated tubular body of an internal size for receiving the ballast with only a slight clearance, means for positioning the ballast longitudinally of the body and for anchoring it in position comprising a strap attached to the ballast at some point intermediate the ends of the strap, and means for anchoring the ends of the strap to the ends of the tubular body, whereby the ballast will be held from transverse movement in the body by the inner surface of the latter and from longitudinal movement by the strap.

2. In a fluorescent lamp fixture having a ballast of non-circular cross section, and sockets for effecting an electrical connection with a lamp, a substantially cylindrical tubular body for supporting the ballast and the sockets, the inner dimensions of the body being substantially equal to the maximum transverse dimensions of the ballast whereby the ballast will be held against any substantial transverse movement relative to the body, means for holding the ballast in a fixed longitudinal position, comprising a strap attached to the ballast at some intermediate point, and means for anchoring the ends of the strap to the body adjacent the ends of the latter.

3. A body for supporting the sockets and the ballast of a multi-lamp fluorescent lamp fixture comprising an elongated cylinder of a size to receive the ballast with a sliding fit, means for securing the ballast at an intermediate position in the body comprising, a strap attached to the ballast and extending to points adjacent the ends of the body, means for anchoring the strap to the body to prevent longitudinal movement of the ballast, means for at least partially closing the ends of the body, comprising a bracket having a flange for lapping the end of the body, and means for securing the flange to the body.

4. In a fluorescent lamp fixture having a ballast and sockets for effecting electrical connections between the ballast and a lamp, an elongated tubular body of an internal size for receiving the ballast with only a slight clearance, means for positioning the ballast longitudinally of the body and for anchoring it in position comprising a strap attached to the ballast at some point intermediate the ends of the strap, and means in cooperative engagement with the ends of the strap for resisting forces tending to move the strap and ballast longitudinally in the tubular body.

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