March 17, 1959 B. L. FRY 2,878,372

CIRCULAR LIGHTING FIXTURE

Filed Feb. 13, 1957

FIG. 1.

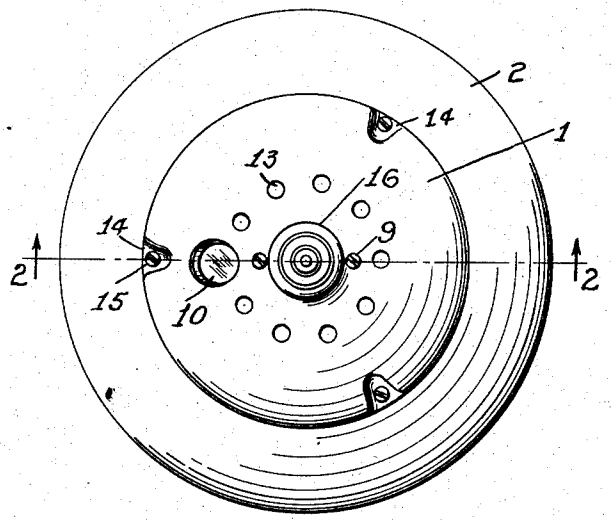


FIG. 2.

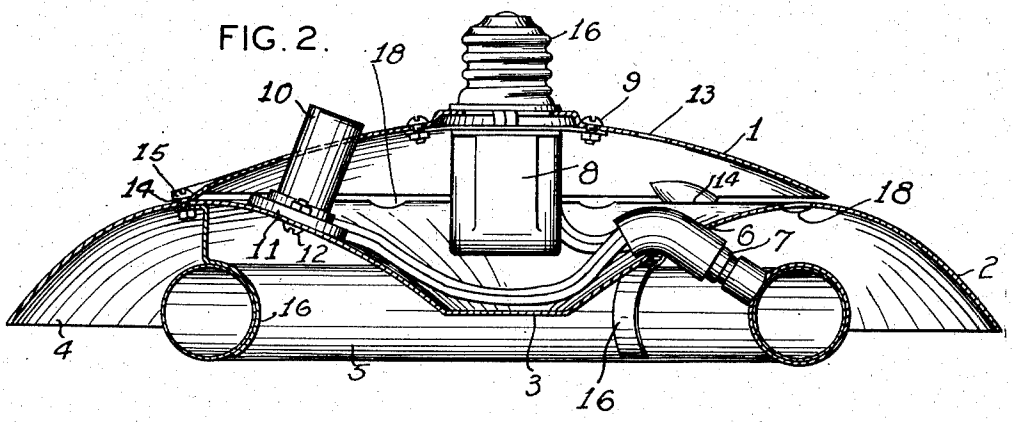


FIG. 3.

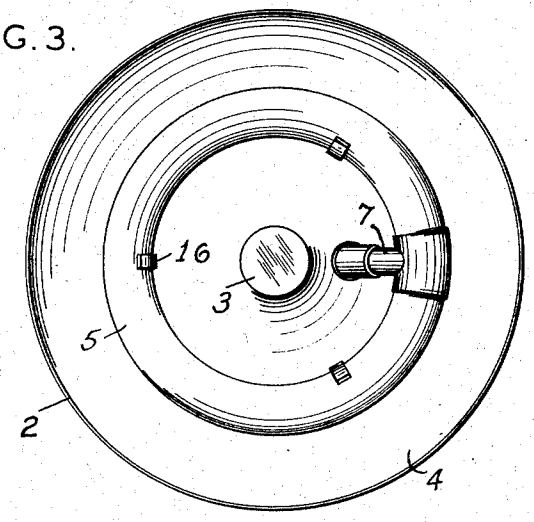
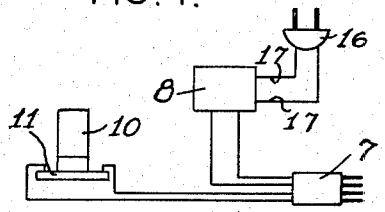


FIG. 4.



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CIRCULAR LIGHTING FIXTURE

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4 Claims. (Cl. 240—51.12)

This invention relates to fluorescent lighting fixtures, but more especially to such fixtures having circular lighting tubes associated therewith, and has among its general objects the production of such a fixture that will be neat and attractive in appearance, easily and economically made, safe and satisfactory in performance, and which will be otherwise efficient for the purpose for which it is intended.

One of the principal objects of my invention is to so construct such a fixture that it will promote such a flow of air therethrough as to avoid overheating of the several parts of the same, thus not only prolonging the effective life of the fixture and the electrical controls incorporated therein, but will avoid any likelihood of a fire originating through overheating of the parts.

Another object of the invention is to so construct a fixture of the kind set forth, that there will be two main parts that comprise the fixture, and with said parts so shaped and inter-related that the various electrical controls will be contained between said parts so that the fixture part that is viewed after mounting the fixture will substantially entirely conceal such controls.

An added object of my invention is to so construct such a fixture that the means interlocking the two fixture parts will at the same time accurately space said parts to provide an air passage into the fixture through said space.

Another object of the invention is to so construct a fixture of the kind described that one of the pair of principal parts of the same will have an approximately annular trough into which a circular fluorescent lighting tube may be suspended, so that the light rays from said tube are thereby angularly reflected from the opposite faces of said trough and thereby most efficiently make use of said light.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art to which this invention appertains, all as will be more clearly apparent from the disclosures herein given.

To this end my invention consists in the novel construction, arrangement, combination and form of parts that are herein shown and described, all as will be more clearly pointed out in the specification and claims.

In the drawings, wherein like reference characters represent like or corresponding parts throughout the views,

Figure 1 is a top plan view of the device;

Figure 2 is a vertical cross-section view of the same;

Figure 3 is another plan view of the device as viewed from below; and

Figure 4 is a diagrammatic showing of the electric controls and basic wiring for the fixture.

Referring more particularly to the drawings, wherein I have illustrated a preferred embodiment of my invention, there is shown an electric lighting fixture that is especially intended for use with a circular fluorescent lighting tube as its source of light.

The fixture includes a pair of dish-shaped parts made

as stampings or otherwise, there being an upper element 1 and a lower element 2.

Said lower element is so shaped as to form a central substantially flat or horizontal wall portion 3, and there is an annular trough-shaped portion 4 that extends radially outwardly from said central portion. The circular fluorescent lighting tube 5 is suspended from said element 2 so as to lie between the inner and outer bounding edges of said trough portion, somewhat as shown, so that all light rays impinging on said trough surface will be reflected angularly downwardly into the room area that is intended to be lighted, said element 2 having an opening 6 through which a plug 7 extends for detachable and replaceable interconnection with said light tube.

A plurality of circumferentially spaced-apart holes 18 are provided through said trough, so positioned that they will be approximately immediately below the rim portion of said cover when the latter is in assembled position, and these holes will also be approximately directly above the annulus of said tube.

The upper element 1 is substantially shaped like an inverted saucer as shown, so that when assembled to said lower element there will be a storage space of sufficient size therebetween to receive the electrical controls of the fixture, said space being deeper at its central portion and shallower adjacent the rim of said element 1. An electrical ballast 8 is carried by said element 1 by fasteners 9 through the latter, at substantially the central part of the under surface of said element, thereby securing the best possible balancing of the fixture, for it is to be remembered that these ballasts are relatively heavy as compared to the other elements within the fixture.

With certain types of fluorescent lighting tubes, a starter 10 is needed, and the same is removably insertible into a base element 11 mounted at the upper face of the trough portion of the lower element 2, by fastenings 12, said insertion being through holes through said element 1.

A plurality of circumferentially arranged vents or openings 13 are made through said element 1, said openings being preferably nearer the center of said element than they are to the rim of the same.

A series of downwardly projecting offsets 14 are made adjacent the rim of said element 1 and are circumferentially spaced apart on said rim portion somewhat as shown, so that when said element is superimposed on the lower element, as shown in the drawings, the upper and lower elements are vertically or axially spaced apart a distance that is predetermined by the amount of offset of said projections, thereby providing a passageway for air that will finally be discharged outwardly through said vents 13.

Obviously, due to such air travel through the fixture, the electrical controls in the space between said top and bottom elements will tend to be kept cooled, and minimize the likelihood of overheating of said elements of the controls. Additional openings 18 are directly above the tube so that the heat rising from the latter will pass through these openings and from thence be dissipated to the atmosphere.

Thus, with the various holes, vents and passageways hereinbefore disclosed, there will be no such build up and retention of heat within the fixture as might be sufficient to become dangerous. The ceiling immediately above the fixture will not become burned, and there will be no scorching, charring, nor even a heat discoloration to said wall surface, inasmuch as heating is kept within safe limits.

Bolts 15 may be used at said offsets for interconnecting the elements 1 and 2 and maintain the desired spaced

relationship therebetween, and said bolts may also carry the spring clips **16** therebelow for detachable engagement with said lighting tube.

The central depression of said lower element **2** might be termed a "well," inasmuch as certain of the electrical controls extend thereinto as indicated in Fig. 2.

Assembly of a fixture of this construction is relatively simple inasmuch as the electrical controls are affixed prior to interconnection of the two elements **1** and **2**, and access to the interior of the fixture is similarly simply done upon separation of the parts, so that there is a distinct advantage in the manufacturing and maintenance of such fixtures. After pulling the plug from the lighting tube and loosening fasteners **15**, either element **1** or **2** may be separated from the other to afford access to the space between them for repair, replacement, inspection or the like.

Although this fixture is shown as provided with a screw-in type of plug **16** for energizing connection to a source of electrical current, it is obvious that any of the conventional types of connections to such source of electrical energy may be used from the conductors **17—17** indicated in Fig. 4.

I claim:

1. In a lighting fixture for holding a circular fluorescent light tube, a cover almost entirely closed across its top and having electrical controls secured to its interior wall with electrical conductors leading outwardly through said cover for energizing connection to a source of electric current, an inverted dished one-piece bowl spaced entirely below said cover and projecting radially therebeyond and shaped to provide an annularly extending light-reflecting trough at its under side and is adapted to receive and supportingly suspend said tube in said trough, and means interconnecting and suspending said bowl from said cover in vertically spaced-apart relation to provide an air space between the entire opposed faces of said bowl and cover, the upper face of said bowl forming a central well closed across its bottom and receiving and concealing said electrical controls therein when the parts are in operative position.

2. A fixture as set forth in claim 1, but further characterized in that said cover has vent holes therethrough intermediate its rim and center for communication with said air space.

3. In a lighting fixture for holding a circular fluorescent light tube, a cover having electrical controls secured to its interior wall with electrical conductors leading outwardly through said cover for energizing connection to a source of electric current, said cover having air vent holes therethrough intermediate its rim and central portion, an inverted one-piece dished bowl spaced entirely below said cover and shaped to form an annularly extending light-reflecting trough at its under side to receive said tube, the central portion of said bowl being directed downwardly and closed across its bottom to form a well thereat, and means detachably suspending said bowl from said cover with a predetermined spacing therebetween to provide an air space between the entire opposed areas of said bowl and cover and that communicates with said vent holes.

4. In a lighting fixture for holding a fluorescent circular light tube, a cover having electrical controls including a ballast therein, downwardly projecting offsets circumferentially spaced about the rim of said cover end engaging a bowl therebelow to provide an air space between their entire opposed faces, an inverted one-piece bowl having a downwardly extending central portion entirely closed across its bottom and open across its top to form a well that is shaped to receive and conceal said controls while the cover is superimposed on said bowl, said bowl having an annularly-extending inverted trough at its under side extending from the bottom of said well to adjacent the rim of said bowl so that the divergent walls of said trough form a light-reflecting surface for said circular light tube suspended between the divergent walls, a series of air-passage openings circumferentially arranged through said trough above said tube and lying inwardly of the cover rim and communicating with the space between said cover and bowl, and means inserted through said offsets and detachably securing said bowl and cover together as a unit.

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