May 9, 1950 H. BRANDEIS 2,506,575

LAMP FIXTURE FOR ANNULAR FLUORESCENT LAMPS

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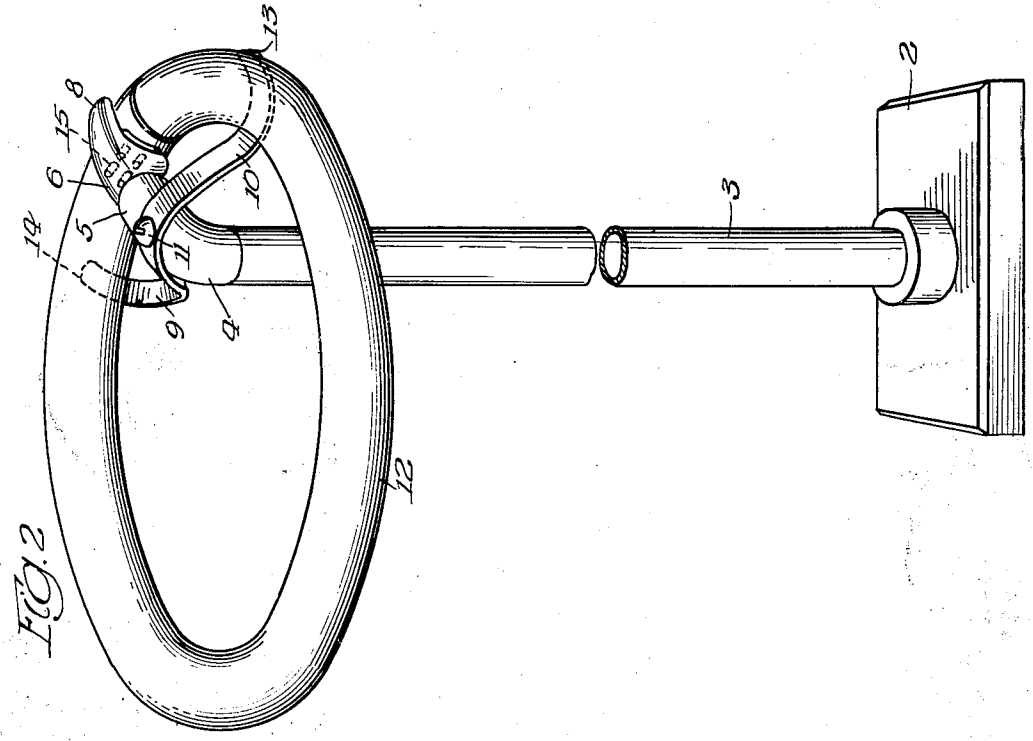


FIG. 2

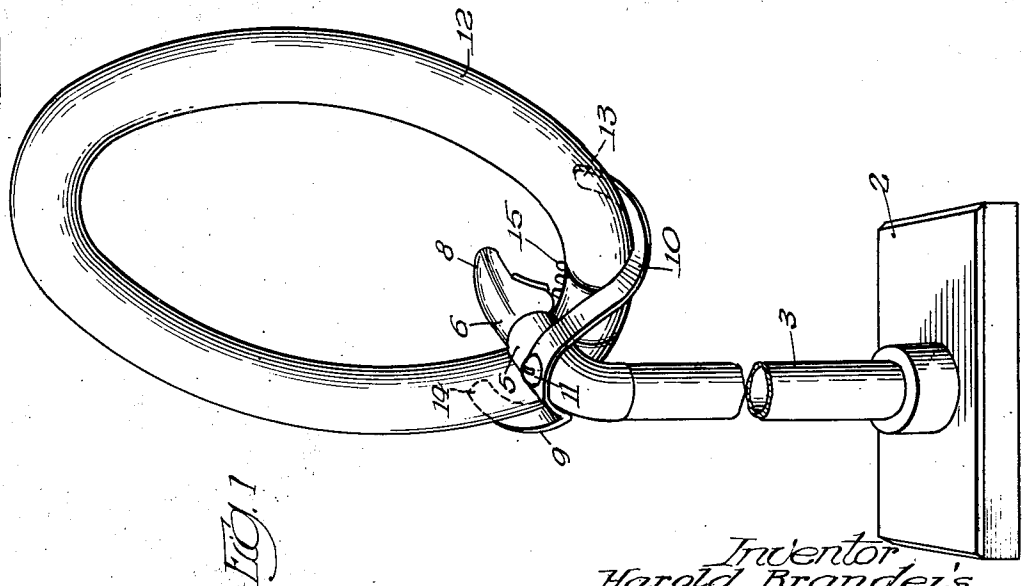


FIG. 1

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FIG. 3

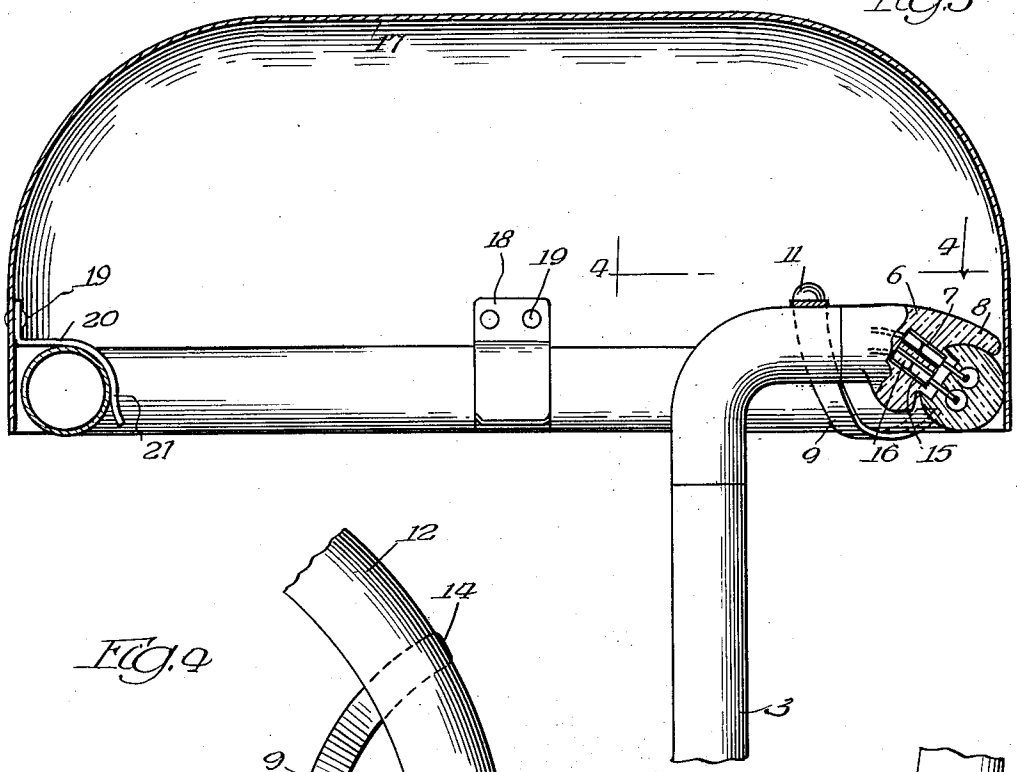


FIG. 4

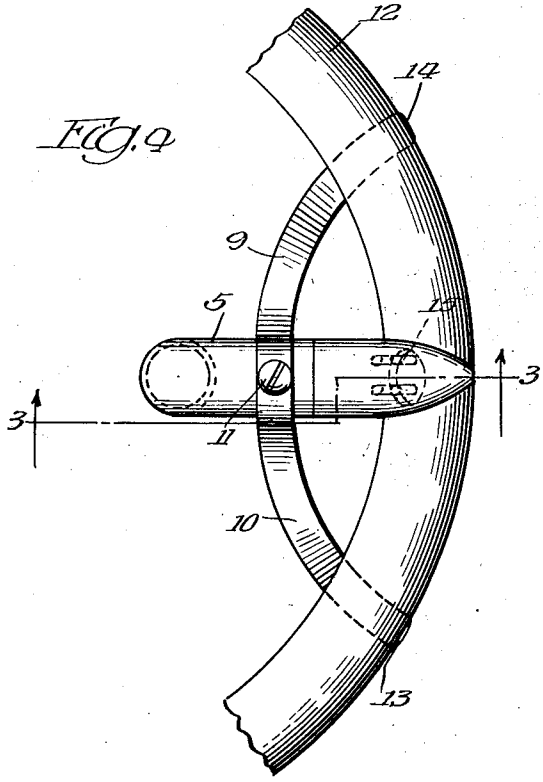
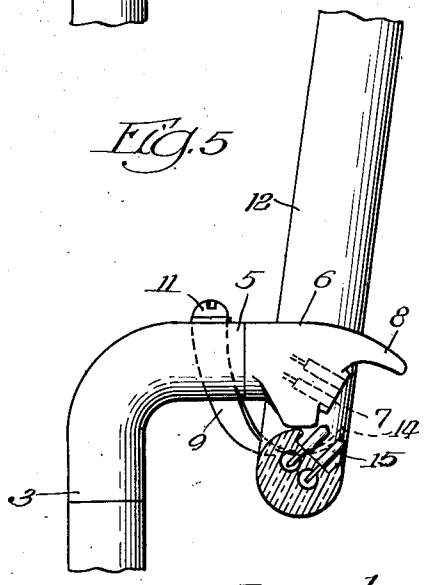


FIG. 5



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UNITED STATES PATENT OFFICE

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LAMP FIXTURE FOR ANNULAR FLUORESCENT LAMPS

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Application January 2, 1947, Serial No. 719,853

5 Claims. (Cl. 240—51.12)

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This invention relates to a lamp fixture, and particularly to such a fixture that permits mounting of an annular fluorescent light tube in a manner to require support at only one portion of the tube.

Heretofore it has been considered necessary to support annular fluorescent tubes at a plurality of points widely spaced around the periphery of the tube. In structures of this type the shaft on which the supporting members were mounted had to be centrally disposed, relative to the annular tube, in order to obtain a balanced design with the result that a great portion of the light was generally wasted because half of the tube was so far from the object to be illuminated.

In the fixture of the present invention the major portion of the annular tube is on one side of the shaft so that the light is concentrated in the area to be illuminated and the base and shaft are not in the way. The annular tube may be mounted on the support quickly and easily, and the weight of the tube cooperates with the support to provide stability. The tube is firmly held against accidental movement relative to its support but may be readily removed for replacement. The structure by which the various results described above are attained will be described in connection with the accompanying drawings, in which:

Figure 1 is a perspective view of a fixture embodying the invention with the annular fluorescent tube in its starting position for insertion;

Fig. 2 is a perspective view of the fixture with the annular fluorescent tube mounted on the support in its final position;

Fig. 3 is an enlarged fragmentary cross sectional view, taken along the line 3—3 of Fig. 4, showing the annular fluorescent tube mounted on the support in its final position, with a reflector mounted on the tube;

Fig. 4 is a fragmentary top elevation taken substantially along the line 4—4 of Fig. 3; and

Fig. 5 is an enlarged detail view showing the annular fluorescent tube in position to be mounted on the support.

In the drawings, the reference numeral 2 indicates a base to which an upright shaft 3 is secured in any suitable manner. The upper end of the shaft is bent over, as indicated at 4, to form a horizontally extending bracket 5. The bracket may be a separate member secured to the shaft in any suitable manner instead of being integral therewith. A socket 6 is rigidly secured to the end of the bracket. A plurality of prong-receiving openings 7 are positioned at the bottom

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of the socket and extend upwardly at an angle of about forty-five degrees. The socket has an overhanging lip 8 extending beyond the prong-receiving openings.

A pair of arms 9 and 10 are secured to bracket 5 by a screw 11 or any other suitable means. The arms are preferably integral, as shown in the drawings, but they may be formed separately, if desired. The arms are preferably formed of a flat strip of metal bent downwardly from the top of the bracket to fit under an annular fluorescent light tube 12. The outer ends 13 and 14 of the arms are curved upwardly so that the annular fluorescent tube can be placed in a vertical position indicated in Fig. 1 wherein prongs 15, constituting terminals for the fluorescent tube, extend upwardly adjacent prong-receiving openings 7.

The contour of the arms 9 and 10 is such that as the annular tube is rotated from its vertical position to a horizontal position prongs 15 will be guided into prong-receiving openings 7 which are sufficiently wide to permit the rotational entry of the prongs. When the annular tube reaches its horizontal position its upper side engages overhanging lip 8 which is shaped to conform to the outer circumference of the tube and the prongs are engaged with spring pressed contact terminals 16 which are positioned in each prong-receiving opening.

It will be seen from the above description that arms 9 and 10 constitute a fulcrum for the annular fluorescent light tube so that the weight of the major portion of the tube urges the prongs into contact with the socket. Although it is very easy to position the annular tube on the lamp fixture, or to remove it therefrom, it is practically impossible for it to be dislodged accidentally because it must be turned to a vertical plane in order to remove it from the fixture.

Each arm engages the underside of the annular tube so that the tube is supported at two points on its under-surface and at one point on its top surface. The top point of support is positioned between the two bottom points of support. The arms supporting the underside of the annular tube are preferably spaced only a short distance on opposite sides of socket 6 so that all three points of support, which constitute the sole support of the tube, are positioned within a single quadrant of the annular tube. This close spacing of the tube supporting structure keeps the larger area on one side of the shaft free of shadows and concentrates the maximum light intensity where it is desired. The area of each supporting member

where metal comes in contact with the glass of the fluorescent tube is padded with felt or other suitable insulating material to prevent discoloration of the tube.

In Fig. 3 there is shown a dome or reflector 17 which may be secured to the annular tube by brackets 18 which are also padded with felt. The brackets are secured to the inside of the lower edge of the reflector by rivets 19 or in any other suitable manner. The brackets are preferably formed of resilient strips of metal and are bent inwardly, as indicated at 20, and then downwardly to form resilient fingers 21 adapted to fit around the side of the annular tube.

Although I have described a preferred embodiment of my invention in considerable detail, it will be understood that the description is illustrative, rather than restrictive, as many details of structure may be modified or changed without departing from the spirit or scope of the invention. Thus, for example, the support for the fluorescent lamp may be part of a fixture which is suspended from a ceiling or attached to a wall. Accordingly, I do not desire to be restricted to the exact structure described, except as limited by the appended claims.

I claim:

1. A fluorescent light tube fixture comprising an upright shaft, a socket suported by said shaft, said socket being positioned with its prong-receiving openings at its bottom, an annular fluorescent light tube having a plurality of prongs projecting therefrom, said tube being rotatable from a substantially vertical plane to a substantially horizontal plane to engage said prongs with said openings, and a pair of arms positioned on opposite sides of said socket and spaced a short distance therefrom, said arms cooperating with said socket to support said annular tube in its horizontal position when said prongs are in engagement with said prong receiving openings.

2. A fluorescent light tube fixture comprising a socket engaging the top surface of an annular fluorescent tube to constitute one point of support, and a pair of arms engaging the bottom surface of said tube at points spaced a short distance from opposite sides of said socket, said three points of support constituting the sole support of said annular tube.

3. In combination with an annular fluorescent light tube, a fixture including a socket and a pair of arms constituting the only support for said tube, said socket engaging the top surface of said tube and said arms engaging the bottom surface of said tube, the distance between the three points of support along the circumference of said annular tube being less than one fourth of the circumference of the tube.

4. A lamp fixture comprising a base, a shaft extending upwardly from said base, a horizontally disposed bracket extending from said shaft, a socket mounted on said bracket with its prong-receiving openings on its bottom, a pair of arms positioned in a plane between said socket and said shaft, and an annular fluorescent light tube mounted on said arms with its prongs engaging the openings in said socket, said socket being spaced from said shaft a distance less than one half the diameter of said annular tube, whereby the weight of the major portion of said tube tends to hold said prongs in said openings.

5. In combination, an annular fluorescent light tube, a fixture having a pair of arms, said tube resting on said arms, the vertical plane extending through said pair of arms being positioned between a parallel vertical plane tangential to the periphery of said tube and a parallel vertical plane through the center of said annular tube, whereby the portion of the tube on one side of the fulcrum tends to move the portion on the other side upwardly, and a socket positioned above said last mentioned side, said socket cooperating with said arms to support said annular tube in a horizontal plane.

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