

Nov. 25, 1941.

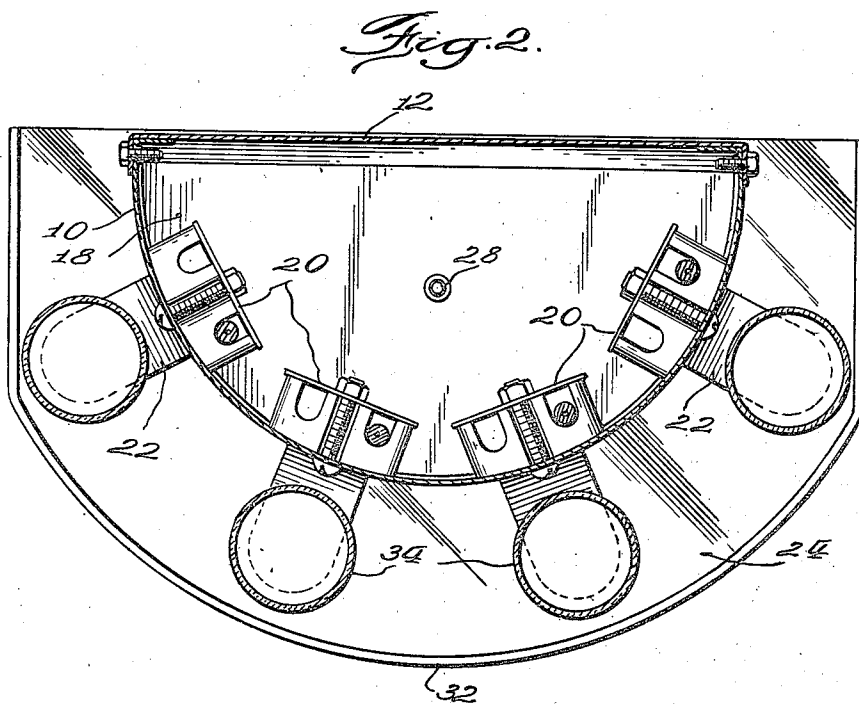
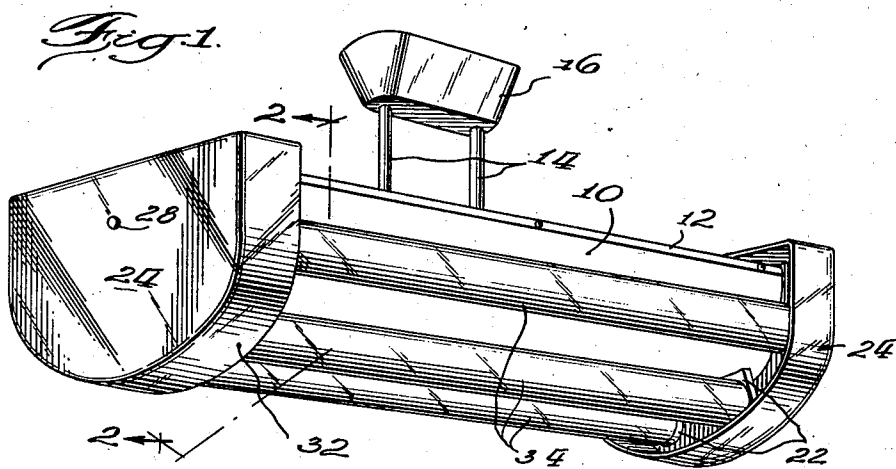
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2,264,141

LIGHTING FIXTURE

Filed March 26, 1941

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 3.

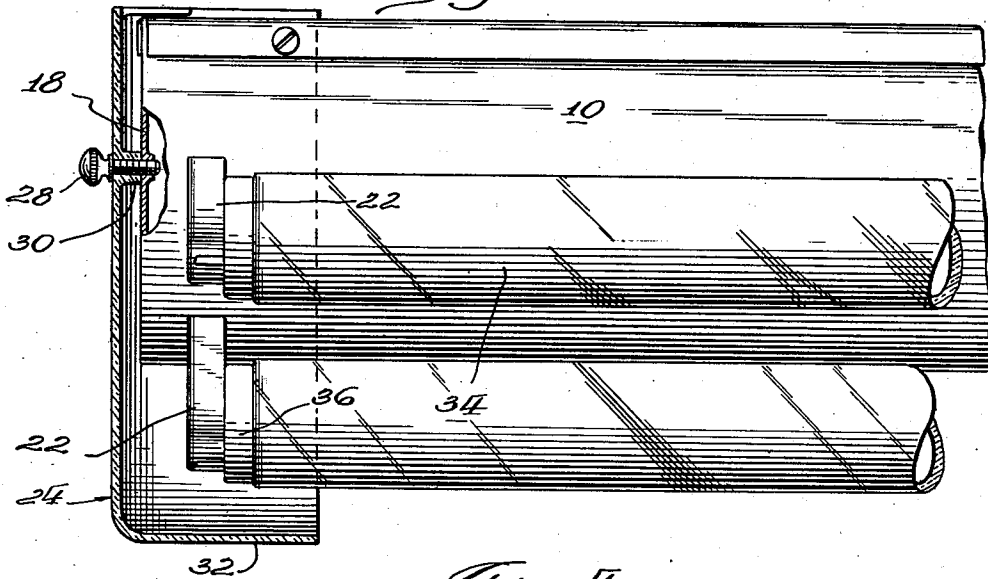


Fig. 4.

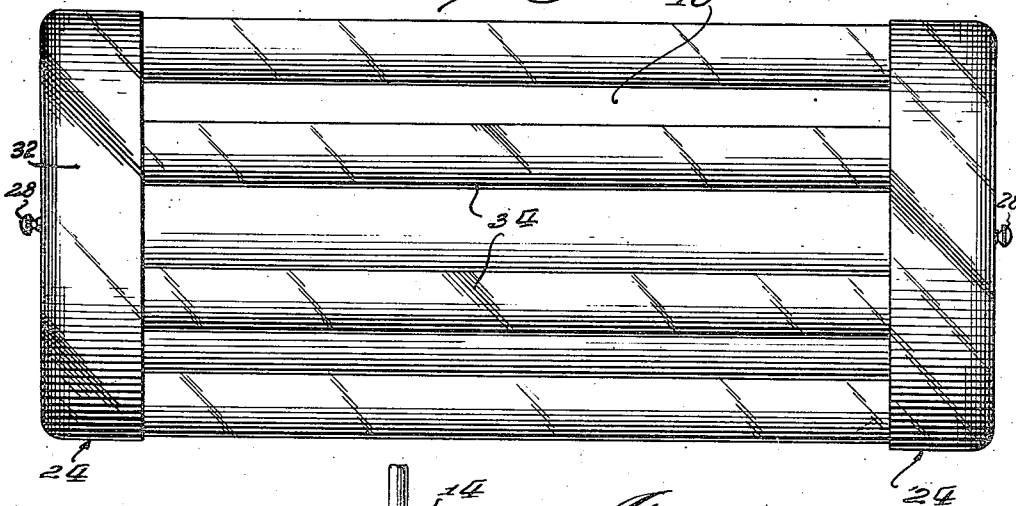
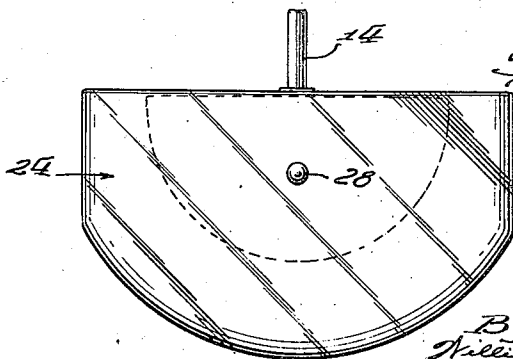


Fig. 5.



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UNITED STATES PATENT OFFICE

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LIGHTING FIXTURE

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Application March 26, 1941, Serial No. 385,269

2 Claims. (Cl. 240—78)

This invention relates to fluorescent lighting fixtures and more particularly to a lighting fixture of this type adapted to be suspended from the ceiling.

The structural portion of lighting fixtures of this type commonly consist of a hemi-cylindrical sheet metal casing which is suspended by means of tubes or other brackets from the ceiling of a room to be illuminated. Tube sockets are attached to the curved surface of this structure so that the tubes when secured in the sockets extend generally horizontally from end to end of the hemi-cylindrical surface. A fixture of this type illuminates the room in which it is disposed comparatively evenly and the fixture in general when not illuminated has a pleasing appearance, especially when the ends of the fixture are covered by generally semi-circular plates or caps which hide the ends of the fluorescent lighting tubes. One defect of a fixture of this type, however, is that when lighted, light will radiate from the tube surfaces and will be reflected from the curved surface of the fixture in such a manner that the illumination over the curved portion of the fixture is of comparatively even intensity. The ends of the fixture, however, are opaque and cast shadows upon the ceiling and, in general, do not give a satisfactory visual impression when so closely associated with the brightly illuminated surface of the fixture. This defect cannot be overcome by providing transparent ends for the fixture since fluorescent lighting tubes radiate substantially no light in an axial direction. The ends of the tubes, therefore, are dark even though light is being radiated from the curved surfaces of the tube.

It is the principal object of the present invention to provide a novel fluorescent lighting fixture that overcomes the above-mentioned defect present in prior fixtures.

A further object of the present invention is to provide a novel fluorescent lighting fixture incorporating comparatively simple means for illuminating the end portions thereof.

Still another object of the present invention is to provide a fluorescent lighting fixture having the above desirable characteristics and which is easily assembled and economical to manufacture.

Other objects and advantages will become apparent from the following description of a preferred embodiment of my invention, taken in conjunction with the accompanying drawings, in which similar characters of reference refer to similar parts throughout the several views.

In the drawings:

Fig. 1 is a perspective view of a fluorescent lighting fixture embodying the present invention;

Fig. 2 is a transverse sectional view through the fixture shown in Fig. 1 and may be considered as taken in the direction of the arrows, substantially along the line 2—2 of Fig. 1;

Fig. 3 is a side elevation of one end of the fixture shown in Fig. 1 with the end cap of the fixture shown in vertical longitudinal section;

Fig. 4 is an elevational view which may be considered as taken directly upwardly from beneath the fixture;

Fig. 5 is an end view of the fluorescent lighting fixture shown in the preceding figures.

Referring to the drawings, the lighting fixture shown comprises a hemi-cylindrical sheet metal shell 10, having a length slightly greater than the length of the fluorescent tubes with which it is intended to be used, and a radius of curvature sufficient to accommodate a plurality of fluorescent tubes arranged in parallel side-by-side relationship. The fixture shown accommodates four of these tubes. The upper edges of the hemi-cylindrical shell 10 are secured to a top plate 12, which in turn is connected by means of tubes 14 with a decorative member 16 attached to the ceiling. The ends of the hemi-cylindrical casing thus formed are closed by means of semi-circular caps 18.

Tube sockets 20 are secured near the ends of the fixture to the inner surface of the hemi-cylindrical shell 10 and have tube attaching brackets 22 which extend through openings in this shell. These brackets 22 supply a means for attaching the tubes to the fixture, and in addition supply electrical energy to the tube terminals. The sockets and wiring circuits for use therewith are well-known and comprise no part of the present invention and therefore will not be described in detail here.

The fixture as described to this point is in general similar to fixtures with which I am familiar and, as has been mentioned previously, will provide a comparatively even distribution of light downwardly, but will have dark ends. For this fixture, I provide end caps 24 of a translucent material, preferably a plastic such as Tenite. These end caps are generally semi-circular in shape and have a diameter somewhat greater than the total diameter of the fixture, including the tubes. These end caps are secured to the end plates 18, which preferably are coated with a light reflecting medium such as white

enamel, by means of screws 28 threaded into the end plates, and are spaced from the end plates by bosses 30 molded integrally with the end caps 24. At their edges the end caps 24 are provided with inwardly extending flanges 32 which cover the brackets 22, the dark ends of the fluorescent tubes, and which extend somewhat beyond the ends of the tubes so as to be co-extensive with a portion of the lighted surface of the tubes near their ends.

This feature is particularly apparent in Fig. 3, wherein the lighted surfaces of the tubes are indicated by the numeral 34 and the dark ends by the numeral 36.

Preferably, the translucent caps 24 should be white or a shade comparatively close to white so that when the fixture is not lighted the appearance of the caps will be much the same as that of the tubes and the reflecting surface immediately behind the tubes. When a fixture of the type I have described is lighted, no light will be cast from the tubes in an axial direction to illuminate the caps. However I have found that light radiating outwardly from the lighted end portions of the tubes will strike the inwardly extending portions of the flanges 32. This light will be intercepted by the flanges and because of the translucent nature of the material, this light will be diffused throughout the flanges and from the flanges inwardly throughout the portion of the caps covering the ends of the fixture. Also, since the end caps 24 are spaced from the ends of the fixture by the bosses 30, a portion of the light incident upon the inner surfaces of the flanges 32 will be reflected directly against the inner faces of the vertical portions of the end caps 24, thereby adding to the light diffused within these portions of the caps.

Because of its translucent nature, the light which reaches the portions of the end caps extending transversely to the axis of the fixture, whether it reaches it by diffusion through the flanges and into the end pieces, or whether it reaches it by reflection from the inside surfaces of the flanges to the inside surfaces of the end pieces, this light will illuminate the end caps, and this illumination in turn will prevent the caps casting shadows upon the ceiling beyond the ends of the fixture. Although the caps as thus lighted will not be as bright as the fluorescent tubes, the contrast between the two will not be sufficiently great to give an unpleasing visual impression.

From the above description of a preferred embodiment of my invention, it will be seen that through the use of a comparatively simple expedient, I have provided a fluorescent lighting fixture that does not have the heretofore present objectional dark ends.

What I claim as new and useful and desire to secure by Letters Patent of the United States is:

1. In combination with a fluorescent lighting fixture having a shell, end plates attached to opposite ends of the shell, brackets attached to the shell adjacent the ends thereof, electric sockets carried by said brackets, fluorescent tubes extending between the sockets, said tubes having dark ends and lighted surfaces, and means for attaching the fixtures to a support, a pair of translucent end caps attached to said end plates, bosses extending between said end caps and the end plates for spacing the same, said end caps having inwardly extending flanges, said caps covering the brackets and the dark ends of the tubes, and extending inwardly beyond the dark ends of the tubes and co-extensive with a portion of the lighted surfaces of the tubes, said flanges intercepting light from the lighted surfaces of the tubes and diffusing the light throughout the end caps, a coating of light reflecting material on the end plates of the shell, said coating receiving light indirectly from said flanges and the inner surfaces of said caps, said coating in turn reflecting said light back to and through said end caps.

2. A fluorescent lighting fixture comprising a semi-cylindrical shell, means for attaching said shell to a support, semi-circular end plates attached to and closing opposite ends of said shell, brackets attached to said shell adjacent the ends thereof, electric sockets carried by said brackets, fluorescent tubes extending between said sockets, said tubes having dark ends and an intermediate lighted portion, a pair of semi-circular dish-shaped, translucent, light diffusing, plastic caps of a diameter larger than the diameter of the end plates, said caps covering said end plates, bosses formed integrally with and extending inwardly from the inner surfaces of said caps, said bosses and said end plates having threaded apertures, screws extending inwardly in threaded engagement with the threaded apertures of said bosses and said end plates for attaching said caps to said end plates, said bosses separating and spacing said caps from said end plates, said end caps having inwardly extending flanges along the curved edges thereof, said flanges covering said brackets, said sockets, the dark end of said tubes, and part of the lighted portion of said tubes, said flanges intercepting light from the covered lighted portion of the tubes and diffusing the light inwardly throughout said end caps, a light reflecting coating on said end plates, said coating receiving light indirectly from said flanges and the inner surfaces of said caps, said coating in turn reflecting said light back to and through said end caps.

VICTOR NEMEROFF.