

June 12, 1951

E. F. GUTH
LIGHTING FIXTURE FOR ELONGATED TUBULAR LAMPS
HAVING MEANS TO SHIELD THE LAMPS

2,556,690

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2 Sheets-Sheet 1

FIG. 1.

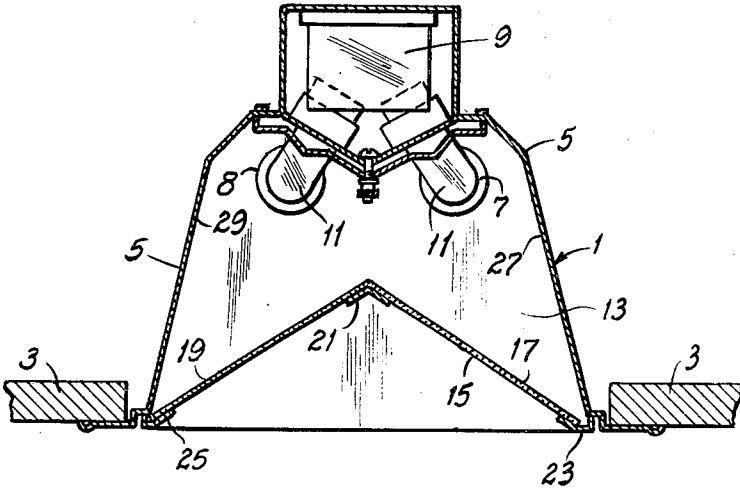
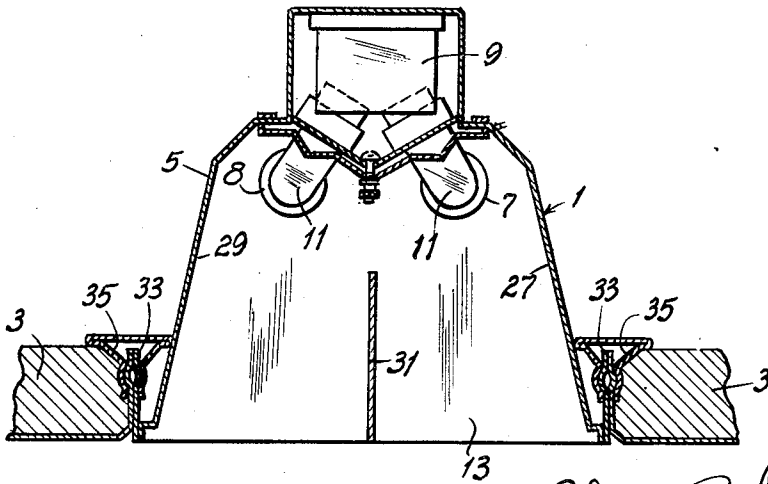


FIG. 2.



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FIG. 3.

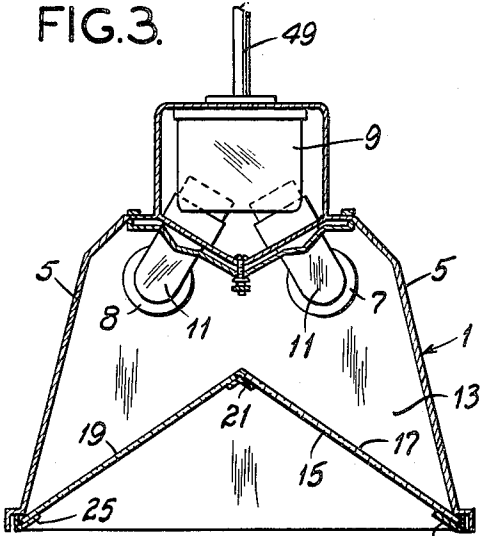


FIG. 4.

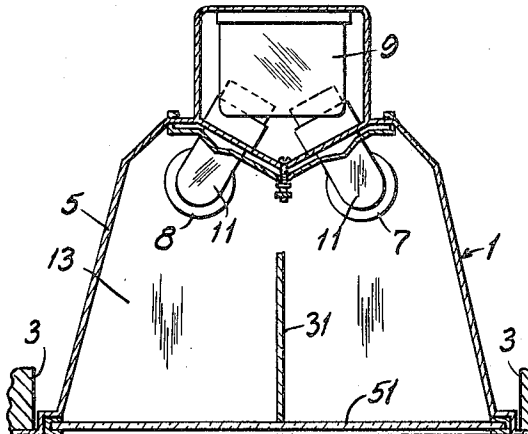


FIG. 6.

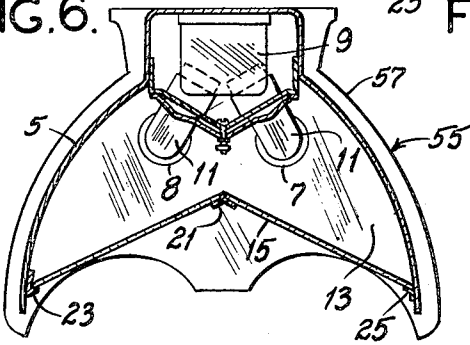


FIG. 7.

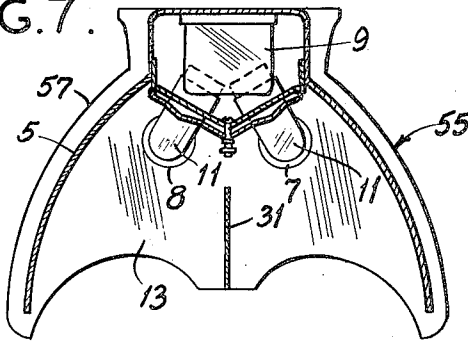
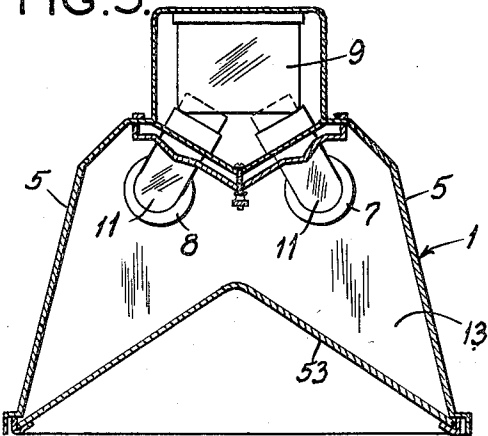


FIG. 5.



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LIGHTING FIXTURE FOR ELONGATED TUBULAR LAMPS HAVING MEANS TO SHIELD THE LAMPS

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1 Claim. (Cl. 240—51.11)

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This invention relates to lighting fixtures and more particularly to lighting fixtures which decrease glare.

Among the objects of the present invention are the provision of lighting fixtures which shield the light source from the eyes of the observer; the provision of lighting fixtures which shield the light source from the eyes of the observer yet provide substantially unimpaired light upon the area to be illuminated; the provision of lighting fixtures which decrease indirect glare; and, the provision of lighting fixtures which shield the light source from normal observation, decrease glare indirectly reaching an observer, yet give substantially unimpaired illumination of the area to be lighted. Other objects will be in part apparent and in part pointed out hereinafter.

The invention accordingly comprises the elements and combinations of elements, features of construction, and arrangements of parts which will be exemplified in the structures hereinafter described, and the scope of the application of which will be indicated in the following claim.

In the accompanying drawings, in which several of various possible embodiments of the invention are illustrated,

Fig. 1 is a section through one embodiment of the invention;

Fig. 2 is a section through an alternative embodiment;

Fig. 3 is a section through still another embodiment;

Fig. 4 is a section through a still different embodiment;

Fig. 5 is a section through still another embodiment;

Fig. 6 is a section through still another embodiment; and

Fig. 7 is a section through another embodiment. Similar reference characters designate corresponding parts throughout the several views of the drawing.

Present lighting practice recommends shielding a light source from normal observation so as to protect the eyes of the observer. This is accomplished by setting the light source into a relatively deep fixture which is then either hung from the ceiling or recessed therein. Even where this is done an objectionable glare has at times been noted because of the concentration of light upon the walls of the fixture which are of a reflecting material or also from flat glass enclosing covers. It has been suggested that in order to avoid this type of glare only a single light source should be employed and multiple fixtures utilized.

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Particularly where fluorescent fixtures are involved this would result in utilizing a very large area of the ceiling for lights in order to obtain a satisfactory illumination of the area to be lighted. Such an installation is costly and utilizes too great a proportion of the ceiling.

According to the present invention the illumination provided for the area to be lighted is substantially increased without correspondingly increasing glare from the fixture.

Referring now to the drawings, in Fig. 1 a recessed lighting fixture 1 is shown embedded in a ceiling 3. Lighting fixture 1 includes a case 5, tubular fluorescent lights 7 and 8, the customary electrical equipment therefor indicated generally at 9 and the usual lamp sockets 11. An end plate 13 at either end of the fixture provides a closure.

In lieu of the customary bottom glass which is parallel with the surface of the ceiling, a glass 15, composed of a sheet 17 and a sheet 19 held together by a metal channel 21, is held in place to close the bottom of the fixture. Glass closure 15 may be supported in any of the customary ways, such as by a bolt secured support 23 and a non-removable support 25.

It will be noted that glass panes 17 and 19 are held at an angle so as to point respectively at lamps 7 and 8. It has been found that in this way wall 27 reflects substantially only light from light 7, while wall 29 reflects substantially only light from light 8. In this way the observer is subjected to substantially no more glare from either side wall of case 5 than if only a single light were employed. And practically all of the direct light from either lamp impinges only on to the section of glass that is directly beneath the respective lamp, so at normal observation, the brightness caused by visibility of the lamp through the glass diffusers is avoided.

Referring now to Fig. 2, an alternative embodiment is illustrated. In lieu of glass 15 a baffle 31 is attached to end plates 13 and projects so that the top is substantially in a line with the central portions of lights 7 and 8, and the opposite edges of case 5. The central baffle receives direct light from only one lamp on each side, so the brightness is reduced approximately one-half, and it also shields from vision at normal angles, the very bright surface of the upper reflector which is next to the lamp. (In other words, the area of lighted surfaces is increased, and the intensity or brightness is diminished.) In Fig. 2 is also illustrated an alternative manner of attaching a lighting fixture to a ceiling. Case 5 has spring portions 33 which engage catches 35 embedded in the ceiling.

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Fig. 3 is similar to Fig. 1 but shows the fixture hung from a stem 49 instead of embedded in the ceiling. The advantages of the invention are obtained whether the fixture is recessed in the ceiling or merely hung in the usual manner. In either case the glare to the eyes of the observer is substantially decreased without substantially decreasing the useful illumination upon the lighted area.

The embodiment of Fig. 4 is similar to that of Fig. 2, in that a baffle 31 is employed but the bottom of the fixture is closed by the customary bottom glass plate 51. This prevents access of dirt into the fixture and makes it easier to keep the fixture clean. The advantages of the Fig. 2 embodiment are retained.

The embodiment shown in Fig. 5 is similar to that of Fig. 1 but in lieu of a bottom closure formed of two plates, the bottom closure 53 of Fig. 5 is formed of a single piece of glass bent in the center to form an angle so that each arm points at lamp 7 or lamp 8. This form of the invention eliminates metal channel 21 and for certain purposes is more attractive. The advantages of the Fig. 1 embodiment are retained in the Fig. 5 form.

Figs. 6 and 7 illustrate the application of the Figs. 1 and 2 embodiments respectively to a different type of fixture 55. The form of the outer case 57 is not material for the purposes of the present invention. As in previous embodiments baffle 31 or bottom closure 15 prevents the observer from being subjected to glare from more than one lamp, yet provides the advantages of a lighting fixture giving illumination from two lamps.

Although the present invention has been described particularly with reference to tubular lamps, it may advantageously be employed with other forms of lamps as well. Placing the bottom closure at any angle so that one side of the fixture receives light from only a single lighting unit of a multiple light fixture decreases glare to the eyes of the observer yet does not substantially decrease useful illumination. While bottom closures 15 and 53 are preferably constructed of glass, such as configurated glass, transparent or translucent plastic may be employed. Baffle 31 is preferably constructed of reflecting material.

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In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As many changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

A lighting fixture comprising a pair of parallel tubular lamps, a rectangular case therefor including end walls and downwardly diverging opaque side walls having a reflecting surface, and a flat vertical opaque partition having a reflecting surface attached to the end walls and extending along the length of the case, the upper edge of said partition being spaced horizontally from and a distance below said tubular lamps, the lower edges of the reflecting walls and said partition being substantially in the same horizontal plane, said partition being of such height and located so as to substantially completely intercept light which would otherwise pass directly from one of said lamps to a viewer from the side opposite said lamp.

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