

Dec. 28, 1943.

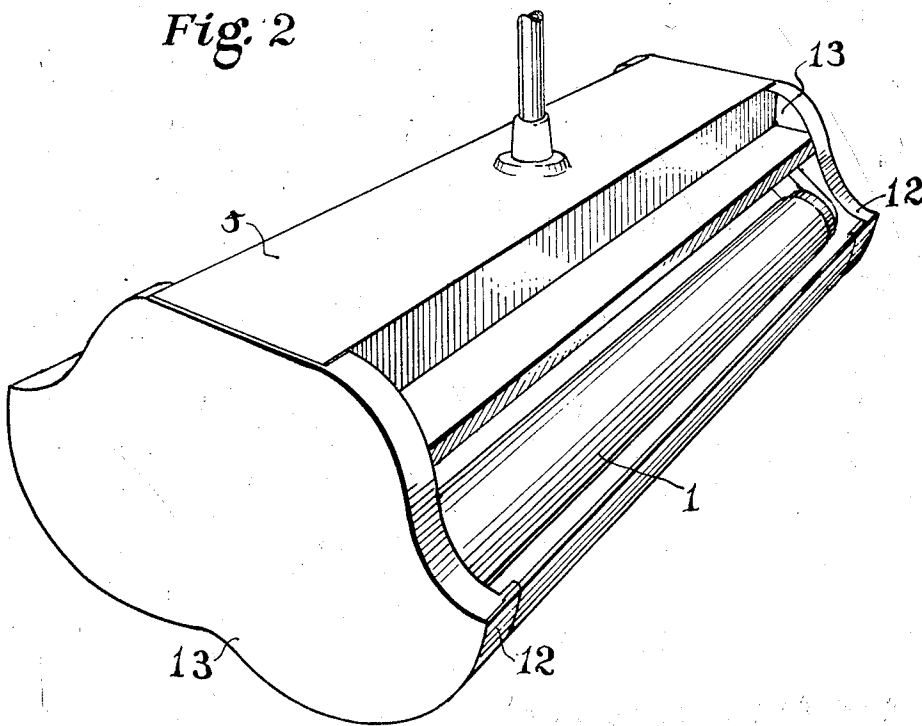
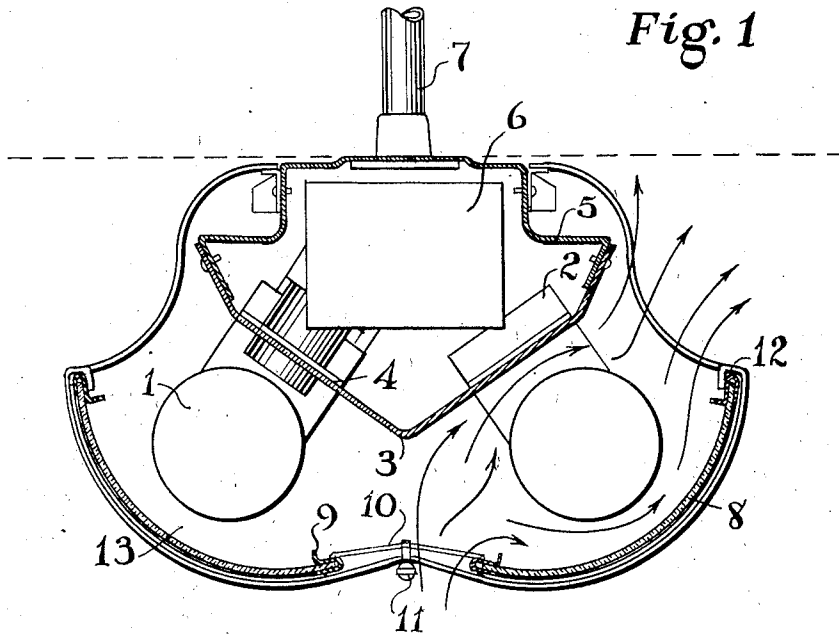
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2,338,077

FLUORESCENT LAMP FIXTURE

Filed Dec. 23, 1941

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 3

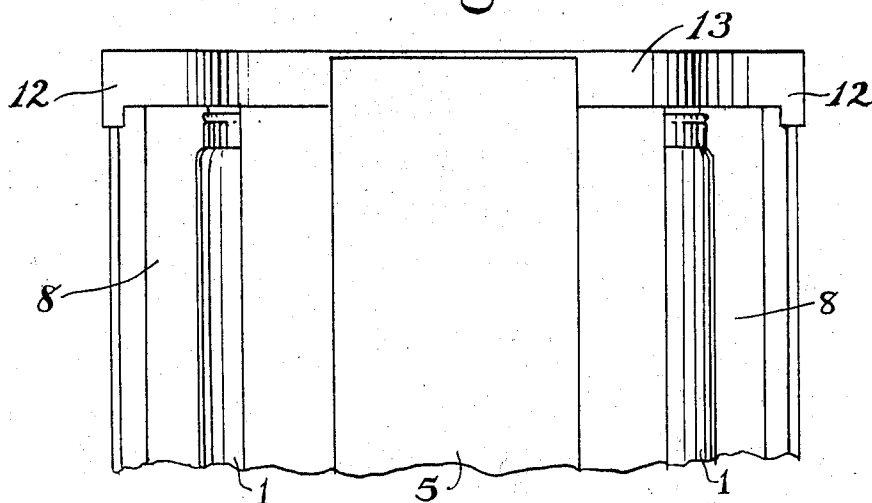
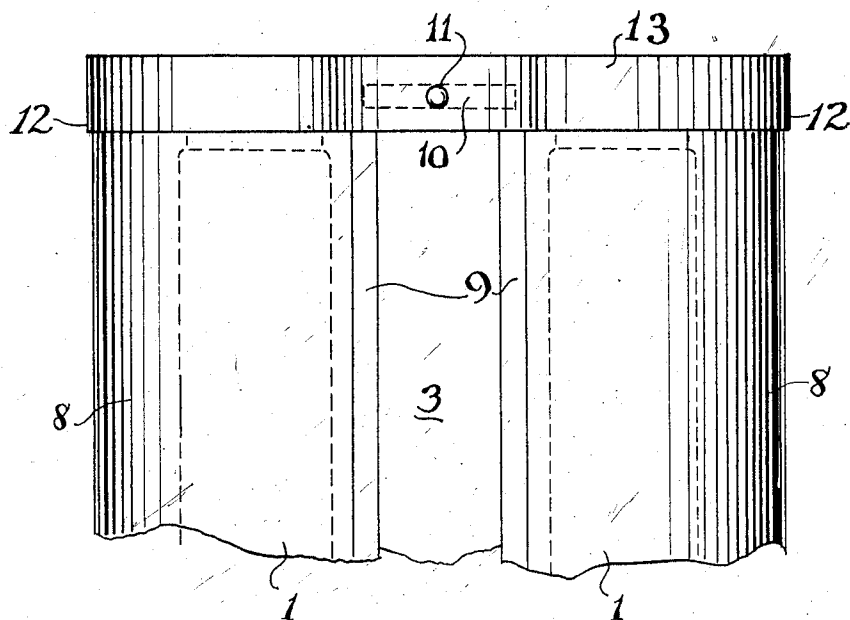


Fig. 4



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UNITED STATES PATENT OFFICE

2,338,077

FLUORESCENT LAMP FIXTURE

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Application December 23, 1941, Serial No. 424,157

2 Claims. (Cl. 240-78)

This invention relates to electric lamp fixtures and more particularly to those used in conjunction with fluorescent lamps.

An object of this invention is to provide a fixture for fluorescent lamps which will enable an efficient operation thereof.

Another object is to provide a fluorescent lamp fixture in which the lamps are hidden from view and yet are operated at a relatively cool temperature.

Further objects, advantages and features will be apparent from the following specification taken in conjunction with the accompanying drawings in which:

Figure 1 is an end view partly in section of a fixture according to my invention;

Figure 2 is an end perspective of the fixture of Figure 1;

Figure 3 is a top view of a portion of said fixture;

Figure 4 is a bottom view of a portion of said fixture.

In Figure 1, the elongated tubular fluorescent lamps 1 are supported in the lamp holders 2 which are in turn attached to the ends of the elongated V-shaped reflector 3 through the plates 4. The reflector 3 is supported from its ends by the support 5 which also serves as a support and enclosure for the auxiliary apparatus 6. The stem 7 projecting upwardly from the top of the support 5 may be utilized for pendant type installation. When flush mounting is desired, the stem 7 may be dispensed with.

The two arcuate translucent sheets 8 are supported in the four elongated channel-like supports 9 that run the entire length of the fixture. They may be firmly seated in the channels in these supports by adjusting the screw 11 extending through the resilient strap 10, both ends of which are in contact with the ends of said supports 9. Further support to these translucent sheets 8 is given to the ends thereof by the inwardly projecting edge 12 of the end-caps 13 as shown more clearly in Figure 2.

As was pointed out above, one of the main purposes of this fixture is to provide one which will permit the enclosure of the lamps from direct view and at the same time make sufficient provision for ventilation thereof to insure highly efficient lamp operation. It has been found that a fluorescent lamp's best operating efficiency is in the vicinity of 40° C. Since a more attractive fluorescent lamp fixture installation is very often obtained by the use of some translucent material to shield the elongated tubes of light from direct

view, it is desirable that one be cognizant of the effect which temperature has on operating efficiency when designing a fixture of this type. This is true not only of the pendant type fixture mounting but is doubly true of the flush mounting type of installation where the top of the main body of the fixture is mounted flush with the ceiling or other background on which it is mounted.

As shown in the figures of the accompanying drawings but more clearly in Figure 1, the fixture of my invention has been especially constructed to insure the maintenance of an operating temperature as near to that conducive to maximum lamp operating efficiency as possible. As shown in Figure 1, the lamps 1 are concealed from direct view by the curved translucent sheets 8 disposed thereabout in the frame formed by the elongated supports 9. Thus air is permitted to circulate up through the space provided along the longitudinal center of the bottom of the fixture and out the space provided directly above the lamps.

It should be noted that the lamps 1 are spaced sufficiently distant from the reflector 3 and the translucent sheets 8 sufficiently distant from the lamps so that air may freely flow along both sides of the lamps rather than be confined to one path. Another feature of my fixture construction is that the features above-described are still retained even when flush mounting installations are desired by reason of the fact that the upper portion of the fixture is so constructed as shown in Figure 1 that considerable space is provided between the top of the lamps and the ceiling or surface on which the fixture is flush mounted.

Another feature of this invention is that the lamps, reflector and translucent sheets are so disposed in relationship to each other that a maximum amount of light is obtained even though the lamps are concealed. Considerable amount of light is reflected from that portion of the V-shaped reflector adjacent the apex angle and directed downwardly through the opening running along the longitudinal center of the bottom of the fixture. By having the upper portion of the fixture open, considerable light will be reflected from the ceiling or other surface on which or from which the fixture is mounted. Thus not only does this fixture enable the concealment of the lamps from direct view and yet enable the operation of said lamps at a relatively low temperature to attain high operating efficiency but it also is so constructed as to provide outlets for the light besides the translucent

sheets, located thereabout. Therefore a highly efficiency light source is attained.

Figures 3 and 4 serve to more clearly illustrate several of the features mentioned above. Figure 3 shows the spacing between the lamps 1 and the arcuate translucent sheets 8, thereby permitting the continuous circulation of air entering from the bottom of the fixture. Figure 3 also serves to clarify Figures 1 and 2 with respect to the manner in which the inwardly projecting edge 12 of the end-caps 13 are cooperatively associated with the elongated channel-like supports 9 to provide a very rigid construction.

Figure 4 is a bottom view of a portion of the fixture and clearly shows the location of the elongated opening running longitudinally down the middle of the bottom of the fixture. It is through this opening that air enters to circulate about the lamps and pass out through the openings in the top of the fixture as mentioned above. This view also serves to illustrate the location of the resilient strap 10 and the screw 11 through which the translucent sheets 8 are tightened in the cradle, provided therefor by the elongated channel supports 9.

What I claim is:

1. A fixture for elongated tubular lamps, said fixture comprising: a substantially V-shaped reflector having openings adjacent the ends thereof; lampholders projecting through said openings; a chassis for said reflector; and caps fixed to said chassis and enclosing the ends of said reflector and said chassis, a frame, a pair of translucent sheets mounted in said frame and positioned between said end caps and below said lampholders; said frame running along the longitudinal axis of said reflector and supported with-

in said end caps, said frame comprising a pair of channel-like supports substantially below the apex of said V-shaped reflector, and a pair of channel-like supports opposite the sides of said reflector; a pair of resilient straps connecting the two first-mentioned supports at each end thereof; and means for tightening said straps against said support to lock said translucent sheets in said frame.

10 2. A fixture for elongated tubular electric lamps, said fixture comprising: a support; a V-shaped reflector mounted on said support to form an enclosure therewith; a lamp mounted before each of the V faces of said reflector; a pair of endcaps mounted on said support; and a pair of elongated, curved translucent sheets mounted in fixed position on said endcaps; said lamps extending within the curves of their respective translucent sheets; said sheets being separated from each other at their lower edges to form a central elongated bottom opening beneath the apex of the reflector V, and separated from the reflector at their upper edges to form elongated side openings; each of said lower edges 20 being in vertical adjacency with the lower portion of one of said lamps, and the corresponding upper edge being in vertical adjacency with the upper portion of the same lamp; and the spacing, between the lamps and the reflector and between the lamps and the translucent sheets, being such as to provide free air flow from said bottom opening to said side openings on both sides of each of said lamps, whereby said flow is effective as a coolant between the lamps and the reflectors as well as between the lamps and the translucent sheets.

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