April 28, 1942. A. J. D. OHM 2,281,376

ELECTRIC LIGHTING FIXTURE

Filed Feb. 21, 1941

Fig. 1.

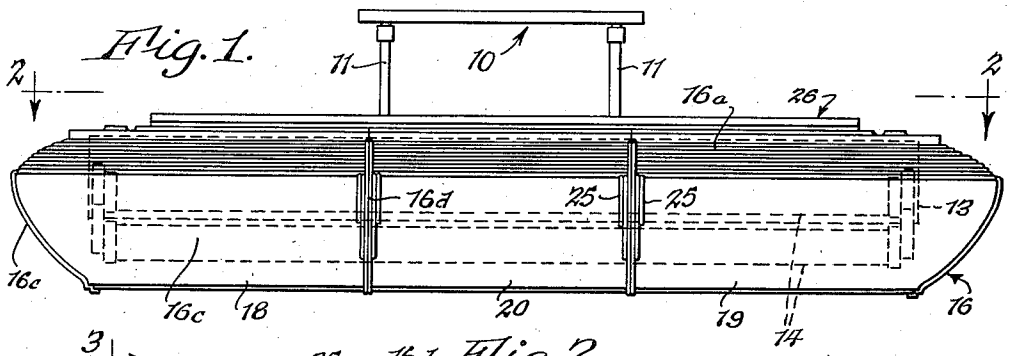


Fig. 2.

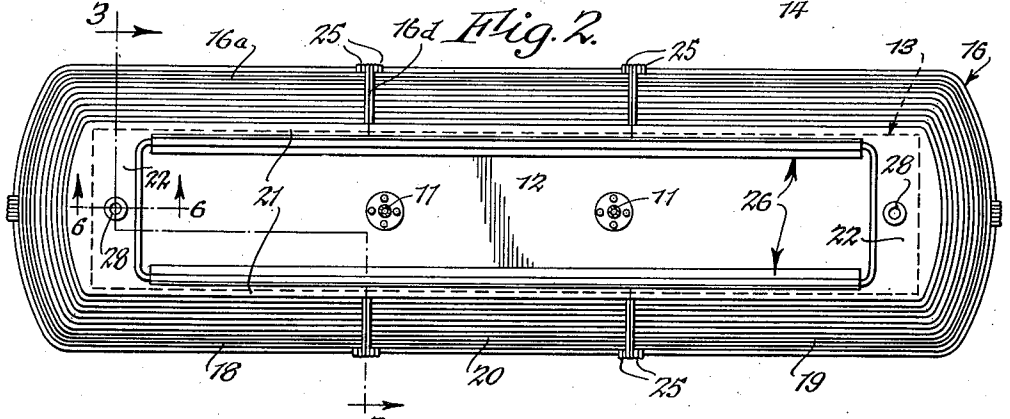


Fig. 3.

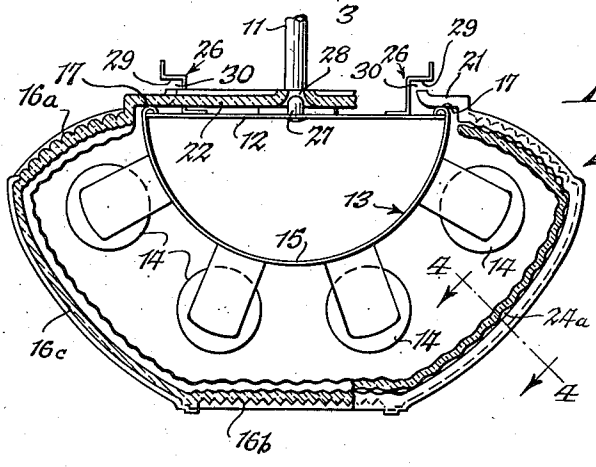


Fig. 6.

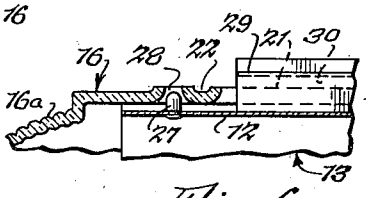


Fig. 4.

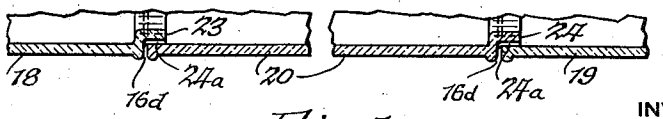
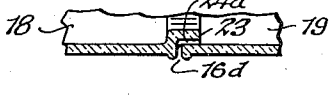


Fig. 5.



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ELECTRIC LIGHTING FIXTURE

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Application February 21, 1941, Serial No. 379,958

4 Claims. (Cl. 240—78)

This invention relates to improvements in electric lighting fixtures and, although not necessarily so limited, has characteristics which render it of particular utility in connection with a fluorescent tube fixture of the kind wherein an elongated diffuser is utilized to modify the light emitted by the tube or tubes of the light source.

One object of the invention is to provide a fixture which is so designed as to avoid the necessity of separate molds for each different length of diffuser which may be required to accommodate different lengths of tubes, this object contemplating a multi-section diffuser built up from sections which are standard with various lengths of diffusers and which may be assembled in such numbers as to obtain any desired length of diffuser.

A further object is to provide for facility in assembling the fixture and in inspecting, removing and replacing the tubes which provide the light source.

A still further object is a fixture in which provision is made for preventing overheating of the parts by the tubes of the light source.

A still further object is to provide a fixture which is simple and inexpensive in design and pleasing and attractive in appearance.

The invention is illustrated in the accompanying drawing in which:

Figure 1 is a side elevation of a fixture embodying the features of the invention.

Figure 2 is a horizontal section taken along line 2—2 of Figure 1.

Figure 3 is an enlarged vertical section taken along line 3—3 of Figure 2.

Figure 4 is a fragmentary section taken along line 4—4 of Figure 3.

Figure 5 is a view similar to Figure 4 illustrating the manner in which a shorter diffuser may be provided by eliminating the central section.

Figure 6 is an enlarged detail section taken along line 6—6 of Figure 2.

The fixture, as illustrated, is of the fluorescent tube type and may be suspended from the ceiling by a hanger assembly 10, rods 11 thereof being suitably connected to the flat top wall 12 of a semi-cylindrical shell 13. The tubes 14 (Figure 3) which provide the light source are mounted in parallel relation upon the curved lower wall 15 of the shell and are employed in connection with an elongated diffuser 16, the longitudinal edges of the lower wall of the shell being turned over the corresponding edges of the top wall to provide spaced parallel seats 17 for the diffuser.

The diffuser 16 may be of glass or any other suitable material; and it may be either transparent or translucent or have certain zones which are transparent and others which are translucent. For example, a rectangularly-shaped, beaded top zone 16*a* may be transparent, as may a horizontal ribbed bottom zone 16*b*, while the side and end walls 16*c* may be, and preferably are, translucent. In accordance with the invention the diffuser comprises an assembly of pre-formed, separable sections which are arranged end-to-end and, in the embodiment illustrated, includes end sections 18 and 19 and a central section 20. The outer ends of the end sections are closed and their inner ends are open while both ends of the central section are open. All of the said sections are closed at their bottoms and have side walls which terminate at their tops in inwardly extending side flanges 21. The latter rest upon the seats 17 to suspend the sections from the shell and in the case of the end sections join, or form continuations of, end flanges 22.

The diffuser sections are supported upon the shell 13 so that the open end of the section 18 abuts one of the open ends of the section 20 while the open end of the section 19 abuts the other open end of the section 20, thereby to provide a continuous, elongated envelope which encloses the shell 13 and the tubes 14, the side and end flanges of the said sections overlying the top wall of the shell and defining a substantially rectangular opening. In order to prevent the escape of direct light through the joints 16*d* between the abutting ends of the diffuser sections, the section 18 is preferably formed with a neck portion 23 (Figure 4) which enters the adjacent end of the section 20 while the opposite end of the latter section is formed with a neck portion 24 which enters the open end of the section 19. Preferably the neck portions 23 and 24 of the sections 18 and 20, respectively, are corrugated or otherwise deformed, as illustrated, whereby to provide passages 24*a* through which air may circulate to cool the tubes and associated parts. A certain amount of air which enters the diffuser may, of course, escape through the spaces between the end flanges of the end sections and the top wall of the shell, the said flanges being spaced from the top wall by the seats 17. In order to prevent the joints 16*d* from detracting from the appearance of the diffuser, cooperating ornamental designs 25 are formed upon the marginal edges of the open ends of the end sections and central section, the said designs preferably comprising groups of bead-like embossments and

the designs upon the ends of the end sections cooperating with the designs upon the ends of the central section to provide composite ornamental figures having character strokes running parallel with and at opposite sides of the joints. The joints are thus effectively obscured and at the same time the appearance of the fixture is enhanced.

Longitudinally extending angle members **26** which are mounted upon the top wall of the shell **13** serve as guides and cooperate with the marginal edges of the side flanges of the diffuser sections to limit sidewise movement of the sections upon the seats **17**. Lengthwise movement of the diffuser sections upon the seats is prevented by upwardly projecting pins **27**, one of which is located adjacent each end and substantially midway between the sides of the top wall of the shell. One of the pins **27** extends into an opening **28** in the end flange of one of the end sections of the diffuser while the other pin extends into a similar opening formed in the end flange of the other end section. Movement of the flanges **21** of the diffuser sections away from the seats **17** is limited by horizontal flanges **29** of the angle members **26**. The flanges **29** overlie but are spaced from the flanges of the diffuser sections to provide clearances **30** (Figure 3) which the flanges **21** of the end sections may move into to permit the end flanges of the end sections to ride up over the pins **27** so that the pins may enter the openings **28** as the end sections reach their predetermined positions upon the shell **13**. The clearances **30** also permit the outer ends of the end sections of the diffuser to be elevated to withdraw the pins **27** from the openings **28** when it is desired to remove the end sections from the shell.

From the foregoing it will be apparent that the seats **17** and the angle members **26** provide parallel longitudinally extending guides for the side flanges of the diffuser sections, that the flanges of the diffuser sections may be caused to enter the guides from either end of the shell and that the central section is held in place by the two end sections. Facility in assembling the sections of the diffuser and in removing them to enable inspection, removal, and replacement of the tubes is thus insured. The construction described has the further advantage that a fixture having any desired length of diffuser may be assembled (assuming a shell having guides of the proper length has been provided) by adding additional sections similar to the section **20** between the end sections. On the other hand, a fixture having a shorter diffuser may be provided, if desired, by eliminating the central section and arranging the end sections so that their open ends interfit in the manner shown in Figure 5, it being noted in this connection that the open end of the section **18** is male while that of the section **19** is female and that one end of the central section **20** is male and the other end female. Diffusers having any desired number of central sections or without any central section may, therefore, be assembled to provide a diffuser of the length required to accommodate any particular length of tubes. The use of separate molds for different lengths of diffusers is thus rendered unnecessary.

It will be understood, of course, that although fluorescent tubes are referred to as providing the light source, this is intended by way of example only and that, if desired, any other type of lamp, tubular or otherwise, may be employed instead.

I claim as my invention:

1. An electric lighting fixture of the character described including a body, a light source, an elongated diffuser for modifying the light emitted by said light source, said diffuser comprising a plurality of preformed sections arranged end-to-end and having end sections which are closed at their outer ends and open at their inner ends, means carried by said body for providing spaced longitudinally extending guides, each of said end sections having a transversely extending flange at its closed end and having spaced longitudinally extending flanges which are movable along said guides and which cooperate with the latter to support said sections in a predetermined assembled relation and means on said body for releasably engaging the transversely extending flanges on said end sections to hold said sections against movement off said guides.

2. An electric lighting fixture of the character described including a body, a light source, an elongated diffuser for modifying the light emitted by said light source, said diffuser comprising a plurality of preformed sections arranged end-to-end and having end sections which are closed at their outer ends and which are open at their inner ends, means carried by said body for providing spaced longitudinally extending guides, each of said end sections having longitudinally extending side flanges and a transversely extending end flange, said side flanges being movable along said guides and cooperating with the latter to support said sections in a predetermined assembled relation and a projection on said body which is engageable with an end flange of one of said end sections to hold said section against movement off said guides, said section being movable upwardly with respect to said guides to release said end flange.

3. An electric lighting fixture of the character described including a body, a light source mounted on said body, a diffuser for modifying the light emitted by said light source, said diffuser comprising a plurality of pre-formed sections having longitudinally-extending side flanges and being arranged horizontally end-to-end to provide an elongated assembly, longitudinally-extending guides on said body for said flanges, said guides cooperating with said flanges to support said sections and to limit their lateral movement while permitting them to be assembled on said body and to be removed, at will, by moving them lengthwise in substantially the same horizontal position and plane in which they are supported, and means for engaging one of said sections in its predetermined position on said body to hold it against accidental or unintentional lengthwise movement off said body, said guides permitting said section to be moved upwardly with respect to said body to release it from said means and thereafter to be moved lengthwise to withdraw said flanges from said guides.

4. An electric lighting fixture of the character described including a body, a light source mounted on said body, a diffuser for modifying the light emitted by said light source, said diffuser comprising a plurality of preformed sections having longitudinally-extending side flanges and being arranged end-to-end to provide an elongated assembly, an end section of said diffuser also having a horizontal, transversely extending flange which is formed with an opening, longitudinally-extending guides on said

body for said side flanges, said guides cooperating with said side flanges to support said sections and to limit their lateral movement while permitting them to be assembled on said body and to be removed therefrom, at will, by lengthwise movement in substantially the same horizontal position and plane in which they are supported, and a projection on said body which is adapted to enter said opening when said end section approaches a predetermined position on said body to hold said section against accidental or unintentional movement lengthwise of said body, said guides permitting said end section to be moved upwardly with respect to said body to withdraw said projection from said opening and thereafter to be moved lengthwise to withdraw said side flanges from said guides.

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