Sept. 26, 1944. O. H. BIGGS ET AL 2,358,784

FLUORESCENT LAMP FIXTURE

Filed July 19, 1940 2 Sheets-Sheet 1

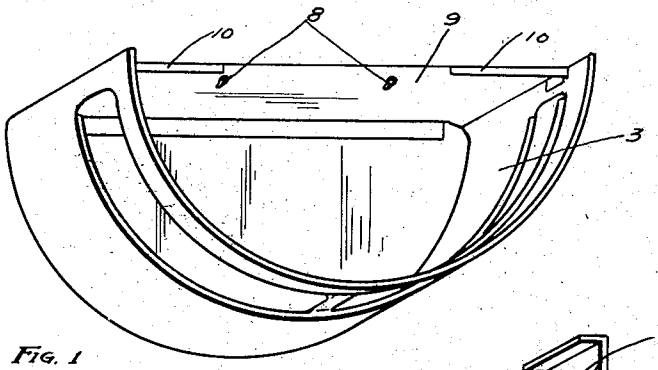


FIG. 1

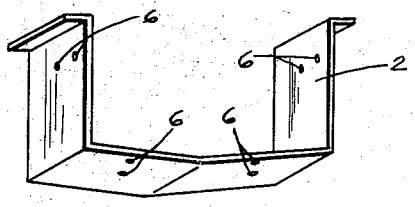


FIG. 2

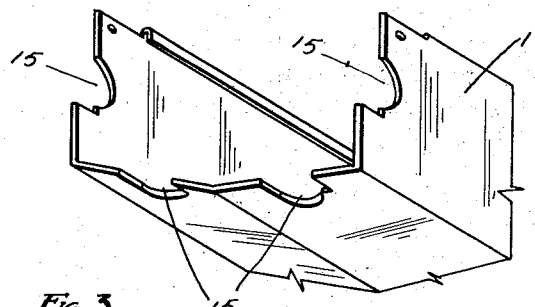


FIG. 3

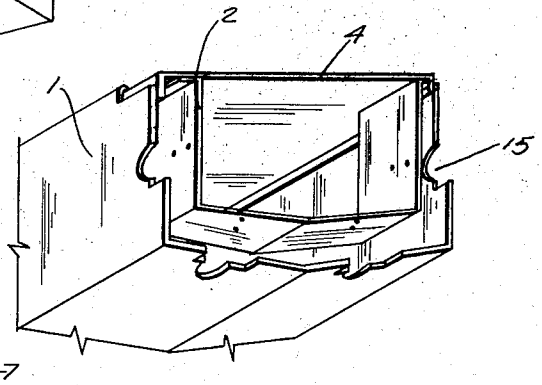


FIG. 4

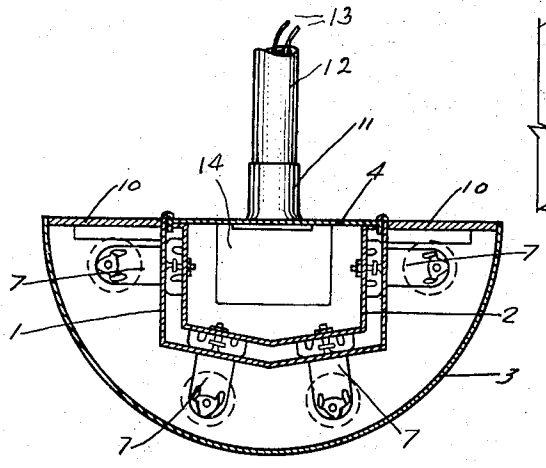


FIG. 5

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FLUORESCENT LAMP FIXTURE

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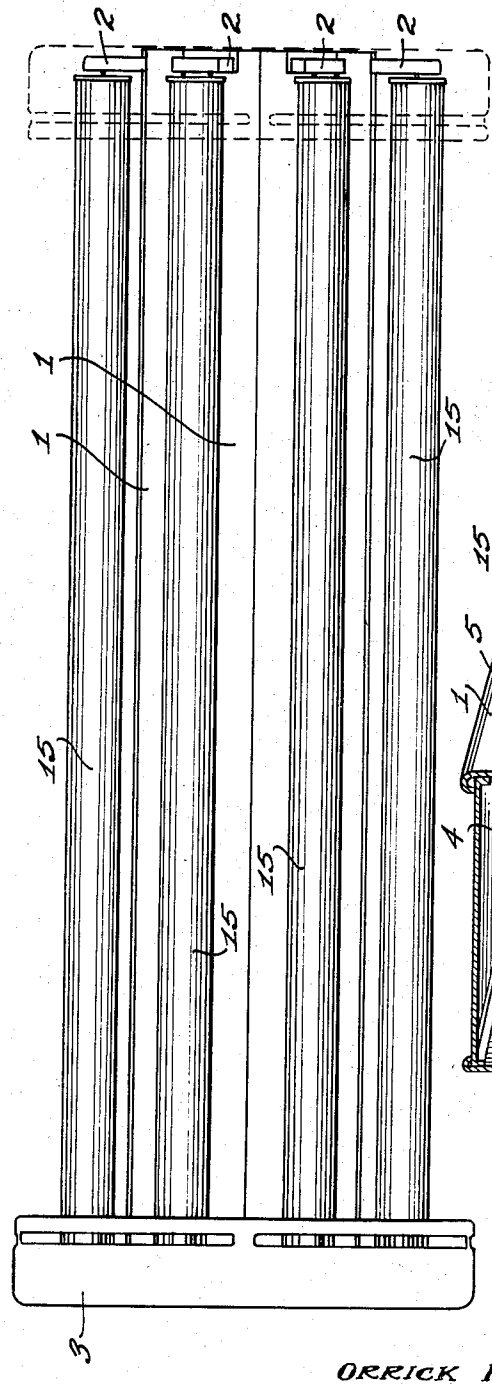


FIG. 7

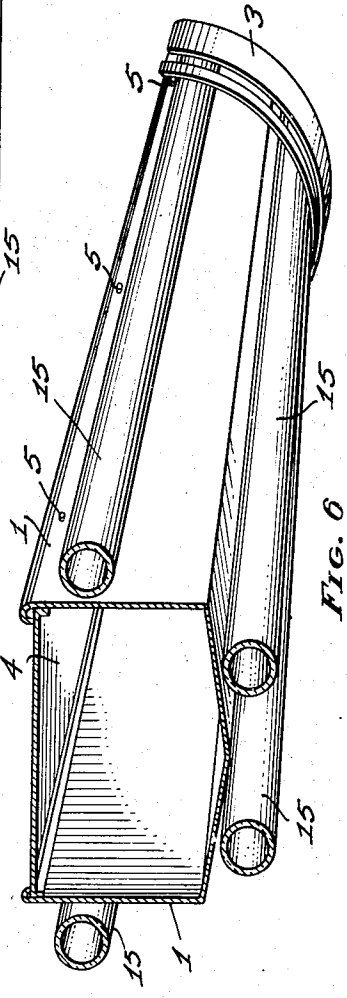


FIG. 6

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FLUORESCENT LAMP FIXTURE

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Application July 19, 1940, Serial No. 346,354

3 Claims. (Cl. 240—78)

This invention relates to electric gaseous discharge lamps and in particular to apparatus and fixtures for operating such lamps.

Since electric gaseous discharge lamps require certain auxiliary equipment for their proper operation, provision must be made for a suitable housing therefor.

Accordingly, an object of this invention is to provide a fixture which will adequately provide for all auxiliary equipment.

Another object is to provide a fixture which will have an adequate safety device to prevent the lamps from falling out.

A further object is to provide a fixture which will hide from view the ends of the lamp, thus concealing any discoloration which might occur on the walls of the lamp near the electrodes.

Another object is to provide a fixture which will obtain a maximum of reflecting surface.

Other objects and advantages will be apparent from the specification below, taken in conjunction with the accompanying drawings in which:

Fig. 1 is a detail of the end cap;

Fig. 2 is a detail of the lamp socket holder;

Fig. 3 is a detail of the end of the reflector;

Fig. 4 is a detail of the ends of the reflector and the chassis channel and the lamp socket holder;

Fig. 5 is a transverse cross-section of the fixture;

Fig. 6 is a perspective view of the fixture partly in section;

Fig. 7 is a bottom view of the fixture showing one of the end caps in phantom section.

Similar reference characters refer to similar parts throughout the several views of the drawings and in the specification which follows:

The fixture in this invention comprises four principal parts, the reflecting surface 1, the lamp socket holders 2, the end caps 3, and the chassis 4.

Figures 4 and 6 show the reflecting surface 1 in its relation to the chassis 4. The reflecting surface 1 is made of sheet metal such as autobody steel and is joined to the chassis 4 which is a sheet metal channel also of autobody steel, in such a manner that the reflecting surface 1 overlaps on the chassis 4. The screws 5 as shown in Figure 6 serve as positioning screws and join the reflecting surface and the chassis. By joining the reflecting surface to the chassis in this overlapping manner, the weight of the reflecting surface, the lamps, and the lamp socket holders is more evenly distributed over the entire chassis than it would be if the sole support of the reflecting surface and its adjoining parts was through several screws similar to screws 5. This even weight distribution not only prevents strains from being set up at various points along the chassis but also obviates the possibility of the entire fixture being thrown out of alignment.

The lamp socket holders 2, which hold the lamps 15, a detail of which is shown in Figure 2 are joined, one at each end of the chassis channel 4, as shown in Figure 4, by spot welding or some similar means. These lamp socket holders are made of sheet metal, such as autobody steel and have the holes 6 bored therein, through which the lamp sockets 7 as shown in Figure 5 are attached. By thus providing these lamp socket holders, the reflecting surface 1, which is autobody steel with a baked white enamel finish, will not be scarred or chipped by the positioning of lamp sockets thereon. As shown in Figure 4, the reflecting surface, before it has received its enamel coating, has appropriate slots 15 at the ends thereof through which the lamp sockets may project in their extension from the lamp socket holders.

The end caps 3, a detail of which is shown in Figure 1, are located one at each end of the fixture. They may be made of autobody steel and have a baked aluminum enamel finish. They are readily removed from the fixture for they are held to the chassis through the elongated slots 8 located in the mounting bracket section 9 of the end cap 3, and nubs atop the chassis, the end caps being moved in over the ends of the chassis until the nubs become located within the slots 8. The mounting bracket 9 has the lipped extension 10 as shown in Figures 1 and 5. These lipped extensions 10 in conjunction with the elongated slots 8 serve to give the end caps a very positive and definite locking position on the end of the fixture, thereby preventing sidewise or lateral movement of the end caps.

These end caps serve a three-fold purpose. By providing a cap which will enclose the ends of the lamp, the so-called "dark-ends" are hidden from view. These "dark ends" consist of a discoloration of the walls of the lamp at each end near the electrodes and detract considerably from the appearance of the lamp and the fixture if they are not concealed in a manner similar to the one herein employed.

Another purpose which the end cap serves is that it prevents a lamp which has become loosened from its sockets from falling out of the fixture entirely. If no end caps were used a lamp could fall out of the fixture and probably injure someone who might be working beneath it. The possi-

bility of such a thing happening is not a remote one, for if one or more of the screws holding the lamp sockets in place became loose, the socket would have a tendency to move and thereby loosen the lamp pins from their locking positions in the lamp sockets.

A further advantage to be gained by the use of the end caps is that they prevent low angle radiation which would otherwise be present. The elimination of low angle radiation removes a tendency towards a glaring condition at the ends of the lamp.

The pipe hanger adapters 11 of cold rolled steel or some similar material are flared at their lower extension to give a wide bearing surface. These adapters may be joined to the chassis as shown in Figure 5 by spot welding or some similar means. Although only one of these adapters may be used, it is advisable to use at least two in order to gain greater stability. These pipe hanger adapters are threaded internally for the reception therein of the pipe hangers 12 through which the wiring connections 13 pass in their extension from the auxiliary equipment 14 suspended from the chassis channel 4.

The contour of the reflecting surface 1 is substantially the same as shown in Figure 6 and is designed to give a maximum of reflecting efficiency.

What we claim is:

1. A fixture for elongated tubular lamps comprising: electrical control apparatus for said lamps; a chassis from which said apparatus may be supported; brackets suspended from said chassis at each end thereof; lamp sockets attached to and projecting outwardly from said brackets; a convex reflector suspended from said chassis and forming in conjunction therewith an enclosure for said electrical control apparatus, said reflector having slots therein through which said lamp sockets may project; and end-caps at each end of said chassis, each of said caps enclosing an end of said chassis and reflector, a bracket, lamp sockets and the ends of the lamps at that end of the chassis, said end caps having their closed ends spaced substantially transverse to the axis of said chassis and having their longitudinal walls spaced from the walls of the lamps and substantially parallel thereto.

2. In a fixture for elongated tubular lamps, an assembly comprising an elongated reflector member having a convex outer reflector surface and an end cap enclosing each end of said member; a bracket mounted within said assembly adjacent each of the ends thereof; a lamp socket mounted on each of said brackets with its lamp mounting portion lying within the respective end cap and outside of said reflector member; said reflector member being mounted in said assembly through attachments to its edges as the only connections thereto.

3. In a fixture for elongated tubular lamps, an assembly comprising an elongated support, an elongated reflector member having a convex outer reflecting surface, an end cap enclosing each end of said reflector member and support, a bracket mounted within said support adjacent each of the ends thereof, a lamp socket mounted on each of said brackets with its lamp mounting portion lying outside of said reflector member so as to receive the ends of a tubular lamp, and means projecting from the edges of said reflector member and overlying the edges of the support for attaching the reflector member thereto; said edge attaching means constituting the sole connection of the reflector member to the support.

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