

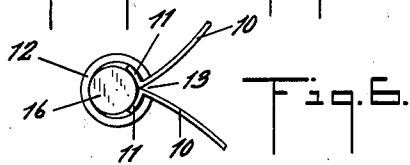
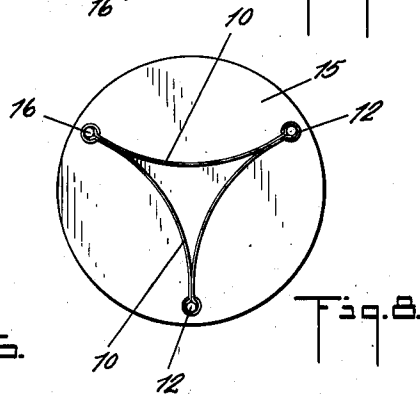
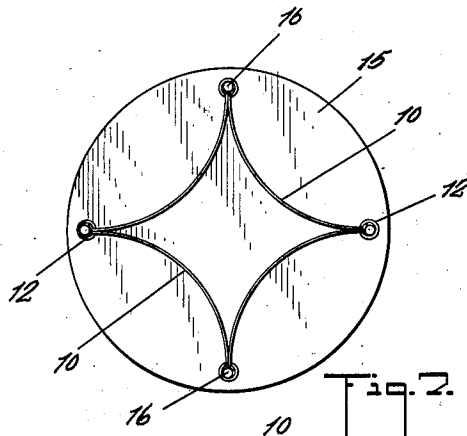
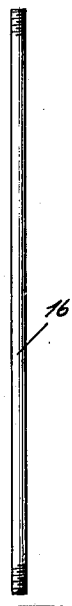
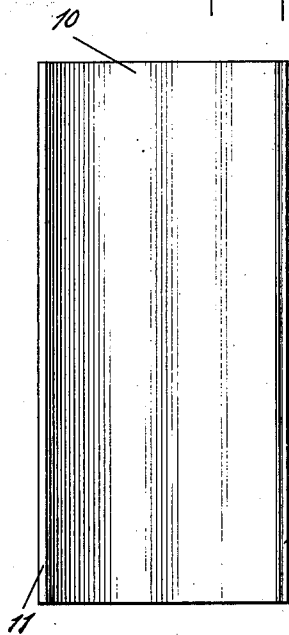
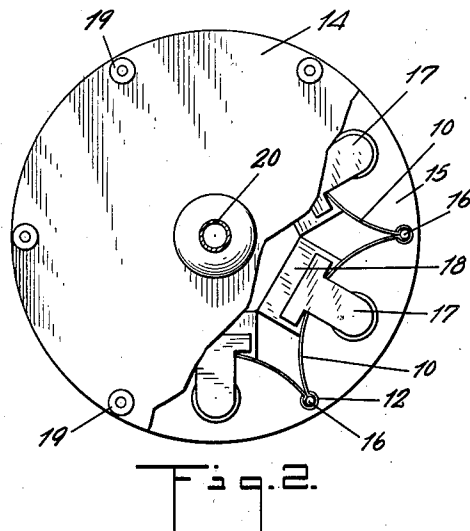
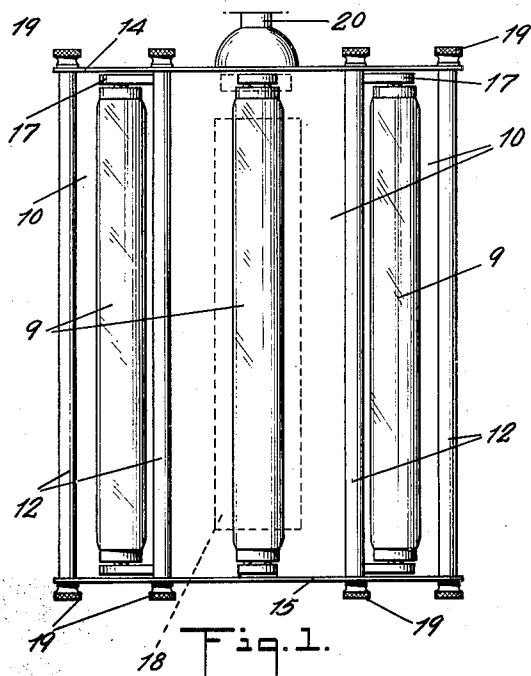
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2,216,084

MULTIPLE LAMP REFLECTOR

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2,216,084

MULTIPLE LAMP REFLECTOR

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3 Claims. (Cl. 240—78)

This invention relates to multiple lamp reflectors, and more particularly to reflectors of this character adapted to reflect rays from parallel elongated light sources, such as luminous tubes.

The main object of this invention is to provide a multiple lamp reflector constructed of interchangeable parts which can be readily assembled to accommodate different numbers and arrangements of lamps.

Other objects are to simplify and improve the construction and assembly of reflectors of this character. Further objects and features of novelty will be apparent from the following description and the accompanying drawing in which

Figure 1 is an elevation of a multiple lamp reflector assembly according to the preferred embodiment of the present invention;

Figure 2 is a top plan view of the device shown in Figure 1, part of the top being broken away to show the construction therebelow;

Figure 3 is an elevation of one of the interchangeable reflector elements;

Figure 4 is an elevation of one of the interchangeable joiner posts;

Figure 5 is an elevation of one of the interchangeable tie rods;

Figure 6 is a detail plan of assembly of Figures 3, 4 and 5;

Figure 7 is a plan of a modification of Figure 2, the top plate being removed; and

Figure 8 is a modification of Figure 7.

The essential advantage of the construction is the fact that it is made almost entirely of structural units which are interchangeable and which are easy to manufacture and assemble. The multiple reflector is intended for use in a lighting fixture or reflector assembly containing a plurality of elongated light sources such as fluorescent tubes, and provides an individual reflecting surface for each tube, the entire device preferably consisting of aluminum or an alloy of same.

As shown in Figure 3, each concave reflector element 10 has a lip or flange 11 bent over at each longitudinal edge. Two adjacent reflector elements are adapted to be held together by a joining means such as a small tube 12, say $\frac{1}{4}$ " in diameter, which is split or otherwise provided with a longitudinal slot or open seam 13 therein permitting introduction of the lips of the two adjacent reflecting surfaces.

These lips and the space inside the tube are such that the two adjacent reflecting surfaces

can be arranged in transverse alignment or swung back against each other so that the reflection from the two tubes is thrown out at a separating angle, i. e., the combined reflectors are intended for use either as a generally flat surface or as a generally convex surface. It will be observed that each reflecting surface is the same as the next one, provided the length of fluorescent tube is not changed; so that for one length of fluorescent tube it is necessary to carry in stock only one length of reflector unit and one length split tube unit.

To assemble these units into a complete device there are needed a top plate 14, a bottom plate 15 and the rods 16 to tie the plates together and hold the reflectors and tubes in position. These rods 16 pass through the split tubes 12 and of course the rods are all the same for any one length of fluorescent tube.

The top and bottom plates will of course vary according to the shape of the particular unit which is being built up, and these end plates therefore are the only units which differ from one assembly to another.

Each reflector surface carries the necessary sockets 17 for the ends of the fluorescent tubes, and on the back of the reflector is mounted the transformer 18 for each individual tube. The wires for the unit enter through one of the plates, for example at 20 to the interior of the device where easy access is obtained to the transformer and end socket wires. When the nuts 19 are screwed on to the ends of the threaded tie rods, the device becomes rigid, and when the nuts are taken off and the end plate removed, any single reflector surface can easily be removed or replaced or top and bottom plates changed if for any reason this becomes desirable.

It will be observed that in this arrangement of parts we have first the concave reflecting surface in back of the tube, which is necessary to give the proper reflection of the light from that tube, and a pivotal relation between two adjacent reflecting surfaces varying from a straight line to a convexity composed of perhaps as few as four reflecting surfaces to complete a circle, as shown in Figure 7. Aside from providing room for the transformers, the chances are that three reflecting surfaces could be formed into a complete circle, as shown in Figure 8. On the other hand, the circumference of a circular type fixture can be made larger by use of six, eight, ten or more reflecting surfaces arranged in a circle. In addition

to a free hanging circular type fixture, a semi-circular fixture for flat mounting can be obtained by the use of three reflecting surfaces and half a plate top and bottom; a fixture for corner mounting by the use of two reflecting surfaces and a quarter plate top and bottom.

It should be noted that if one is dealing with a non-fluorescent tubular type of lamp such as the Lumiline type, no transformers are required, and thus as few as three reflecting surfaces doubtless could be used for a complete circular fixture shown in Figure 8. It should also be noted that at present the fluorescent type of tube is made in 18", 24" and 36" lengths which apparently have become standard, so that it would be necessary only to carry three lengths of stock and possibly the 18" could be produced by cutting the 36" in half, so that only two lengths would necessarily have to be carried.

From the foregoing description it will be apparent not only that the units are each of them quite simple in manufacture, involving no irregular projections or the like, but that the entire device is assembled and made rigid without the use of solder, rivets, brazing or anything of that nature. The device can be disassembled and assembled in another form without any trouble. Another point of advantage is that the individual parts comprising the complete reflector are all substantially flat, so that they may be packed and shipped in quite compact form. The device can be used either in a vertical, horizontal or any other position, and may be suspended or otherwise.

I claim:

1. In a multiple lamp reflector, a plurality of elongated transversely concave metal reflector elements each having its two parallel longitudinal margins flanged inwardly toward the concave side thereof and thereby formed into anchoring means, rigid tubes each having a longitudinal slot receiving a pair of said anchoring margins comprising the adjacent margins of adjacent reflectors, transverse end plates engaging the ends of said reflector elements and having holes registering with said tubes, and tie bolts passing through said tubes for spreading said anchoring margins and for holding said reflectors in posi-

tion and having projecting ends passing through said registering holes in said end plates, and nuts on said projecting ends for securing said end plates thereon.

2. In a multiple lamp reflector, a plurality of elongated transversely concave metal reflector elements each having its two parallel longitudinal margins deformed to project inwardly toward the concave side thereof and thereby formed into anchoring means, rigid tubes each having a longitudinal slot, one margin of each of a pair of said reflectors being inserted into said tube with the adjacent portions of their reflectors lying in said slot, transverse end plates engaging the ends of said reflector elements and having holes registering with said tubes, a lamp on the concave reflecting side and a transformer therefor on the reverse side of each reflector, tie bolts passing through said tubes and having projecting threaded ends passing through said registering holes, and nuts on said threaded ends for holding said margins, reflectors and end plates in position.

3. In a multiple lamp reflector, a plurality of elongated transversely concave reflector elements each having one of its two parallel longitudinal margins arranged adjacent to the opposite one of the two parallel longitudinal margins of another, said margins being transversely deformed toward the concave side of said reflectors to form anchors and being coextensive in length and said adjacent margins forming complementary pairs, a joiner element comprising a slotted tube having oppositely disposed edges constituting the sides of the slot thereof and forming retainers, said slotted tube receiving said margins therein in divergent relation with the retainer edges of each slot fitting into the corners of the reflector elements formed by the deforming of the marginal anchors, and locking means within said joiner element comprising a separate element longitudinally inserted therein and cooperating with the inner walls of said tube adjacent to said retainer edges for spreading said deformed marginal anchors and locking said marginal anchors and said joiner element together.

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