

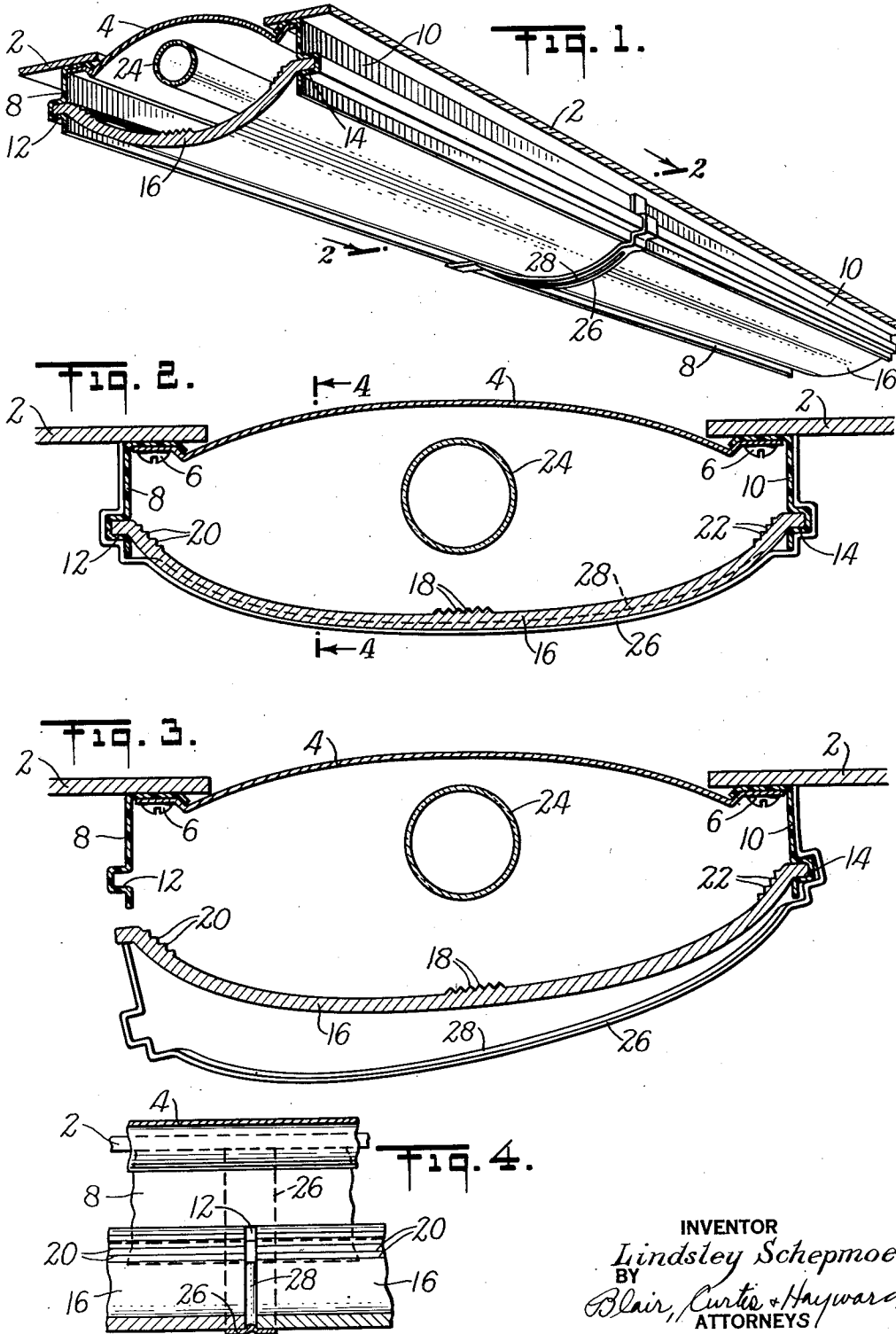
Oct. 10, 1950

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2,525,315

LIGHTING FIXTURE

Filed Oct. 20, 1945



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UNITED STATES PATENT OFFICE

2,525,315

LIGHTING FIXTURE

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Application October 20, 1945, Serial No. 623,527

5 Claims. (Cl. 240—7.35)

1

This invention relates to lighting fixtures, and more in particular to a lighting fixture and lens construction which is mounted on the ceiling of a railroad car and extends substantially along the entire length of the car.

An object of this invention is to provide a lighting fixture which is light in weight, simple and durable in construction, and which is inexpensive to manufacture and install. A further object is to provide a lighting fixture which will direct light as desired along the ceiling of the car and also toward the seats in the car. A further object is to provide such a lighting fixture which is sufficiently closed to prevent the ready access of dirt, but which may be opened easily for replacement of lamps or the like. A still further object is to provide such a lighting fixture which will meet the requirements for use in a railway car or similar vehicle. These and other objects will be in part obvious and in part pointed out below.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts as will be exemplified in the structure to be hereinafter described and the scope of the application of which will be indicated in the following claims.

In the drawings:

Figure 1 is a perspective view showing a lighting fixture representing one embodiment of the invention;

Figure 2 is a sectional view along the line 2—2 of Figure 1;

Figure 3 is a view similar to Figure 2 but showing the lighting fixture opened; and

Figure 4 is a sectional view on the line 4—4 of Figure 2.

Referring particularly to Figure 1 of the drawings, the car ceiling is represented at 2 and has a longitudinal opening in which is positioned a ceiling reflector plate 4 which is trough-like and provides a bottom reflecting surface. Reflector plate 4 is held in place by a plurality of screws 6 (Figure 2), and clamped beneath its opposite edges are two bracket strips 8 and 10 of thin, flexible, light-permeable plastic. As shown best in Figure 3, bracket 8 has a horizontal slot 12 and bracket 10 has a similar slot 14; these slots provide horizontal ledges and receive the opposite edges of a trough-like lens 16. Lens 16 is of glass with smooth surfaces except that longitudinal prismatic ridges are provided on the top surface of the lens at the center at 18 and at the edges at 20 and 22. Directly above ridges 18 is a fluorescent lamp 24 which is mounted on reflector

2

plate 4 by brackets (not shown) and which provides the illumination. The light which is directed toward ridges 20 and 22 is dispersed to provide better general illumination, and the light which is directed toward ridges 18 is dispersed so that a person standing directly beneath the lighting fixture may look directly toward lamp 24.

As indicated above and shown in Figure 1, a single light fixture may extend the full length of the car with a single reflector plate 4 and a single pair of bracket strips 8 and 10 but with several lenses 16. At the ends of each lens is a removable band 26 which extends to the ceiling at both sides of the fixture and which hugs the end of the lens and the bracket strips 8 and 10. The contour of each band 26 is such as to fit tightly over the outside of the two bracket strips at grooves 12 and 14, and as shown best in Figure 4, the central portion of the band is provided with a rib 28 which projects in between the two meeting ends of the adjacent lenses. Thus, the bands hold bracket strips 8 and 10 into tight engagement with the sides of the lenses, and also hold the lenses from longitudinal movement.

When it is desirable to remove a lens, for example, to clean the fixture or to replace a bulb 24, the bands 26 at the end of the lens are removed, and one of the bracket strips 8 or 10 is bent away from the lens by engaging the lower edge of the bracket strip. This permits the lens to move down as shown in Figure 3. Reassembly is simple in that the bracket strips are pushed apart and the lens is replaced into grooves 12 and 14, after which strips 26 are replaced.

With this fixture the light is directed downwardly in an efficient manner by reflector plate 4, and bracket strips 8 and 10 pass sufficient light to illuminate the ceiling. Furthermore, the light directly beneath the bulb is defused by ridges 18 so that a person standing in the center of the car does not look directly at an unprotected bulb. At the same time, light is directed to the two sides of the car through the clear portions of the lens. Under some circumstances it is desirable to provide a separate pair of bracket strips 8 and 10 for each lens, or the strips may be slit from their lower edges at the juncture between the lenses so that the strips may be flexed outwardly to release the lenses separately.

As many possible embodiments may be made of the above invention and as many changes might be made in the embodiment above set forth, it is to be understood that all matter hereinbefore set forth, or shown in the accompanying drawing, is

to be interpreted as illustrative and not in a limiting sense.

I claim:

1. A ceiling lighting fixture for a railroad car or the like, comprising, a top reflector-plate assembly having a downwardly exposed reflecting surface which is adapted to reflect light, a pair of flexible side brackets positioned respectively at the side edges of said reflector-plate assembly and providing vertical walls along said side edges which walls are light pervious whereby light from a light source within said fixture may pass through the walls in a generally horizontal direction, each of said side brackets having a groove adjacent its lower edge which groove is disposed toward the zone beneath the reflector-plate assembly whereby a supporting ledge is provided, a lens positioned generally horizontally in spaced relationship beneath said reflector-plate assembly and being generally of the same horizontal dimensions as said reflector assembly and having side edges which extend into the grooves in said side brackets whereby said lens is supported on said ledges, whereby at least one of said side brackets may be moved outwardly with respect to the other side bracket to permit removal of said lens, and a plurality of flexible locking strips each extending across the bottom of said lens and extending upwardly at the ends of each locking strip around the side brackets whereby the lower edges of the side brackets are held from horizontal movement away from the edges of the lens.

2. In a lighting fixture of the type used in the ceiling of a railroad car or the like, in combination, a longitudinally extending reflector plate providing a continuous reflecting surface positioned substantially horizontally and having parallel side edges, a series of pairs of side brackets, each pair of side brackets being of the same length and being positioned respectively along opposite side edges of said reflector plate and providing vertical walls along said side edges which walls are light pervious whereby light from a light source within said fixture may pass through said walls in a generally horizontal direction, each of said side brackets having a groove adjacent its lower edge, the open side of said groove being disposed toward the zone beneath the reflector plate whereby a supporting ledge is provided, a plurality of lenses of the same length as said side brackets positioned end to end beneath said reflector plate, each lens having its side edges positioned in the grooves of a pair of side brackets whereby each lens is supported by the side bracket on which it is mounted, the ends of each lens being aligned with the ends of the pair of side brackets on which it is mounted, and a plurality of locking strips connecting said side brackets to prevent said side brackets from moving outwardly away from each other when said locking strips are in locking position, whereby when said locking strips are detached any pair of side brackets may be flexed outwardly with respect to each other to permit the removal of the lens mounted thereon.

3. A lighting fixture as described in claim 2 in which each locking strip is a flexible metal strip covering the joint between adjacent lenses and side brackets and which includes portions which extend upwardly over the side brackets conforming to the shape thereof, the locking strips being resilient and clamping together the side brackets on which it is mounted.

4. In a lighting fixture of the type used in the ceiling of a railroad car or the like, in combina-

tion, a longitudinally extending reflector plate having parallel side edges, a pair of side brackets one of which is movable outwardly with respect to the other side bracket, said side brackets being light pervious to permit light to pass horizontally from a source of light beneath said reflector plate, each of said side brackets having an inwardly extending ledge adjacent its lower end, said ledges extending longitudinally of said side brackets, a longitudinally extending lens positioned beneath said reflector plate and providing a space for said source of light, said lens having side edges extending respectively over the ledges on said side brackets whereby said side brackets provide supports for said lens, whereby when said movable side bracket is moved outwardly with respect to the other side bracket its ledge is moved from beneath said lens permitting the removal of said lens, and removable locking strip means connecting said side brackets to prevent said last-mentioned side bracket from being moved outwardly away from the other side bracket when said locking strip means is in locking position.

5. In a lighting fixture of the type used in the ceiling of a railroad car or the like, in combination, a longitudinally extending reflector plate providing a continuous reflecting surface positioned substantially horizontally and having parallel side edges, a pair of side brackets at least one of which is flexible to permit its lower edge to be moved outwardly away from the other bracket, said side brackets being fixed respectively at the side edges of said reflector plate and extending downwardly therefrom to form walls extending longitudinally of said reflector plate, each of said brackets being light pervious to permit light to pass horizontally from a source of light beneath said reflector plate and having near its lower edge a horizontal ledge, a longitudinally extending lens positioned substantially horizontally and spaced beneath said reflector plate and providing a space for said source of light, said lens having side edges extending respectively over the horizontal ledges on said side brackets whereby the side bracket provide supports for said lens, the flexibility of one of said side brackets permitting said last-mentioned bracket to be flexed outwardly so as to move its ledge from beneath said lens, thus permitting the removal of said lens from said fixture, and removable locking strip means connecting said side brackets to prevent said last-mentioned side bracket from moving outwardly away from the other side bracket when said locking strip means is in locking position.

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