Aug. 18, 1942. A. L. ARENBERG 2,293,326

LIGHTING EQUIPMENT

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Fig. 3.

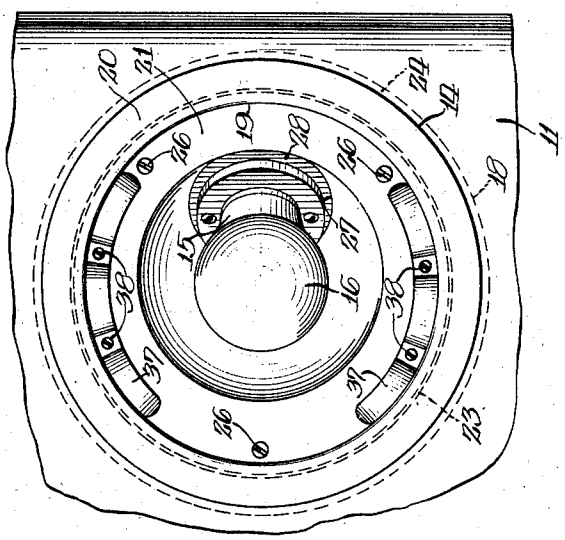
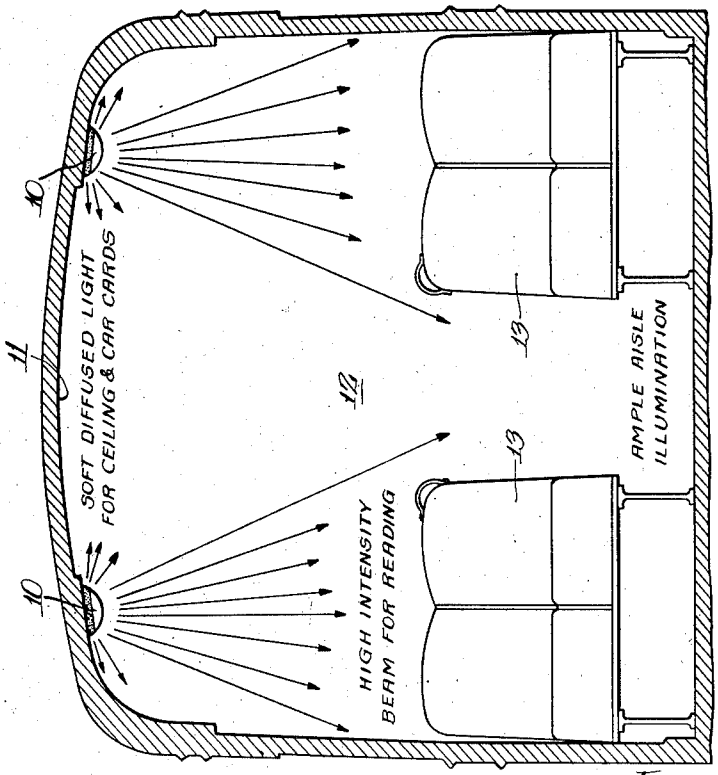


Fig. 1.



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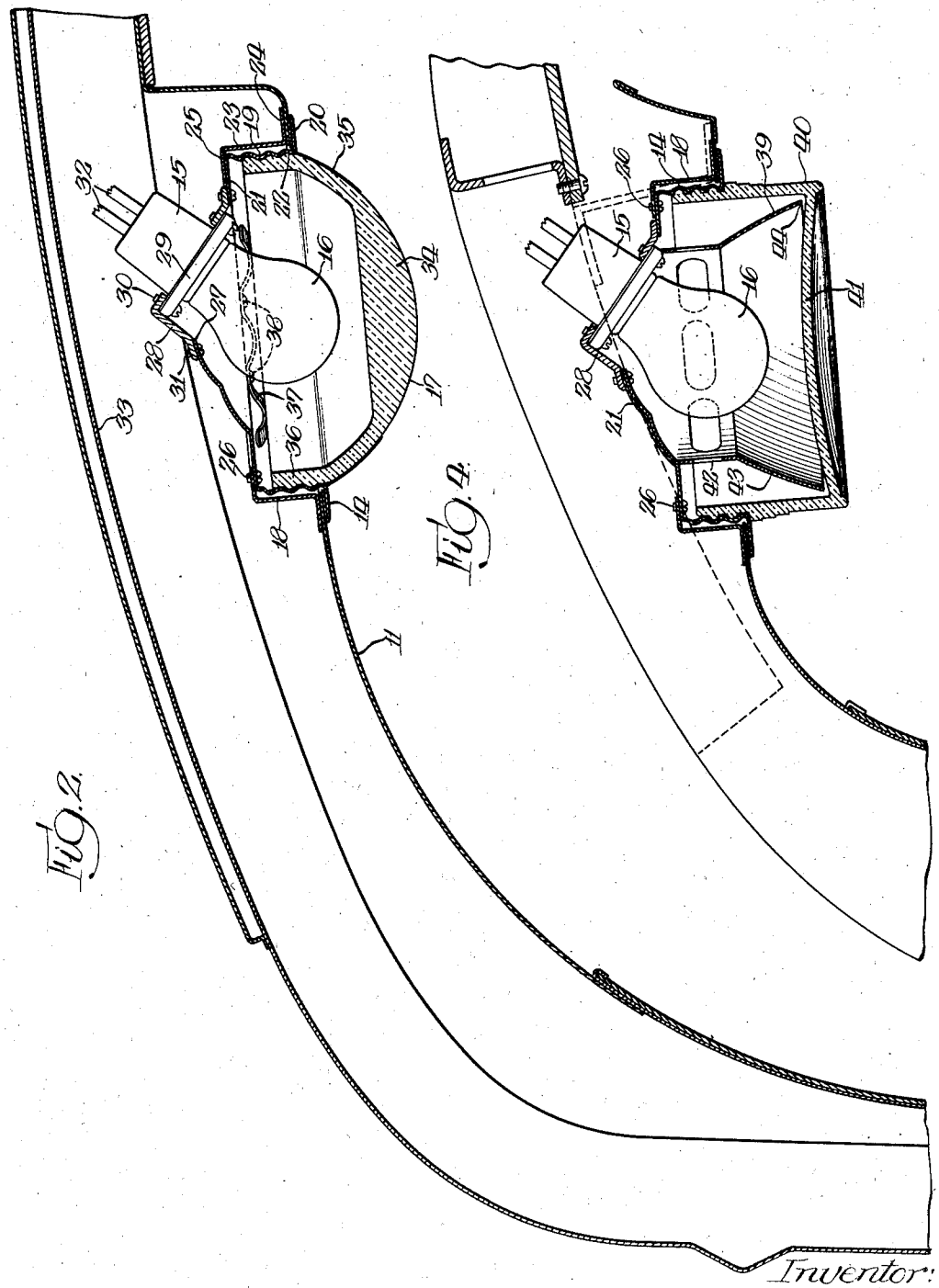


Fig. 2.

Fig. 4.

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LIGHTING EQUIPMENT

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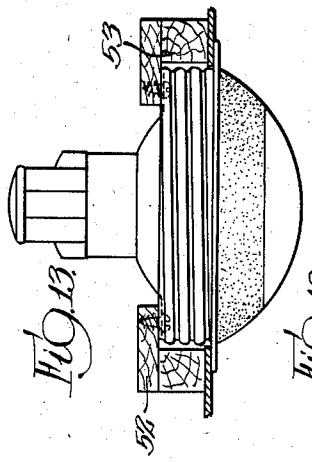


Fig. 13.

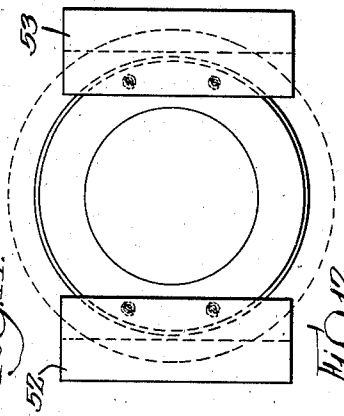


Fig. 14.

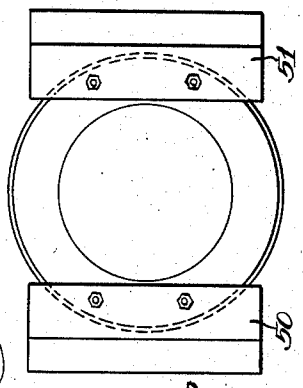


Fig. 12.

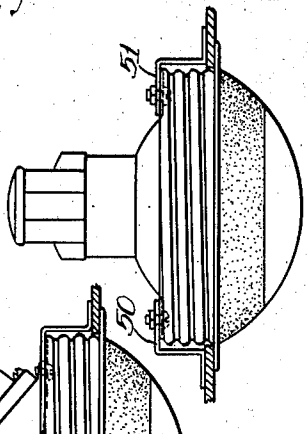


Fig. 11.

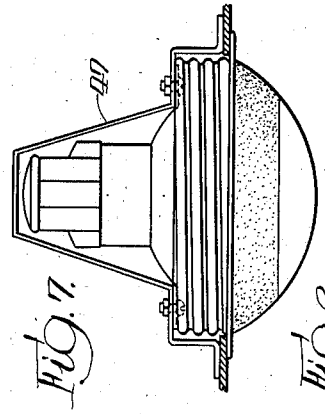


Fig. 7.

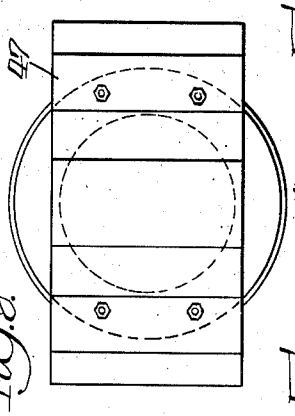


Fig. 8.

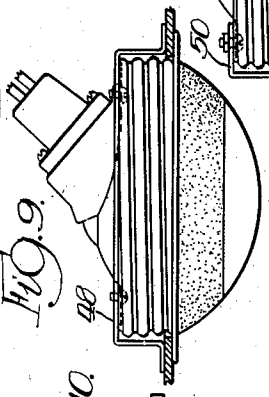


Fig. 9.

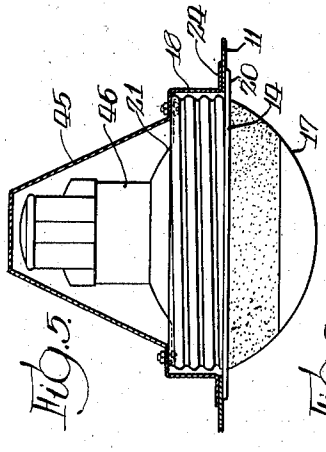


Fig. 5.

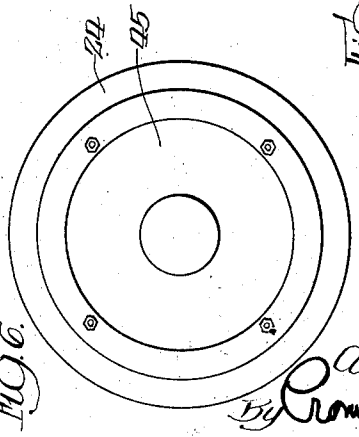


Fig. 6.

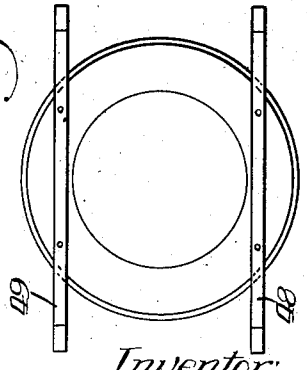


Fig. 10.

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Patented Aug. 18, 1942

2,293,326

UNITED STATES PATENT OFFICE

2,293,326

LIGHTING EQUIPMENT

Albert L. Arenberg, Highland Park, Ill., assignor to Patent License Corporation, Chicago, Ill., a corporation of Illinois

Application September 16, 1937, Serial No. 164,228

2 Claims. (Cl. 240—7.35)

This invention has to do with lighting fixtures of the type in which a globe is fitted to a holder mounted in the ceiling of a railway car, bus or other place to be illuminated, and is particularly concerned with the way in which the holder for the globe is fastened in place in the ceiling.

The principal object of the invention is to provide, in a lighting fixture of the type described, a simple, inexpensively constructed and easily installed globe holder assembly which can be mounted securely in an aperture in the ceiling without having its appearance marred by any exposed screws or other attaching means.

Another object of the invention is to provide, in a lighting fixture of the type described, novel means in association with the globe holder for effecting a controlled distribution of the light rays through different sections of the globe.

While the foregoing statements are indicative in a general way of the nature of the invention, other more specific objects and advantages will be apparent to those skilled in the art upon a full understanding of the construction, arrangement and function of the parts which have been combined to form the fixture.

A preferred embodiment of the invention and several modifications thereof are presented herein for the purpose of exemplification, but it will of course be appreciated that the invention is susceptible of embodiment in still other structurally modified forms coming equally within the scope of the appended claims.

In the accompanying drawings:

Fig. 1 is a vertical transverse section through a railway car or bus, showing substantially the distribution of light which can be obtained with fixtures mounted in the ceiling in accordance with the present invention;

Fig. 2 is a vertical transverse section through the ceiling of the car at the location of one of the fixtures;

Fig. 3 is a face view of the fixture, looking up, with the globe removed;

Fig. 4 is a sectional view which corresponds to Fig. 2 but shows a modified form of holder and globe;

Fig. 5 is a partially sectioned side view which shows a modification in the circular holder supporting bracket;

Fig. 6 is a plan view of the bracket shown in Fig. 5;

Figs. 7 and 8 are side and plan views, respectively, of a modification in the holder supporting means;

Figs. 9 and 10 are corresponding views of another modification;

Figs. 11 and 12 are corresponding views of another modification; and

Figs. 13 and 14 are corresponding views of still another modification.

Lighting fixtures constructed in accordance with the invention are preferably, though not necessarily, employed to illuminate car interiors in the manner shown in Fig. 1, wherein two rows 10 of fixtures are arranged along the ceiling 11 of the car at opposite sides of the center aisle 12, so as to provide high intensity light over the seats 13 and soft diffused light in the aisle and against the ceiling and side walls, all substantially in accordance with the disclosure in Arenberg Patent No. 2,020,273.

The fixture illustrated in Figs. 2 and 3 is composed of a sheet metal holder 14, a socket 15 for a lamp bulb 16, a globe 17 and a bracket 18. The holder 14 is a centrally apertured hat-shaped stamping which is characterized by a threaded tubular portion 19, an outturned bottom flange 20 and an inturned top 21. The tubular portion 19 of the holder is adapted to be inserted in an aperture 22 in the ceiling, with the bottom flange 20 of the holder positioned snugly against the ceiling about the edge of the aperture.

The bracket 18 is a centrally apertured hat-shaped stamping which is characterized by a tubular portion 23, an outturned bottom flange 24 and an inturned top flange 25. The bracket 18 is adapted to be installed over the aperture 22 in the ceiling, with the outturned bottom flange 24 secured against the ceiling in opposing relation to the bottom flange 20 of the holder and with the inturned top flange 25 overlying the outer portion of the top 21 of the holder in such manner as to form a support to which the latter is releasably clamped by means of screws 26.

The lamp socket 15 is secured in an aperture 27 in the cover portion 21 of the holder by means of a dust proof fitting 28, which fitting is attached to a flange 29 on the socket by screws 30 and to the edge of the aperture 27 in the cover of the holder by screws 31. The fitting 28 supports the socket 15 from the upper portion of the holder 14 in an angular position, in order to have the holder and the wiring 32 for the same clear the roof 33 and yet position the bulb 16 with the center of the same exactly in the center of the holder.

The globe 17 is made of glass, in one piece, and and is characterized by a clear lens portion 34 in the bottom thereof and a light-diffusing por-

tion 35 about the lens portion. The globe 17 is provided, above the light-diffusing portion 35, with an exteriorly threaded cylindrical rim 36. The globe 17 is secured to the holder 14 by having the rim 36 screwed into the threaded tubular portion 19 of the holder, in which position it is held against loosening by leaf springs 37 which are secured to the top 21 of the holder by screws 38 and press downwardly against the upper edge of the rim 36 of the globe.

With this improved construction a lighting fixture of the type under consideration can be easily and securely applied to a ceiling, without any need of finishing off the edge of the aperture in the ceiling or observing a particularly close fit, and without any fastening means being visible from below after the globe has been screwed into the holder.

The fixture shown in Fig. 4 is mounted in the ceiling in exactly the same way as the fixture shown in Figs. 2 and 3. The holder 14 and bracket 18 are also the same, but in this embodiment the holder 14 is used to support an additional member, namely, a special light reflecting and distributing shield 39 for coaction with a special globe 40. The globe 40 is cylindrical and has a concave bottom 41. The sides and bottom of the globe are enameled or otherwise treated to render them light diffusing. The shield 39 is secured at its top to the top 21 of the holder, about the bulb 16, and is characterized by a perforated cylindrical portion 42 adjacent the bulb and an imperforate downwardly and outwardly flared reflector portion 43 below the perforated portion, which flared portion 43 terminates downwardly in a rim 44 which is of substantially the same diameter as the inside of the concave bottom 41 of the globe. This novel shielding arrangement results in the sides of the globe being softly illuminated in an indirect manner through the perforations in the upper portion of the shield and the concave bottom of the globe being much more brightly illuminated directly from the bulb and from the reflecting surfaces of the shield.

Various modifications of the bracket 18 are shown in Figs. 5 to 14 inclusive of the drawings. In Figs. 5 and 6 the bracket 18 is shown provided with a closed top 45, with the socket 46 for the lamp bulb arranged in a vertical position within such top; in Figs. 7 and 8 the bracketing means is shown as a wide sheet metal bridging strip 47 which is open at opposite sides; in Figs. 9 and 10 the bracketing means is shown as two narrow parallel strips 48 and 49 which extend over the holder at opposite sides of the socket; in Figs. 11 and 12 the bracketing means is shown as two Z-shaped metal strips 50 and 51; and in Figs. 13 and 14 the bridging means is still differently shown as two L-shaped wooden strips 52 and 53.

I claim:

1. In a lighting fixture for railway cars, buses and the like, a holder for insertion in an aperture in the ceiling, which holder is characterized by a tubular portion adapted to receive a globe, an upper cover portion adapted to receive a lamp bulb socket, and a lower outwardly turned rim portion adapted to fit up against the ceiling about the edge of the aperture; and a bracket for the holder for installation across the aperture in the ceiling, which bracket is characterized by an outwardly turned foot portion adapted to bear against the ceiling in opposing relation to the rim portion of the holder, an upstanding web portion, and an inturned top portion to which an underlying part of the cover portion of the holder is adapted to be releasably secured.

2. In a lighting fixture for railway cars, buses and the like, a hat-shaped holder for insertion in an aperture in the ceiling, which holder is characterized by a threaded tubular portion adapted to receive a threaded globe, an upper cover portion adapted to receive a lamp bulb socket, and a lower outwardly turned rim portion adapted to fit up against the ceiling about the edge of the aperture; and a hat-shaped bracket for the holder for installation over the aperture in the ceiling, which bracket is characterized by an outwardly turned rim portion adapted to bear against the ceiling in opposing relation to the rim portion of the holder, an upstanding tubular portion adapted to encompass the holder, and a top portion to which an underlying part of the holder is adapted to be releasably clamped.

ALBERT L. ARENBERG.