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VAPORPROOF LUMINAIRE

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Fig. 1.

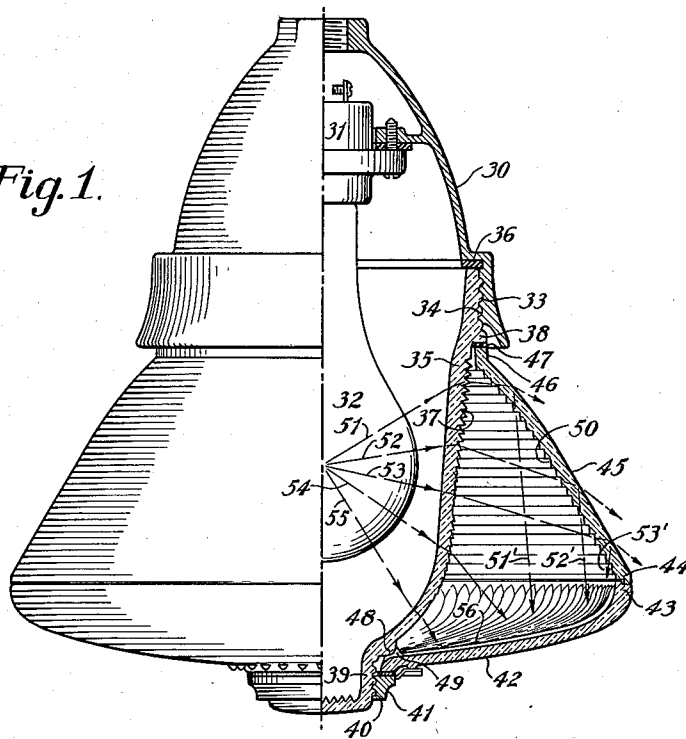
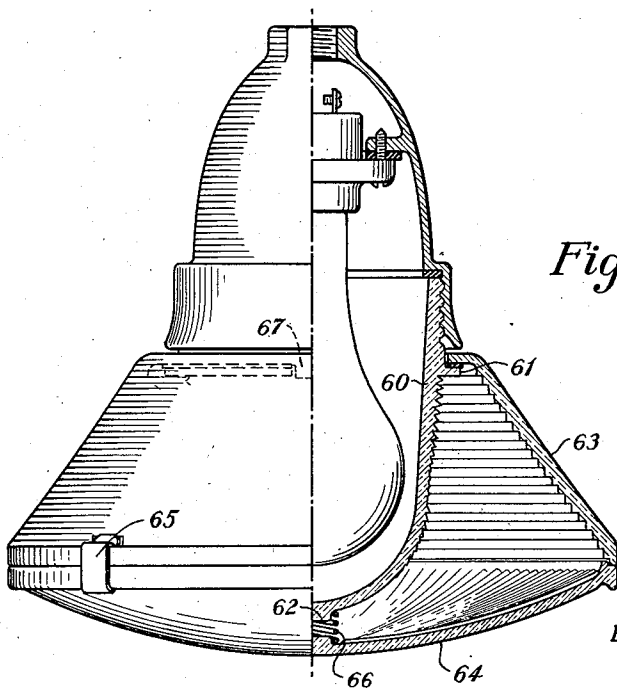


Fig. 2.



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VAPORPROOF LUMINAIRE

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1 Claim. (Cl. 240—93)

The present invention relates to vapor-proof luminaires.

Vapor-proof luminaires are designed for use in locations wherein it is important to prevent the entrance of explosive or corrosive vapors to the inside of the luminaire. It has been customary to employ simple blown glass enclosing globes with gas-tight fitters to receive the lamp socket and bulb. These devices may also have an outer reflector to salvage some of the light transmitted upwardly by the plain glass globe.

The present invention contemplates the provision of vapor-proof luminaires in which the glass globe for the light source is provided with annular light-depressing prisms, whereby the light emitted through the globe is transmitted at lowered angles. The fitter and prismatic globe constitute a complete vapor-proof enclosure for the light source.

It is a further object of the present invention to enclose the prismatic globe in an annular prismatic reflector, which receives the light transmitted by the globe and reflects it into further lowered angles. This reflector is preferably closed by a diffusing plate, which receives the reflected light and the low angle light transmitted by the globe, and diffuses the same. In view of the protection afforded by the fitter and inner glass globe, it is unnecessary to provide gas-tight joints between the globe, the reflector and the plate, where these supplemental light-controlling devices are employed.

The accompanying drawing shows, for purposes of illustrating the present invention, several embodiments in which the invention may take form, it being understood that the drawing is illustrative of the invention rather than limiting the same.

In this drawing:

Figure 1 is a vertical sectional view with parts in elevation, showing a vapor-proof luminaire having the external reflector and plate, these parts being secured together by one form of construction; and

Figure 2 is a view similar to Figure 1, showing the reflector and plate secured to the globe by a different form of construction.

In the arrangement shown in Figure 1, the fitter 30 carries a lamp socket 31 and lamp bulb 32. The bottom of the fitter is provided with a threaded side wall, indicated at 33, to receive the corresponding threads 34 on the upper end of the glass globe 35. This globe extends down about the sides of the lamp bulb, and underneath the lamp bulb, and the bottom of the globe is im-

perforate, so that when the globe is threaded against the gasket 36 a gas-tight chamber is provided.

The outer surface of the side wall of the globe 35 is provided with horizontal prisms 37 which extend up to an outer flange 38. The extreme lower end 39 of the globe 35 extends downwardly and is provided with external threads 40 to receive a lock nut 41. This lock nut bears against a glass plate 42, and the outer edge 43 of this plate bears on the lower edge or mouth 44 of a prismatic glass reflector 45. The upper end 46 of the reflector 45 bears against a gasket or washer 47 interposed between it and the flange 38. Lugs 48 and 49 prevent relative rotation of the lower plate 42 and the inner globe, and the parts are clamped so tightly together that they may be handled as a unit in threading the glass parts into and out of the fitter.

The outer reflector 45 is provided with interiorly disposed annular reflecting prisms 50 which co-operate with the prisms carried by the inner globe to further lower the light rays. Typical light rays, such as 51, 52 and 53, are refracted by the inner globe and then reflected by the outer reflector and transmitted downwardly toward the bottom plate, as indicated at 51', 52' and 53'. These light rays as well as lower rays 54 and 55 are received by the plate 42. As this plate is preferably provided with radial diffusing flutes 56, the light is evenly diffused underneath the unit.

It will be noted that the outer surface of the luminaire is smooth, and that the prisms for light control are all enclosed, so as to be free from dirt and dust, also that it is not necessary to provide gas-tight joints between the inner globe, the reflector, and the closure plate.

In the construction shown in Figure 2, the arrangement is optically substantially the same as that shown in Figure 1, but the mechanical construction of the glass parts is somewhat different. The inner glass globe 60 is provided with an external flange 61 above the prisms, and the bottom of the globe is provided with a teat or projection 62. The outer reflector 63 is received above the flange 61. The lower plate 64 is secured to the bottom of the reflector 63 by clips, such as indicated at 65, and a coiled spring 66 interposed between the plate and bottom of the globe holds the parts tightly in position. Relative rotation of the reflector and globe may be obtained by interlocking the flange 61 and the upper inner end of the reflector 63, as, for example, by lugs, indicated in dotted lines at 67.

Should one desire a luminaire with a prismatic reflector but without the lower diffusing plate, the form shown in Figure 2 may be used, the reflector hanging from the flange 61 and held against rattling in any convenient manner.

It will be understood that the glass parts of Figures 1 and 2 may be secured to the fitter by a ball instead of threading if desired, also the various other forms of securement of the parts to the fitter may be employed, it only being essential that the gas-tight joint be maintained.

It is apparent that, within the scope of the invention, modifications and different arrangements may be made other than is herein disclosed, and the present disclosure is illustrative merely, the invention comprehending all variations thereof.

What is claimed is:

As an article of manufacture an enclosure adopted for use with a pendent light source carried by a vapor-proof fitter having a screw threaded skirt, said enclosure comprising a refracting glass bowl adapted to receive the light source and having a closed bottom and substantially vertically side walls provided with annular light depressing prisms, a threaded top adapted to fit the fitter, and a flange below the threads, an outer annular glass ring engaging the flange and having downwardly and outwardly flaring walls provided with reflecting prisms to reflect the refracted light downwardly through the mouth of the ring, a diffusing glass plate closing the bottom of the ring, and means to secure the three pieces of glass together.

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