

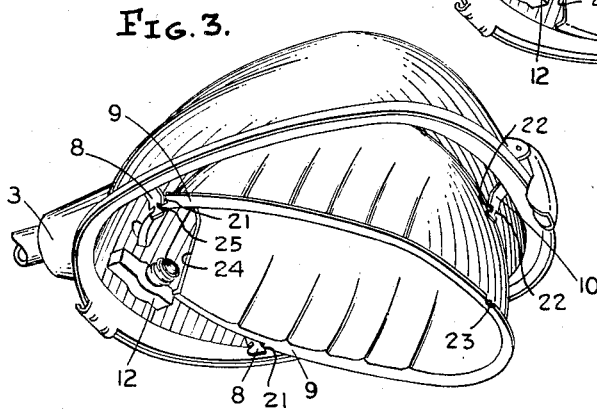
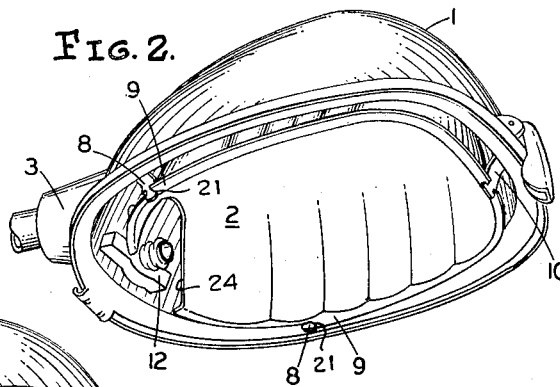
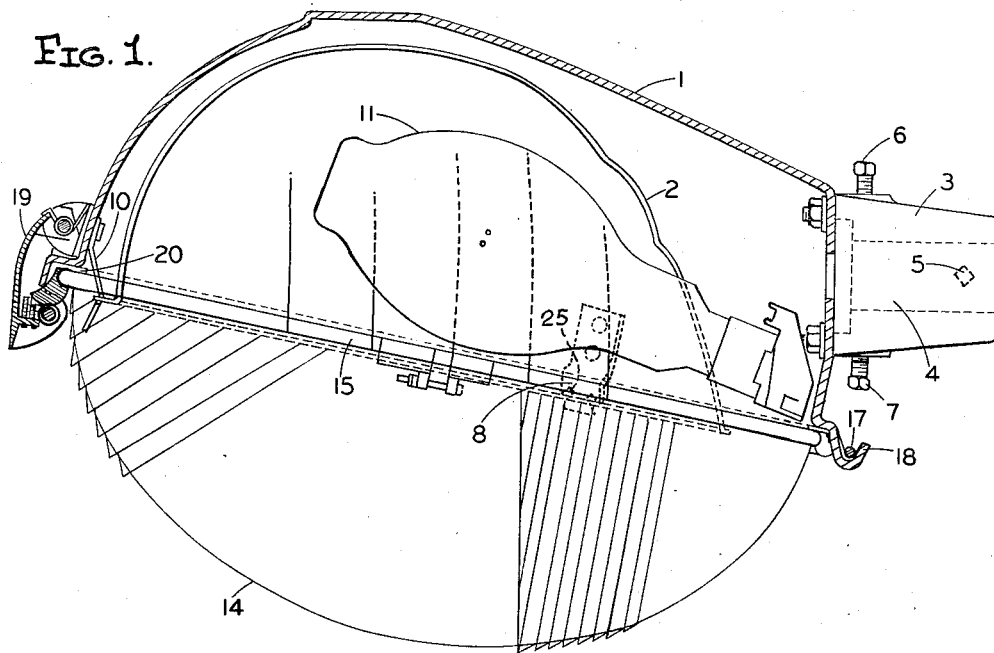
July 19, 1960

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2,945,945

LUMINAIRE

Original Filed Oct. 24, 1955



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2,945,945

LUMINAIRE

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Original application Oct. 24, 1955, Ser. No. 542,267. Divided and this application Apr. 28, 1958, Ser. No. 732,773

3 Claims. (Cl. 240—25)

This invention relates to luminaires, and more particularly to street or roadway luminaires including an insertable reflector which may be removed for cleaning and substitution. This application is a division of my co-pending patent application Serial No. 542,267, filed October 24, 1955, and titled "Luminaire."

In many luminaires heretofore proposed, the arrangement of parts is not conducive to ease in installation or servicing of the luminaire. Furthermore, any particular luminaire may be lacking in flexibility in that it may not be suitable for controlling the lateral light distribution to a roadway in accordance with the varying widths of the roadways to be lighted.

It is an object of this invention to provide a luminaire in which different reflectors may readily be substituted one for the other, preferably in combination with the same refractor, to provide a variety of street lighting distributions extending at different transverse distances across the roadway.

It is a further object of this invention to provide a luminaire which may be easily serviced by removing the reflector without the use of tools.

For a better understanding of the invention and a further appreciation of its various objects and advantages, reference may be had to the following specification taken in connection with the accompanying drawings, wherein:

Fig. 1 is a side view of the luminaire with the casing and reflector thereof shown in section;

Fig. 2 is a perspective view of the casing-reflector assembly as viewed from below with the refractor removed; and

Fig. 3 is a view similar to Fig. 2 showing the reflector partially removed from the casing.

The mechanical construction of my luminaire includes an ovate bowl-shaped casing enclosing a snap-in reflector and a bowl-shaped refractor which closes the mouth of the casing and is supported at its rim by a holder which is attached by a pick-off hinge at the house side of the casing and is held in closed position on the street side thereof by an adjustable roller latch. The reflector nests in the cavity of the casing and the opening in the refractor seats against a gasket on the rim of this casing with its cavity facing the cavity of the reflector to enclose the reflector, lamp, lamp socket, and the required wiring. The casing is supported by a bracket commonly referred to as a slip-fitter. The socket for the mercury lamp is attached to the inside of the casing below openings in the bracket and casing for lead wire entrance to the terminals thereof. The reflector is also cut away at the lower portion on the house side thereof to provide a passageway for a lamp mounted in the socket of the luminaire and projecting into the cavity of the reflector and for affording access to the socket terminals without removing the reflector.

Referring now to the drawings, my luminaire comprises an ovate bowl-shaped casing 1 housing a detachable ovate bowl-shaped reflector 2 and supported by a bracket 3 at its rear or street side end. This bracket 3,

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commonly referred to as a slip-fitter, is provided with a pipe socket 4 for mounting on the end of a support pipe, a portion of which is shown in Fig. 2, to which it is attached by a locking screw 5 which is threaded in and passes through the side wall of the slip-fitter. Top and bottom leveling screws 6 and 7, which also pass through the side wall of the slip-fitter, are provided for leveling the luminaire on its support member.

The reflector 2 is provided with a rim portion which fits within the rim portion of casing 1. The rim of the reflector is formed with an external flange 9 having outwardly projecting shoulder portions 21 facing rearwardly of the reflector and located at opposite sides and toward the rear of the reflector. It is held in place in the casing by oppositely disposed support brackets 8 which are attached to the inside surface of casing 1 near the open mouth thereof. These support brackets are notched at their projecting edge portions to engage the projecting shoulder portions 21 of the flanged rim 9 of reflector 2. These notches 25 are at an angle in order to secure a snubbing engagement with the flanged portions of the reflector located therein when the reflector is held in its adjusted position by a spring clamp 10 which engages the front edge portion of the rim of reflector 2 and is mounted on the lower inside surface of the front portion of casing 1. The spring clamp or clip 10 has its sides notched at 22 for locking engagement with a notch 23 in the rim of the reflector. The reflector 2 has a cut-away portion 24 at its rear end extending upward from the rim portion of the reflector to provide a passageway for the lamp 11 which projects into its cavity and for affording access to the terminals of the socket 12 for the lamp without removing the reflector from its position in the casing. The construction of the reflector and its mounting in casing 1 is such that it may be removed from the casing by releasing spring clamp 10 and rotating it to clear lamp 11 without removing the lamp from its socket. Fig. 3, showing the reflector partially removed from the casing, helps to show how this is accomplished.

The open mouth of the casing 1 is closed by an ovate bowl-shaped glass refractor 14 which is mounted in a holder 15 which engages the rim portion of the refractor. The holder is hinged at its street side by means of a steel pin 17 which forms a part thereof and rests in a hooked portion 18 in the casing 1 to provide a pick-off hinge connection between the casing 1 and the holder 15. The front end of the holder 15 is provided with a projection which is engaged by a roller latch 19 on the front outside edge portion of casing 1 when the refractor is in its closed position. The holder 15 is so constructed that the rim edge of refractor 14 rests directly against the gasket 20 which is cemented to or otherwise attached to the rim portion about the open mouth of the casing 1. Latch 19 may be made adjustable so as to obtain a tight seal between the rim of the refractor 14 and the gasket 20 mounted on the rim portion of the casing 1.

The reflector is contoured along its sides to provide main beams of reflected light which are directed through the mouth of the reflector and below the light source to prismatic areas on the opposite sides of the refractor which lift the light beams by about 15° when the beam portion of reflected light has an angle of about 60°. As is more fully set forth in the co-pending parent application of which this application is a division, the lateral angle of this reflected light may be varied by using different reflectors which, for example, produce light beams at 75° lateral angle for type II light distribution and at 65° lateral angle for type III light distribution. The lateral angles of these main beams of reflected light, as determined by the reflector used, when combined with the fixed control of light from the light source by the

remaining areas of the refractor, determine the width of light distribution to the roadway.

As can be seen, because of its construction and manner of mounting the reflector may be removed for cleaning or substitution without the use of tools. Furthermore, nothing except the reflector itself need be removed; there are no screws to loosen and the lamp itself can remain in place. This is an especially important advantage in a luminaire which is customarily mounted many feet above the street level, for there are no extra loose parts to be handled and both hands of the person servicing the luminaire may be kept free for the task.

While I have shown but a single preferred embodiment of these teachings, numerous structural modifications within the scope of the appended claims will doubtless occur to those skilled in the art to which this invention pertains.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A luminaire comprising an inverted bowl-shaped casing, an inverted bowl-shaped reflector having means defining shoulder portions projecting outwardly from its rim at opposite sides of and toward the rear of the reflector, and support means for holding said reflector in said casing in nesting relationship relative thereto comprising bracket members attached to the inside of said casing on opposite sides and toward the rear thereof, said bracket members having notched sides engaged by said shoulder portions at the rim of said reflector, and a spring clip member attached to said casing at the front thereof and having its free end engaging the rim of said reflector and urging it toward and holding it in the notched sides of said bracket members.

2. A luminaire comprising an inverted bowl-shaped casing, an inverted bowl-shaped reflector having an externally flanged rim having outwardly projecting shoulder portions facing rearwardly of the reflector and located at opposite sides of and toward the rear of the reflector, and

support means for holding said reflector in said casing in nesting relationship relative thereto comprising brackets attached to the inside of said casing on opposite sides and toward the rear thereof, said brackets having notched sides engaged by the said shoulder portions of the flanged rim of said reflector, and a spring clip attached to said casing at the front thereof and having its free end engaging the rim of said reflector and urging it toward and holding it in the notched sides of said brackets.

3. A luminaire comprising an inverted bowl-shaped casing, a lamp socket attached to the inside of said casing at the rear and near the rim thereof for supporting a lamp within the interior of the casing, an inverted bowl-shaped reflector having an externally flanged rim having outwardly projecting shoulder portions facing rearwardly of the reflector and located at opposite sides of and toward the rear of the reflector, and support means for holding said reflector in said casing in nesting relationship relative thereto comprising brackets attached to the inside of said casing on opposite sides and toward the rear thereof, said brackets having notched sides engaged by the said shoulder portions of the flanged rim of said reflector, and a spring clip attached to said casing at the front thereof and having its free end engaging the rim of said reflector and urging it toward and holding it in the notched sides of said brackets, said reflector having a cut-out portion at the rear thereof extending upward from the rim for clearing a lamp in said lamp socket, whereby release of said spring clip permits said reflector to be pivoted over a lamp in said socket and out of said casing.

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