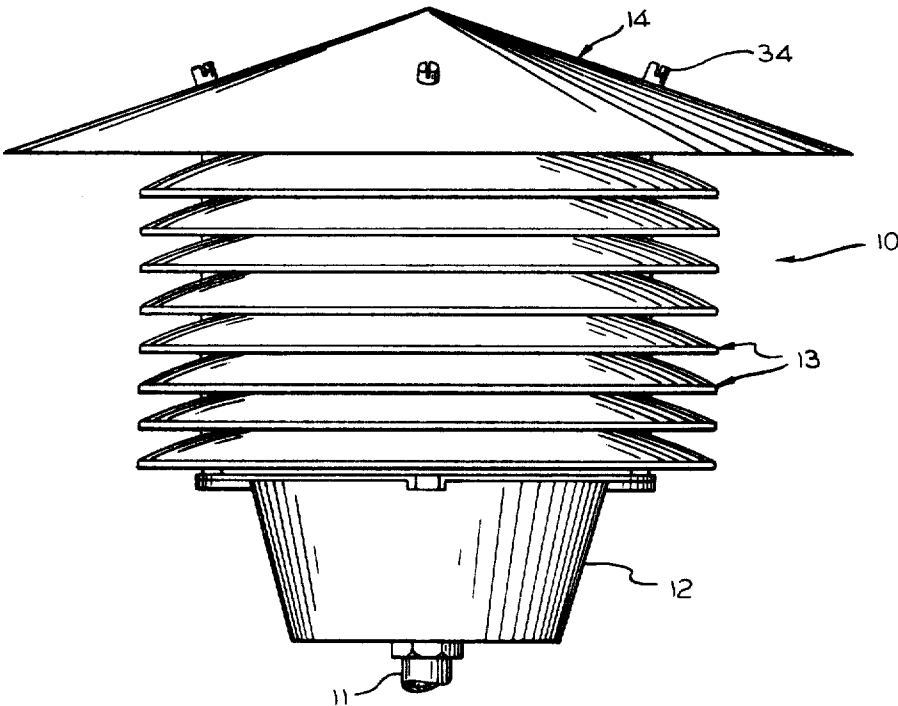


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[45] Patented July 13, 1971
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[54] LOW LEVEL LIGHT FIXTURE
8 Claims, 4 Drawing Figs.
[52] U.S. Cl..... 240/3,
240/25, 240/41.1
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[50] Field of Search..... 240/3, 11.2,
25, 78 LD, 41.1, 81, 81 BS, 84, 93, 108

ABSTRACT: Low level light fixture for projection of usable light to all or part of the area surrounding the fixture while eliminating glare or direct light to persons walking thereby, and including a louvered construction that operates externally at temperatures not hazardous to persons touching same.



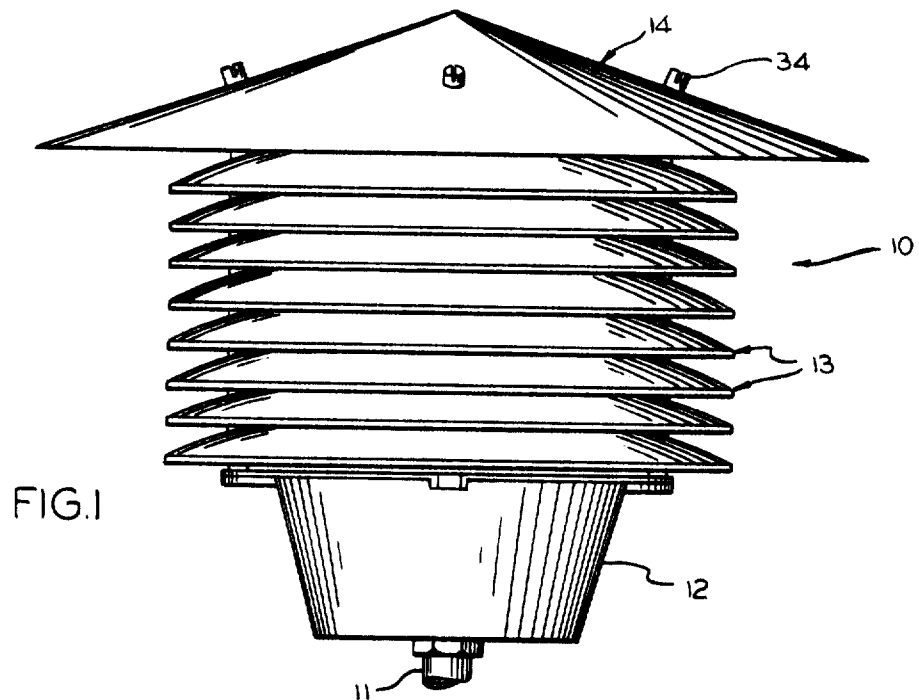


FIG. 1

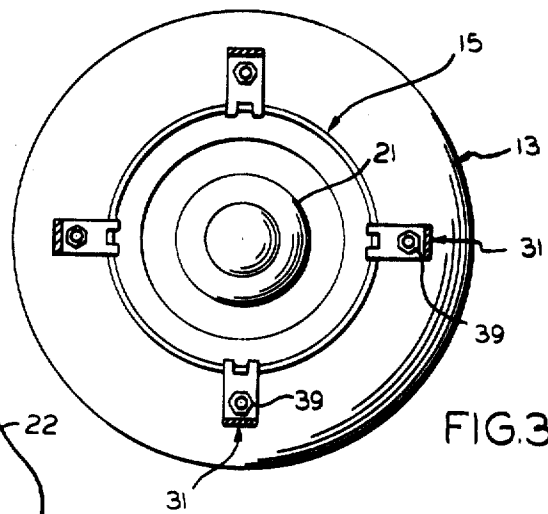


FIG. 3

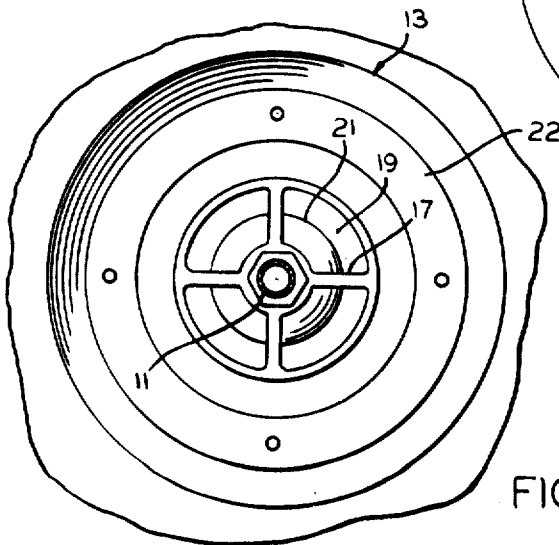
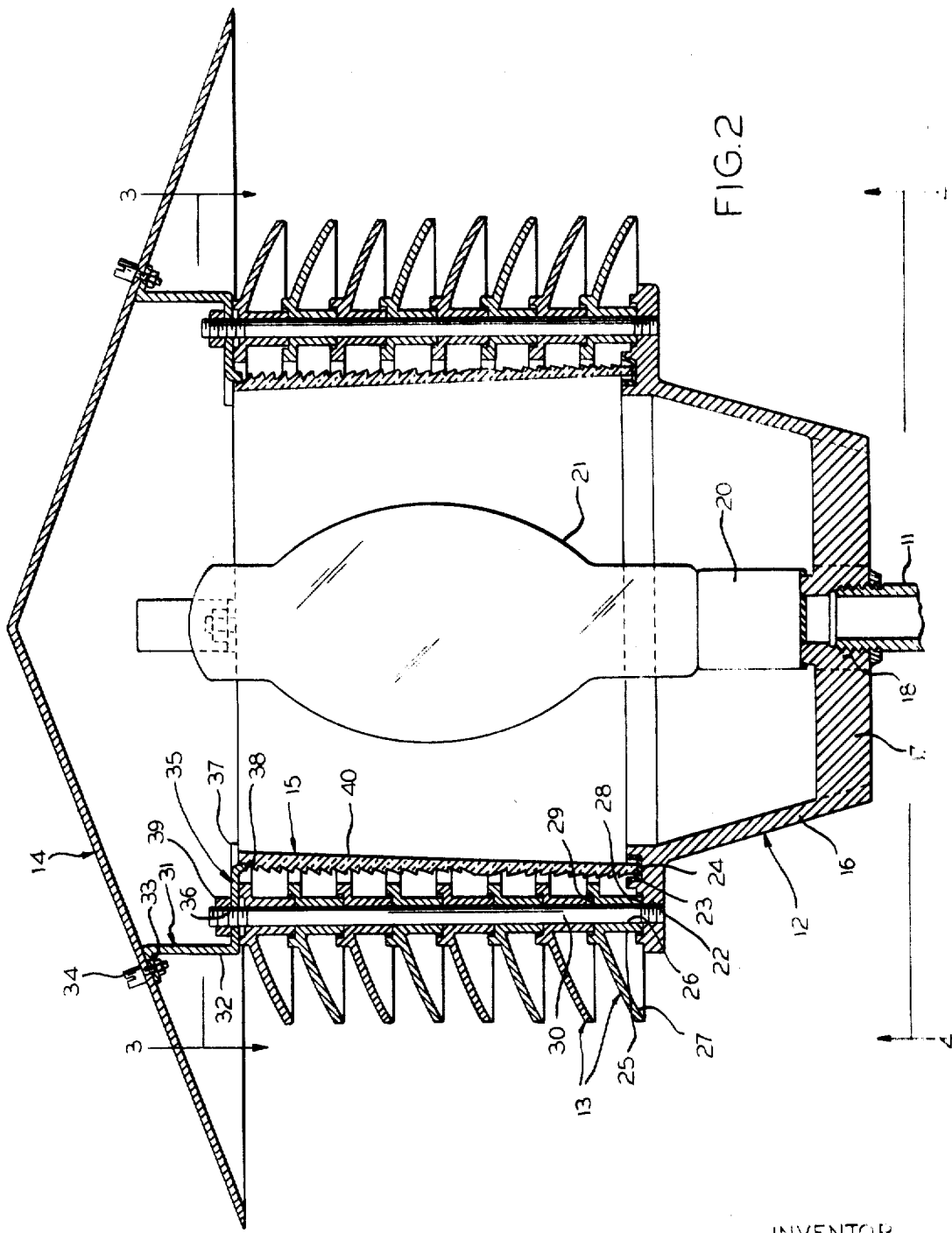


FIG. 4

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LOW LEVEL LIGHT FIXTURE

This invention relates in general to a light fixture, and more particularly to a low level light fixture for distributing light at a low level either completely or partially therearound, and which operates at a cool temperature and precludes glare or direct light to a person approaching the same.

The light fixture of the present invention is intended to be mounted on a pole at a relatively low height, such as approximately 36 inches above grade, and for projecting usable light either completely or partially therearound to provide illumination for pedestrians and/or vehicles. The light fixture is constructed so that heat is dissipated to eliminate any hazard for a person approaching or touching same, and so that glare and/or direct light is eliminated relative to a person approaching same. The fixture includes a base member supporting thereon in stacked relation a plurality of louver members and a prismatic lens. A hood is mounted over the louver members to protect the lamp enclosed within the fixture against direct precipitation. Any suitable type of lamp may be employed, such as the well-known mercury vapor, metallic vapor, and incandescent types. The size and relative placement of the louver members eliminates glare, and the louver members further coat with the prismatic lens to accomplish the desired light distribution. Openings are provided in the base member to coat with the gap between the lens and hood for permitting the movement of air through the fixture by virtue of a chimneylike effect.

It is, therefore, an object of the present invention to provide a new and improved light fixture especially adapted for low level heights that eliminates glare and direct light while at the same time providing a cool operating unit that is not hazardous to touch.

Another object of this invention is in the provision of a low level light fixture that may selectively distribute light completely or partly therearound.

Other objects, features and advantages of the invention will be apparent from the following detailed disclosure, taken in conjunction with the accompanying sheets of drawings, wherein like numerals refer to like parts, in which:

FIG. 1 is an elevational view of a light fixture according to the present invention.

FIG. 2 is a vertical sectional view taken through the light fixture of FIG. 1.

FIG. 3 is a view of the light fixture taken substantially along line 3-3 of FIG. 2; and

FIG. 4 is a view of the light fixture taken substantially along line 4-4 of FIG. 2.

Referring now to the drawings, the light fixture of the present invention is generally indicated by the numeral 10 and adapted to be mounted on a pole or post 11 that is suitably supported in the ground. Since the fixture is intended for low level lighting, it will be most generally mounted above the ground at a low level and approximately 36 inches above the ground. However, it should be appreciated that the fixture may be mounted in any position relative to ground level and operate equally as well. For example, the fixture may provide 360° light distribution and be especially useful for illuminating walkways, driveways, ramps, or any other area where low level lighting is desired.

The light fixture includes in general a base member 12, a plurality of louver members 13, a hood 14, and a lens 15. The base member and louver members are preferably cast of a suitable metal, such as aluminum, while the hood may be suitably fabricated of sheet steel or the like. The lens 15 may comprise a molded or otherwise formed heat-resisting glass body.

The base 12 includes an inverted frustoconical wall 16 connected at its lower end by a plurality of ribs 17 to a central hub or boss 18. The ribs 17 have defined therebetween air openings 19. A lamp socket 20 of any suitable type is mounted at the upper end of the boss 18, the latter being hollow and internally threaded to receive the upper end of the pole 11.

Suitable electric wiring may be passed through the center of the pole or pipe and the boss 18 to the lamp socket 20. A lamp 21 is illustrated in position in the lamp socket 20. As already indicated, the lamp may be of the mercury vapor, metallic vapor, or incandescent type.

A radial flange 22 in the form of an annular support member is formed at the upper end of the base member wall 16 after supporting the louver members 13 and lens 15. An annular channel 23 is formed on the upper surface of the support member and at the inner edge thereof to receive the lower end of the generally cylindrical lens 15. A gasket 24 is provided in the channel 23 against which the lens 15 directly engages.

Each of the louver members 13 are identical in shape and include a plurality of circumferentially spaced bosses 25, each of which is provided with an internal bore 26, and a louver portion 27 extending outwardly from the bosses 25. The louver portions 27 are concavo-convex in shape looking at them from below, and are preferably finished on the concave side with aluminum reflecting paint, and on the convex side and the outer edges with flat black paint. The lower outer edge of the louver portion 27 extends downwardly at least to the lower end of the boss 25 preferably a slight distance therebelow to assure the elimination of glare and direct light. The bosses of the lowermost louver 13 fit within a recess 28 formed in the upper surface of the support member 22. The upper end of each boss is formed with a recess 29 to receive the lower end of each next highest boss of the next highest louver. A plurality of aligning rods or bolts 30 are fastened at their lower ends to the support member 22 of the base member 12 and at the center of a recess 28. Accordingly, it is preferably that the louvers 13 have the same number of bosses as there are rods supported on the base member, so that upon assembly of the fixture, the rods facilitate the accurate positioning of the louvers which are arranged in stacked or nested relation. Any number of louvers may be employed in a fixture. It can be appreciated that distribution of light from the fixture is at least somewhat controlled by the louver portions 27 of the louvers 13. This light distribution is in an outwardly and downwardly direction in general, and will therefore be effective for illuminating the area surrounding the fixture.

The hood 14 may be square or dome-shaped, and is supported on said fixture by a plurality of lens-retainer and hood-mounting brackets 31. The number of louvers 13 will be such that the combined height of all louvers will approximate the height of the lens 15. Accordingly, each bracket 31 includes an upstanding bar 32 having a bent leg 33 at the upper end suitably secured to the hood 14 such as by fastener 34, and a lower horizontally extending bar 35 that includes a hole 36 for fitting over the upper end of the rod 30. A holddown tab 37 and a positioning tab 38 coacts with the upper end of the lens 15 to hold same in place. The holddown tab 37 fits over the upper end of the lens to hold it down in place in the channel 23, while tab 38 extends downwardly from the bar 35 and engages against the outer surface of the lens 15 to properly position the lens within the annular louvers 13.

A nut 38 is received on the upper ends of each rod 30 to fasten each bracket 31 thereto and in place to hold the louvers 13 down against the support member 22 of the base member 12, and to hold down the lens 15. Each bracket 31, and it may be presumed that any number may be provided, is essentially Z-shaped. It should be appreciated that the brackets 31 space the hood 14 above the lens 15 and define a gap therebetween for the movement of air therethrough, which gap coacts with the openings 19 in the base member 12 to allow the flow of air upwardly through the fixture and around the lamp and lens, thereby maintaining the fixture at a sufficiently cool temperature as to the outside surfaces that touching thereby is not hazardous to the person.

The lens 15 has its exterior face suitably prism-formed to coact with the louvers in the distribution of light uniformly over the area to be illuminated. As seen in FIG. 2, the lens includes prisms graduated from the upper and lower ends to an intermediate area, and receive the light rays from the lamp

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and redistribute same uniformly over the area to be illuminated and project the light rays away from the fixture.

In the event that light is only desired to be distributed a part of the way around the fixture, a specular reflector 40 may be positioned at the inner side of the lens. As can be appreciated, the lower edge of the reflector would be received in the channel 23, while the upper edge would be supported by the hold-down 37. For example, the specular reflector may be 180° in extent thereby intensifying the light in one direction and eliminating the light in the opposite direction.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

I hereby claim the invention as follows:

1. A low level light fixture adapted to be supported on a pole at a height below the eye level of persons walking hereby, said fixture including a base member adapted to be secured to the pole and having a lamp socket, said base member having an annular support member, a plurality of upstanding rods extending upwardly from said support member, a plurality of identical stacked annular louver members having nested boss means received in guiding relation on said rods and supported by said support member, a lens positioned within said louver members of substantially the same height as said stacked louver members and supported on said support member, a hood over said uppermost louver having a plurality of lens retainer and hood mounting brackets being received on said rods and fastened thereto, said brackets defining a gap between the upper end of the lens and the hood, and openings

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in said base member permitting air to pass therethrough upwardly through the interior of the lens around the lamp and out through the gap at the hood.

2. A low level light fixture as defined in claim 1, wherein said louver members are sized and formed to preclude direct light or objectionable glare to persons walking thereby.

3. A low level light fixture as defined in claim 1, wherein said louver members have a concavo-convex shape looking from the base member to direct light outwardly and downwardly.

4. A low level light fixture as defined in claim 1, wherein said base member includes a channel to guide placement of the lens, and recesses for guiding placement of the bosses of the lowermost louver.

5. A low level light fixture as defined in claim 1, wherein each louver member includes recesses at the upper ends of the boss means receiving the next upper bosses and defining a nesting relationship.

6. A low level light fixture as defined in claim 1, wherein said lens-retainer and hood-mounting bracket has lens engaging fingers for positioning of said lens relative to said louvers.

7. A low level light fixture as defined in claim 1, and a reflector positioned on the inside of said lens reflecting light through the lens not covered by the reflector.

8. A low level light fixture as defined in claim 1, wherein said lens is prism formed on its outer surface to redistribute the light rays from the lamp outwardly away from the fixture and uniformly over the area to be illuminated.

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