

July 21, 1964

K. F. GUGGEMOS

3,141,620

LIGHTING DEVICE

Filed May 5, 1960

4 Sheets-Sheet 1

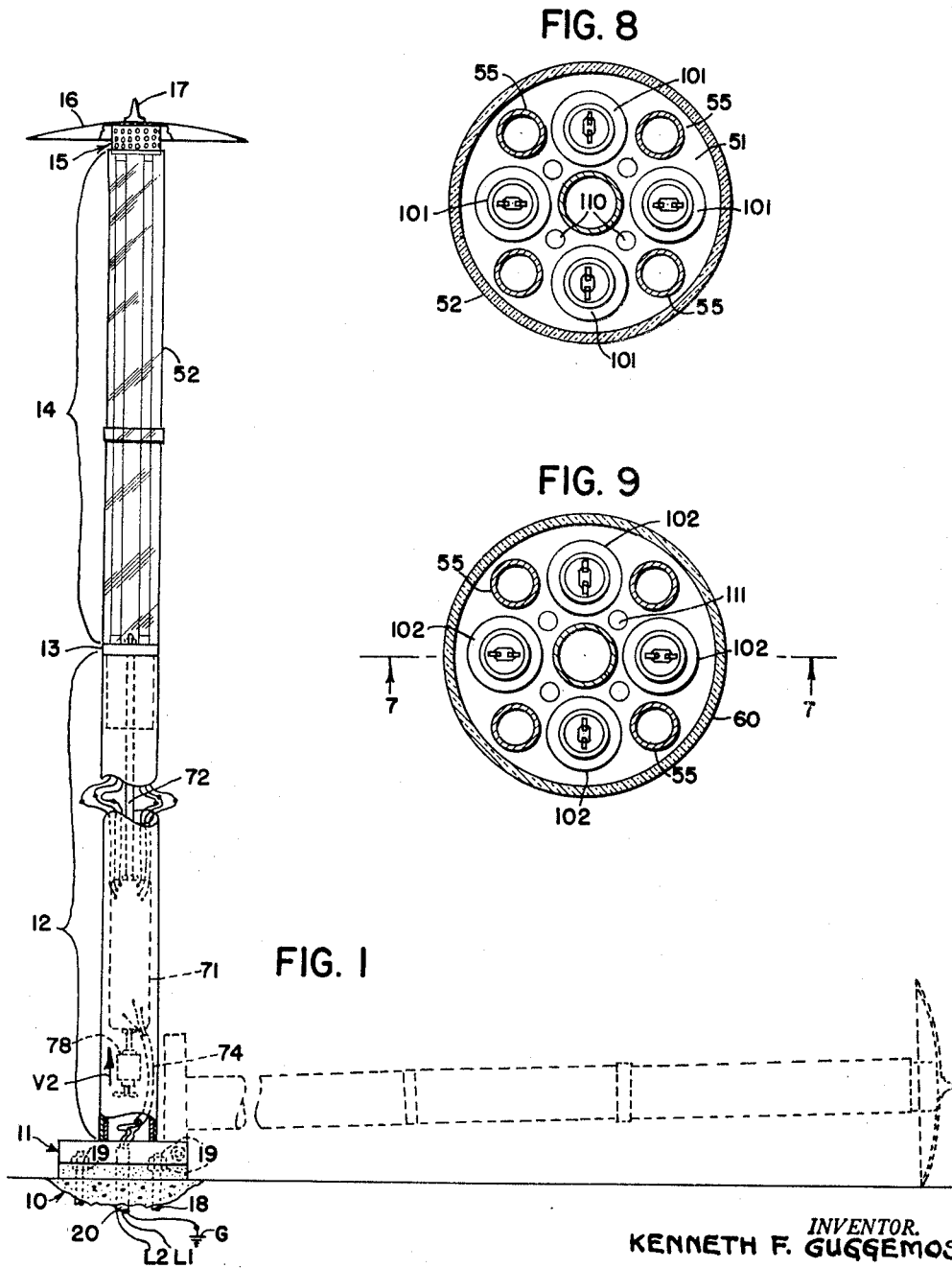


FIG. 1

FIG. 8

FIG. 9

INVENTOR.
KENNETH F. GUGGEMOS

BY

Dugger & Johnson
ATTORNEYS

July 21, 1964

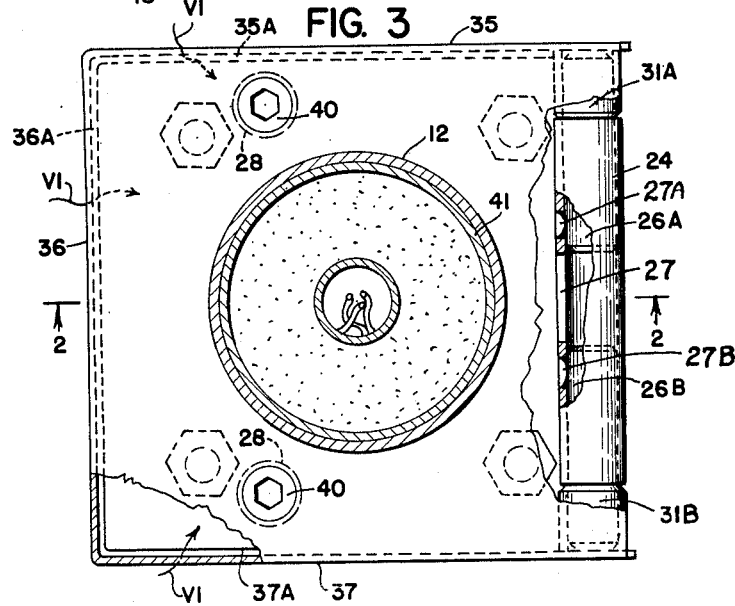
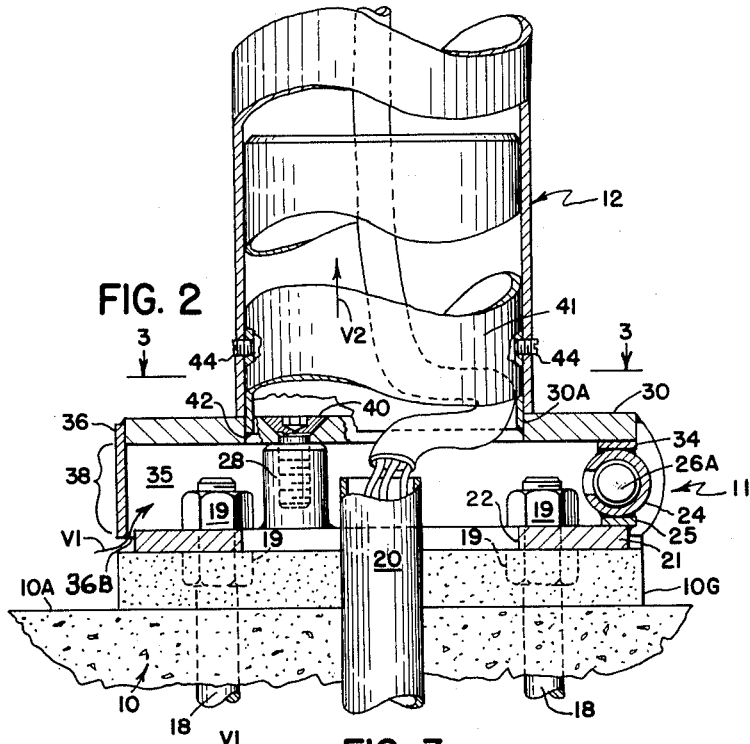
K. F. GUGGEMOS

3,141,620

LIGHTING DEVICE

Filed May 5, 1960

4 Sheets-Sheet 2



INVENTOR.
KENNETH F. GUGGEMOS
BY

Duggan & Johnson
ATTORNEYS

July 21, 1964

K. F. GUGGEMOS

3,141,620

LIGHTING DEVICE

Filed May 5, 1960

4 Sheets-Sheet 3

FIG. 4

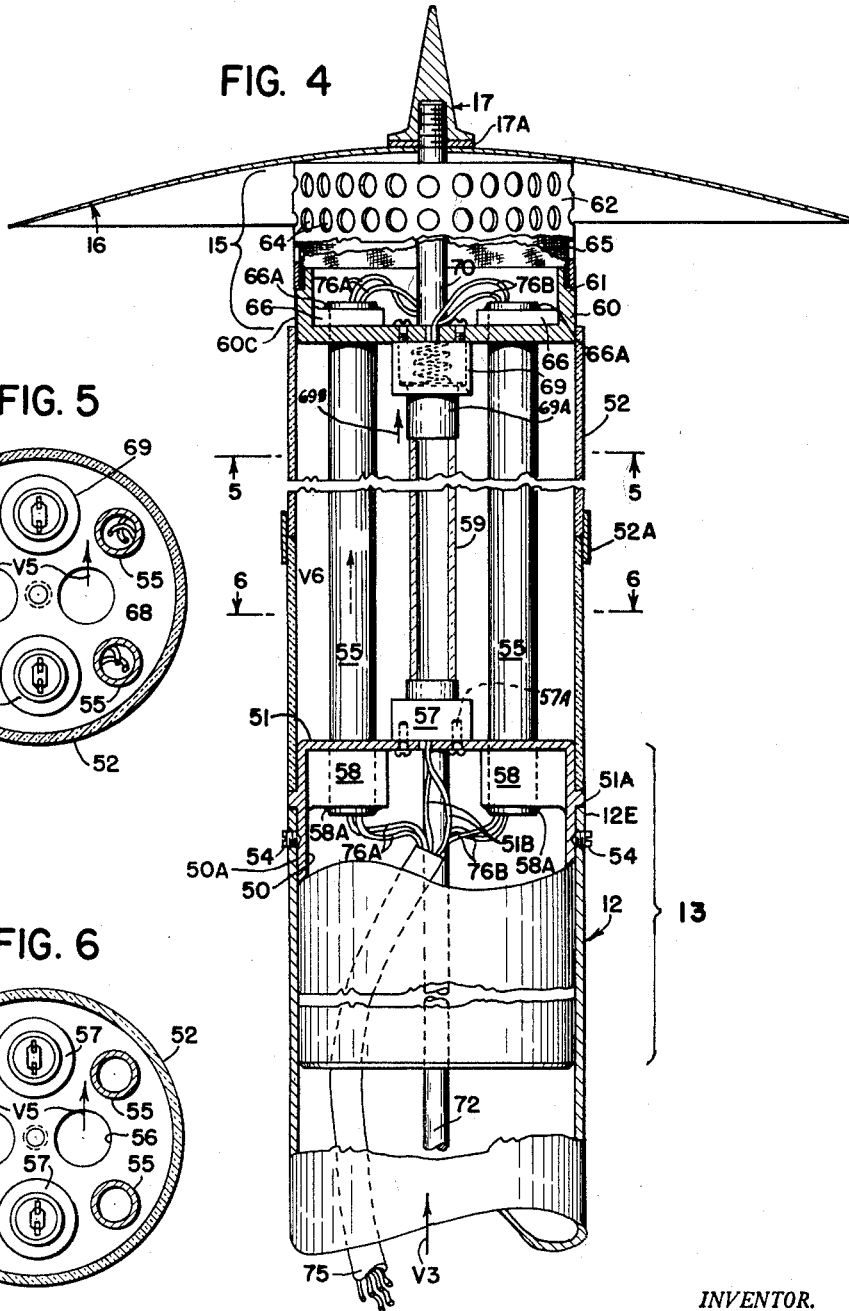


FIG. 5

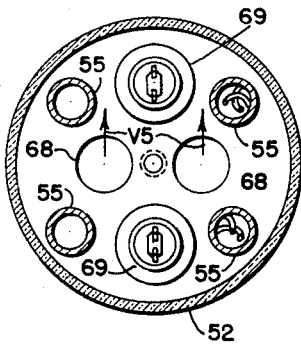
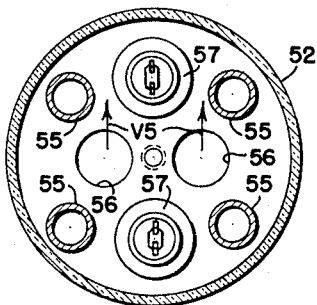


FIG. 6



INVENTOR.
KENNETH F. GUGGEMOS

BY

Dugger & Johnson
ATTORNEYS

July 21, 1964

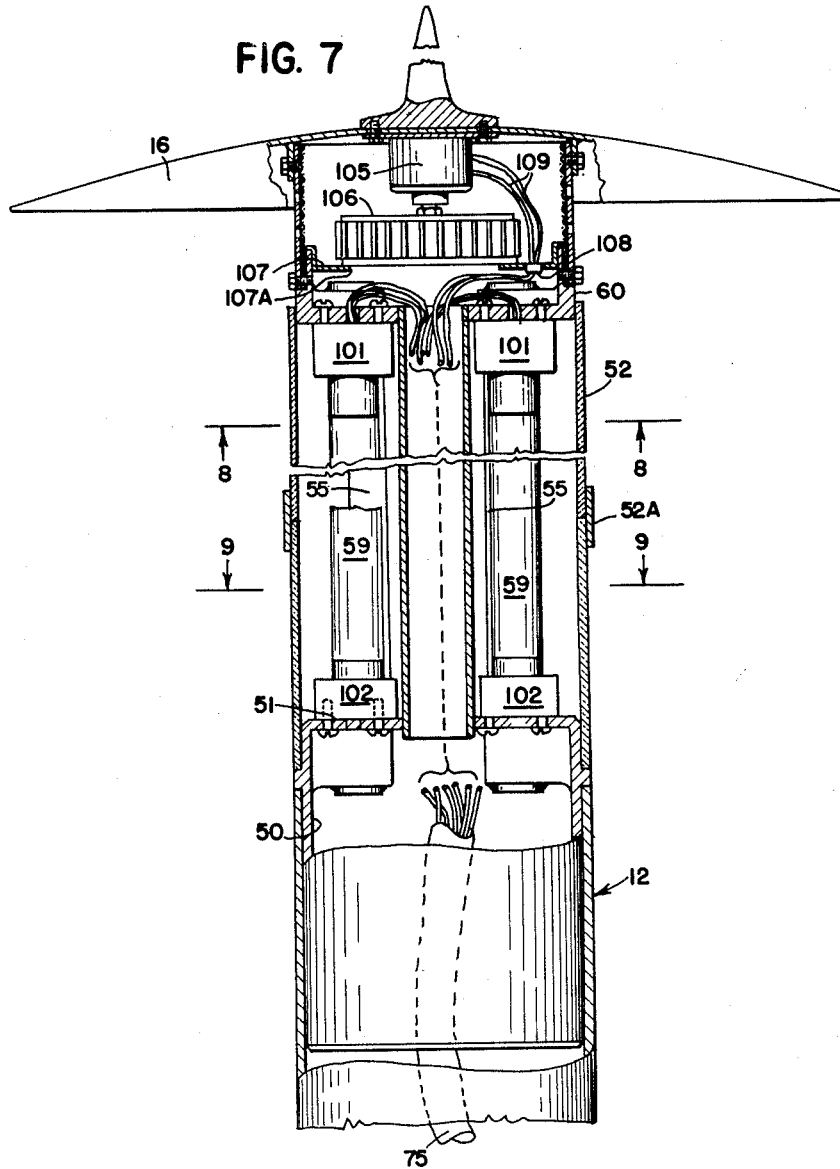
K. F. GUGGEMOS

3,141,620

LIGHTING DEVICE

Filed May 5, 1960

4 Sheets-Sheet 4



INVENTOR
KENNETH F. GUGGEMOS
BY

Duggan & Johnson
ATTORNEYS

1

3,141,620

LIGHTING DEVICE

Kenneth F. Guggemos, Winsted, Minn.
 Filed May 5, 1960, Ser. No. 27,013
 14 Claims. (Cl. 240-3)

This invention relates to lighting devices, and more particularly to outdoor type lighting standards. It is an object of the invention to provide an improved lighting standard. It is another object of the invention to provide a lighting standard wherein the lighting section is of substantially the same diameter as the pole of such standard. It is another object of the invention to provide a lighting standard which gives good light distribution from not only the base of the standard, but laterally in all directions therefrom. It is a further object of the invention to provide an improved lighting standard which can be lowered easily for assembly and servicing. It is another object of the invention to provide improved light standards capable of being used during all conditions of ambient temperature.

Other and further objects are those inherent in the invention herein illustrated, described, and claimed, and will be apparent as the description proceeds.

To the accomplishment of the foregoing and related ends, this invention then comprises the features hereinafter fully described and particularly pointed out in the claims, the following description setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principles of the invention may be employed.

The invention is illustrated with reference to the drawings wherein:

FIGURE 1 is a side elevational view of a lighting standard of the present invention;

FIGURE 2 is an enlarged fragmentary side elevational view, partly in vertical section, of the base portion of the lighting standard as illustrated in FIGURE 1; the sectioned portions of FIGURE 2 are taken along the line and in the direction of arrows 2-2 of FIGURE 3;

FIGURE 3 is an enlarged horizontal sectional view of the lighting standard base, taken along the line and in the direction of arrow 3-3 of FIGURE 2. In FIGURE 3 portions of the apparatus are broken away so as to illustrate the interior construction;

FIGURE 4 is an enlarged partial vertical sectional view of the upper end of the lighting apparatus shown in FIGURE 1 together with a lighting device being shown in cross section;

FIGURE 5 is a horizontal sectional view taken along the line and in the direction of arrows 5-5 of FIGURE 4, said view not showing the lighting devices;

FIGURE 6 is a horizontal sectional view taken along the line and in the direction of arrow 6-6 of FIGURE 4, said view not showing the lighting devices;

FIGURE 7 is an enlarged vertical sectional view corresponding to that shown in FIGURE 4 of a slightly modified form of the invention;

FIGURE 8 is a horizontal sectional view taken along the line and in the direction of arrow 8-8 of FIGURE 7, said view not showing the lighting devices; and

FIGURE 9 is a horizontal sectional view taken along the line and in the direction of arrow 9-9 of FIGURE 7, said view not showing the lighting devices.

Throughout the drawings, corresponding numerals refer to the same parts.

Referring to FIGURE 1, the lighting device of the present invention, illustrated in the figures, is shown as mounted upon a base generally designated 10. The lighting standard consists of a base portion 11, a pole

2

section 12, a connector section 13, a lighting section 14, an upper frame and ventilating section 15, a cap-reflector section 16, and capital or terminal 17. The foundation 10 is normally provided with anchor bolt 18-18, the bolt being equipped with pairs of nuts 19-19, for purposes of leveling the base element 11, and the foundation is also provided with an incoming conduit 20 which provides entrance for the electric power lines L1 and L2 and for a ground line G.

The base portion 11, according to the present invention, may optionally be made in the form of a hinged base, which serves as a mounting for the pole section 12. Where the hinge base is used, it permits the entire lighting standard including the pole section 12 and all of the elements mounted thereon, to be moved down to a horizontal position, as shown in dotted lines in FIGURE 1, for assembly and maintenance.

Referring to FIGURES 2 and 3, the preferred hinged base comprises a foundation plate 21, which is provided with as many apertures as are required to receive the anchor bolt 18. In these figures, four anchor bolts are shown and these are set in the foundation 10, which is usually of concrete. Each anchor bolt projects up above the surface 10A and each bolt contains two nuts. When the hinged base portion 11 is mounted, it is opened to the dotted line position shown in FIGURE 1, and the upper nuts 19 are removed from the bolts, and the plate 21 is placed on the anchor bolts and the lower nut 19 adjusted until the plate 21 is level. Then the upper nuts 19 are replaced and pulled down tight, whereupon the entire hinge base 11 will be held firmly in place. It is noted that the central part of base plate 21 has a hole 22 which is large enough to receive the upper end of the conduit 20 even though there may be some misalignment of the conduit during the time the footing 10 is poured. After the base 11 has been placed, a grout 10G is filled in beneath the plate 21, if desired.

The base plate 21 may conveniently be made rectangular and along one side there is welded a tube 24, which is preferably spaced from the plate by a filler 25, for clearance. This tube 24 serves as a mounting for stub axles 25, 26A, and 26B, which are half as long as tube 24. The tube 24 has an opening 27 cut in that side of the tube which faces the interior of the element 11 to permit the stub axles 26A and 26B to be pushed out and also two holes 27A and 27B which permit them to be welded in place. The plate 21 also has on it a pair of spaced bosses 28, which are spaced a certain distance radially from the axis of the pivots 26A-26B. These bosses 28 are of a height such that they will form a firm stop against which the upper plate 30 will rest, so that the upper plate 30 is held in spaced relation and parallel to the plate 21. The upper plate 30 has a pair of short tubes 31A and 32A welded to its underside, and spaced by the spacer pieces 34. These tubes are the same size as the tube 24 on the base 21 and all three tubes 31A, 24, and 31B are aligned. It will be noted that the plate 30 is a little wider and a little longer than the plate 21, and around the sides of the plate 30 (other than along that side on which the tubes 31A and 32A are attached), there are welded downwardly extending skirt pieces 35, 36, and 37. These skirt pieces extend down so as to reach a little below the upper surface of the plate 21, thereby covering the opening 38 between the underside of plate 30 and the upperside of the plate 21 when the base is in the position shown in FIGURE 2. It will be noted, however, that due to the slightly larger dimensions of the plate 30, that the skirts 35, 36, and 37, do not rest in contact with the edges of the plate 21, thereby allowing a small narrow slit or opening 35A, 36A and 37A between the underedge of the skirt elements 35, 36, and 37, respectively, and adjacent the outer edges of

the plate 21. Accordingly, circulating air can move into these slit openings as shown by the arrow V1. The ends of the tubes 31A and 31B on the plate 30 are preferably welded to the adjacent inner face of the skirts 35 and 37, for added structural strength.

The upper plate 30 is provided with countersunk openings appropriately spaced to receive flat head Allen type holding screws 40—40 which extend through the plate 30 and are threaded into appropriate openings in the bosses 28. When the screws 40—40 are in place, the plate 30 is held firmly against the bosses (to the left in FIGURE 2) and is supported on its opposite side by the hinge 24—26A, 26B, and 31A—31B. Consequently, the entire base structure 11 then becomes a firm mounting, of which the plate 30 forms the purpose of a support plate for anything that is desired to be mounted thereon.

In the illustrated utilization of the base portion 11, the device supported is the pole section generally designated 12, and for supporting such a pole, there is welded upon the support plate 30 an upwardly extending tube 41, which is firmly welded at 42 to the plate 30. This tube 41 is of any upward dimension desired, and is of a size such that the pole section 12 will slip onto the tube 41. The pole section is then held in place by appropriate set screws or pins 44 which only need to be sufficient so as to prevent the pole 12 from slipping upwardly of the support plate frame tube 41. The support plate 30 has an aperture 30A which is sufficient to receive the outer diameter of the support tube 41, where the weld occurs at 42. Accordingly, ventilating air can pass upwardly as shown by the arrow V2, from the space between the foundation plate 21 and the support plate 30. Accordingly, the air which enters via the path shown by arrow V1, then continues via the path of arrow V2 through the support tube 41 and thence into the pole section 12 of the lighting device, whence the ventilation continues as hereinafter described.

For outdoor service the parts of the base are rust-proofed, as for example by hot-dip galvanizing. This is done for the separate components before final assembly. Thus plate 21, space 25, and tube 24 as a welded sub-assembly and coverplate (also referred to as a support plate) 30, tubes 31A and 31B, skirts 35—36—37, and tube 41 as another sub-assembly and pivot pins 26A and 26B are all separately galvanized. The pivot pins 26A and 26B are then fitted into opposite ends of tube 24. This fit should be loose enough to allow the pins to be moved by hand and the pins should be just long enough to be flush with the ends of tube 24 when they are butted together in tube 24. The upper plate 30 subassembly is then held with tubes 31A and 31B aligned with tube 24 and then the pins are pushed out into tubes 31A and 31B by means of a pick or screwdriver inserted through opening 27. Then a spot of arc-welding is applied through holes 27A and 27B, which serves to hold pins 26A and 26B in place. The welding at holes 27A and 27B will remove the galvanizing locally and after chipping, these welds are painted. However, these welds are in a fully protected position when the base is in operating condition as shown in FIGURES 2 and 3, everything which is exposed being galvanized.

At the upper end of the pole section 12, there is provided a connector section generally designated 13, as shown opposite the bracket 13 in FIGURE 4. Very little of this connection section is visible from the outside. It consists of a tubular body 50 which is open at the lower end and is closed at the upper end 51, in the manner of an inverted cup. About one portion of the body there is an exterior flange 51A which has an outward outer diameter equal to that of tube 12 and a sleeve surface 50A having an exterior diameter to fit within the post. This flange forms a projection sufficient to form an abutment against which the upper end 12E of the pole 12 abuts. This flange 51A also serves as a bottom abutment for the light transparent tube 52 of

the lighting section 14. The entire cup member 50—51 is held in place on the tube 12 by means of the set screws 54—54. The closed end portion 51 of this inverted cup is provided with a plurality of holes, which are so arranged as to provide places for locating the structural tubular members 55, vent openings 56—56 where desired, and places for mounting the lower lamp sockets 57—57 as shown in FIGURE 6. The locations of the tubes 55, ventilating openings 56, and the lamp sockets 57 will vary, depending upon the number of lamps 59 that are used in spaced vertical parallel relationship, in the lighting device. In FIGURE 4, a two-lamp unit is illustrated. In FIGURE 7 there is illustrated a four-lamp unit. Thus in FIGURES 4 and 6, the cup member 50—51 is provided with downwardly extending bosses at 58—58 and these are cored and reamed so as to provide neat fitting holes for the vertical tubes 55 which are preferably shiny on the outside. These tubes are placed in the holes in the bosses 58 and are then welded into place at 58A—58A. Accordingly, the cup member 50—51 which composes the connector section 13, is firmly attached to the upwardly extending structural tubes 55. Also, on the cup member there are mounted the lower lamp sockets 57 which are held in place by the screws 57A, the wires 51B from the lamp socket being drawn downwardly through appropriate holes in the portion 51 of the connector section 13.

At the upper ends of the tube 55 there is another cup member 60 of the upper frame and ventilating section generally designated 15. This cup member has a sleeve surface 60C of an exterior diameter which is just slightly smaller than the interior diameter of the transparent tube 52 so tube 52 will slide down over cup 60. The cup 60 has its upwardly extending wall thinned out at 61 so as to provide a seat against which a ring shaped collar 62 is lodged. This collar 62 has in it a plurality of ventilating openings 64 and on the inner surface of the collar 62 there is a screen wire 65, of sufficiently small mesh so as to discourage the entry of insects through the ventilating screen. The cup 60 has interior bosses 66 which are similar to those at 58—58 on the connector section 13, except that they are not quite so deep. These are located and reamed to exactly the same dimensional spacing and size as the holes in the bosses 58 on the cup member 50—51. Accordingly, the tube 55—55 will extend upwardly through the bosses 66 and they are welded in place at welds 66A, so that the cup 60 is firmly attached in vertically spaced relation to section 13, and axially aligned therewith.

The transparent tube 52 is of plexi-glass or other suitable plastic, and is cast so as to have an interior diameter as illustrated, so as to slip down over cup 60 and rest on cup 50—51A. The cups 50 and 60 and tubes 55 comprise a structural frame for supporting the transparent tubing against transverse deflection. Where it is not possible to obtain a sufficiently long piece of transparent plastic tubing 52, several pieces may be joined end-to-end by a collar at 52A, which is cemented or otherwise attached to the upper and lower sections, holding them in vertical alignment. Therefore, to assemble the device, it is only necessary to slip the transparent tube 52 over the cup 60 and toward the connector section 13 until the end of the tube 52 lodges against the flange 51A. No other fastening of the transparent tube 52 is needed, when the device is used in the vertical position, the weight of the tube being enough to hold in down.

The cup 60 has vent openings 68—68 corresponding to those at 66—66 for the cup 50—51 (see FIGURES 5 and 6), and cup 60 is likewise provided with places for the upper lamp sockets 69—69, which have an upwardly resiliently mounted portion 69A. Sockets 69 are located directly over sockets 57. Therefore the lamps are first placed with one end into the socket 69A and lifted enough in the direction of the arrow 69B to allow the

lamp to be brought into alignment with the lower socket 57.

Upon the cup 60 there is an upstanding bolt 70 which is threaded at its upper end.

The cap and reflector 16 is a shallow dish having its convex side upward. It is preferred that the underside of the cap 16 be made reflective or white. The cap and reflector 16 preferably have a diameter of from 3-5 times the diameter of the tube 52. The cap reflector is held in place on the stud 70. The washer 17A is placed on top of it, and the capital 17 is then screwed down to the position shown, and it accordingly holds in place not only the cap 16 but also the ventilating members 62-65.

The lighting devices that are used in the present invention are preferably of the fluorescent type and where used, these require an electrical adjunct known as a "ballast." For the present invention, the ballast, shown at 71 in FIGURE 1, is made of a size such that it can be suspended within the pole 12. The ballast has an exterior cross-sectional shape such that it does not entirely fill the circular inner cross-sectional shape of the pole 12, and air which enters into the bottom of the pole may therefore flow up around the ballast 71. The ballast is preferably suspended by a rod 72 which hangs downwardly from the connector section 13. The rod 72 is preferably made long enough so that the ballast 71 will be relatively close to the base 11 so as therefore to minimize elevated load.

The electrical supply lines L1 and L2 and the ground line G are brought in through the conduit 20 and are run up through the cable 74 to the ballast 71, from which a plurality of lines, appropriate to the number of lamps, are run upwardly as a cable 75, see FIGURE 4. Some of the wires in cable 75 extend to the lower lamp socket 57, and other wires from the cable 75 extend upwardly at 76A and 76B through one or several of the structural tubes 55-55 to the cup 60 of the upper frame and ventilating section 15, whence connections are made to the upper light sockets 69-69.

The ventilating air which passes upwardly into the pole 12 at V2, passes over the ballast 71, which is relatively low down in the pole, and the air is thereby heated to some degree by the ballast. The chimney effect of the thus heated air will cause it to rise as indicated by the arrow V3, FIGURE 4, and this air then rises and some of the air enters through holes 66 as indicated by arrow V5, and accordingly passes over and around the lamps shown in sockets 57-57 and 69-69. This air is retained within the tube 52 but it is not mixed with the air that is moving upwardly through other paths, namely through the interior of the tubes 55, as indicated by the arrow V6. Thus some portion of the air passes up through the structural tubes 55 which form an inner conduit and other portions of the air pass through the holes 56 and around the light and then passes out through the hole 68 in the upper cup 60 and joins with the air passing up through the tube 55 and then flows out through the apertures in the members 62 and 65.

In some instances, as in locations of high ambient temperature, it is desirable to suspend below the ballast 71 a small ventilating fan 78, see FIGURE 1, which may, if desired, be provided with a self-contained thermostat switch, not illustrated, to turn the fan on when ambient temperature reaches a prescribed level. If desired, the fan 78 may simply be wired into the lighting circuit so as to be on at all times that the light is on. The fan is bladed so as to assist the natural updraft through the pole 12.

Referring to FIGURES 7, 8, and 9, the structural arrangement is substantially identical with that shown in FIGURES 4, 5, and 6, except that the device is made to receive four vertically arranged spaced lamps. Thus, referring to FIGURES 8 and 9, in FIGURE 8 there are illustrated four equally spaced lower lamp sockets 101 and in FIGURE 9 there are the corresponding upper

lampsockets 102. These are equally arranged between the supporting tubes 55 and are contained within the transparent tube 52. Except for such changes in arrangement, the structures are the same in FIGURE 4 and FIGURE 7. In addition in FIGURE 7, there is illustrated another form of induced draft arrangement which includes a motor 105 which drives a blower fan 106. A circular light weight metal cup 107 is pressed into the upwardly extending wall portion of the cup 60. This cup 107 has an interior circular opening 107A, which forms an air inlet opening into the fan element 106. Accordingly, all of the air moving upwardly through the lighting arrangement is drawn through the fan 106 which accordingly induces a negative pressure below the diaphragm element 107 and a positive pressure above that diaphragm. The diaphragm is suitably apertured and is provided with an insulating bushing at 108 so that electric wires 109 to the motor 105 can be passed through the diaphragm.

Referring to FIGURES 8 and 9, for ventilation into the lamp containing chamber, within the transparent tube 52, the connector section 13 is modified so as to provide the ventilating holes 110-110 and the upper cup member 68 is likewise modified to have similar ventilating holes 111. As many ventilating holes as provided in the cup member 50-51 and in the cup member 60, as are needed to allow a sufficient amount of air to pass upwardly around the lights. It will be understood, of course, that the air flows through the structural tubes 55, thus producing a cooling effect on the light since the tubes are cooled and hence form cool surfaces to capture the heat given off by the light. In many instances, no flow of ventilating air is required in the lamp chamber, per se, and accordingly, the holes at 56 and 68, FIGURES 5 and 6, respectively, and at 110 and 111, FIGURES 8 and 9, may be dispensed with. In other locations, because of high ambient temperatures, additional ventilation is used, and these holes are therefore provided.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof, it is to be understood that I do not limit myself to the specific embodiments herein.

What I claim is:

1. A lighting standard comprising a tubular post of metal and a light transparent tube arranged coaxially with the proximal end of said transparent tube at the end of said post and the distal end of said tube away from the end of said post, a structural frame attached to the post and extending through the transparent tube to the distal end thereof for supporting that end of the transparent tube, said structural frame having sleeve surfaces adjacent the proximal and distal ends of the transparent tube for contacting the inner surface thereof to align said post and transparent tube, the structural frame at the distal end being no larger in girth than the inner surface of the transparent tube, a stop on the sleeve surface at the proximal end against which the transparent tube is seated, said structural frame including conduit means extending from end-to-end thereof and forming a passage within the transparent tube from the proximal end to the distal end thereof, said post having a vent opening to the atmosphere at a position substantially below the structural frame and in fluid communication with the aforementioned conduit means, said structural frame also including a vent opening to atmosphere at said distal end thereof, a plurality of elongated lighting elements within the transparent tube in the space outside the conduit means therein, and a cap fastened to the structural frame adjacent the distal end of the transparent tube for holding the tube against endwise movement.

2. The lighting standard of claim 1 further characterized in that there is provided a ballast within the lower end of the post so as to be located a substantial distance axially below said structural frame and electrical connections extended through the post and inner conduit to said lighting elements.

3. The lighting standard of claim 2 further character-

ized in that a ventilating fan is mounted in the post adjacent the ballast and positioned to blow air through the post and over said ballast, the ballast being mounted in the post above the vent opening to the atmosphere.

4. The lighting structure of claim 1 further characterized in that the structural frame adjacent the distal end of the transparent tube is in the form of an upwardly opening cup having a wall with a plurality of vent openings that open to the atmosphere, said cap being fastened to said frame to form a lid over said cup and a blower mounted in said upwardly opening cup below said cap to draw air from the post vent opening and discharge air through said cup vent openings.

5. An illumination device comprising a hollow pole having a base at the lower end for fastening it to a foundation, said base being constructed so as to provide an air inlet into the interior of the pole for flow of the air upwardly therethrough, a lamp assembly mounted in the upper end of the pole, said lamp assembly having a casing, the interior of which is connected in air communicating relationship with the upper end of the pole, said lamp casing having air outlets to the atmosphere, lamp elements in said casing, a heat emitting auxiliary electrical device for the lamp elements, said auxiliary electrical device being positioned within the hollow pole at a level near the lower end thereof and so as not unduly to obstruct airflow upward through the pole, said auxiliary electrical device being electrically connected through the pole to the lamp elements in the lamp assembly.

6. A lighting standard comprising a tubular post, a light transparent tube at the upper end of the tubular post mounted to extend coaxially therefrom, a structural frame fastened to the post and extending from the tubular post and through said transparent tube to support the transparent tube against the transverse deflection, said structural frame including a first coupling having a first sleeve surface fitting the tubular post and fastened thereto and a second sleeve surface fitting the inside of the light transparent tube, a plurality of structural tubular members attached to the coupling and extending parallel to the axis of the post at the coupling and outwardly from the post, and a cylinder attached to the outer ends of the structural tubular members, said light transparent tube being of a diameter such as it will slip over the cylinder and onto the second sleeve surface, said coupling having a flange between its first and second sleeve surfaces forming a stop against which one end of the transparent tube can abut, cap means removably attached to the structural frame at the end of the transparent tube and forming a cover therefor and forming a stop for the other end of the transparent tube, and a plurality of elongated light devices having a length substantially the same as the transparent tube mounted on the structural frame and spaced from each other within said transparent tube.

7. A lighting standard comprising an upright post, a mounting device for said post comprising a lower plate adapted for attachment to a foundation, a post support plate, hinge means on said foundation plate and connected to the post support plate mounting the latter in hinged relation on the foundation plate for hinged movement about a generally horizontal axis, means including said hinge means for holding said foundation plate and hinge plate immovable in spaced relation so as to provide a ventilation opening between the plates around at least a portion of the periphery of said plates and into the space between them, a mounting attached to the post support plate and connected to the post for supporting the post upright on said post support plate, a ventilation opening through the post support plate into said post, and heat evolving electrical devices including lighting elements mounted on the post in a position to be in the path of flow of ventilating air entering between said plates and moving into and upwardly through said post.

8. The lighting standard of claim 7 further character-

ized in that said hinge means extends transversely across and between said plates near one edge thereof.

9. The lighting standard of claim 7 further characterized in that a downwardly depending skirt is provided around the edge of said post support plate so as to face the said ventilating opening, said skirt being spaced from said foundation plate sufficiently so as to permit ventilation air to enter between the foundation plate and skirt and thence enter said ventilation opening.

10. A lighting standard comprising an upright post, a mounting device for said post comprising a lower plate adapted for attachment to a foundation, a post support plate, hinge means on said foundation plate and connected to the post support plate mounting the latter in hinged relation on the foundation plate for hinged movement about a generally horizontal axis, means including said hinge means for holding said foundation plate and hinge plate immovable in spaced relation so as to provide a ventilation space between said plates, a ventilation inlet opening on said mounting device and leading into said ventilation space, a mounting attached to the post support plate and connected to the post for supporting the post upright on said post support plate, a ventilation opening through the post support plate into said post, and heat evolving electrical devices mounted in the post in a position to be in the path of flow of ventilating air entering through said ventilation inlet into said ventilation space and moving therefrom upwardly through said post.

11. A lighting standard comprising an upright hollow pole, a lighting device on the top of the pole, a heavy electrical auxiliary component for the lighting device electrically connected thereto, means mounting said heavy auxiliary component in the hollow pole near the lower end thereof, and a hinged base for the pole connected to the lower end of the pole, said base comprising a pole support immovably fastened to the lower end of the pole and a foundation plate adapted to be fastened to a foundation, said pole support and foundation plate being hinged together for hinging movement about a substantially horizontal axis and manually removable means for holding the pole support and foundation plate immovably with the pole support oriented so as to hold the pole in its upright operating position when the foundation plate is fastened to a foundation.

12. For mounting lighting apparatus on a foundation, the combination comprising a foundation plate, means for fastening said foundation plate to a footing, a support plate, means including a hinge member secured to the foundation plate along one edge portion thereof and connected to the support plate along an edge portion adjacent said foundation plate edge portion with the hinge axis spaced from the foundation plate and parallel thereto for hingably mounting the support plate to move between a position parallel to and in spaced relation to the foundation plate and a position at approximately right angles to the foundation plate, means for detachably securing the support plate and foundation plate against swinging movement of the support plate with the support plate in a primary operating position wherein it is generally parallel to the foundation plate, a depending skirt joined to said support plate and extending sufficiently around said support plate and toward said foundation plate so as, in conjunction with said hinge means, substantially to bound the space between said plates when they are in said primary operating position, a post for supporting lighting apparatus, and a mounting attached to said support plate and fastened to the post for supporting said post in an upright condition when said support plate is in said primary operating position.

13. For hingedly mounting a hollow standard on a footing, the combination comprising a foundation plate adapted to be fastened to a footing, a support plate for mounting said standard and having an opening therein to open to the hollow interior of the standard, hinge means secured to one edge portion of the foundation plate

9

with the hinge axis spaced from the foundation plate and parallel thereto for hingably mounting one end portion of the support plate in spaced relation to the foundation plate, boss means on the combination spaced at a distance radially in respect to the hinge axis, said boss means being oriented so that in a primary operating position the support plate is held in spaced parallel relation in respect to the foundation plate, means for detachably securing the support plate and foundation plate against swinging movement of the support plate in said primary operating position, and a depending skirt joined to said support plate and extending sufficiently around the support plate and toward the foundation plate so as, in conjunction with the hinge means, to bound them when they are in said primary operating position, said skirt in the primary operating position being sufficiently spaced from the foundation plate so as to provide a substantial ventilation opening between the skirt and foundation plate and leading into the space between said plates.

14. For mounting a standard on a footing, the combination comprising a foundation plate adapted to be fastened to a footing, a support plate attached to the standard, hinge means secured to the foundation plate with the hinge axis parallel to the foundation plate and hingably mounting one end portion of the support plate,

10

boss means on the combination at a spaced distance radially in respect to the hinge axis, said boss means being oriented so that in a primary operating position, the support plate is held in parallel relation in respect to the foundation plate so as to form a ventilation space between them, means for detachably securing the support plate and foundation plate against swinging movement of the support plate in such a primary operating condition, said hinge means including spaced hinge pivots and a hinge pin pivotally securing the foundation plate and support plate together in spaced relation, and means for securing the hinge pin in hinging position.

References Cited in the file of this patent

UNITED STATES PATENTS

D. 153,196	Winters -----	Mar. 22, 1949
1,133,266	Collier -----	Mar. 30, 1915
2,511,440	Long -----	June 13, 1950
2,641,687	Akely -----	June 9, 1953
2,933,596	Tolbert -----	Apr. 19, 1960
2,985,261	Kubesh -----	May 23, 1961

FOREIGN PATENTS

938,356	France -----	Apr. 5, 1948
216,176	Australia -----	July 17, 1958