March 21, 1961 H. L. CHRISTY 2,976,399

FLUORESCENT OUTDOOR LIGHT

Filed April 29, 1959 2 Sheets-Sheet 1

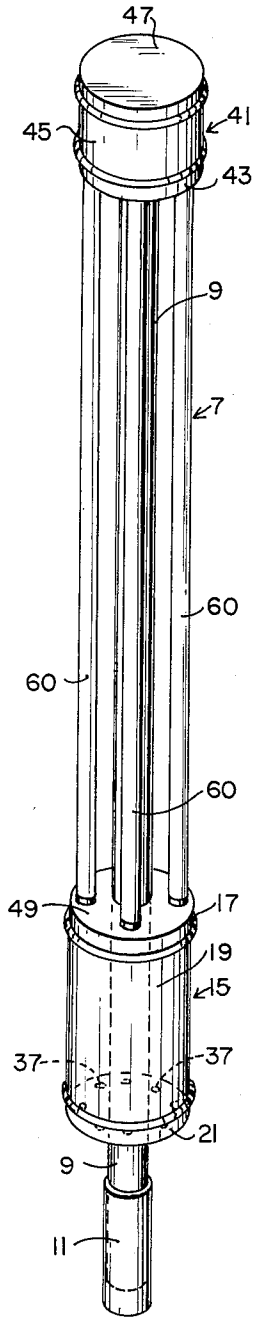


FIG. 1

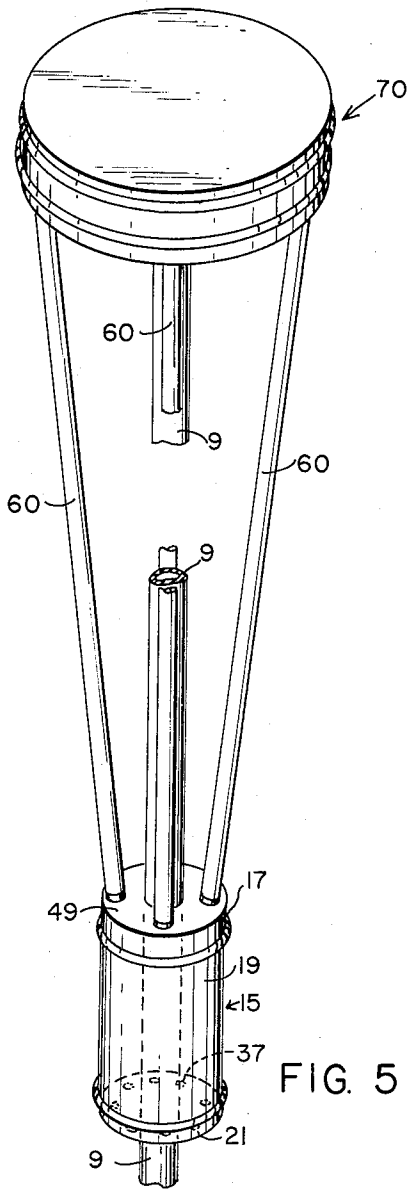


FIG. 5

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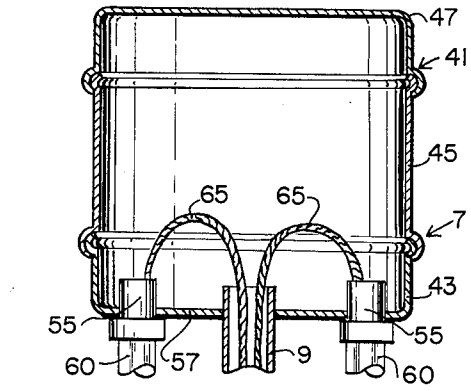
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March 21, 1961 H. L. CHRISTY 2,976,399

FLUORESCENT OUTDOOR LIGHT

Filed April 29, 1959 2 Sheets-Sheet 2



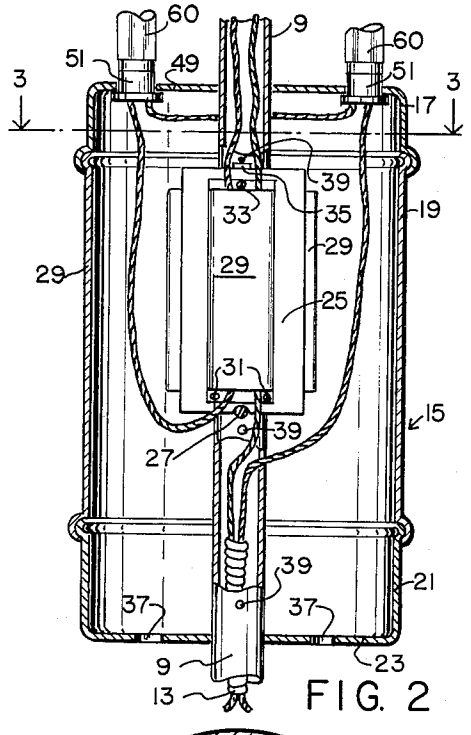


FIG. 2

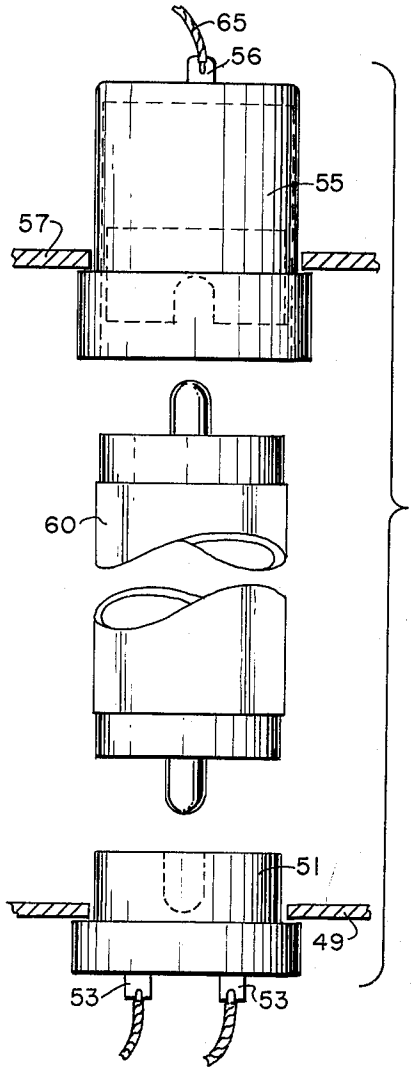


FIG. 4

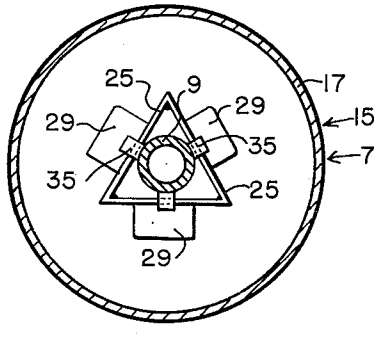


FIG. 3

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2,976,399

FLUORESCENT OUTDOOR LIGHT

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Filed Apr. 29, 1959, Ser. No. 809,794

4 Claims. (Cl. 240—11.4)

This invention relates to lighting. In another aspect this invention relates to advertising. In a more specific aspect, this invention relates to lighting and advertising means. In still a more specific aspect, this invention relates to new outdoor fluorescent light fixture means. And, in yet a more specific aspect, this invention relates to new outdoor fluorescent lamp pedestal light fixture means which can be mounted where and as desired out of doors, and which has the elongated fluorescent lamps exposed to the elements and not shaded or shielded to result in maximum lighting and use of the fluorescent lamps.

Lighting means have been known for a long time, including electrical fluorescent lamps utilizing an elongated tube containing the gas or gases which fluores upon operative connection of the fluorescent lamp to the electrical power supply. Also, so-called pedestal fluorescent light fixtures are known in the art wherein the fluorescent lamps are positioned substantially vertical in use, and wherein the lamps are mounted in an elevated position, so-called pedestal mounting. However, the outdoor fluorescent lamp pedestal light fixtures of the prior art all have many disadvantages. Most of them are not constructed so that they can be used out of doors with the fluorescent lamps exposed, that is, not shielded by a transparent or translucent housing from the elements, and with the necessary wiring protected. The light fixtures of the prior art are expensive to manufacture, complicated structurally, and particularly inefficient in utilization of available candlepower from the fluorescent lamps used therein or therewith. The new outdoor fluorescent lamp lighting fixture means of my invention overcomes all of the disadvantages of the known fixtures of the prior art. In the light fixture means of my invention, the fluorescent lamps are entirely exposed to result in 100% utilization of light therefrom. The new light fixture means of my invention is completely weather proof, and can stand the elements in any location and climate throughout the year. The new light fixture means of my invention is economical to manufacture and install, can be constructed particularly sturdy, and readily lends itself to adaptability for different sizes of fluorescent lamps, and total lighting. The new outdoor fluorescent lighting fixture means of my invention has proven particularly successful in use to light the entranceways and driveways of such as drive-in restaurants, motels, hotels, filling stations, drive-in movies, and the like, and the new lighting means of my invention has a special advantage in that it serves as an advertising beacon to attract and call attention, as well as serving to light outdoor areas. And, of course, the new lighting fixture means of my invention can be used indoors, if desired.

The new lighting fixture of my invention has a hollow support and conduit member with an opening into both end portions thereof. A lower housing is mounted on this support and conduit member. A ballast is mounted on the support and conduit member within the lower housing. For cooling during operation, apertures are

provided in the housing and the support and conduit member, which in turn provide for fluid flow communication from without the housing to the inside of the support and conduit member in heat exchange relation to the ballast. An upper housing is mounted on the support and conduit member in spaced relation to the lower housing. The facing portions of these housings mount an opposed set of fluorescent lamp sockets. These fluorescent lamp sockets are constructed and adapted to operatively mount a fluorescent lamp. The lighting fixture has electrical wiring which operatively connects the ballast and lamp sockets and which has means providing for connection to an electrical power supply. The electrical wiring which connects the ballast and the upper one of the lamp sockets passes through the support and conduit member between the upper and lower housings, this providing for protecting and concealing the wiring.

It is an object of my invention to provide new lighting means.

It is another object of my invention to provide new beacon or advertising lighting means.

Still another object of my invention is to provide new outdoor fluorescent lamp lighting means.

Yet another object of my invention is to provide new outdoor fluorescent lamp lighting means wherein the fluorescent lamps are exposed to the elements, that is, not shielded or housed by transparent or translucent material.

It is another object of my invention to provide new outdoor fluorescent lamp lighting means having the fluorescent lamps exposed in substantially vertical position and elevated to particularly provide area lighting, and to serve as a beacon or advertising to attract and call attention.

Yet other objects of my invention are to provide new outdoor fluorescent lamp pedestal lighting means which is completely weather proof, sturdy, easy to manufacture and install, versatile in use, and efficient in utilization of available light.

Other objects and advantages of the new fluorescent lamp lighting fixture means of my invention will become apparent to those skilled in the art upon reading this disclosure.

Drawings accompanying and are a part of this disclosure. These drawings depict preferred specific embodiments of the new fluorescent lamp lighting fixture means of my invention, particularly designed and constructed for outdoor use, and it is to be understood that the drawings are not to unduly limit the scope of my invention.

In the drawings,

Fig. 1 is a perspective view of a preferred specific embodiment of the fluorescent lamp lighting fixture means of my invention, particularly designed for use out of doors.

Fig. 2 is an enlarged longitudinal cross sectional view, partly cut away, of the fixture of Fig. 1.

Fig. 3 is a view taken on line 3—3 of Fig. 2, showing the mounting and positioning of mounting plate members used and ballasts thereon utilized in the fixture.

Fig. 4 is an enlarged exploded view, partly cut away, of the lamp sockets and fluorescent lamp therefor employed in the fixture.

Fig. 5 is a perspective view of another preferred specific embodiment of the new fluorescent lamp fixture of my invention, similar to the fixture of Figs. 1–3, but having a substantially larger head.

Following is a description and discussion of the new fluorescent lamp lighting fixture means of my invention made with reference to the drawings whereon the same reference numerals are used to identify the same or similar parts and/or structure. The discussion and description is of preferred specific embodiments of the new

fluorescent lighting fixture means of my invention, and it is to be understood that such discussion and description is not to unduly limit the scope of my invention.

Referring now to the drawings, Figs. 1–4, there is shown a preferred specific embodiment of the fluorescent lamp lighting fixture means of my invention which is particularly designed for use out of doors where the light fixture is exposed to the elements, and this fixture is desirably used to light areas, such as entranceways, driveways, lounge areas, etc., in such as motels, hotels, filling stations, drive-in restaurants, drive-in movies, automobile sales lots, and the like, and I have found that the particular embodiment of light fixture of Fig. 1 serves well as an advertising beacon to attract or call attention to a business establishment of the type set forth hereinbefore. The light fixture is generally designated by numeral 7.

Light fixture 7 has an elongated tubular central support and conduit member 9 which is preferably open at the top and bottom as shown. Member 9 can conveniently be a length of metal pipe. The lower end portion of the central member 9 is desirably used to mount the light fixture in an upright position, in such as a length of metal pipe 11 secured in the ground in any suitable manner, or in such as a concrete or asphalt driveway. Of course, the telescopic mounting as shown in Fig. 1 can conveniently be with the central support and conduit member mounted in or on a mounting member 11. I have found the telescopic mounting of end member 11 as shown in Fig. 1 to be desirable, because the electrical wiring 13 from an electrical power supply then can conveniently pass up through length of pipe 11 and in turn through the inside of the lower end portion of member 9 (Fig. 2). In this manner the electric current supply wiring can conveniently be laid completely in the ground and unexposed, which in many instances is desirable. A closed and sectional round housing 15 is preferably concentrically mounted on the lower end portion of central support and conduit member 9. This housing 15 has an upper section 17 which is fixedly secured to central member 9 in any suitable manner such as by welding it to member 9. A central portion or section 19 of housing 15 is preferably easily removably and latchedly mounted in engaged relation to upper section 17, such as by the slip fit mounting as shown in Fig. 2. A lower section 21 of housing 15 is concentrically mounted on central support and conduit member 9 with member 9 extending through a hole in the end 23 thereof, and section 21 is preferably easily removably mounted on section 19 in the same manner as section 19 is engagedly mounted on upper section 17. Such mounting has been found to be completely weather proof, easy to assemble, and easy to disassemble if repairs or replacements are to be made to the lighting fixture.

A plurality of preferably metal plate mounting members 25 are suitably joined in their side portions along the edges thereof, such as by welding, to form in transverse cross section an equilateral triangle, and plate mounting members 25 are of size to provide for receiving central support and conduit member 9 therethrough and between. One of the plate members 25 has a notch therein on its lower edge, and a bolt 27 is preferably threadedly anchored in member 9 to be received by the notch and maintain the plate members 25 in desired position relatively to central support and conduit members 9. The plate mounting members 25 mount ballasts 29 which are secured thereto in any suitable manner such as by metal screws 31, and by a metal screw 33 through the top flange of the ballast, mounting plate member 25, metal mounting bracket 35, and into or through the wall of pipe 9. Thus, the ballasts 29 are mounted in excellent air cooling relation, as a result of the passageways formed by plate mounting members 25 and pipe 9, and cooling air can also freely pass over the outside of the ballasts between same and the inner wall of housing 15.

To better provide for such air cooling operation of the ballasts within housing 15, holes 37 are provided in the bottom of section 23 of housing 15, and holes 39 are provided through the wall of pipe 9, and thus, air flow communication is provided from without housing 15 to the inside of central support and conduit pipe 9, and in operation as the heated air rises in pipe 9 and housing 15, cooling air will flow in through holes 37 and upward in the flow communication path provided by these holes. The heated air will pass upwardly with the heat being dissipated through the walls of pipe 9, and of course, some will escape out of the top of the lighting fixture which is water tight but not necessarily air tight. I have found that this structure for housing 15 and pipe 9, and the mounting of ballasts 29, and the provision for the cooling air flow allows housing 15 to be very relatively small in diameter, to give a pedestal light fixture of much greater utility, and considerably better looking and more functional as an area or beacon light.

An upper sectional round housing 41 is preferably concentrically mounted on the upper end portion of central support and conduit pipe 9, such housing 41 forming the top or cap for the lighting fixture 7. The upper housing 41 is also preferably made in sections, a lower section 43 preferably rigidly attached to the pipe 9 in a suitable manner, such as by welding, a central section 45 preferably easily removably mounted in slip fit engagement with lower section 43, and an upper cap section 47 preferably easily removably mounted in slip fit engagement on central member 45. Here again, this structure has been found particularly desirable, since completely weather proof. Housings 15 and 41 are preferably made of relatively thin metal such as aluminum.

The upper end of housing 15, the face 49 of section 17 thereof, mounts the lower fluorescent lamp sockets 51. These lamp sockets 51 are preferably of the hard rubber or plastic material press-fit type, which are designed for outdoor use, being waterproof. For example, I have found it desirable to use lamp sockets 51 which are 1⅜ inch in outer diameter, such being pressed into a 1⅝ inch hole in face 49 of section 17. These lower fluorescent lamp sockets 51 have the usual two connecting points 53.

Upper fluorescent lamp sockets 55, preferably waterproof and of hard rubber or plastic material, are preferably press fit into the inner end of housing 41, the face 57 of section 43 of housing 41. As with lamp sockets 51, a hole slightly smaller in diameter is formed in the face 57 of section 43 to receive the mounting portion of lamp socket 55 which is the larger in diameter. With both sockets 51 and 55, I have found it desirable to employ a proper cement to make certain of the waterproof mounting of the lamp sockets in the opposed faces of the housings 15 and 41.

The oppositely mounted sets of fluorescent lamp sockets 51 and 55 operatively mount the elongated fluorescent lamps 60, one fluorescent lamp 60 for each set of lamp sockets 55 and 51. The fluorescent lamp sockets and lamps 60 are of the common and commercial type, and any size and watt power can be used in the lighting fixture of my invention, as desired. The length and wattage of lamps 60 determine the ballast 29 requirements for the lighting fixture 7. For example, with General Electric, Westinghouse or Sylvania Slim Line and single fluorescent lamps of 75 watt power and 96 inches long, one ballast will operate two of the lamps. This is also true of the 96 inch, 100 watt High Output lamps, which are rated at 7500 lumens. I have found it advisable to use one lamp per ballast when using the Very High Output lamps or General Electric's Power Groove lamps of 200 watt each and 96 inches long, delivering 13,250 lumens in operation. Of course, ballast requirements for any number of lamps are those common to the standard and commercial fluorescent lamps and ballasts. In this connection the outdoor fluorescent lamp lighting fixture 7 of my invention is very versatile in that any num-

ber of lamps **60** can be mounted thereon, from one to as many as 8 or 10 being spaced as desired around pipe **9**.

The electric wiring for the ballasts **29**, the lamp sockets **51** and **55** and to the electric power supply would, of course, be dictated by the number of lamps **60** and ballasts **29**. Fig. 2 shows in detail the wiring for two lamps **60** from a single ballast **29**. The wiring **13**, passing within conduit **9**, is connected to the electric power supply (not shown). A hole in pipe **9** within housing **15** would receive this main line wiring **13** from ballast **29** and one of the lower lamp sockets **51**. The electric wiring from the ballast **29** to the upper lamp sockets **55**, having the usual one connecting post **56**, would pass into pipe **9** through a hole therein within housing **15**, and upwardly through conduit **9** to the housing **41**, such wires **65** being connected to posts **56**. This is an important feature of the light fixture **7** of my invention, providing for completely weatherproof and hidden wiring, even from the electrical power supply to wiring **13**.

In Fig. 5 is shown a perspective view of another specific embodiment of the new outdoor fluorescent lamp lighting fixture of my invention, particularly desirably used where light directed downwardly is desirable, and this fixture has been proven to be quite an ornamental beacon light, or advertising to attract attention. The structure is substantially the same, except that sectionalized upper housing **70**, which forms the top or cap of the light fixture, is made substantially larger than the lower housing **15**. This provides for mounting fluorescent lamps **60** projecting outwardly from face **49** of section **17** of housing **15**. The structure of housing **70** is the same as that of housing **41** of the fixture of Fig. 1, and the same kind of fluorescent lamp socket **51** and **55** can be employed to mount the fluorescent lamps **60** operatively.

As will be evident to those skilled in the art, various modifications of this invention can be made, or followed, in the light of this disclosure and discussion, without departing from the spirit or scope of the disclosure or from the scope of the claims.

I claim:

1. An outdoor lighting fixture comprising, in combination, an elongated hollow support and conduit member having openings thereinto in both end portions, said support and conduit member positionable in an upright position, a closed sectional housing concentrically mounted on the lower end portion of said support and conduit member with said lower end portion of said support and conduit member extending therethrough and out of the lower end of said housing, a plurality of plate mounting members mounted on said support and conduit member within said housing, the side portions of said plate mounting members being spaced from said support and conduit member, ballasts mounted on said plate mounting members, a plurality of holes in said lower end portion of said housing and in said support and conduit member within said housing, said holes providing fluid flow communication from without said housing to the inside of said support and conduit member, a closed sectional housing concentrically mounted on the upper end portion of said support and conduit member to provide a cap thereover, and upper sections of said housings overlapping adjacent lower sections in water tight relation, opposed sets of water proof fluorescent lamp sockets mounted in the facing ends of said housings, said sockets constructed and adapted to operatively mount unshielded fluorescent lamps, and electrical wiring operatively wiring said ballasts and lamp sockets and having means therewith to connect to an electrical power supply, said electrical wiring passing through said support and conduit member between said housings to operatively connect the lamp sockets in the upper one of said housings and said ballasts and said electrical wiring passing through said support and conduit member from said ballasts to said means to connect to said electrical power supply.

2. An outdoor lighting fixture comprising, in combination, a hollow support and conduit member having an opening thereinto in both end portions, said support and conduit member being positionable in an upright position, a lower closed sectional housing mounted on said support and conduit member, a plate mounting member mounted on said support and conduit member within said housing, a ballast mounted on said plate mounting member, a plurality of holes in the lower end of said housing and in said support and conduit member within said housing providing fluid flow communication from without said housing to the inside of said support and conduit member, an upper closed sectional housing mounted on said support and conduit member in spaced relation to said lower housing, and upper sections of said housings overlapping adjacent lower sections in water tight relation, and opposed set of water proof fluorescent lamp sockets mounted in the facing ends of said housings, said sockets constructed and adapted to operatively mount a fluorescent lamp, said lamp being unshielded and exposed to the surrounding atmosphere, and electrical wiring operatively connecting said ballast and lamp sockets and providing for connection to an electrical power supply, the portion of said electrical wiring connecting said ballast and the upper one of said lamp sockets passing through said support and conduit member.

3. A lighting fixture comprising, in combination, a hollow support and conduit member having openings in both end portions, a lower closed sectional housing mounted on said support and conduit member, a ballast mounted on said support and conduit member within said housing, aperture means in said housing and support and conduit member within said housing providing fluid flow communication from without said housing to the inside of said support and conduit member, an upper closed sectional housing mounted on said support and conduit member in spaced relation to said lower housing, and upper sections of said housings overlapping adjacent lower sections in water tight relation, an opposed set of water proof fluorescent lamp sockets mounted in the facing portions of said housings, said sockets constructed and adapted to operatively mount a fluorescent lamp, said fluorescent lamp being unshielded and exposed to the surrounding atmosphere, and electrical wiring operatively connecting said ballast and lamp sockets and providing for connection to an electrical power supply, said electrical wiring connecting said ballast and the upper one of said lamp sockets passing through said support and conduit member between said housings.

4. An outdoor lighting fixture comprising, in combination, an elongated tubular central support and conduit member open at both ends, the lower end portion of said central member telescopically mountable in a set tubular member to position said central member in an upright position, a closed sectional round housing concentrically mounted on the lower end portion of said central member with the upper one of said sections fixedly attached to said central member and a lower one of said sections removably mounted on said central member and latchedly engageable with said upper section in mounted relation, and upper sections of said housing overlapping adjacent lower sections in water tight relation, three plate mounting members joined along the edges and mounted on said central member in said housing with passageways between said central member and said mounting plates, said plate mounting members having ballasts mounted thereon, said lower one of said sections of said housing having a plurality of holes in the outer ends thereof and said central member having a plurality of holes through the walls thereof with said holes providing for air flow from without said housing to the inside of said central member, a closed sectional round housing concentrically mounted on the upper end portion of said central member with the lower one of said last-named sections fixedly attached to said central member and an upper one of said last-named sections remov-

ably mounted latchedly in engaged relation with said lower section to form a cap over the upper end of said central member, and upper sections of said last-named housing overlapping adjacent lower sections in water tight relation, opposed sets of fluorescent lamp sockets mounted exposed and leak proof in the ends of said inner sections of said housing and unshielded fluorescent lamps operably mounted therein and exposed to the atmosphere, electrical wiring connecting said lamp sockets and a power supply, said wiring passing through

said central member to said upper housing and said sockets therein.

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