Aug. 23, 1932. G. H. COLE 1,873,291

LIGHTING FIXTURE

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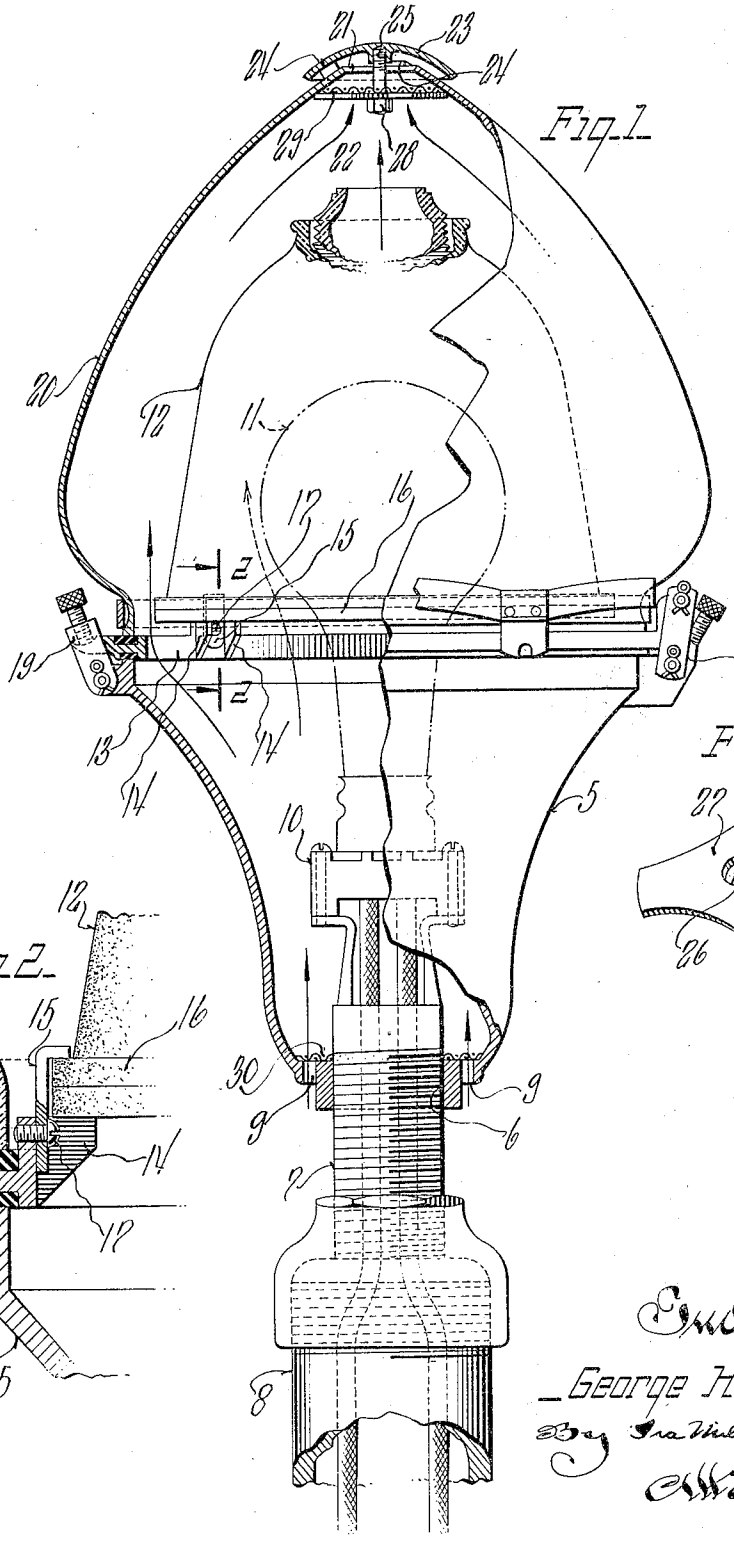


Fig. 1

Fig. 2

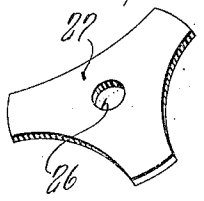


Fig. 3

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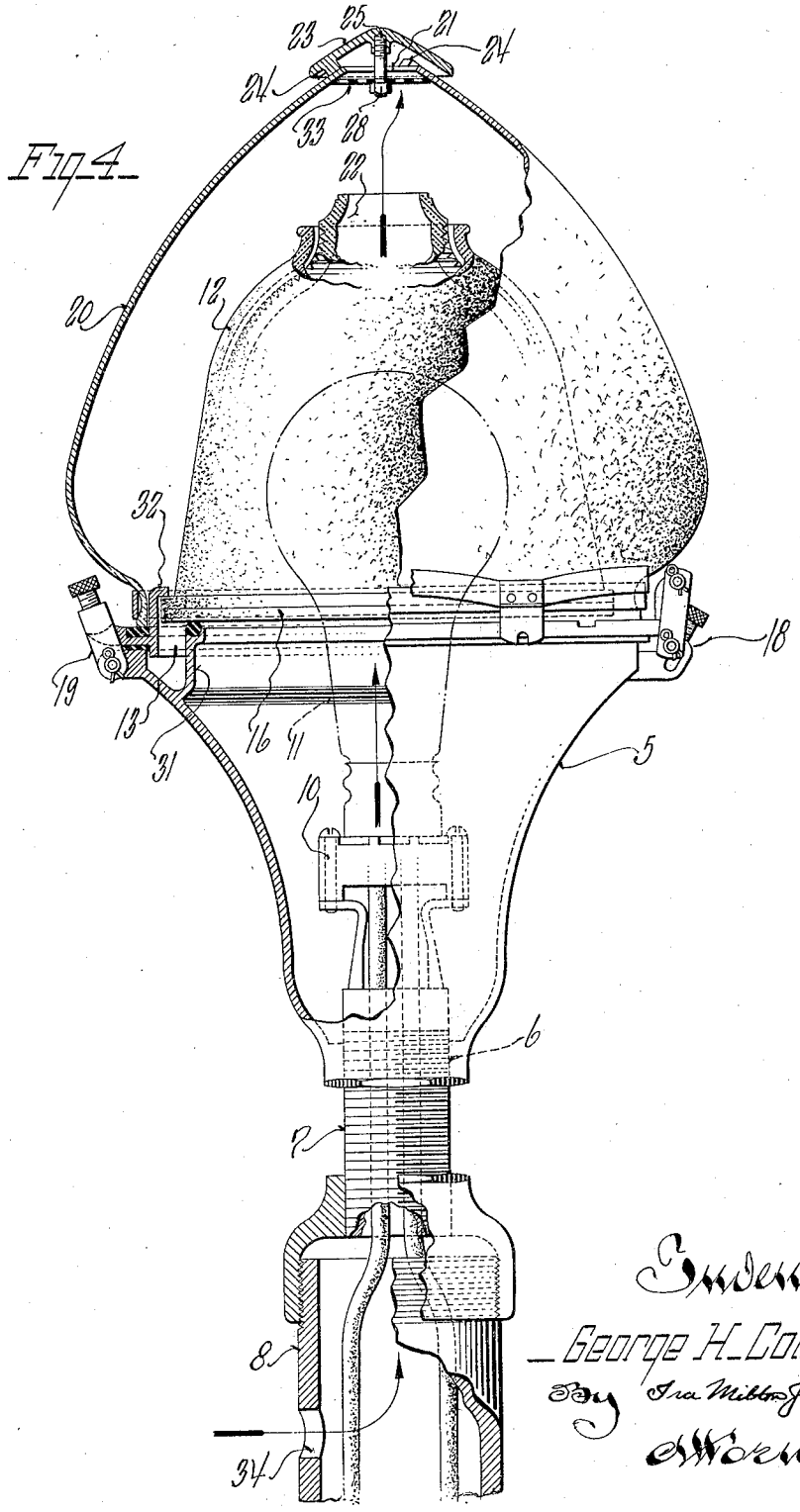
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Fig 4



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UNITED STATES PATENT OFFICE

GEORGE H. COLE, OF MILWAUKEE, WISCONSIN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO LINE MATERIAL COMPANY, OF SOUTH MILWAUKEE, WISCONSIN, A CORPORATION OF DELAWARE

LIGHTING FIXTURE

Application filed February 1, 1929. Serial No. 336,838.

This invention relates to certain new and useful improvements in lighting fixtures, and refers more particularly to means for ventilating the interior thereof.

In certain lighting fixtures, it is desirable that the lamp be totally enclosed and heretofore the lack of ventilation in such fixtures heated its glassware to such an extent that very often rain and snow caused it to crack. It is, therefore, an object of this invention to provide novel means for ventilating the interior of lighting fixtures of the character described.

Another object of this invention resides in the provision of means for ventilating the interior of lighting fixtures of the character described which is so designed as to direct currents of air across the lamp, and through and around the refractor bowl to efficiently carry off the heat.

Another object of this invention resides in the provision of novel means for mounting the refractor bowl of lighting fixtures of the character described, which permits the passage of air from the body of the fixture, positioned beneath the refractor, into the interior of the refractor and around the exterior thereof.

A further object of this invention resides in the provision of a lighting fixture of the character described including a protective globe having means providing an outlet for ventilating currents of air, but preventing entrance of rain and moisture to the interior of the fixture.

And a still further object of this invention resides in the provision of an entrance and an outlet for lighting fixtures of the character described to provide ventilation for the interior thereof, and having means for preventing the entrance of bugs and the like through said entrance and outlet.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

In the accompanying drawings, I have illustrated two complete examples of the physical embodiment of my invention constructed according to the best modes I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a view of a lighting fixture embodying my invention with parts thereof broken away and in section to illustrate structural details;

Figure 2 is an enlarged fragmentary, sectional view taken through Figure 1 on the plane of the line 2—2;

Figure 3 is a perspective view of the spider like plate which cooperates with the hood member for closing the outlet in the protective globe, and

Figure 4 is a view similar to Figure 1 illustrating a slightly modified form of my invention.

Referring now more particularly to the accompanying drawings in which like numerals designate like parts throughout the several views, the numeral 5 represents the body of a lighting fixture and which is substantially inverted bell shaped and has its closed end provided with a threaded aperture 6 in which a tubular mounting member 7 is secured, the mounting member being in turn supported by a suitable supporting structure 8. A plurality of openings surround the threaded aperture 6 to provide an air inlet to the interior of the body.

A suitable lamp receptacle 10 is supported from the upper portion of the member 7 and has a lamp 11 mounted therein which is adapted to be substantially enclosed by a refractor bowl 12, removably secured to a refractor mounting ring 13. The lower periphery of the refractor bowl rests upon projections 14 extended inwardly from the ring and hook shaped members 15 engaged over the upper periphery of the annular rim 16 formed on the refractor bowl, and secured to the ring 13 by screws 17 or the like secure the refactor to the ring in proper axial position. This manner of mounting the refractor bowl from the ring 13 permits the passage of air

from the interior of the body into the interior of the refractor and also around the exterior thereof.

The refractor mounting ring 13 is hinged to the body 5, as at 18, and is locked in closed position by a conventional locking device 19 to permit the ring together with its refractor to be swung to open position, as is customary. The refractor mounting ring 13 also carries a protective globe 20, which, together with the mounting member 5, totally encloses the entire fixture.

The apex of the protective globe 20 has an opening 21 therein which provides an outlet for air entering the inlet openings 9 at the lower end of the body member and passing through the fixture, over the lamp, through the refractor 12, the upper end of which is open, as at 22, and around the refractor as illustrated by arrows in Figure 1. To prevent the entrance of rain and moisture to the interior of the globe 20, the opening 21 is covered by a hood 23 which is maintained in spaced relation with the adjacent portion of the globe by lugs 24 formed on the hood and engaging the globe. The hood 23 is secured in position by a stud 25 carried by the hood and passed through an opening 26 in a spider like member 27, the outer ends of whose arms engage the inner surface of the globe, a nut 28 threaded on the lower end of the stud 25 holding the hood and the member 27 against separation.

To prevent the entrance of bugs and the like through the opening 21 and through the openings 9, perforated screens 29 and 30 are placed at the openings 21 and 9, respectively, the screen 29 being circular and resting upon the upper surface of the member 27 and the screen 30 resting upon the horizontal lower portion of the body 5 between the wall of the body and the member 7.

In that form of my invention illustrated in Figure 4, the refractor bowl 12 is not carried by the ring 13 but is supported upon an annular flange 31 extended upwardly from the inner portion of the body 5, and is maintained in position by an annular inwardly directed flange 32 formed on the ring 13 which engages the upper side of the annular bead 16 formed on the refractor bowl. The manner of securing the hood 23 in position is likewise somewhat varied and the spider like member 27 is replaced by a perforated washer 33.

However, the major point of difference exists in the manner of communicating the interior of the body 5 with the atmosphere, this being accomplished by drilling a hole 34 in the supporting member 8, which, through the tubular supporting member 7, is in communication with the interior of the body 5. In this form of my invention, the ventilating current of air thus enters the hole 34, passes upwardly through the supporting member 7 and through the body 5 and around the globe, through the refractor and then outwardly through the opening 21 in the apex of the protective globe.

From the foregoing description, taken in connection with the accompanying drawings, it will be readily apparent to those skilled in the art to which an invention of the character described appertains, that I provide a novel means for ventilating the interior of lighting fixtures which in no way affects the design of the fixture and retains all of the desirable features of a totally enclosed fixture.

What I claim as my invention is:

1. In a lighting fixture of the character described, a body member having a lamp mounted thereon, a refractor bowl which with the body member substantially encloses the lamp, means for supporting the refractor bowl from the body member whereby a space is provided between the refractor bowl and the body member throughout the major portion of the circumference of the refractor bowl to permit free circulation of air through and around the refractor bowl, and a protective globe provided with an air outlet opening at its top and having a substantially air tight connection with the body member, whereby the circulation of air through and around the refractor bowl is positive.

2. In a lighting fixture, a body member having a lamp mounted thereon, means providing an air inlet to the interior of the body member, a refractor bowl which with the body member substantially encloses the lamp, a protective globe carried by the body member and enclosing the refractor bowl, means providing an air outlet through the protective globe, and means for supporting the refractor bowl whereby a space is provided between the refractor bowl and the body member throughout the major portion of the circumference of the refractor bowl whereby currents of air are free to pass from the lower portion of the body member upwardly through and around the refractor bowl and out through the outlet in the protective globe.

3. In a lighting fixture, a body member having a lamp mounted therein, means providing an air inlet to the interior of the body member, a refractor bowl open at its top and bottom and disposed over the lamp, a protective globe enclosing the refractor bowl, means providing an air outlet through the protective globe, and common means for supporting the refractor bowl and the protective globe from the body member, said means providing a space between the refractor bowl and the body member and forming substantially an air tight connection between the protective bowl and the body member whereby currents of air pass from the lower portion of the body member upwardly through and

around the refractor bowl and out through the outlet in the protective globe.

4. In a lighting fixture of the character described, including a body member, a refractor bowl and a protective globe, the body member and protective globe having communication with the exterior atmosphere to provide a draft of cooling air through the fixture, a ring member connected with the refractor bowl and protective globe to simultaneously connect both the refractor and the protective globe with the body member, and the means connecting the refractor bowl with the ring member providing an air space surrounding substantially the entire circumference of the refractor bowl whereby the draft of air is free to pass around and through the refractor bowl.

5. In a lighting fixture of the character described, a body member having a plurality of ports adjacent the lower end thereof, a lamp mounted in said body portion, a refractor bowl carried by the body member and cooperating therewith to enclose the lamp, a protective globe carried by the body member and enclosing the refractor bowl and spaced therefrom to permit the free passage of air between the bowl and the globe, said refractor bowl and said protective globe being provided with alined apertures to permit the passage of air entering through said ports to be vented through the aperture in said globe, and means on said globe to prevent the entrance of rain into said globe.

6. A lighting fixture of the character described, a housing having a plurality of ports therein, a screen covering said ports, a lamp mounted in said housing, a globe having a vent opening mounted on said housing, a screen covering said vent opening, a hood mounted over said vent opening to permit the passage of air therethru, but to exclude rain therefrom, a refractor bowl mounted from said housing in spaced relation with said globe and having a vent opening through the upper end thereof to permit air entering through the ports in said housing to pass through said bowl and between said bowl and said globe and out of said fixture through the vent opening in the globe.

7. In a device of the character described, a housing having a vent opening at one end thereof, a seat on the end of said housing opposite said vent, a refractory bowl having an open end thereof supported from said housing and having an opening through the opposite end whereby air may circulate through the interior of said refractory bowl through said open end and said opening, a protective globe supported from said housing in spaced relation to said refractory bowl, said globe having an open end in open communication with the vent opening in said housing and a vent opening at the other end thereof whereby a portion of the air entering the interior of the housing may circulate between the globe and the bowl to maintain said globe cool.

8. In a device of the character described, a housing having a vent opening at the one end thereof, a seat on the end of said housing opposite said vent, a refractory bowl having an open end thereof supported from said housing and having an opening through the opposite end whereby air may circulate through the interior of said refractory bowl through said open end and said opening, a protective globe supported from said housing in spaced relation to said refractory bowl, said globe having an open end in open communication with the vent opening in said housing and a vent opening at the other end thereof whereby a portion of the air entering the interior of the housing may circulate between the globe and the bowl to maintain said globe cool, and means to resiliently maintain said globe seated on said housing.

In testimony whereof I have hereunto affixed my signature.

GEORGE H. COLE.