Jan. 24, 1956 V. S. WINCE 2,732,482

ENCLOSED DIRECT LIGHTING FIXTURES

Filed Nov. 14, 1951

Fig. 2.

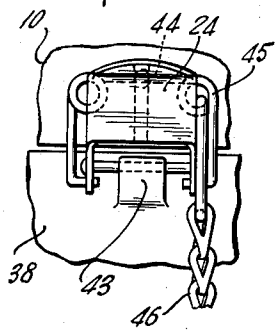
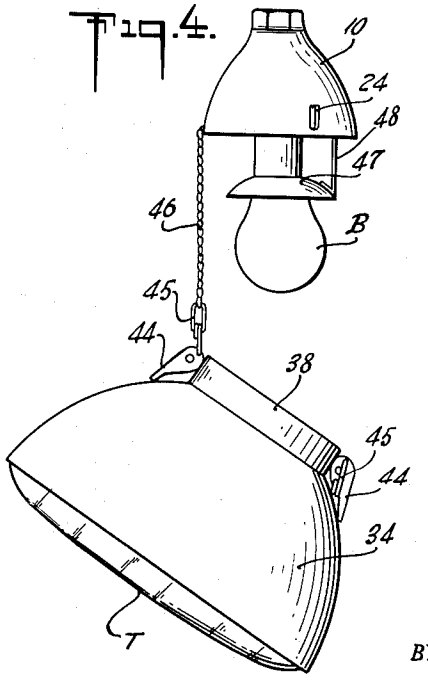


Fig. 1.

Fig. 3.

Fig. 4.



INVENTOR.
VEARL S. WINCE

BY John M. Cobb

ATTORNEY.

United States Patent Office 2,732,482 Patented Jan. 24, 1956

2,732,482

ENCLOSED DIRECT LIGHTING FIXTURES

Vearl S. Wince, Newark, Ohio, assignor to Holophane Company, Inc., New York, N. Y., a corporation of Delaware

Application November 14, 1951, Serial No. 256,170

7 Claims. (Cl. 240—11.2)

The present invention relates to enclosed direct lighting fixtures and is more particularly directed toward such fixtures characterized by tightness against dust and/or vapors. In such tight fixtures, it is essential that, when in use, the interior of the fixture forming the lamp receiving chamber be effectively sealed to prevent passage of dust, air or gas into or out of the chamber, yet the fixture must be openable at will for relamping and cleaning. It is therefore necessary to prevent leakage at the entrance for the wiring and at the joint where the fixture chamber is opened.

The present invention contemplates that the socket used to support the lamp in the lamp chamber will be sealed so that gas cannot pass through it and that the socket will be mounted on the supporting hood in such a manner as to prevent leakage of gases from the wiring chamber and wiring system conduit past the socket either way.

According to the present invention, the lower part of the fixture is provided with a light transmitting, preferably transparent bottom, and a reflector for directing the light down through the transparent bottom. These light handling parts are secured in gas tight relation and they are in turn secured to a mounting ring to form a preassembled unit, which unit can be secured to the supporting hood or body in dust and gas tight relation with it, or detached, as desired.

Where the reflector and light transmitting bottom are of glass, these parts and the ring may be held together by a sheet metal cover or shield which also protects the reflector. A portion of this sheet metal cover may also provide a surface which bears against a gasket between it and the hood.

The accompanying drawings show, for purposes of illustrating the present invention, one embodiment in which the invention may take form, it being uderstood that the drawings are illustrative of the invention rather than limiting the same.

In the accompanying drawings:

Figure 1 is a vertical sectional view with parts in elevation, showing the completely assembled luminaire;

Figure 2 is a fragmentary side elevation of one of the latches used to secure the lower part of the fixture to the hood;

Figure 3 is a fragmentary vertical section at an enlarged scale; and

Figure 4 is a reduced scale illustration of the detachable reflector and cover assembly suspended from the fixed hood or body.

The body or hood of the fixture or luminaire is illustrated at **10** in the form of a bell-shaped casting. It has an internally threaded boss **11** at the top for securement to the pipe and is provided with an apertured partition **12** slightly below the boss. A gas tight lamp socket **13** is secured to the under face of the partition **12** by any suitable means here shown in the form of an apertured, dished plate **14**, screws **15** and gaskets as indicated at **16** and **17**. This arrangement avoids the use of screws bearing directly against the porcelain body of the lamp socket. The upper end of the socket has the usual wiring terminals, one of which appears at **18**, and the lower end of the socket has the usual socket terminals **19** and **20** for cooperation with the base of the lamp bulb B.

The lower end of the casting **10**, as indicated in the drawings has an inwardly extending flange **21** with a flat lower face and is preferably recessed as indicated at **22** to support a captive asbestos gasket **23**. The casting **10** is provided with two outwardly extending lugs **24**.

Below the above described, normally fixed, hood or body with lamp socket attached, is a separable preassembled unit which forms, when in place, a completely closed chamber about the lamp. This unit includes a downwardly and outwardly flaring reflector R and a light transmitting bottom T. These are ordinarily made of glass. The joint between the transmitter T and reflector R is sealed by the gasket indicated at **32** and a protective gasket **33** is placed about the upper end of the reflector. A sheet metal cover **34** about the reflector has a lower edge **35** which engages the flange on the light transmitting cover and a shoulder as indicated at **36** and bears against the gasket **33**. A portion of the cover **34** indicated at **37** extends upwardly inside a ring **38**. This ring has a downwardly facing flange **39** bearing on the cover above gasket **33**, and a skirt **40**. To provide a preassembled unit, sheet metal cover **34** is secured to the reflector, light transmitting cover and the ring. This is preferably accomplished by flanging the cover as indicated at **41** so that it bears on the upper flat surface **42** of the ring **38**.

The ring **38** is provided with outwardly extending lugs **43**, **43** which carry latch levers **44** provided with spring loops **45** which engage over the tops of the lugs **43**. When the latch devices are in the position indicated in Figure 1, the flange **41** on the sheet metal cover is held tightly against the gasket **23** and the lamp chamber securely sealed.

The hood **10** and one of the loops **45** are connected together by a chain **46** so that when the latches are released, the reflector cover assembly may be suspended below the fixed hood or body as shown in Figure 4, so that the lamp bulb B is accessible for removal and replacement. The small reflector **47** may, if desired, be carried from the flange **21** of the hood by spring clips **48**.

Since it is obvious that the invention may be embodied in other forms and constructions within the scope of the claims, I wish it to be understood that the particular form shown is but one of these forms, and various modifications and changes being possible, I do not otherwise limit myself in any way with respect thereto.

What is claimed is:

1. A lighting fixture tight against dust and/or vapor comprising a downwardly opening canopy provided above its mouth with an upper, annular bearing surface and carrying a pendant lamp socket, means securing the socket against said bearing surface to form an upper vapor tight chamber impervious to vapor so that vapor cannot pass through the canopy between the upper bearing surface and the socket or through the socket, the canopy having at its mouth a lower, downwardly facing annular bearing surface, an annular, impervious sheet metal cover having an upwardly facing bearing surface opposite the second bearing surface of the canopy and of relatively smaller diameter than the lower portion thereof, a rigid collar outside the smaller diameter portion of the cover and to which the cover is secured against relative movement in any direction, a gasket between said bearing surfaces of like diameter, disconnectible means carried by the canopy and collar for forcing said latter mentioned bearing surfaces toward one another to form with the interposed gasket a tight

joint for preventing the entrance of dust or vapors and for permitting separation to permit access to the lamp socket, and an impervious, light transmitting bottom permanently sealed to the bottom of the metal cover so as to form together therewith the lower part of a tight chamber below the lamp socket.

2. A lighting fixture such as claimed in claim 1, wherein the metal cover is outwardly flanged onto the upper surface of the collar and bears directly against the gasket.

3. A lighting fixture such as claimed in claim 1, having fixedly secured inside the metal cover below the collar and above the light transmitting bottom an annular, downwardly and outwardly flaring glass reflector.

4. A direct lighting fixture tight against dust and/or vapors, comprising two separable units one above the other which when held together form a lamp chamber and when separated permit relamping, and wherein the upper unit includes a supporting canopy and a sealed vapor tight lamp socket opening into the chamber, and wherein the lower unit includes a downwardly and outwardly flaring reflector, a glass closure for the bottom of the reflector, a metal reflector cover engaging the edge of the glass closure and bearing against the top of the reflector to secure the reflector and bottom closure together, and a collar above the upper end of the reflector, the cover extending between the collar and reflector and being secured to the collar to hold it against the outer surface of the cover, gasket means intermediate the canopy and collar, and releasable devices carried by the collar and canopy for clamping the lower unit against the upper unit.

5. A lighting fixture tight against dust and/or vapor, comprising a canopy provided with an upper downwardly facing annular flange and carrying a pendant lamp socket, the said upper flange and socket being sealed vapor tight so that vapor cannot pass through the canopy or socket, the canopy having a lower, inwardly extending annular flange, an annular impervious sheet metal cover having its upper end in the form of an outwardly extending flange of the same diameter as the canopy flange and below the said canopy flange, a collar outside the cover immediately below the cover flange, a gasket between the flanges opposed canopy and cover, means carried by the canopy and collar for forcing the canopy and cover flanges toward one another to form a tight joint for preventing the entrance of dust or vapors, and an impervious light transmitting bottom sealed to the bottom of the cover so as to form a tight chamber below the lamp socket.

6. A direct lighting fixture tight against dust and/or vapor, comprising a pendent, normally fixed canopy having an apertured partition wall, a vapor tight lamp socket having a body extending through the apertured wall, wiring terminals on the upper end and lamp socket terminals on the lower end so as to carry a lamp pendent, means to secure the socket in place to prevent flow of vapor through the partition wall, the canopy also having a downwardly facing circular flange and an annular gasket supported by the canopy and bearing against the flange, and a detachable assemblage including a downwardly acting reflector, an imperforate light transmitting bottom, a collar above the upper end of the reflector, and a metal cover having its lower end fitted about the periphery of the light transmitting bottom and extending upwardly about the reflector and inside the collar and secured to the collar to hold the collar, reflector and light transmitting bottom together, and clamping devices carried by the canopy and collar for clamping the detachable assemblage against the said gasket and forming a tight chamber for the lamp.

7. A sub-assembly for use in dust and vapor tight lighting apparatus comprising an inverted annular, dome-shaped glass reflector, a glass bottom whose edge fits against the mouth of the reflector, a gasket about the joint between the reflector and bottom, a second gasket about the small diameter end of the reflector, a spun sheet metal cover having a lower flange engaging the edge of the bottom and a downwardly facing shoulder bearing on the second gasket and an upwardly extending portion above the shoulder, and a stiffening collar through which said upwardly extending portion of the cover extends and onto the top of which it is outwardly flanged.

References Cited in the file of this patent

UNITED STATES PATENTS

988,824	Sagendorph	Apr. 4, 1911
1,043,256	Schepmoes	Nov. 5, 1912
1,075,612	Tregoning	Oct. 14, 1913
1,393,075	Boyton et al.	Oct. 11, 1921
1,614,121	Halvorson, Jr.	Jan. 11, 1927
2,170,871	Niemann	Aug. 29, 1939

FOREIGN PATENTS

843,157	France	Mar. 20, 1939
920,547	France	Jan. 4, 1947