

May 27, 1941.

J. B. CLYNE

2,243,669

ELECTRICAL VAPORIZER

Filed Nov. 13, 1939

Fig. 1.

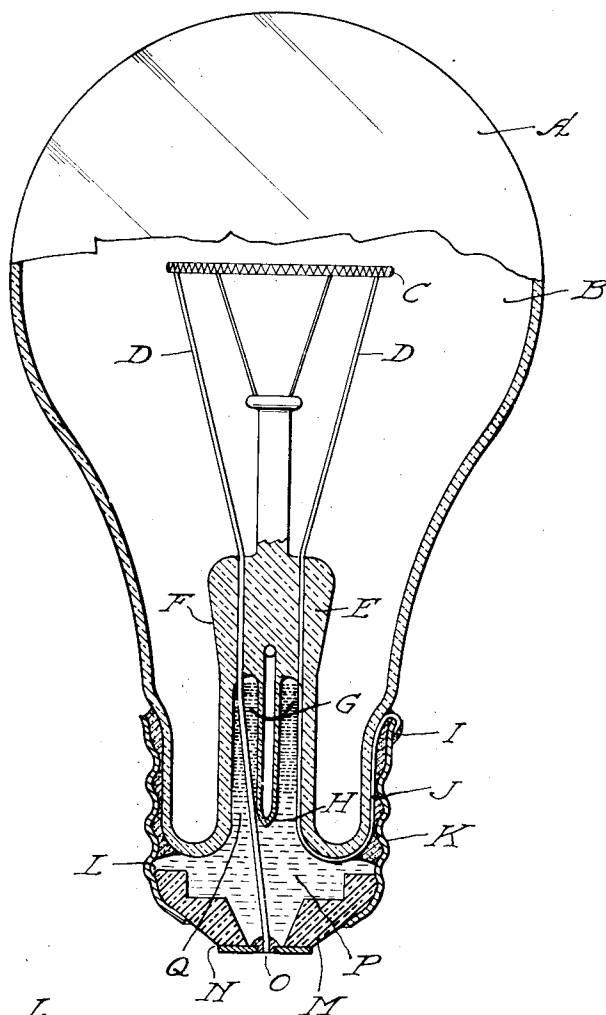
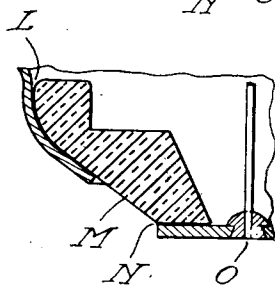


Fig. 2.



Inventor
James B. Clyne

UNITED STATES PATENT OFFICE

2,243,669

ELECTRICAL VAPORIZER

James B. Clyne, Chicago, Ill., assignor to Jay H.
Emerson, Chicago, Ill.

Application November 13, 1939, Serial No. 304,178

9 Claims. (Cl. 219—45)

The invention relates, in general, to improvements in electrical vaporizers and more particularly to an electrical combination lighting unit and diffuser embodying novel structural features to afford ready disbursement of fumes.

An object of the invention is to confine, within a lighting unit, a diffusible substance of a character which will emit fumes when the lighting unit is in use.

Another object of the invention is to provide a combination lighting unit and diffuser, the latter of which is effective to emit fumes only when said unit is lighted.

Another object is to provide an electrical combination lighting unit and diffuser the structure of which is such as not to impair the efficiency of the lighting unit.

Another object is to provide an electrical combination lighting unit and diffuser which is not expensive to manufacture and which embodies the general appearance of a conventional electrical lamp bulb.

The foregoing and such other objects of the invention as will appear hereinafter as the description proceeds will be more readily understood from a perusal of the following specification, in which reference is made to the accompanying drawing, wherein:

Fig. 1 is a longitudinal central sectional view, partly in elevation, of the unit.

Fig. 2 is an enlarged fragmentary detail sectional view of the base portion of the unit shown in Fig. 1.

Referring particularly to the disclosure in the drawing, the glass bulb A may be of any practicable shape but preferably is shaped like a conventional electrical lamp bulb and has a reduced diameter at one end formed with an inwardly extending terminal support E. The support E carries the usual live and ground wires D, the inner free ends of which are electrically connected to the usual filament C, within the bulb. When electric current is supplied to the wires D the filament becomes heated and throws off the required glow for lighting purposes.

The filament support E has an axial recess G extending inwardly from its outside end for a purpose to be more fully explained hereinafter. A tube H, formed integral with the closed end of the support E, communicates with the interior of the bulb and extends into the recess G. The bulb A is partially evacuated through this tube and the tube is then sealed by pinching its lower end together as shown. A conventional threaded connection base K is fitted over the

reduced end of the glass bulb A and the two members are joined by a suitable cement J. The cement J preferably is applied in a plastic state and when dry shrinks sufficiently to draw slightly away from the connection base so as not to hermetically seal this connection. The cement is thus tightly bound to the bulb and the connection base cannot readily be removed because of the opposed threaded surfaces of the cement and connection base.

As shown, the connection base K extends a short distance beyond the end of the glass bulb A and has an internal flange upon which is seated the usual insulation block M having a central opening through which one of the wires D extends. The other wire D preferably follows the contour of the recessed end of the glass bulb and is bent over the outside of the connection base K and soldered or otherwise joined thereto to provide an electrical connection therewith.

It will be observed that this structure defines a compartment P which is in direct communication with the recess G in the filament support. The chamber thus provided is filled with a suitable diffusible substance Q, which may be in the form of a powder, a compound or a liquid, such as for example a deodorant, chemical, disinfectant, perfume, medicine or the like. This diffusible substance is initially admitted into the chamber through the axial opening in the insulation block M and said opening is closed by a contact plate electrically connected to the projecting end O of one of the wires D. The hollow tubular terminal support provides a glass division wall between the partially evacuated interior of the glass bulb A and the chamber G—P.

When the unit is screwed into a conventional electrical outlet and electric current applied thereto, the filament C becomes irradiant and the resulting heat is transmitted through the wall of the filament support E to the diffusible substance Q. Upon being heated, the diffusible substance emits fumes, the greater portion of which escape through the restricted annular opening between the cement J and the connection base K. Fumes also escape through the spaces L and N (best shown in Fig. 2) separating the insulation block M from the connection base K and from the associated contact plate respectively. Due to the restricted area of the annular opening and the spaces L and N, the diffusible substance cannot at any time escape from the chamber.

Since the rate of diffusion is dependent upon the degree of heat applied to the diffusible substance, it is evident that the rate of diffusion is

readily controlled through the selection of a unit of high or low wattage. As shown the electrical vaporizer will have the general appearance of a conventional electrical lamp bulb and may readily be screwed into any standard electrical outlet.

I claim:

1. A device for causing a diffusible substance to emit fumes comprising, in combination, a partially evacuated bulb having an inwardly extending terminal support at one end; said support being hollow; a filament in said bulb; a connection base having one end mounted on the terminal support end of said bulb; an insulator mounted within the free end of said connection base; a chamber defined by the hollow terminal support, connection base and insulator, and a diffusible substance in said chamber adapted to emit fumes when heated by the heat of the filament when the latter is connected with a source of electric current.
2. A device of the character described comprising, in combination, a bulb having a filament therein; a hollow support for said filament at one end of and extending into said bulb; a tubular connection base on said end of said bulb; said connection base extending beyond the end of said bulb; an internal annular flange on the free end of said base; an insulation block within said connection base seated on said flange; said hollow support, connection base and insulation block defining a chamber; and a diffusible substance in said chamber adapted to emit fumes when the filament is heated; said connection base and insulator being loosely joined to provide an escape opening for said fumes.
3. In a device of the character described comprising, in combination, a bulb, an electrical heating element in said bulb adapted to be connected with an electric current source, a base, a cement securing one end portion of said base on one end of said bulb, a chamber defined by said bulb and the other end portion of said base, a diffusible substance in said chamber adapted to be diffused to emit fumes when the heating element is in operation, and a plurality of restricted passageways connecting said chamber with the atmosphere through which said fumes escape.
4. In a device of the character described comprising, in combination, a bulb, an electrical heating element in said bulb adapted to be connected with an electric current source, a base loosely joined to one end of said bulb, a chamber defined by said bulb and said base, and a diffusible substance in said chamber adapted to emit fumes when the heating element is in operation, said fumes escaping said chamber through the loose joining between the said bulb and said base.
5. A device of the character described comprising an electric light bulb having an end portion of reduced diameter, a recess in said reduced end, a tubular connection base having one end portion telescoped over and attached to said

reduced end, an insulation member in the other end of said base portion, and a diffusible substance in said recess and in the extended end portion of said base which will diffuse upon the application of heat, said insulation member being loosely joined to said base to allow fumes to escape.

6. A device of the character described comprising a bulb having an electric heating element sealed therein, and a base mounted thereon, said base comprising a tubular body having an end portion extending beyond the end of said bulb, an internal circumferential flange on the end of said extending end portion, an insulation member loosely seated within said body against said flange, said member being spaced from the end of said bulb, an end contact mounted on said insulation member, said body and end contact being connected to opposite ends of said electric heating element, and a diffusible substance in said body between said bulb end and insulation member which will diffuse upon the application of heat and emit fumes through the annular space between the insulation member and said flange.

7. In a device of the character described comprising a bulb having an electric heating element sealed therein, a tubular metallic base, means to retain one end portion of said base telescoped over one end of said bulb, an insulation member substantially closing the other end of said base, a chamber defined by said bulb, base and insulation member, and a diffusible substance in said chamber adapted to be diffused upon the application of heat whereby fumes therefrom escape to the atmosphere through restricted annular passages between said bulb and said base and between said base and said insulation member.

8. In a device of the character described comprising, in combination, a bulb, an electrical heating element in said bulb adapted to be connected with an electric current source, a base, a cement securing said base on one end of said bulb, a chamber defined by said bulb and base member, a compound in said chamber impregnated or to be impregnated with a substance adapted to emit fumes when the heating element is in operation, and a plurality of restricted passageways connecting said chamber with the atmosphere through which said fumes escape.

9. A device of the character described comprising an electric light bulb having an end portion of reduced diameter, a recess in said reduced end, a tubular connection base having one end portion telescoped over and attached to said reduced end, an insulation member in the other end of said base portion, and a compound in said recess and in the extended end portion of said base impregnated or to be impregnated with a fluid adapted to diffuse upon the application of heat, said insulation member being loosely joined to said base to allow fumes to escape.

JAMES B. CLYNE.