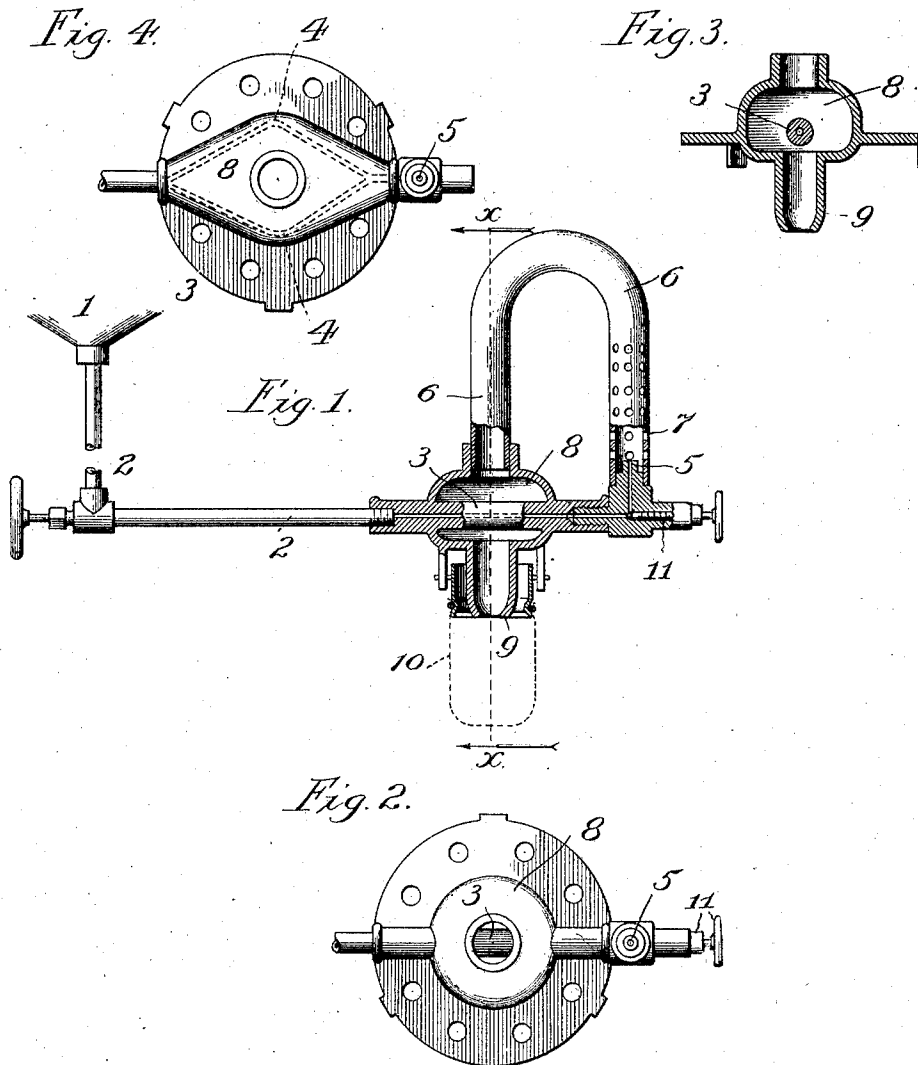


G. BOHNER.
VAPOR GENERATING LAMP.
APPLICATION FILED JUNE 16, 1906.

967,316.

Patented Aug. 16, 1910.



Attest:

M. H. Holmes.

Henry J. Joe.

Inventor:

George Bohner.

by Robert Burns, Attorney.

UNITED STATES PATENT OFFICE.

GEORGE BOHNER, OF CHICAGO, ILLINOIS.

VAPOR-GENERATING LAMP.

967,316.

Specification of Letters Patent. Patented Aug. 16, 1910.

Application filed June 16, 1906. Serial No. 321,951.

To all whom it may concern:

Be it known that I, GEORGE BOHNER, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vapor-Generating Lamps, of which the following is a specification.

This invention relates to the incandescing mantle type of vapor burning lamps, and has for its object to provide a simple and efficient structural arrangement and combination of parts whereby the mixed vapor and atmospheric air is caused to flow in a downward direction into a depending incandescing mantle burner to effect a very strong and efficient lighting effect from the lamp, all as will hereinafter more fully appear.

In the accompanying drawings:—Figure 1 is a vertical section of a vapor lamp, illustrating the preferred arrangement of the present invention. Fig. 2 is a detail plan view of the vapor generator of the same. Fig. 3 is a detail transverse section of the vapor generator, on line $x-x$ Fig. 1. Fig. 4 is a detail plan of a modified form of the vapor generator.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 is the supply tank of the lamp of any usual form which will supply the gasolene or other volatile fluid under pressure to the vapor generator of the lamp.

2 is a valved supply pipe connecting the tank 1 with the vapor generator of the lamp.

3 is the vapor generator or retort extending in a horizontal plane directly above the burner part of the lamp and through the mixing or Bunsen chamber of the lamp, and formed as an integral part of the inclosing walls of said chamber so that the heat therefrom will be more directly conducted to said generator 3. With such construction the main portion of the generator 3 is located in the interior of said mixing chamber, and such main portion may be in the form of a straight tubular member arranged centrally within the mixing chamber as shown in Figs. 1 and 3, or in the form of cored passages 4 in the vertical walls of said mixing chamber, as shown in Fig. 4.

5 is an outlet duct or nipple at one end of the vapor generator, through which the

vapor generated under pressure within said generator is discharged under considerable pressure.

6 is a tubular primary mixing chamber of an inverted U shape, having one end arranged in central alinement with the outlet duct 5 of the generator and provided at such end with a series of lateral orifices 7 for the inlet of air in the actual operation of the lamp. The arrangement is such that the vapor discharging under pressure through the outlet duct 5 will draw the requisite supply of air in through said orifices 7 and force the mixed vapor and air along said mixing chamber into a secondary mixing chamber and from thence to the burner, as hereinafter described.

8 is the secondary mixing chamber of greater area than the primary mixing chamber and having communication at top with the eduction end of the primary mixing chamber, as shown; such secondary mixing chamber is provided with a depending eduction neck 9 at its lower end, from which the mixed vapor and air is discharged into the incandescing mantle burner 10 of the lamp, and to this end the said mantle burner will be of the usual bag shape with its upper and open end encircling the said eduction neck 9, as shown more particularly in Fig. 1.

11 is a valve arranged in the vapor generator 3, near its eduction end, for cutting off the discharge of vapor into the mixing chamber 6 in extinguishing the lamp; the purpose being to prevent the usual small after explosion which takes place in the present type of lamps to the great detriment of the mantle.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A vapor burning lamp comprising in combination, a mixing chamber having an inlet opening at top and an outlet opening at bottom, an incandescent mantle arranged beneath said outlet opening, a vapor generator extending horizontally through said mixing chamber and communicating therewith, and a supply tank connected to said generator.

2. A vapor burning lamp comprising in combination, a secondary mixing chamber having an inlet opening at top and an outlet opening at bottom, an incandescent mantle arranged beneath said outlet opening, a

vapor generator extending horizontally through said mixing chamber and provided with an outlet orifice, a primary mixing chamber connected at one end to the inlet opening of the secondary mixing chamber with its other end in alinement with the outlet orifice of the generator, and a supply tank connected to said generator.

3. A vapor burning lamp comprising in combination, a secondary mixing chamber having an inlet opening at top and an outlet opening at bottom, an incandescent mantle arranged beneath said outlet opening, a vapor generator extending horizontally through said mixing chamber and provided with an outlet orifice, a primary mixing chamber connected at one end to the inlet opening of the secondary mixing chamber with its other end in alinement with the outlet orifice of the generator, the said primary mixing chamber having a series of lateral air inlet orifices in the end adjacent to the outlet orifice of the generator, and a supply tank connected to said generator.

4. A vapor burning lamp comprising in combination, a mixing chamber having an inlet opening at top and an outlet opening at bottom, an incandescing mantle arranged beneath said outlet opening, a vapor generator extending horizontally through said mixing chamber and formed as an integral part of the housing of the mixing chamber and communicating with said mixing cham-

ber, and a supply tank connected to said generator.

5. A vapor burning lamp comprising in combination, a secondary mixing chamber having an inlet opening at top and an outlet opening at bottom, an incandescing mantle arranged beneath said outlet opening, a vapor generator extending horizontally through said mixing chamber and formed as an integral part of the housing of the mixing chamber and provided with an outlet orifice, a primary mixing chamber connected at one end to the inlet opening of the secondary mixing chamber with its other end in alinement with the outlet orifice of the generator, and a supply tank connected to said generator.

6. A vapor burning lamp comprising in combination, a mixing chamber having an inlet opening at top and an outlet opening at bottom, an incandescing mantle arranged beneath said outlet opening, a vapor generator extending horizontally through said mixing chamber and communicating therewith, manually actuated means for governing the outlet end of said generator, and a supply tank connected to said generator.

Signed at Chicago, Illinois, this 14th day of June 1906.

GEORGE BOHNER.

Witnesses:

ROBERT BURNS,
HENRY MOE.