

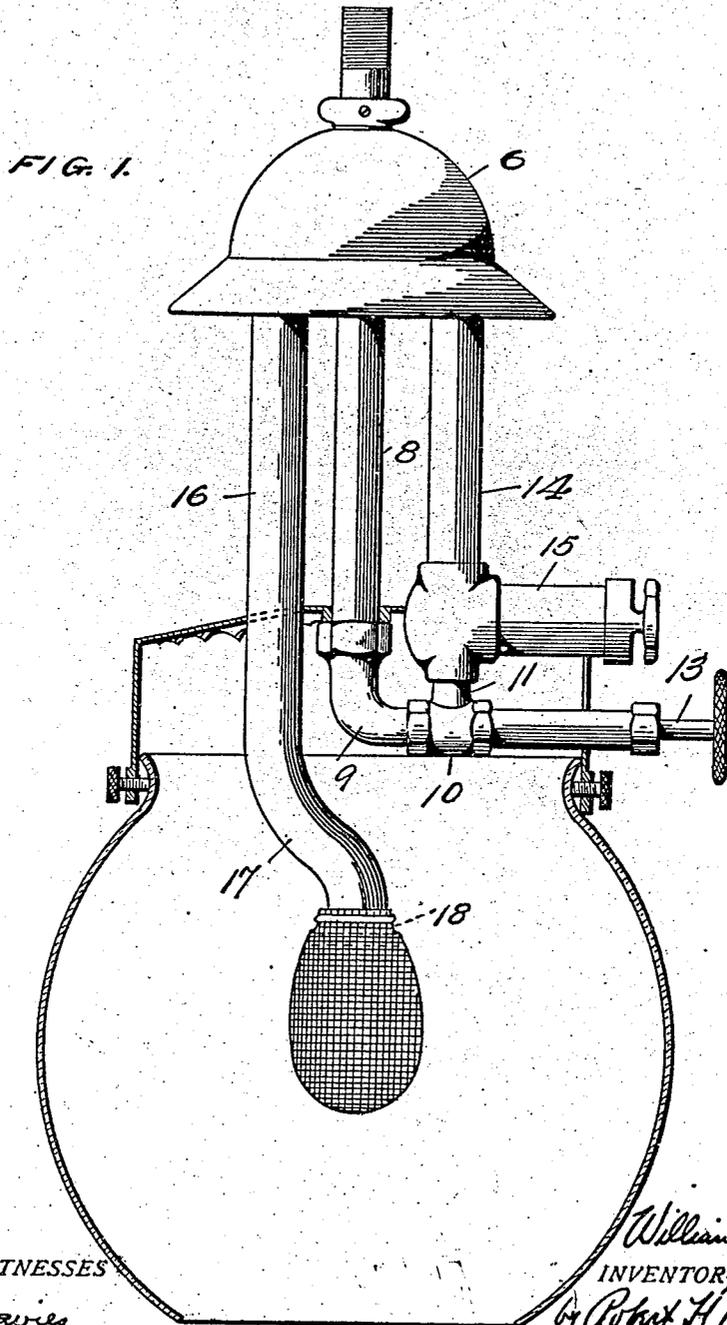
W. C. COLEMAN.  
LAMP.

APPLICATION FILED AUG. 21, 1909.

965,439.

Patented July 26, 1910.

3 SHEETS—SHEET 1.



WITNESSES

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E. M. Cantley

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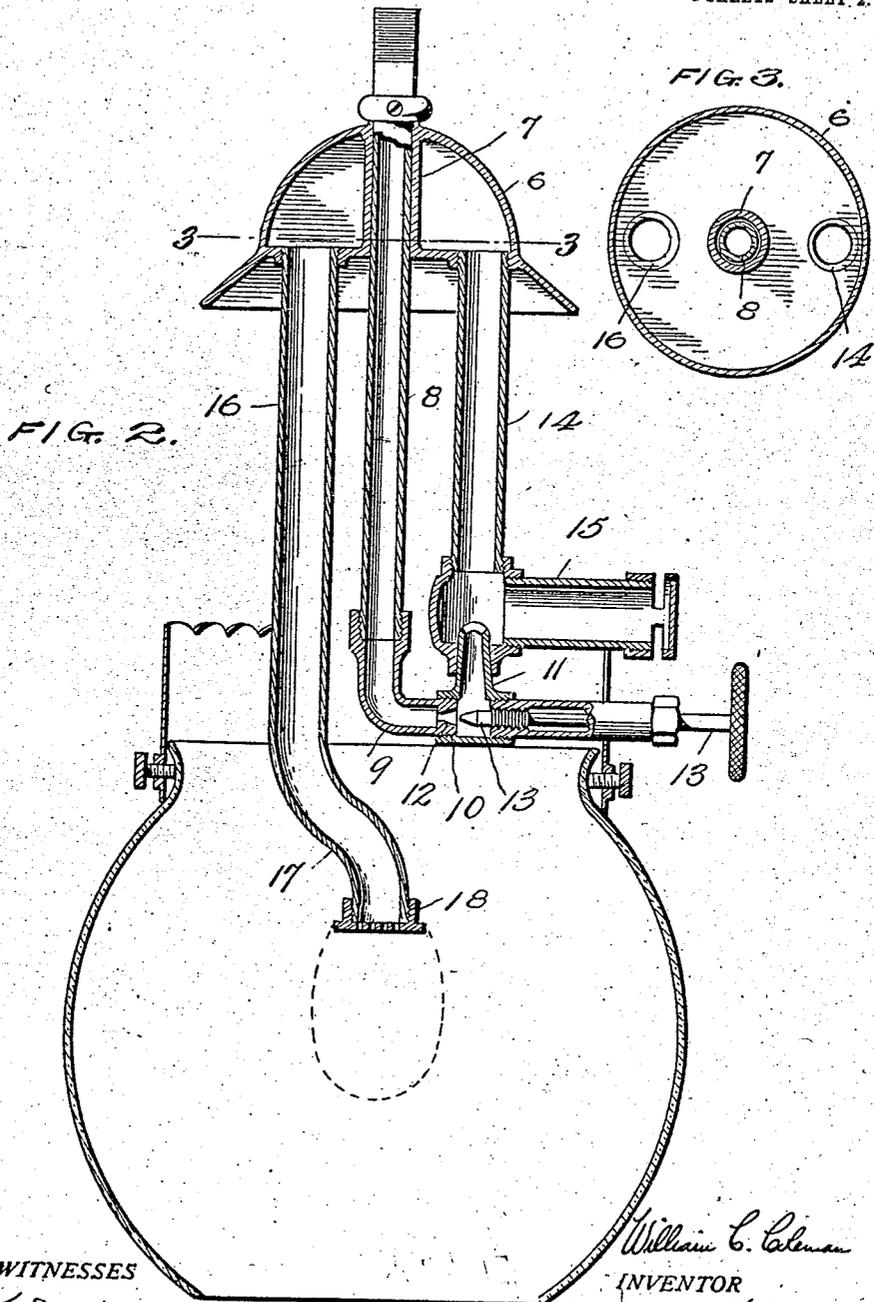
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3 SHEETS—SHEET 2.



WITNESSES  
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O. G. Mc Carthy

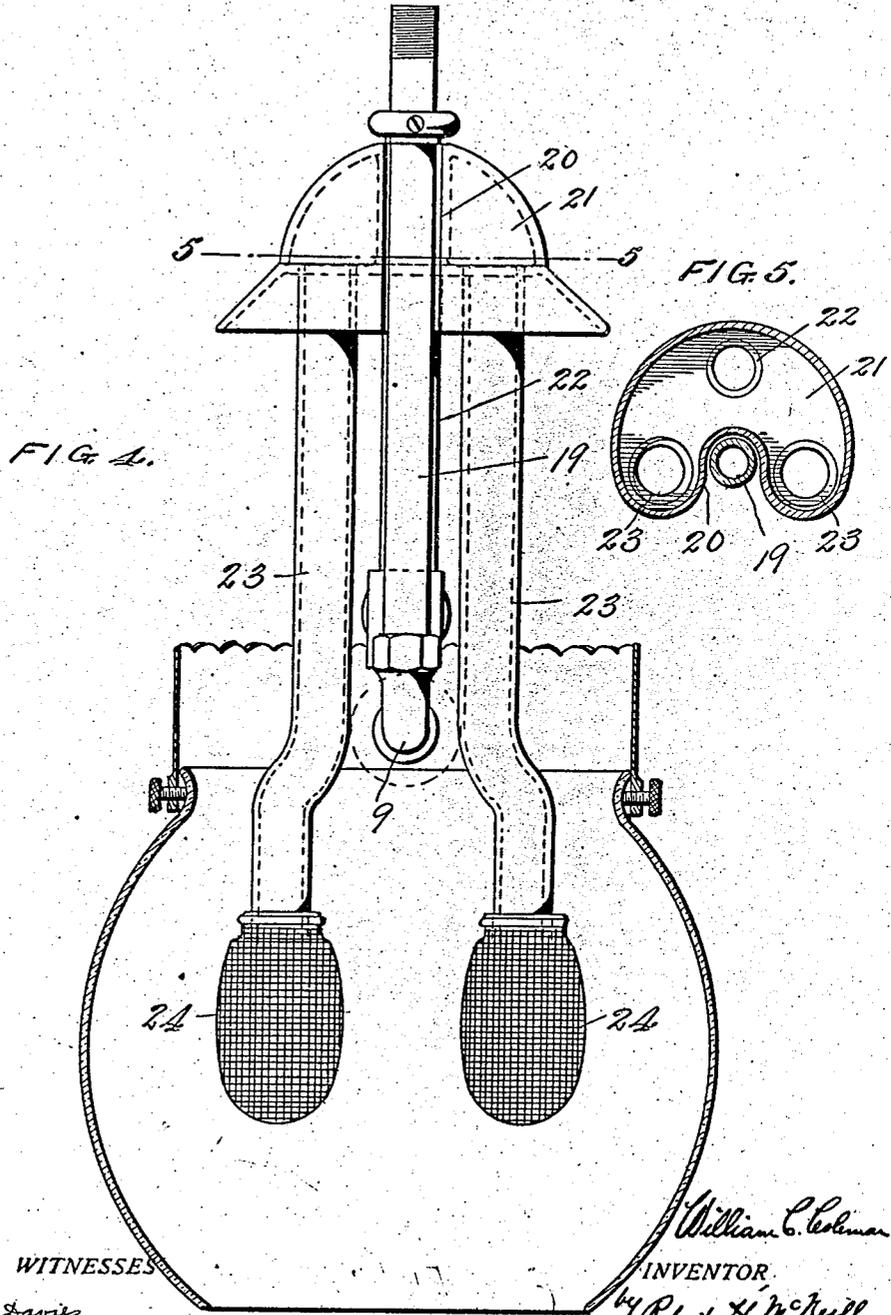
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3 SHEETS—SHEET 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM C. COLEMAN, OF WICHITA, KANSAS.

## LAMP.

965,439.

Specification of Letters Patent. Patented July 26, 1910.

Application filed August 21, 1909. Serial No. 514,066.

### To all whom it may concern:

Be it known that I, WILLIAM C. COLEMAN, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Lamps, of which the following is a specification.

The present invention relates more particularly to lamps of the type, in which a hydrocarbon or other fluid is first changed into vapor, which in turn is mixed with air and conveyed to illuminating means, preferably of the mantle or incandescing type.

The primary object is to provide a novel, simple and compact structure, wherein the essential parts may be readily removed and cleaned, the light easily regulated, and a very high degree of efficiency obtained.

Two embodiments of the invention are disclosed in the accompanying drawings, wherein:—

Figure 1 is a side elevation of one form of construction with the globe and globe support illustrated in section. Fig. 2 is a vertical sectional view therethrough. Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2. Fig. 4 is a view in elevation of a slightly modified form of construction, taken at right angles to Fig. 1. Fig. 5 is a detail sectional view on the line 5—5 of Fig. 4.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment disclosed in Figs. 1-3 inclusive, a mixing chamber 6 is employed that also constitutes the canopy of the lamp. This mixing chamber is provided with a central passageway 7, in which is located a central vertical vaporizing tube 8 that extends downwardly below the mixing chamber, and is provided with an elbow 9 connected to a valve casing 10. Projecting upwardly from this valve casing, at one side of the tube 8, is a vapor-discharge nozzle 11. It will be observed that the valve seat 12 of the casing is interposed between the tube 8 and the nozzle 11, and a combined vapor cut-off and regulating valve 13, located in the casing, cooperates with the valve seat 12, for the purpose of controlling the supply of vapor to the nozzle.

The nozzle 11 projects upwardly into the lower end of a combined vapor and air-conducting tube 14, the upper end of which is connected to and communicates with the

interior of the chamber 6. The lower end of this tube has an offset air intake 15 disposed at substantially right angles to the nozzle 11. Extending downwardly from the mixing chamber 6 on the opposite side of the vaporizing tube 8 to the pipe 14, is a fuel-conducting pipe 16, the lower end of which is offset, as shown at 17, so that it is in axial alinement with the vaporizing tube 8. This depending end is provided with a suitable mantle support 18.

The operation of the structure is substantially as follows. The fuel to be vaporized, is conducted to the upper end of the tube 8, and passing down the same, is converted into vapor which flows through the valve casing and into the nozzle 11. It is expelled upwardly from said nozzle through the pipe 14 and the air entrained with it, is carried into the mixing chamber 6. From this mixing chamber, the vaporized or gaseous fuel passes down the pipe 16 to the mantle. In this structure, it is to be observed that a straight vertical vaporizing tube 8 is employed that may be readily removed and cleaned. Furthermore the nozzle is entirely accessible, for the purpose of cleaning, and inasmuch as this nozzle projects upwardly, there is comparatively little danger of its becoming clogged from sediment accumulating therein. The particular arrangement and construction of the valve is important. It is to be observed that this is not a needle valve, in the strict sense of the term, but a cut-off and regulating valve that is interposed between the vaporizing tube and the nozzle so that the amount of vapor delivered from the nozzle may be easily controlled and the light raised and lowered, as desired.

A slight modification of the structure is disclosed in Figs. 4 and 5. In this embodiment of the invention, a vertical vaporizing tube 19 is employed that passes downwardly through a channel 20 formed in the mixing chamber 21. This mixing chamber is substantially U-shaped in cross section, as shown in Fig. 5. The combined air and vapor conducting tube 22 is arranged in rear of the vaporizing tube 19, and two depending tubes 23 conduct the gaseous mixture downwardly to the mantles 24 suspended therefrom. The arrangement other than that described is the same as already set forth, and it will be obvious that one or more mantles may be employed as desired.

From the foregoing, it is thought that the

construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a vapor lamp, the combination with a vertical vaporizing tube, of an air mixing chamber located at the upper end thereof, a vertical combined air and vapor conducting pipe depending from the mixing chamber at one side of the vaporizing tube, another pipe also depending from the air mixing chamber and disposed alongside the vaporizing tube, a mantle support carried by the lower end of the latter pipe, an upstanding nozzle connected to the lower end of the vaporizing tube and delivering into the combined air and vapor conducting pipe, and a combined cut-off and regulating valve controlling the passage of vapor through the nozzle.

2. In a vapor lamp, the combination with a vertical vaporizing tube, of a mixing chamber located at its upper end, a combined air and vapor conducting pipe located alongside the vaporizing tube and communicating at its upper end with the chamber, a nozzle for delivering vapor from the lower end of the vaporizing tube into the conducting pipe, a vapor burner connected to the mixing chamber and disposed adjacent to the nozzle, and a transversely disposed combined cut off and regulating valve for controlling the passage of vapor through the nozzle, said valve having an actuating handle disposed out of the range of heat from the burner.

3. In a vapor lamp, the combination with a vertical vaporizing tube, of a mixing chamber at the upper end thereof, a combined air and vapor conducting pipe located alongside the vaporizing tube and communicating at its upper end with the chamber, a nozzle for delivering vapor from the vaporizing tube into the conducting pipe, another pipe depending from the mixing chamber and extending alongside the vaporizing tube, said latter pipe having a burner at its lower end, and a substantially horizontal cut-off and regulating valve controlling the passage of the vapor through the nozzle and having an exposed actuating handle located at one side of the same.

4. In a vapor lamp, the combination with a vertical straight vaporizing tube, of an air mixing chamber disposed contiguous to its upper end, an upright vapor nozzle connected to the lower end of the vaporizing tube and disposed at one side of the same,

a rotary cut-off and regulating valve interposed between the tube and nozzle, and an upright vapor and air conducting tube arranged alongside the vaporizing tube and connected at its upper end to the mixing chamber, said combined air and vapor conducting tube having its lower end associated with the nozzle and being also provided with an air inlet at said lower end.

5. In a vapor lamp, the combination with a mixing chamber, of a depending combined vapor and air conducting pipe connected thereto at one side of its center, a vertical vaporizing tube passing downwardly through the mixing chamber and substantially parallel to the combined vapor and air conducting pipe, an upstanding nozzle connected to the lower end of the vaporizing tube, and disposed at one side of the same in line with the lower end of the combined vapor and air-conducting pipe, and a valve interposed between the vaporizing tube and nozzle.

6. In a vapor lamp, the combination with a mixing chamber, of a depending combined vapor and air conducting pipe connected thereto at one side of its center, a vertical vaporizing tube passing downwardly through the mixing chamber, and substantially parallel to the combined vapor and air-conducting pipe, an upstanding nozzle connected to the lower end of the vaporizing tube and disposed at one side of the same in line with the lower end of the combined vapor and air-conducting pipe, a valve interposed between the vaporizing tube and nozzle, and a burner supporting pipe depending from the mixing chamber and extending alongside the vaporizing tube.

7. In a vapor lamp, the combination with a mixing chamber comprising a canopy and having a central passageway, a vertical vaporizing tube extending through the passageway and depending below the chamber, a combined air and vapor conducting tube having its upper end connected to the chamber and arranged alongside the vaporizing tube, said air conducting tube having an offset air inlet at its lower end and a vertical nozzle-receiving opening, an upstanding nozzle engaged in the opening and connected to the lower end of the vaporizing tube, a controlling and regulating valve interposed between the nozzle and the vaporizing tube, a pipe depending from the mixing chamber at one side of its center, and a mantle support carried by the lower end of the pipe.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM C. COLEMAN.

Witnesses:

CHAS. T. WELLS,

LOWELL I. McCONNELL.