

VAPOR LAMP.

1,001,024.

Patented Aug. 22, 1911.

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UNITED STATES PATENT OFFICE.

WILLIAM HARTLEY, OF BURTON-UPON-TRENT, ENGLAND.

VAPOR-LAMP.

1,001,024.

Specification of Letters Patent. Patented Aug. 22, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM HARTLEY, a British subject, residing at 58 Derby street, Burton-upon-Trent, in the county of Stafford, England, have invented certain new and useful Improvements in Vapor-Lamps; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a vapor lamp comprising a vaporizer vertically disposed above the burner, a carbureter below the vaporizer into which the fuel is delivered through a restricted orifice, a burner tube suspended from the carbureter, a shield protecting the inlets of the carbureter from the air currents produced by the flame and a starting cup above the shield but below the carbureter.

For an understanding of the invention reference is to be had to the following description and to the accompanying drawings in which:

Figure 1 is a vertical section of the lamp. Fig. 2 is an elevation of the carbureter showing a modification of the construction shown in Fig. 1.

Like characters of reference refer to like parts throughout the specification and drawings.

The vaporizer or generator A extends downwardly and is provided at its lower end with a tip B, through which the gas finds an outlet into the carbureting chamber *c* which is shown in Fig. 1, to be below the tip B, and the wall A' of which is perforated at *c*⁴ so that the air can enter through the perforations and mix with the gas admitted into the carbureting chamber through the tip B. Surrounding the housing A' is an outer tube *c*³ having perforations *c*⁵ registering with the perforations *c*⁴.

Extending from the bottom of the carbureting chamber *c* is the burner tube F, provided at its lower end with a burner tip J having an outlet *j*' of smaller area than that of the burner tube.

The lower end of the housing A' is reduced to form a neck E, and fitted externally to the neck E is a ring *f*² having an upwardly extending annular wall R surrounding the outer perforated tube *c*³ to form a starting cup. A shield T is supported on the ring *f*² externally to the wall R, to protect the air inlets of the carbureting chamber from the action of the heated

gases from the burner. From the shield T depend hangers *f*³ supporting the globe holder S, which is shown to be provided with screws V to retain the globe in position.

The mantle support rods K are suspended from a support ring *k*¹ adjustably screwed on the ring *f*², and the support rods K carry at their lower ends a ring N for the mantle P.

As shown in Fig. 2, the carbureting chamber may be provided with an outer tube *c*³ turnable on it, so that the slots *c*⁶ in the outer tube *c*³ can register with the slots of the carbureting chamber or be adjusted thereto to regulate the quantity of air admitted to the carbureting chamber.

In starting the lamp methylated spirits or other fuel is ignited in the starting cup to heat the vaporizer, and when the vaporizer is heated, liquid fuel is admitted into the vaporizer or generator A, where it is converted into gas. The gas passes from the vaporizer or generator A through the tip B into the carbureting chamber *c* and is mixed in the carbureting chamber with air admitted through the perforations *c*⁴, the combined air and gas then passing through the bore of the burner tube F to the burner tip J where it is ignited at the outlet *j*'. The heat from the ignited gas passes upward and operates to vaporize the fuel as it passes through the vaporizer or generator A.

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

1. A vapor lamp comprising a vertically disposed vaporizer having at its lower end a vaporizer tip, a carbureting chamber connected to the lower end of the vaporizer having air inlets, a downwardly extending burner tube fitted to the carbureting chamber and having at its lower end a burner tip, a starting cup fitted externally to the carbureting chamber, and a shield supported by the starting cup.

2. A vapor lamp comprising a vertically disposed vaporizer having at its lower end a vaporizer tip, a carbureting chamber connected to the lower end of the vaporizer having air inlets, a downwardly extending burner tube fitted to the carbureting chamber and having at its lower end a burner tip, a starting cup fitted externally to the carbureting chamber, a shield supported by

the starting cup, a mantle support suspended from the starting cup, and a globe support suspended from the shield.

3. A vapor lamp comprising a vaporizer
5 having a vaporizing chamber vertically disposed above the burner, a carbureter vertically below the vaporizer and having a carbureting chamber communicating with the vaporizing chamber by a restricted orifice
10 which retards the flow of the fuel from the vaporizing chamber and enables the heat from the flame to vaporize the fuel as it passes to the carbureting chamber so that the vaporization of the fuel will be com-

pleted in the last mentioned chamber, a 15 burner tube suspended from the carbureter, a shield connected to the lamp above the outlet of the burner tube to protect the inlets of the carbureter from the air currents produced by the flame, and a starting cup, 20 above the shield but below the carbureting chamber.

In witness whereof I have hereunto set my hand in the presence of two witnesses:

WILLIAM HARTLEY.

Witnesses:

LEWIS W. GOOLD,
ROWLAND L. GOOLD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
