

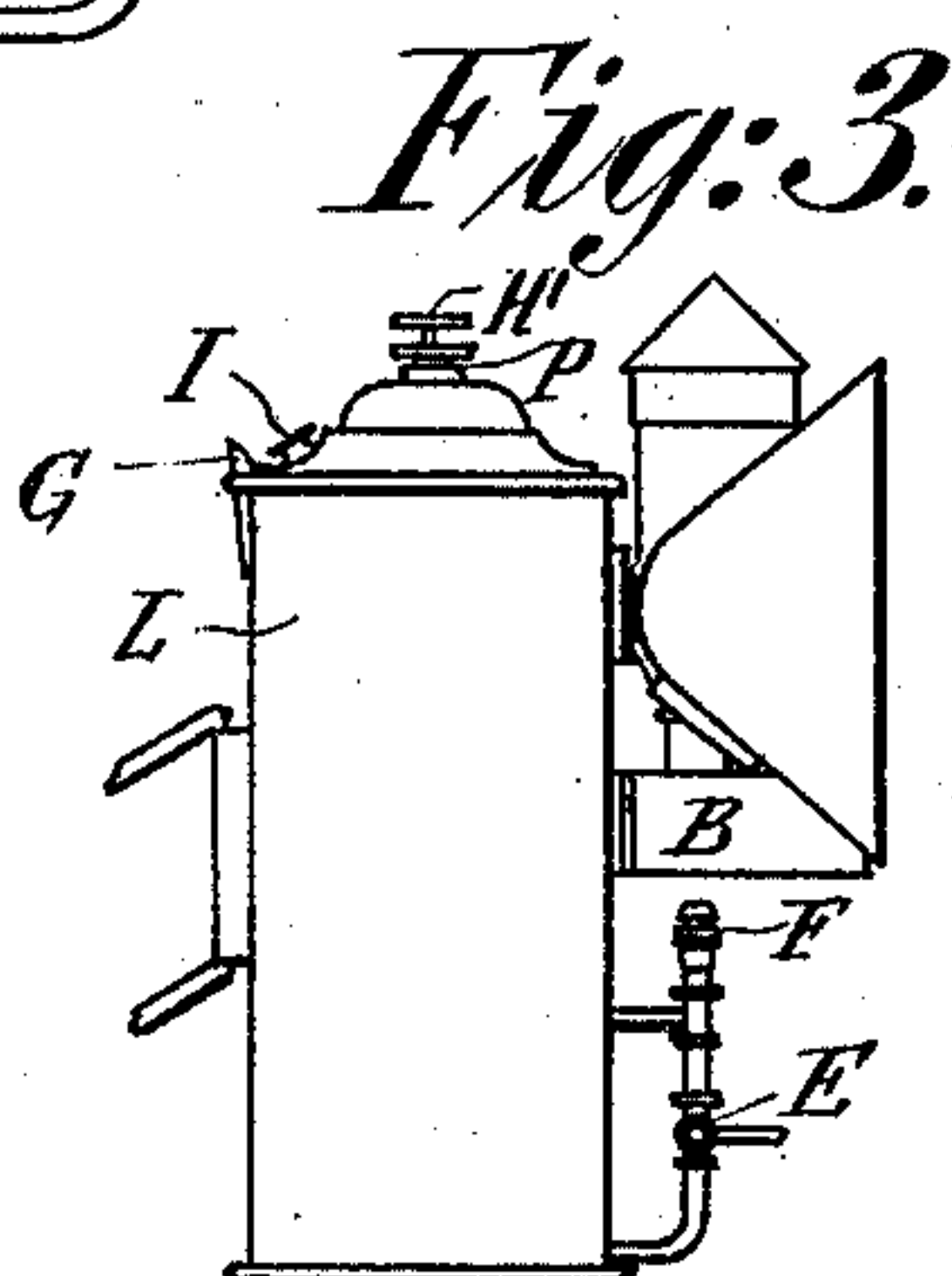
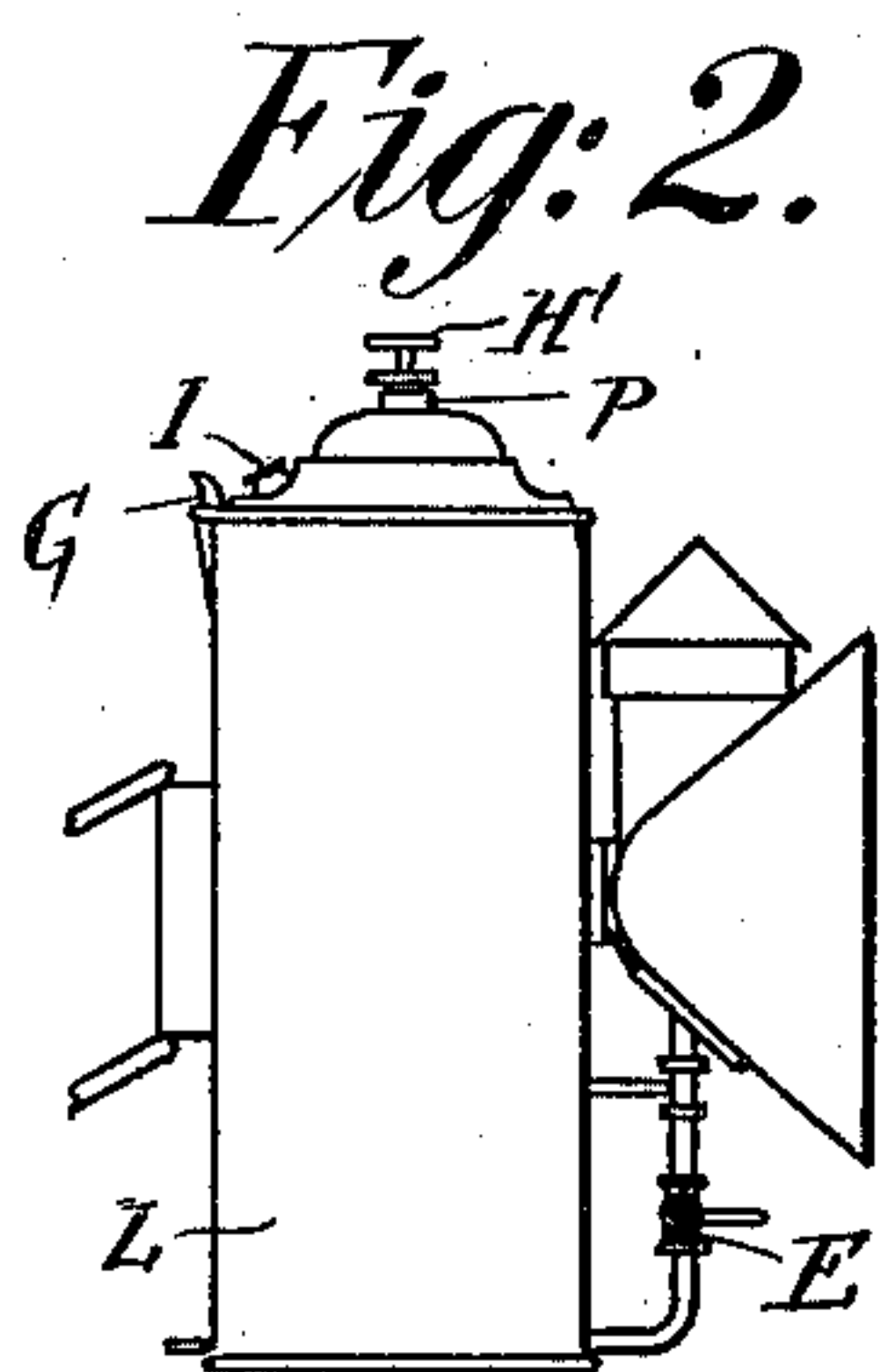
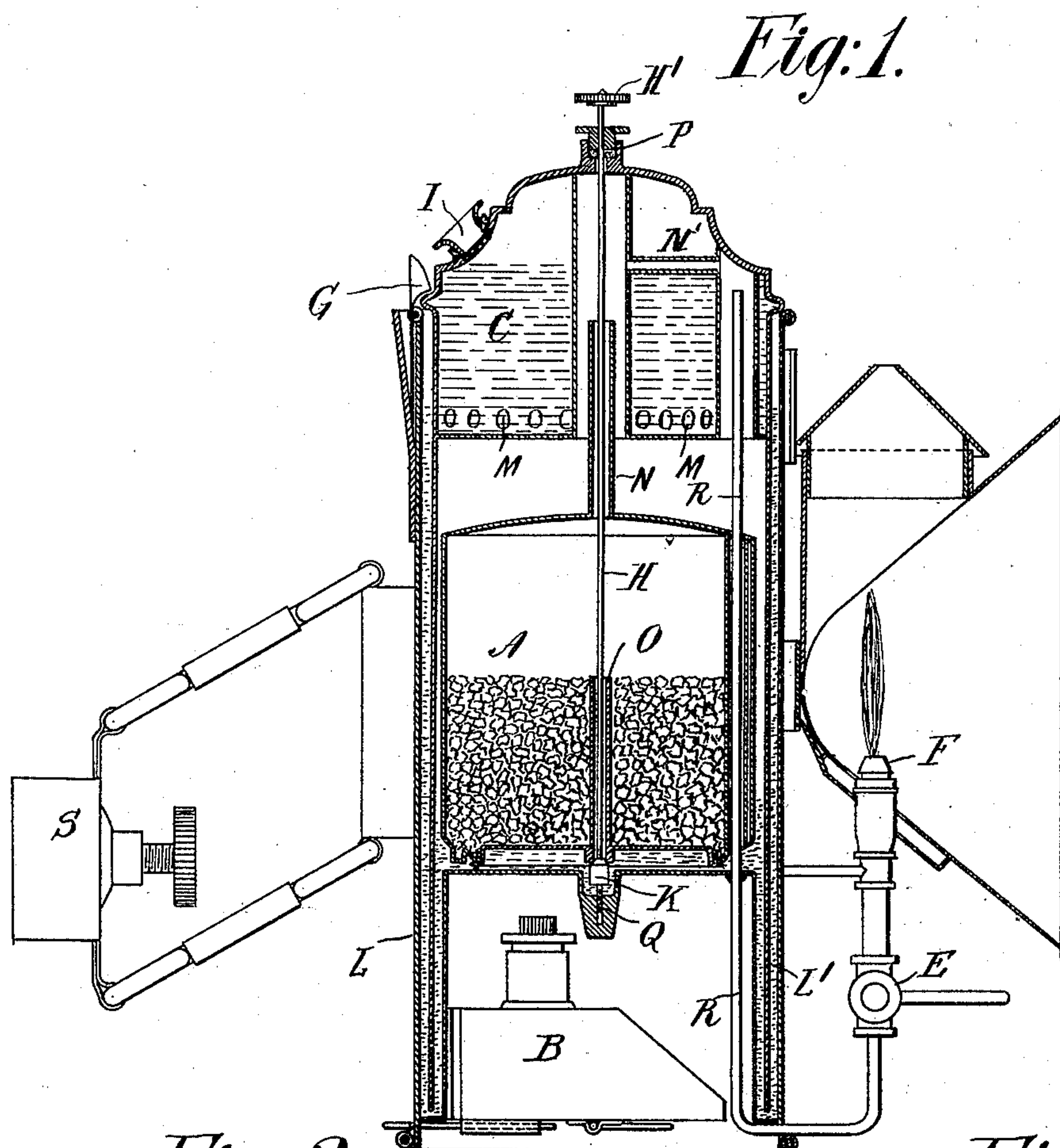
No. 644,910.

Patented Mar. 6, 1900.

S. P. HALLOWS & A. TUCKER.
ACETYLENE GAS GENERATING LAMP.

(Application filed Aug. 26, 1899.)

(No Model.)



Witnesses.
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UNITED STATES PATENT OFFICE.

STUART P. HALLOWS AND ARTHUR TUCKER, OF LONDON, ENGLAND.

ACETYLENE-GAS-GENERATING LAMP.

SPECIFICATION forming part of Letters Patent No. 644,910, dated March 6, 1900.

Application filed August 26, 1899. Serial No. 728,598. (No model.)

To all whom it may concern:

Be it known that we, STUART P. HALLOWS, residing at 35 Great St. Helens, and ARTHUR TUCKER, residing at 287 Upper street, Islington, London, England, subjects of the Queen of Great Britain, have invented a new and useful Acetylene-Gas Lamp, of which the following is a specification.

Our invention relates to an improved acetylene-gas lamp applicable either as a table-lamp or vehicle (carriage, bull's-eye, or cycle) lamp or for general illuminating purposes.

An efficient acetylene-lamp must be absolutely safe in use, free from smell, not given to jumping or variation of light, and convenient to handle. Our invention fully meets these requirements and is illustrated in the accompanying drawings, as follows:

Figure 1 is a sectional elevation of our improved lamp as preferably constructed. Fig. 2 is a diagrammatic elevation of our lamp in use as a cycle-lamp. Fig. 3 is an elevation of our cycle-lamp adapted to take an oil-burner, as hereinafter explained.

We will describe the construction and operation of the lamp as applied to cycles. The stands, supports, &c., requisite to adapt it to the other purposes named being obvious to any mechanic skilled in the art require no special description.

Referring to Fig. 1, the outer casing L has an inner casing L', the space between them forming a water-jacket around the body of the lamp and in communication through the orifices M with the top water-chamber C. The top water-chamber is accessible through the inlet I, closed by a perforated plug for the reason hereinafter set forth. The outer casing L is held firmly against the inner casing L' by the spring-catch G.

The carbid-chamber A has a central top tube N and a corresponding bottom tube O. The spindle H, operated by means of a milled nut H', passes centrally through a stuffing-box P in the center of the upper cover of the lamp and terminates below in a threaded socket Q, secured to the bottom of the lamp. It bears a plug K, which closes the lower inlet to the tube O.

The gas-tube R has its inner orifice at the top of the lamp and passes downward through

a tube at one side of the carbid-holder A and out through the bottom of the lamp. It terminates in the gas-valve and pressure-regulator E, of any preferred construction, provided with a handle of any kind for regulating the light, and the burner F is attached thereto, as shown, preferably surrounded by a suitable reflector.

The distance between some of the internal parts is shown in the drawings somewhat exaggerated for the sake of clearness.

The oil-lamp B is provided especially for cycle-lamps in case of any failure of the acetylene or carbid supply. In such case the oil-lamp can be brought into use and the lamp and reflector mounted as shown in Fig. 3. Fig. 2 shows the position of the reflector when gas is the illuminant.

The handle attachment S is of any suitable construction.

The operation of the device is as follows: The carbid-receptacle A, having been charged, is put in place and plug K screwed tight. The water is poured in through I. This water rises ultimately through M into the top chamber C. The milled nut H' is then turned and plug K withdrawn, allowing the water to rise within the pipe O and overflow into the carbid-chamber A, thus generating gas, which passes up through the pipe N and a cross-passage N' and thence through the delivery-pipe R to the burner.

The water-inlet controlled by the plug K should be so proportioned with relation to the capacity of the burner that a predetermined generation of gas will take place just sufficient to provide a supply of gas to the burner corresponding to the capacity of the latter, thus insuring a steady flow of gas to the burner, which effectually prevents flickering and produces an even steady flame. This equalization of the generating capacity of the lamp and its gas-consuming or burner capacity renders the lamp automatic or self-controlling.

In case of an undue accumulation or over-generation of gas, caused by the clogging of the burner, the excess gas finds its way down through the space between the inner casing and the generator and thence up through the water contained in the space between the two

casings and then through the openings M into the water-chamber C, finally escaping through the vent-opening I.

What we claim is—

- 5 1. An acetylene-gas lamp, comprising an outer and an inner casing forming a water-jacket; a water-chamber at the top of the lamp having a vent-opening and communicating by openings with the water-jacket; said wa-
10 ter-jacket having communication with the inner casing, a carbid-receptacle within the inner casing; a water-inlet pipe extending centrally within the carbid-chamber; a valve controlling the flow of water through said pipe,
15 and means for conveying the gas to a burner.
2. An acetylene-gas lamp comprising an outer and an inner casing forming a water-jacket; a water-chamber at the upper portion of the lamp having a vent-opening, and a se-
20 ries of openings communicating with the water-jacket; said water-jacket having communication with the inner casing, a carbid-chamber; a water-supply pipe and a gas-escape pipe rising respectively from the bottom and

top of the carbid-chamber; a valve for said 25 water-supply pipe, and a gas-delivery pipe communicating with a burner and with the gas-escape pipe of the carbid-chamber.

3. An acetylene-gas lamp comprising an inner and an outer casing forming a water- 30 jacket; a water-chamber at the upper portion of the lamp having a vent-opening and openings communicating with the water-jacket; said jacket having communication with the inner casing, a carbid-chamber surrounded 35 by said jacket; a valved water-supply pipe rising centrally from the bottom of the carbid-chamber; a gas-escape pipe projecting from the top of the carbid-chamber, and means for supplying the gas to a burner. 40

In witness whereof we have hereunto set our hands in presence of two witnesses.

STUART P. HALLOWS.
ARTHUR TUCKER.

Witnesses:

HERBERT SEFTON JONES,
JOHN ALFRED JORDAN.