No. 680,446. Patented Aug. 13, 1901.

W. A. STUDEBAKER.

GASOLENE LAMP.

(Application filed Feb. 8, 1900.)

(No Model.)

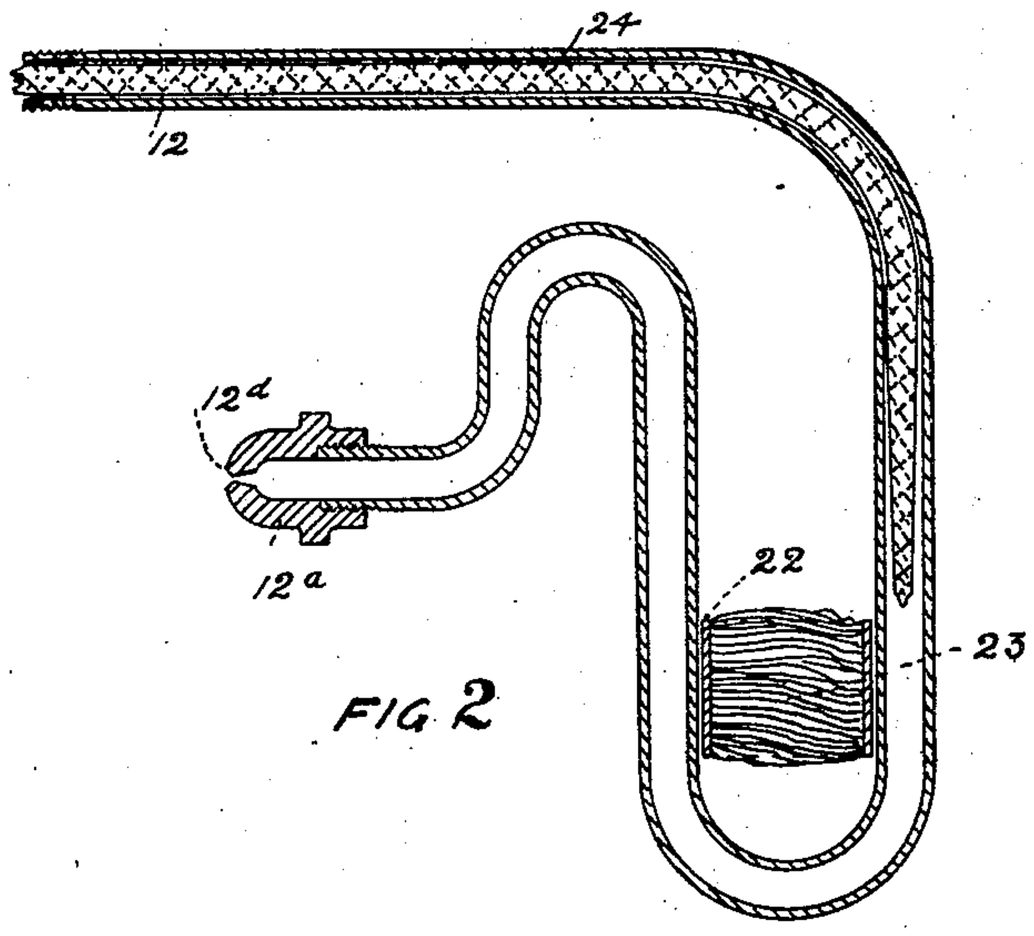

FIG 2

FIG 3

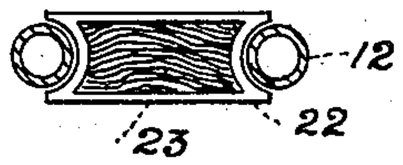

FIG 4

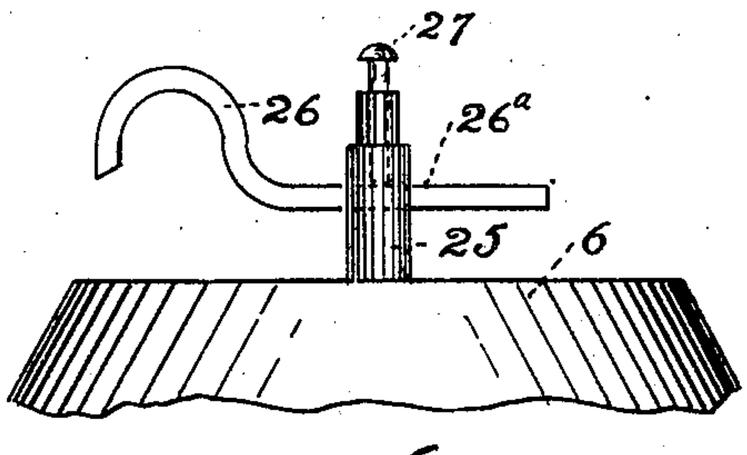

FIG 6

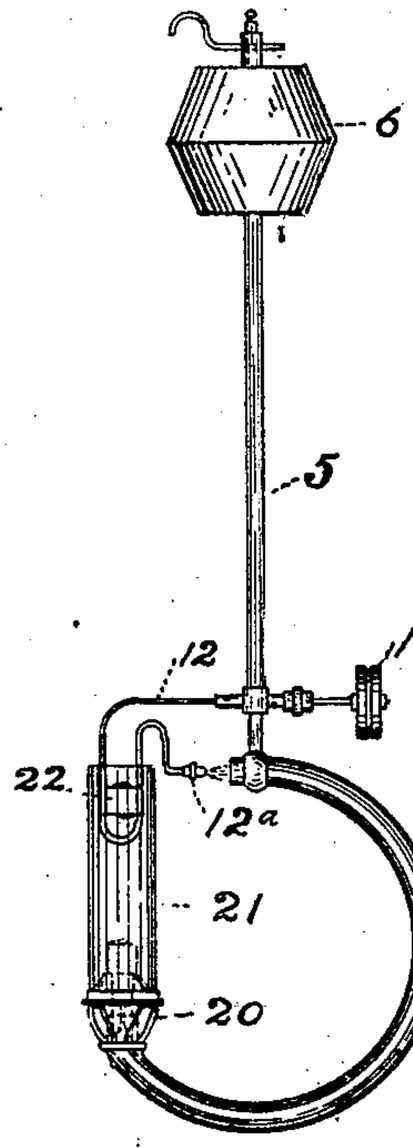

FIG 1

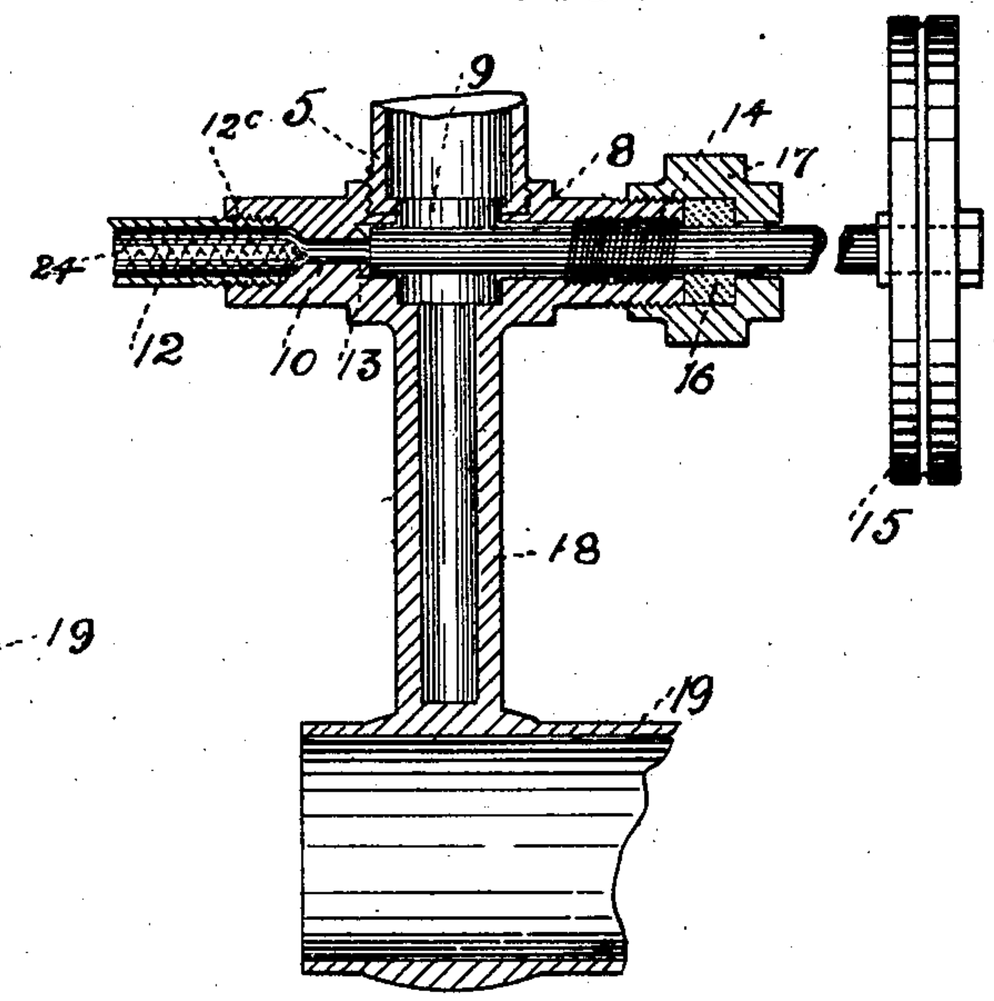

FIG 5

WITNESSES:
John J. Huddiart.
Grace Mytinger.

INVENTOR.
WILLIAM A. STUDEBAKER
BY
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM A. STUDEBAKER, OF DENVER, COLORADO, ASSIGNOR OF TWO-THIRDS TO LYMAN J. STUDEBAKER, OF SAME PLACE, AND ELKANA W. FARMER, OF BOULDER, COLORADO.

GASOLENE-LAMP.

SPECIFICATION forming part of Letters Patent No. 680,446, dated August 13, 1901.

Application filed February 8, 1900. Serial No. 4,526. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. STUDEBAKER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Gasolene-Lamps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in gasolene-lamps, my object being to provide a device of this class which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of my improved lamp. Fig. 2 is an enlarged sectional view of the generator shown in detail. Fig. 3 is a fragmentary view of the generator, showing the starting device in elevation. Fig. 4 is a section taken through the generator on the line X X, Fig. 3. Fig. 5 is a fragmentary section of the device, taken through the valve-chamber and generator. Fig. 6 is a fragmentary view of the reservoir or tank, illustrating the adjustable supporting-hook.

Similar reference characters indicating corresponding parts in these views, let the numeral 5 designate a vertical tube, to the upper extremity of which is attached a tank 6. The gasolene flows freely from the tank into the tube. The lower extremity of the tube is screwed into a threaded nipple formed in the top of the valve tube or casing 8. Immediately below this nipple is formed the valve-chamber 9. Leading from the chamber 9 on one side is a passage 10, communicating with the generator-tube 12, which is screwed into a threaded opening formed in the end of the casing 8. Surrounding the inner extremity of the passage 10 is a seat 13, adapted to receive the extremity of the valve-stem 14, which is screwed into the casing on the side of the chamber opposite the valve-seat, the said casing being interiorly threaded for the purpose. The outer extremity of the valve-stem is provided with a hand-wheel 15. To the extremity of the casing adjacent the hand-wheel is applied a packing 16, which fits tightly around the valve-stem and is held in place by a gland 17, screwed on the casing and forming a sort of stuffing-box, preventing the escape of gas or liquid.

Leading downwardly from the valve-chamber and communicating therewith is a tubular extension 18, closed at the bottom and forming a chamber to receive any sediment which may be deposited by the liquid. This lodgment for the sediment prevents the obstruction of the valve-chamber. The lower extremity of the part 18 is connected with a curved pipe or conduit 19, open at both extremities. The lower extremity of this conduit forms the support for the burner 20 and the chimney 21, which occupies a vertical position to one side of the upper extremity of the said conduit. The generator-tube 12 is bent downwardly and upwardly from the line of the valve-stem, forming two branches adapted to enter the top of the chimney 21. The tube 12, after completing the U-shaped bend, is bent downwardly outside of the chimney and finally bent at right angles, terminating in front of the upper open extremity of the conduit 19, where the generator-tube is provided with a gas-discharge nipple 12^a, which is screwed thereon.

The starting device consists of a hollow block 22, whose edges are grooved to fit the branches of the U-shaped portion of the generator-tube, which forms the support for the said block. This block is composed of metal or other suitable material adapted to resist the action of the heat. It is open at both ends and provided with a filling 23, of asbestos or other similar non-combustible absorbent material. This block may be detached from the generator by sliding it upwardly between the branches of its U-shaped portion.

The generator-tube is provided with a wire-

cloth filter 24, which is inserted in the tube at its base 12^c or the extremity remote from the gas-discharge nipple 12^a. The filter projects slightly from the base of the tube, and when the latter is detached from the valve-casing the filter may be pulled out, cleaned, and reinserted at pleasure. After use for some time more or less foreign matter will accumulate in the meshes of the filter. It is cleaned by removing it, dipping it in alcohol, and lighting it. When the alcohol is consumed, the foreign matter will be reduced to an ash and may be removed by jarring the filter, when the ash will fall out. The mouth of the gas-nipple 12^a is exteriorly beveled, as shown at 12^d, to facilitate the insertion of a pointed instrument for the purpose of opening or cleaning the orifice.

To the top of the tank 6 is attached a vertical projection 25, provided with vertical and horizontal intersecting apertures. The shank 26^a of the supporting-hook 26 is inserted in the horizontal aperture and locked in place by means of a set-screw 27, inserted in the vertical opening, which is threaded for the purpose. The shank 26^a is of such length as to permit the horizontal adjustment of the hook within the limits necessary to cause the tube 5 to maintain a vertical position. It is evident that if a shade is on the lamp the line of support must be different from that required when no shade is in place in order to cause the tube 5 to maintain a perpendicular position. Hence if a shade is used, referring to Fig. 1, the hook must project farther to the left than when no shade is used, since the center of gravity is different in the two cases.

The manner of using the lamp will now be described. A few drops of alcohol are first placed on the absorbent filling 23 of the block 22 and lighted. Assuming that the valve 14 is closed or in the position shown in Fig. 6, no gasolene is in the generator. During the burning of the alcohol and as soon as the generator becomes sufficiently heated the valve 14 is opened by turning the hand-wheel 15, allowing the gasolene to flow to the generator, which being heated, as aforesaid, converts the liquid into gas and discharges the gas into the upper extremity of the tube 19, there being sufficient space between the gas-nipple and the open end of the tube to allow the necessary admixture of air for purposes of free combustion. This gas passes around the tube 19 and up through the burner and chimney, where it is ignited by the alcohol flame, with which it is brought in direct contact. From the position of the generator directly above the burner and located partly within the chimney it is evident that the flame of the burner will supply the necessary heat for gas-generating purposes.

Having thus described my invention, what I claim is—

1. A gasolene-lamp provided with a generator having a U-shaped portion adapted to enter the top of the chimney, and a starting device located between the U-shaped arms of the generator-tube, which arms form its support.

2. A gasolene-lamp provided with a generator having a U-shaped portion adapted to enter the top of the burner-chimney, and a starter device engaging between the arms of and supported by the U-shaped portion of the generator, and comprising a receptacle filled with some suitable non-combustible absorbent material for the purpose set forth.

3. A gasolene-lamp provided with a generator having a U-shaped portion adapted to enter the top of the burner-chimney, and a lighting device comprising a hollow block supported by and adapted to slide between the branches of the U-shaped portion of the generator, and provided with a filling of non-combustible absorbent material.

4. A gasolene-lamp provided with a generator having a U-shaped portion adapted to enter the top of the burner-chimney, a wire-cloth filter inserted in the tube of the generator, and a starting device arranged to engage between the arms of the U-shaped portion of the generator, which arms form its support.

5. The combination with a gasolene-lamp, of a transversely-adjustable supporting-hook adapted to be moved to vary the point of support as the center of gravity changes, whereby the lamp may be made to occupy a vertical position.

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

WILLIAM A. STUDEBAKER.

Witnesses:

GRACE MYTINGER,

A. J. O'BRIEN.