No. 649,834. Patented May 15, 1900.

W. F. GOELTZ, W. M. GILBERT & J. FRAIN.

ACETYLENE GAS LAMP.

(Application filed Oct. 5, 1898. Renewed Apr. 2, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

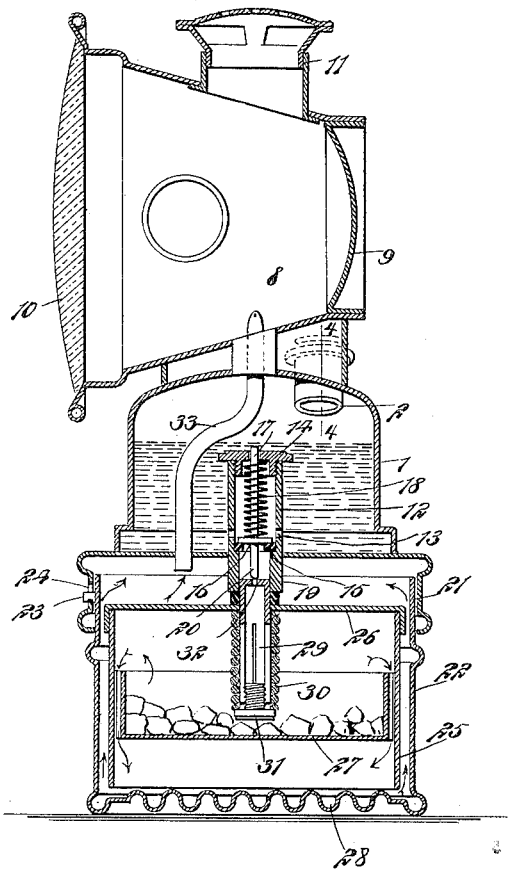

Fig. 3.

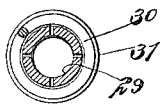

Fig. 2.

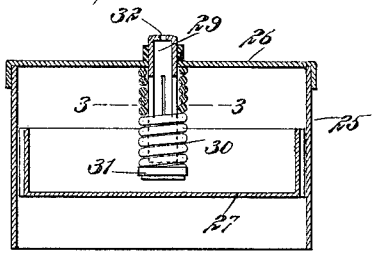

Fig. 4.

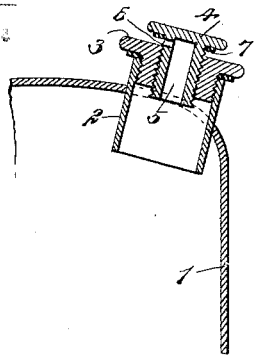

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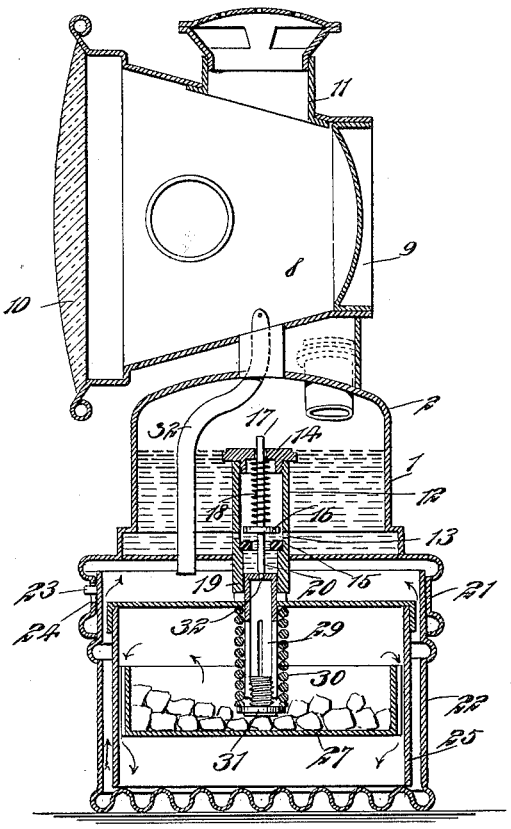
Fig. 5.



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UNITED STATES PATENT OFFICE.

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ACETYLENE-GAS LAMP.

SPECIFICATION forming part of Letters Patent No. 649,834, dated May 15, 1900.

Application filed October 5, 1898. Renewed April 2, 1900. Serial No. 11,262. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM F. GOELTZ, WILLIAM M. GILBERT, and JOHN FRAIN, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and Improved Acetylene-Gas Lamp, of which the following is a full, clear, and exact description.

This invention relates to improvements in lamps in which acetylene gas is used as an illuminating medium; and the object is to provide a lamp of this character with a simple and convenient means for controlling the supply of water to the carbid.

We will describe an acetylene-gas lamp embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section of a lamp embodying our invention, showing the valve closed and the body-cup not fastened in place excepting by its frictional engagement with a flange on the water-fount. Fig. 2 is a sectional elevation of a carbid-holder employed. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a section on the line 4 4 of Fig. 1; and Fig. 5 is a vertical section of the lamp, showing the parts in position to open the valve.

Referring to the drawings, 1 designates a water-fount having a spout 2, through which water may be passed into the fount. The spout 2 is provided with a screw-plug 3, which is longitudinally perforated and screw-threaded to receive a valve-plug 4. This valve-plug 4 has a longitudinal opening 5, which communicates with a lateral opening 6, for a purpose to be hereinafter described. The plug 4 has a washer 7, designed to engage closely against the upper side of the plug 3 to prevent the entrance of air when it is desired to close off the flow of water. Mounted on the fount 1 is a hood 8, having a reflector 9 at its rear and a lens 10 at its front, and at the upper end of the hood is a chimney 11, provided with lateral openings and provided at its top with vertical apertures.

Arranged within the fount 1 is a valve-casing 12, having lateral openings 13 for the inlet of water and having a screw-top 14. Within the valve-casing is a flexible valve-seat 15, upon which a valve 16 is designed to bear. The valve 16 has a stem portion 17 extended upward through an opening in the cap 14, and surrounding said stem and bearing at one end upon the valve and at the other end against the cap is a spring 18.

The valve-casing has a tubular portion 19, which extends through the bottom of the water-fount, and a short stem 20 extends from the valve downward into this tubular portion. The bottom of the water-fount has a downwardly-extended annular flange 21, with which the body-cup 22 is designed to removably engage. The upper portion of the body-cup 22 extends into the flanged portion 21 of the fount 1, and pins 23, extended from the body-cup, are designed to engage in bayonet-slots 24, formed in the flange 21. The portions of the slot 24 which extend circumferentially of the flange 21 are inclined upward from the vertical portion of the slots. Therefore when the pins are engaged in the circumferentially-disposed portions and the body-cup 22 is rotated relatively to the water-fount the said cup will be moved upward by the pins engaging with the other portion of the inclined slots, which will bring the edge of the cup 22 closely against the bottom of the fount, and thus prevent the escape of gas. The upward movement of the body-cup is designed to open the water-controlling valve 16, as will be hereinafter described.

Arranged within the body-cup 22 is a carbid-receiver 25, here shown in the form of a cylinder, having a removable cover 26, and removably placed in the carbid-receiver is a carbid-holder or adjustable bottom 27, which is made in the form of a cup and fits friction-tight in the receiver, so that it may be moved up and down to accommodate it for a greater or less amount of carbid. The wall of the carbid-holder is vertically corrugated, so that gas may pass down through the openings thus formed and out underneath the receiver. To facilitate the passage of the gas from under-

neath the receiver, we form the bottom of the body-cup 22 with corrugations 28, through the depressions of which the gas may escape.

Extended through the cover 26 of the carbid-receiver is a longitudinally-slotted tube 29, and surrounding this tube 29 is a spring 30, which forms a governor for the discharge of water to the carbid. The upper end of this spring bears against the cover 26, and it may be adjusted or regulated by means of a screw 31, engaging in the lower end of the tube 29 and having its flanged or head portion bearing against the lower end of the spring. The upper end of the tube 29 is movably engaged in the portion 19 of the valve-tube, and the upper end of the said tube 29 is provided with a small perforation 32, which appears in line with the stem 20, but is not closed thereby.

In operation after moving the body-cup 22 upward with relation to the water-fount, which motion will move the valve 16 off its seat, then the valve-plug 4 is to be moved outward, so that air may enter through the opening 6 and pass downward into the fount, thus causing the water to flow through the openings 13 and 32 and out through the slots of the tube 29 and between the coils of the spring. This water by coming in contact with the carbid will of course form a gas which will pass up through the burner-tube 33. The flow of water may be instantly cut off by screwing the valve-plug inward.

By providing the receiver 25 with a removable cover 26 it is obvious that after removing the cover which carries the governor the receiver may be thrown away after the carbid shall have been consumed and a new receiver put in its place, thus obviating the necessity of cleaning the receiver.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. An acetylene-gas lamp, comprising a water-fount, a body-cup movably connected with said fount, a carbid-receiver arranged in the body-cup, a valve-tube extended through the bottom of the fount, a spring-pressed valve in said tube, a perforated tube extended through the cover of the carbid-receiver, and a compressible governor surrounding said perforated tube, substantially as specified.

2. An acetylene-gas lamp, comprising a water-fount, a valve-tube extended through the bottom thereof, a spring-pressed valve in said tube, a body-cup movable relatively to the fount, a carbid-receiver in the body-cup, a longitudinally-slotted tube extended through the cover of said receiver and passing into the first-named tube, a coil-spring surrounding the slotted tube, and an adjusting-screw operating in the slotted tube and engaging with the spring, substantially as specified.

3. An acetylene-gas lamp, comprising a water-fount, a body-cup movably connected with said fount, a carbid-receiver in the body-cup, a valve-tube extended through the bottom of the fount, a valve in said tube, a perforated tube extended through the top of the carbid-receiver, and a compressible governor surrounding the perforated tube, substantially as specified.

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