

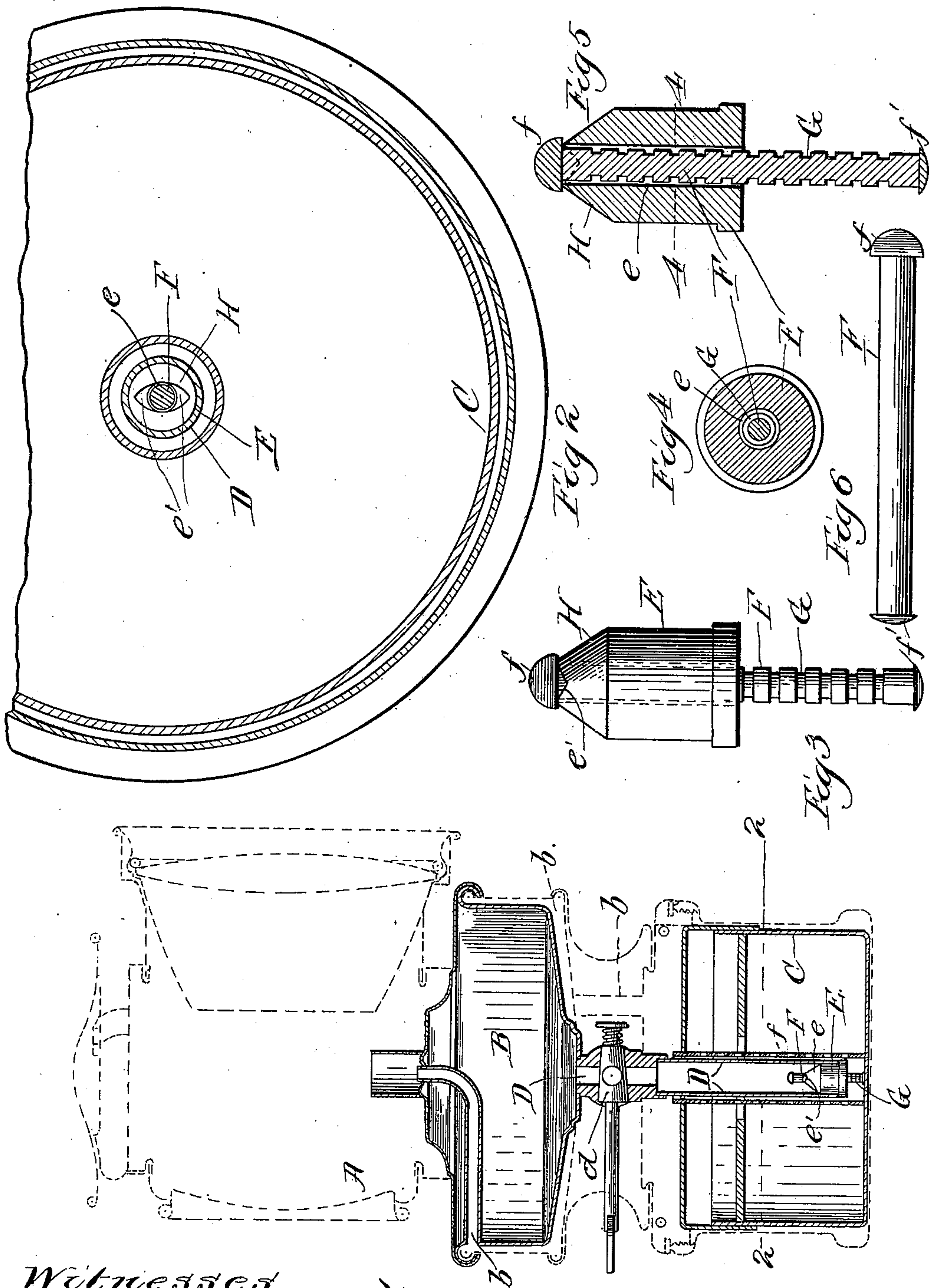
No. 644,439.

Patented Feb. 27, 1900.

J. A. MOSHER.
ACETYLENE GAS GENERATOR.

(Application filed Feb. 20, 1899.)

(No Model.)



Witnesses
W. C. Collier
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Fig. 1

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UNITED STATES PATENT OFFICE.

JOHN A. MOSHER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ADAMS & WESTLAKE COMPANY, OF SAME PLACE.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 644,439, dated February 27, 1900.

Application filed February 20, 1899. Serial No. 706,128. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. MOSHER, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Lamps, of which the following is a specification, and which are fully illustrated in the accompanying drawings, which form a part thereof.

10 This invention relates to portable acetylene-lamps, and particularly to such as are intended for use in connection with bicycles; and its object is to provide an improved means for delivering the water to the generating-chamber in lamps of this character, and
15 this object is secured in the construction which is hereinafter fully described and which is illustrated in the accompanying drawings, in which—

20 Figure 1 is a vertical central section of the improved lamp, those portions thereof which do not distinctly relate to its improved features being shown in outline. Fig. 2 is a plan section, on an enlarged scale, taken on the line
25 2 2 of Fig. 1; and Figs. 3 to 6 are details of the feed-controlling mechanism, also drawn on an enlarged scale, Fig. 4 being a plan section on the line 4 4 of Fig. 5.

30 The head A, water-chamber B, generating-chamber C, and gas-passage *b* may be of any preferred construction and arrangement, providing there is a water-tube, such as D, leading from the water-chamber to the generating-chamber. Preferably this water-tube is
35 provided with a valve *d*.

40 In lamps of this character automatic regulation is usually depended upon, and this is accomplished by so arranging the delivery end of the water-tube that an excessive development of pressure of gas will have the effect of checking the flow of the water, and it is to this feature of the lamp that the invention forming the subject of the present application relates.

45 The tube D leads nearly, but not quite, to the bottom of the generating-chamber C. Into its lower end is tightly fitted a plug E, having a central longitudinal aperture *e*, within which there is located a loose-fitting rod F,
50 which is of such length that it may reciprocate within the aperture of the plug E with-

out being removed therefrom. This rod is provided with a head *f f'* at each end, preventing it from dropping out of the plug when the parts of the lamp are separated, and
55 also preventing it from sliding upwardly into the tube D should the lamp be accidentally overturned. The rod F may be provided with annular grooves G, or a plain rod may be used, as shown in Fig. 6. In either case the rod is
60 preferably of such length that when the parts of the lamp are assembled it will be raised in the aperture of the plug by the contact of its lower end with the bottom of the generating-chamber C. The upper end of the plug E is
65 preferably sharply tapered, as shown at H, and across its apex there may be cut a V-shaped notch *e'*, although this latter feature is not of importance, if the length of the rod F is such that its head *f* is raised in the assembling of the parts of the lamp, as already described. Should the head *f* rest directly upon
70 the top of the plug when the parts are assembled, the V-shaped notch *e'* will serve to admit the water to the central aperture of the plug—that is to say, the rod is not used as a valve and serves none of the functions of a valve.

75 In use the water being admitted to the tube D by the opening of the valve *d* finds its way through the contracted annular space around the rod F and sets up the requisite chemical action. This discharge-orifice is of so small area in cross-section that the development of gas-pressure within the generating-chamber
80 will entirely check the flow of water through it when this pressure exceeds that of the column of water inclosed within the tube.

85 By the use of the rod several advantages are gained. I am able to reduce the width of the discharge-orifice sufficiently to secure this automatic control of the water, while extending it laterally, so that a very considerable quantity of water may pass through should the demands of the lamp require it. The annular form of orifice is preferable. By using
90 a loose rod in securing such annular form, which rod is capable of longitudinal play within the aperture of the plug E, automatic means is provided for dislodging any particles of dirt which may find their way into the discharge-orifice. By providing the rod with the
95 100

annular grooves G the form of its surface is such that its longitudinal reciprocation more effectually dislodges any dirt particles which may have settled into the orifice. The rod F, while being comparatively small, nevertheless has some considerable weight, and hence the jarring to which a bicycle is subjected when in use will the more readily set up a continuous longitudinal reciprocation of it.

10 The tapered form of the top of the plug E provides a pocket for the accumulation of sediment.

The plug E may, if desired, be made removable from the tube D for the purpose of cleansing, and the device may be safely entrusted to the care of inexperienced persons without danger of derangement, wherein it has a very decided advantage over that form of "dropper" or water-discharge regulator employing a fibrous packing, which must necessarily be removed from the tube for the purpose of cleansing and the efficiency of which, depending largely upon the density of the filling, may be greatly impaired if the packing is done by unskilful hands.

I claim as my invention—

1. In an acetylene-lamp, the combination with a generating-chamber, a burner connected therewith, a water-chamber and a tube leading therefrom to the generating-chamber and terminating adjacent to the bottom thereof, of a longitudinally freely movable piece fitting loosely within the discharge end of the water-tube adapted to rest upon the bottom of the generating-chamber when the parts of the lamp are assembled, and so as to provide with the walls thereof an annular passage of such restricted radial width that an excess of gas-pressure will stop the discharge of water from such passage.

2. In an acetylene-lamp, in combination, a generating-chamber having a gas-discharge port, a water-pipe entering the chamber and discharging downwardly, its discharge-aperture being of greater than capillary bore, and a rod freely movable within the end of the tube and of such diameter as to form with the walls of the tube an annular passage of such restricted radial width that an excess of gas-pressure will stop the flow of water.

3. In an acetylene-lamp, in combination, a generating-chamber having a gas-discharge port, a water-pipe entering the chamber and discharging downwardly, its discharge-aperture being of greater than capillary bore, and a rod freely movable within the end of the tube and of such diameter as to form with the walls of the tube an annular capillary passage.

4. In an acetylene-lamp, the combination with a generating-chamber, a burner connected therewith, a water-chamber and a tube leading therefrom to the generating-chamber, and having its discharge end directed downwardly, of a longitudinally-apertured plug fitted to the discharge end of such water-tube and having its inner end tapering in form so as to form an annular sediment-pocket, and a longitudinally-movable rod located within the aperture of the plug.

5. In an acetylene-lamp, the combination with a generating-chamber, a burner connected therewith, a water-chamber and a tube leading therefrom to the generating-chamber, and having its discharge end directed downwardly, of a longitudinally-apertured plug fitted to the discharge end of such water-tube and having its inner end tapering in form so as to form an annular sediment-pocket, a longitudinally-movable rod located within the aperture of the plug, and being of greater length than the aperture of the plug, and having enlarged ends.

6. In an acetylene-lamp, the combination with a generating-chamber, a burner connected therewith, a water-chamber and a tube leading therefrom to the generating-chamber, of a longitudinally-apertured plug fitted to the discharge end of such water-tube and having its inner end tapering in form so as to form an annular sediment-pocket, a longitudinally-movable rod located within the aperture of the plug, and being of greater length than the aperture of the plug, and having enlarged ends, the aperture of the plug opening laterally at its inner end.

JOHN A. MOSHER.

Witnesses:

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