

No. 663,771.

Patented Dec. 11, 1900.

F. METZGER.
ACETYLENE GAS APPARATUS.

(Application filed Mar. 28, 1900.)

(No Model.)

Fig. 1.

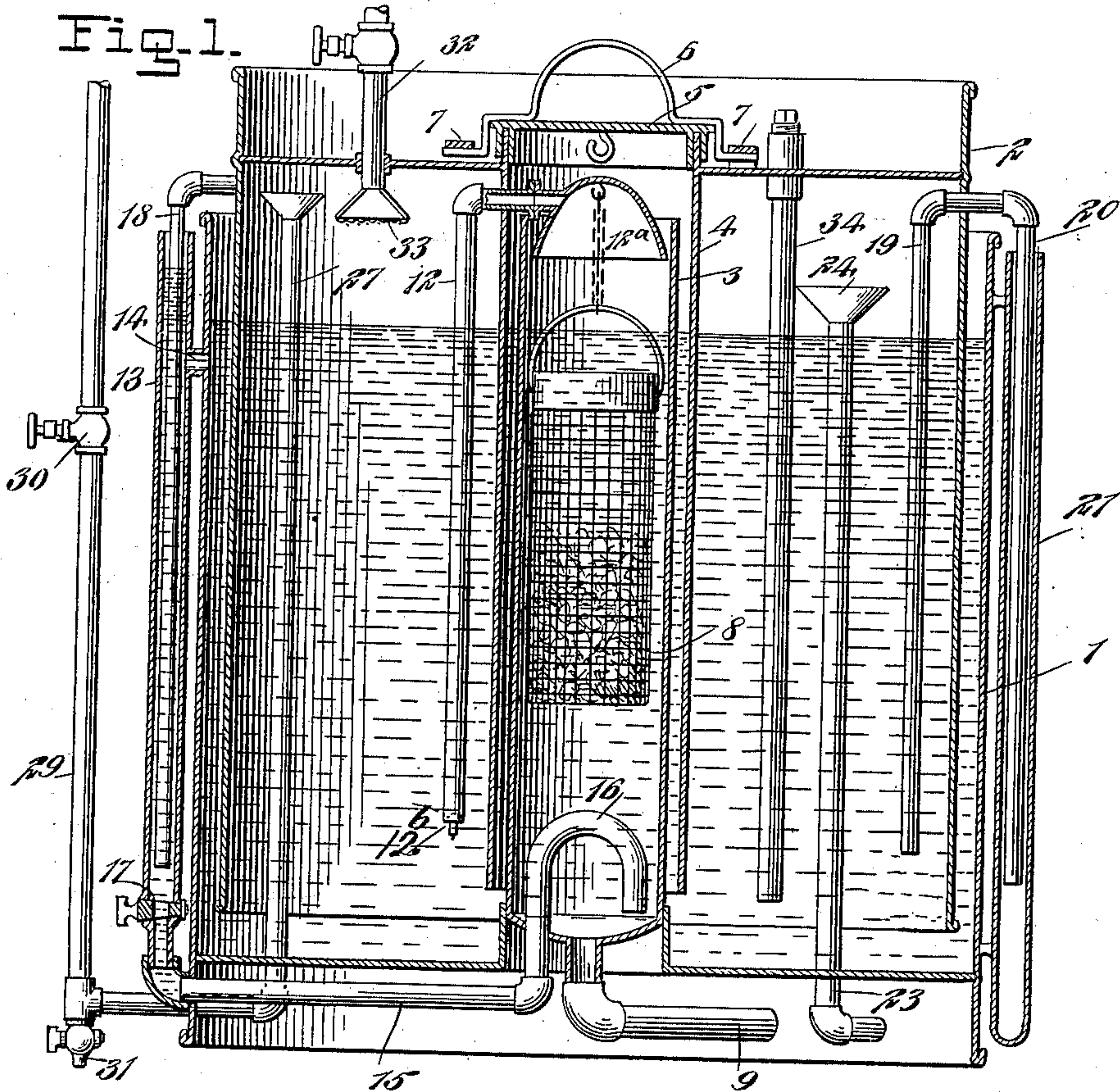
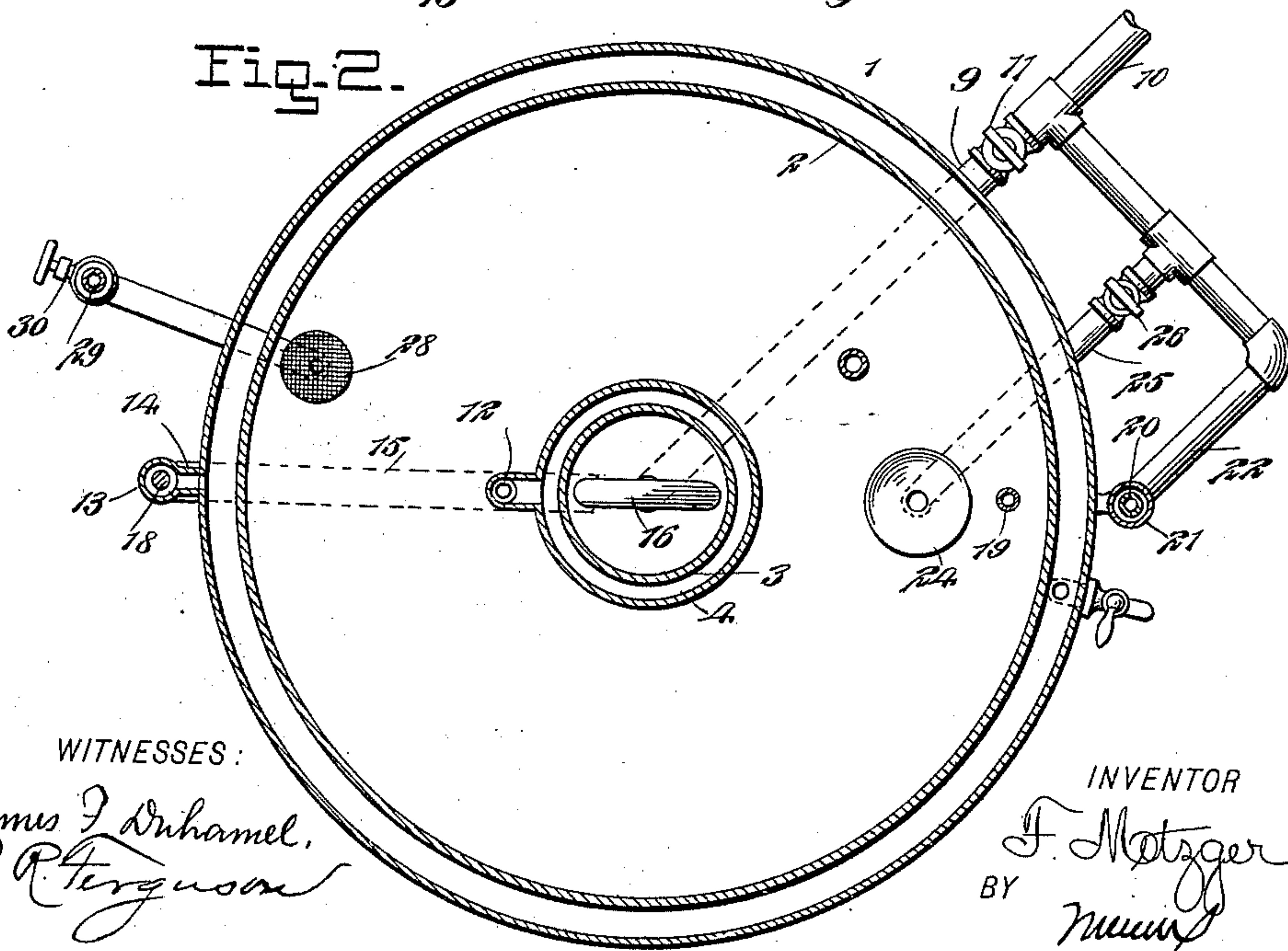


Fig. 2.



WITNESSES:

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ACETYLENE-GAS APPARATUS.

SPECIFICATION forming part of Letters Patent No. 663,771, dated December 11, 1900.

Application filed March 28, 1900. Serial No. 10,538. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK METZGER, a citizen of the United States, and a resident of Hondo, in the county of Medina and State of Texas, have invented a new and Improved Gas-Machine, of which the following is a full, clear, and exact description.

This invention relates to improvements in gas-machines in which the gas is generated from calcium carbide; and the object is to provide a machine of simple construction in which there can be no loss or leakage of gas and in which the gas will be thoroughly washed before passing to the distributing-pipe, thus affording a pure white light, and, further, to provide a means for running off coal-tar that may gather on the top of the water in the machine.

I will describe a gas-machine embodying my invention and then point out the novel features in the appended claim.

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 both the figures.

Figure 1 is a sectional elevation of a gas-machine embodying my invention, and Fig. 2 is a horizontal section thereof.

Referring to the drawings, 1 designates the body portion of the machine, and 2 the bell, movable therein. Extended upward from the bottom of the body portion 1 is the generating-cylinder 3, surrounded by a jacket 4, attached to the upper wall of the bell 2, and between this jacket 4 and the cylinder 3 is a water-space providing a water seal. The jacket 4 extends somewhat above the top wall of the bell 2 and is provided with a cover 5, held tightly in place by a bar 6 engaging with the top of the cover and having its ends engaging with hook-plates 7, attached to the top of the bell.

Suspended within the cylinder 3 is the basket 8 for containing the calcium carbide. From the bottom of the cylinder 3 a pipe 9 leads outward and communicates with a discharge-pipe 10. This pipe 9 is designed to carry off water and ashes that may gather in the generating-cylinder, and to prevent an escape of gas therethrough the said pipe 9 is provided with a valve 11. A gas-pipe 12 communicates with the interior of the jacket

4 near the top and extends downward into the water contained in the machine, nearly to the bottom thereof, as plainly indicated in the drawings. This pipe 12 is shown as communicating with a hood 12^a, which supports the basket and prevents pressure on the cover 5, and the lower end of the pipe 12 is provided with a valve 12^b, preventing the entrance of water, but permitting outflow of gas. The hood 12^a is supported by a section of the pipe 12, extended into the jacket. As shown, the hood has a short pipe-section provided with a flange removably connected by bolts or otherwise to a flange on the end of the pipe 12; but this hood may be omitted, if desired, and in such case the basket will be supported from a hook on the inner side of the cover 5.

At one side of the body portion 1 is a water-pipe 13, which has communication at 14 with the body portion and also connects at the lower end with a pipe 15, which is extended into the generating-cylinder 3, where it is provided with a gooseneck 16 to prevent its becoming clogged with falling ashes of the carbide. The pipes 13 and 15 are designed to supply water from the body portion of the machine to the interior of the cylinder 3, and the pipe 13 is provided near the lower end with a plug-valve 17. Connected to the bell 2 and extended into the pipe 13 is a pipe or rod 18, which serves as a guide for the vertical movement of the bell. The guide at the opposite side consists of a blow-off pipe comprising a member 19, extended downward into the bell, and a member 20, extended into a tube 21, attached to the body portion of the machine and communicating with the discharge-pipe 10 through a pipe 22, connecting with the lower end of the pipe 21. The pipe 20 may be caused to fit gas-tight in the pipe 21 by a packing of tallow or the like.

A pipe 23 for the discharge of scum that may gather on the top of the water in the machine extends upward in the body portion and has a funnel-shaped top 24. This pipe 23 communicates at its lower end with the pipe 10 through a pipe 25, in which a valve 26 is placed. A gas-service pipe 27 extends upward in the machine, having its funnel-shaped upper end above the water-level and provided with a netting 28. This pipe 27

communicates at the lower end with a distributing-pipe 29, provided with a valve 30, and at the lower end of which is a valve-controlled outlet 31, through which water may
5 be discharged should any water be carried into the pipe 29 by the gas.

In addition to the distributing-pipe 27 I provide a valve-controlled distributing-pipe 32, which extends through the top wall of the
10 bell 2 and has a funnel-shaped inner end, in which is arranged a netting 33. Either one or both of the pipes 27 and 32 may be utilized for the distribution of gas generated by the machine.

15 In operation water is to be poured into the machine through a feed-pipe 34, extended through the top wall of the bell 2 and nearly to the bottom of the machine. As the water reaches the tube 14 it will pass through the
20 pipes 13 and 15 and the gooseneck 16 into the generating-cylinder 3. The carbid in the basket 8 will be immersed in the water, and as the gas generates it will pass through the pipe 12 and thence upward through the wa-
25 ter, becoming thoroughly washed. As the bell rises the carbid will be carried more or less out of the water, stopping to a great extent the generation of gas.

Should an excessive pressure occur or a suf-
30 ficient amount of gas be generated to raise the bell, bringing the lower end of the escape-

pipe section 19 above the level of the water, the gas will pass out through the escape-pipe 10, which may lead to any suitable point.

Having thus described my invention, I 35 claim as new and desire to secure by Letters Patent—

A gas-machine, comprising a body portion, a bell arranged therein, a pipe extended down
40 at one side of the body portion and having communication with said body portion near the top, a cylinder arranged within the body portion, a pipe leading from said body portion into the cylinder, a guide-rod attached to the bell and extended into said pipe, a blow-off pipe 45 attached to the bell, a pipe fixed to the body portion and in which the outer member of said blow-off pipe is movable, thus forming a guide for the bell, a carbid-holder in the cylinder, a gas-discharge pipe leading from the body 50 portion, a gas-discharge pipe leading from the generator-cylinder, nearly to the bottom of the body portion, and a check-valve in the lower end of said gas-pipe, substantially as specified. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK METZGER.

Witnesses:

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