

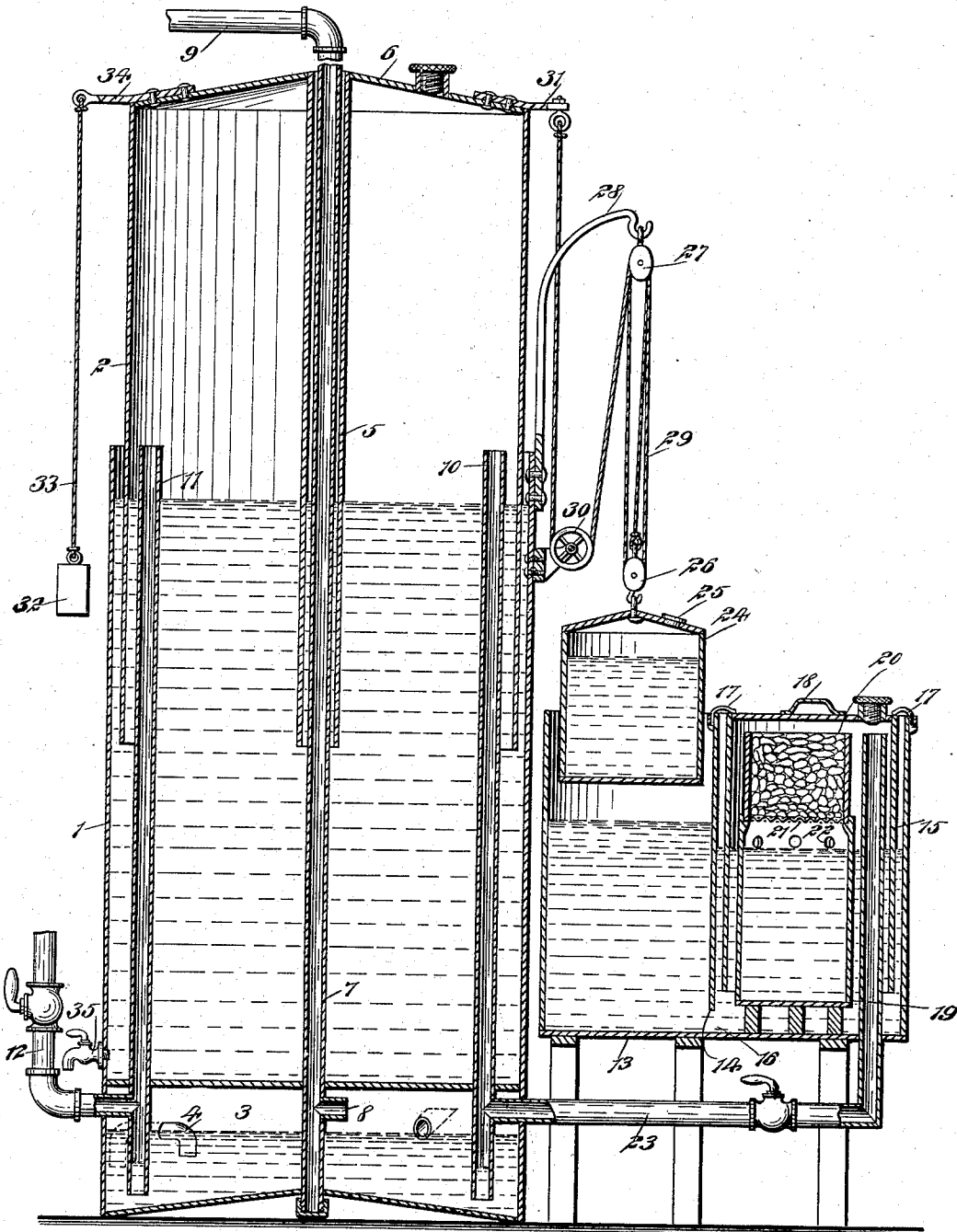
No. 638,066.

Patented Nov. 28, 1899.

W. E. ROLES.
ACETYLENE GAS GENERATOR.

(Application filed June 24, 1899.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM E. ROLES, OF GOLDFIELD, COLORADO, ASSIGNOR OF ONE-HALF
TO CLARK R. GODFREY, OF SAME PLACE.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 638,066, dated November 28, 1899.

Application filed June 24, 1899. Serial No. 721,743. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. ROLES, of Goldfield, in the county of Teller and State of Colorado, 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 machines for generating acetylene gas; and the object is to provide a gas-machine with a gasometer of simple and comparatively inexpensive construction and operating a means for automatically forcing water into contact with the carbid in a generator for generating gas.

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 drawing, forming a part of this specification, in which the figure of drawing is a sectional elevation of a gas-machine embodying my invention.

Referring to the drawing, 1 designates the fixed portion of a gasometer, and 2 a vertically-movable bell therein. The portion 1 of the gasometer is designed to contain water to form a water seal in the usual manner. In the lower portion of the gasometer is a regulating-chamber 3, having an overflow or outlet pipe 4. Extended through the chamber 3, through the bottom of the fixed portion 1 of the gasometer, and then loosely through a sleeve 5, depending from the cover 6 of the bell 2, is a blow-off pipe 7. Within the chamber 3 the blow-off pipe 7 has an inlet 8, into which and through the pipe 7 an overpressure of gas may pass and discharge into a sewer or the like through a connection 9, as will be hereinafter described. This pipe 7 also serves by passing through the sleeve 5 to guide the vertical movements of the bell 2.

A gas-inlet pipe 10 in the gasometer has its upper end above the plane of the water-level in the gasometer, and its lower open end is extended into the water contained in the chamber 3. A gas-discharge pipe 11, arranged in the gasometer, has its upper end above the plane of the water contained in the gasometer and its lower open end extended into the water contained in the regulating-chamber

3, and from this pipe 11 a valve-controlled service-pipe 12 extends outward.

Arranged at one side of the gasometer is a generator comprising a water-tank 13, within which is arranged a cylinder 14, and removably placed in this cylinder is the generator-bell 15. Communication is provided between the water-tank 13 and the interior of the cylinder 14 and the bell through an inlet 16 at the bottom of the cylinder. The bell 15 is removably held in place by means of clips 17, and it is provided with a handle 18, by means of which it can be lifted out of the cylinder 14 when occasion requires.

Removably placed within the bell 15 is a vessel or sediment-receiver 19, and supported on this sediment-receiver 19 is a carbid-holder 20, having a sieve or open-mesh bottom 21, said receiver above the normal level of water contained therein being provided with inlet-openings 22. A valve-controlled pipe 23 provides communication between the interior of the bell 15 and the pipe 10. Movable in the tank 13 is a displacement-plunger, here shown in the form of a bucket 24, in which water may be placed to secure the proper weight, and the water may be supplied through an opening in the top of the plunger and closed by a plug 25. The movements of the displacement-plunger are controlled by the movements of the gasometer-bell. As here shown, said plunger is connected to the bell by means of a three-block tackle, comprising a block 26, attached to the plunger, a double block 27, supported on an arm 28, secured to the fixed portion 1 of the gasometer, and a rope or cable 29, which is secured at one end to the block 26, then passes upward over one of the sheaves in the block 27, thence downward through the block 26, and then over the other sheave in the block 27, then downward and around a pulley 30, attached to the gasometer portion 1, and then to a connection with an arm 31 on the bell 2. By this arrangement of tackle the displacement-plunger may be easily raised during the upward movement of the gasometer-bell.

A counterbalance for the displacement-plunger consists of a weight 32, suspended by a rope or cable 33 from an arm 34, extended

from the top of the gasometer-bell 2, opposite the arm 31.

In operation as the gas is consumed at the burners the bell 2 will move downward, and during this downward movement the displacement-plunger 24 will move into the water contained in the tank 13, displacing the water in said tank and forcing it into the sediment-receiver 19 through the openings 22. The water will rise in this receiver and immerse the lower stratum of the carbid contained in the carbid-holder. The gas generated will pass through the pipes 23 and 10 into the bell of the gasometer, and as the bell rises the displacement-plunger will be raised out of the water in the tank 13, so that the water in the receiver 19 will descend. The sediment contained in the lower portion of the holder 20 will fall through the sieve-like bottom into the receiver 19, allowing a fresh supply of carbid to present itself for subsequent action upon by the water. In service the gas will pass out through the pipes 11 and 12 to the burners.

Should an overpressure of gas be contained in the gasometer-bell 2, the overpressure will force the column of water out of the lower portion of the pipe 10 and also the column of water out of the lower portion of the pipe 11, so that the gas may pass out of the open lower ends of these pipes and up through the water

in the regulating-chamber 3. The surplus of water will overflow through the pipe 4, and the overcharge of gas will discharge through the pipe 7 to a sewer or other place, as before described.

In a gas-machine embodying my invention there are no parts to get out of order, and the several parts may be easily removed for cleaning or recharging. When found necessary, the water may be drawn off from the gasometer through a cock 35. It will be seen that the inner end of the overflow-pipe 4 turns downward and extends below the plane of the water contained in the chamber 3. Therefore no gas contained in the chamber 3 can pass through said overflow-pipe.

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

In a gas-machine, a gasometer, a water-tank arranged at one side thereof, a generator in the tank, a water-weighted displacement-plunger supported on one side of the gasometer-bell and movable in the water-tank, and a weight carried on the opposite side of the gasometer-bell, substantially as specified.

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Witnesses:

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