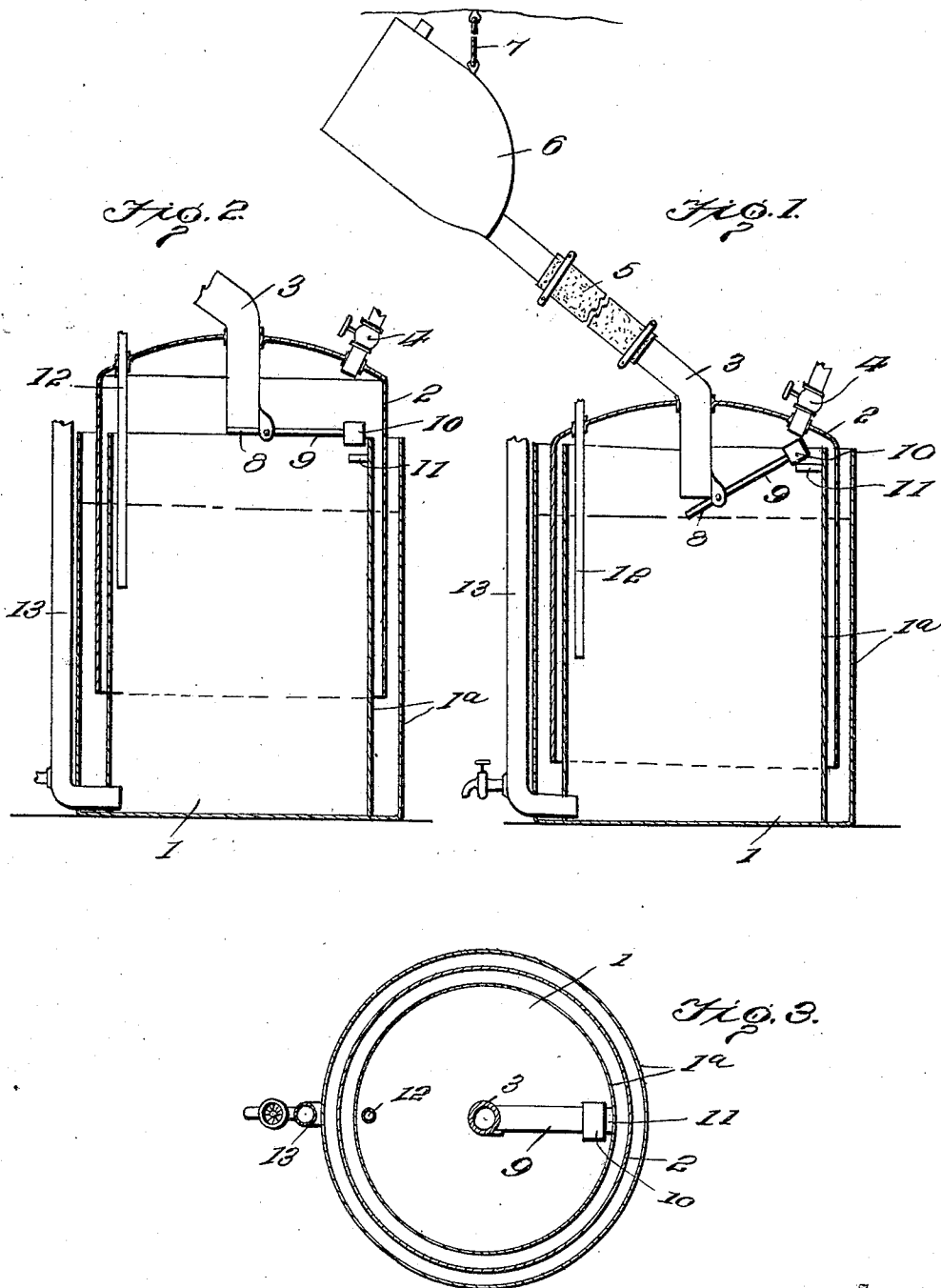


W. A. WALLACE.
GAS GENERATOR.
APPLICATION FILED SEPT. 16, 1908.

960,745.

Patented June 7, 1910.



Inventor
W. A. Wallace.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM A. WALLACE, OF SEYMOUR, TEXAS.

GAS-GENERATOR.

960,745.

Specification of Letters Patent.

Patented June 7, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM A. WALLACE, citizen of the United States, residing at Seymour, in the county of Baylor and State of Texas, have invented certain new and useful Improvements in Gas-Generators, of which the following is a specification.

The present invention relates to improvements in gas generators of that type in which a granular substance such as carbid is fed into a liquid such as water, the granular substance and liquid combining with each other chemically to release a gas. Generators of this character ordinarily embody a gasometer formed with a movable bell, and where the granular substance is supported upon this bell, the weight upon the bell and consequently the pressure of the gas confined within the gasometer are decreased as the granular substance is fed to the water within the gasometer. This fluctuation of the gas pressure is extremely objectionable where the gas is employed for heating or lighting purposes, and the object of the present invention has been to overcome this difficulty by providing a generator in which the carbid holder is supported entirely independent of the gasometer.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and then point out the novel features thereof in the appended claim.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a vertical sectional view through a gas generator embodying the invention, the valve of the supply pipe through which carbid is fed to the gasometer being in an open position; Fig. 2 is a similar view with the carbid holder removed and the valve of the carbid feed tube in a closed position; Fig. 3 is a horizontal sectional view through the gasometer.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The generator embodies a gasometer which is of the usual construction, and

comprises a stationary tank 1 formed with the spaced side walls 1^a, and a bell 2 which is mounted to move up and down according to the quantity of gas confined within the gasometer, the sides of the bell operating between the side walls 1^a of the stationary tank, and the space between the side walls being filled with a liquid so as to produce a liquid seal. The top of the bell 2 is provided with a supply tube 3 through which the carbid is dropped into the water within the stationary tank, so as to produce the acetylene within the gasometer, the gas being withdrawn as desired through a cock 4 upon the bell. This cock is preferably connected with the gas main by means of a flexible tube, in order that the connection may not interfere with the free up and down movement of the bell. The upper end of the supply tube 3 projects above the bell and is connected by means of a flexible tube 5 with the spout at the lower end of a carbid holder 6, the said carbid holder being supported independent of the bell and being shown in the present instance as suspended by a cable 7. The lower end of the supply tube 3 is provided with a swinging valve 8, and rigid with this valve is an arm 9 having a weight 10 applied to the extremity thereof, the said weight tending to normally close the valve so as to shut off the supply of carbid to the generator. However, when the gas has been all withdrawn from the gasometer and the bell has dropped to the limit of its lower movement, the weight 10 is engaged by an arm 11 projecting inwardly from the stationary tank 1, and the valve 8 thereby opened. The carbid within the carbid holder 6 can then pass through the flexible tube 5 and the supply pipe 3 into the interior of the gasometer, where it combines with the water to set free acetylene gas. As soon, however, as a sufficient quantity of gas has been generated to raise the bell to the limit of its upper movement, the weight 10 is lifted above the arm 11 and serves to again close the valve 8. A safety tube 12 is utilized to prevent the bell from being lifted entirely from the stationary tank 1, the upper end of the safety tube passing through the top of the bell, while the lower end projects down into the water within the tank and is designed to be lifted above the surface of the water when an excess of gas has been generated, thereby permitting the surplus

gas to pass through the safety tube to the exterior of the generator. A tube 13 extending vertically along the exterior of the stationary tank communicates with the bottom thereof, and constitutes a means for withdrawing water from the stationary tank and also for supplying water thereto.

Having thus described the invention, what I claim is:

10 In a generator the combination with a tank, a bell disposed over said tank and means for introducing water into said tank, of a carbid receptacle suspended over said bell, a feed-tube yieldably connected to said
15 receptacle and extended through said bell,

a valve hingedly mounted upon the lower end of said feed-tube within the bell, an arm outwardly extended from said valve to a point adjacent the inner wall of said tank, a weight positioned upon the outer end of said arm, and a second arm rigidly carried in the upper edge of the inner wall of said tank to engage said weight when said bell is moved downwardly.

In testimony whereof I affix my signature 25 in presence of two witnesses.

WILLIAM A. WALLACE. [L. s.]

Witnesses:

J. P. DASS,

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