

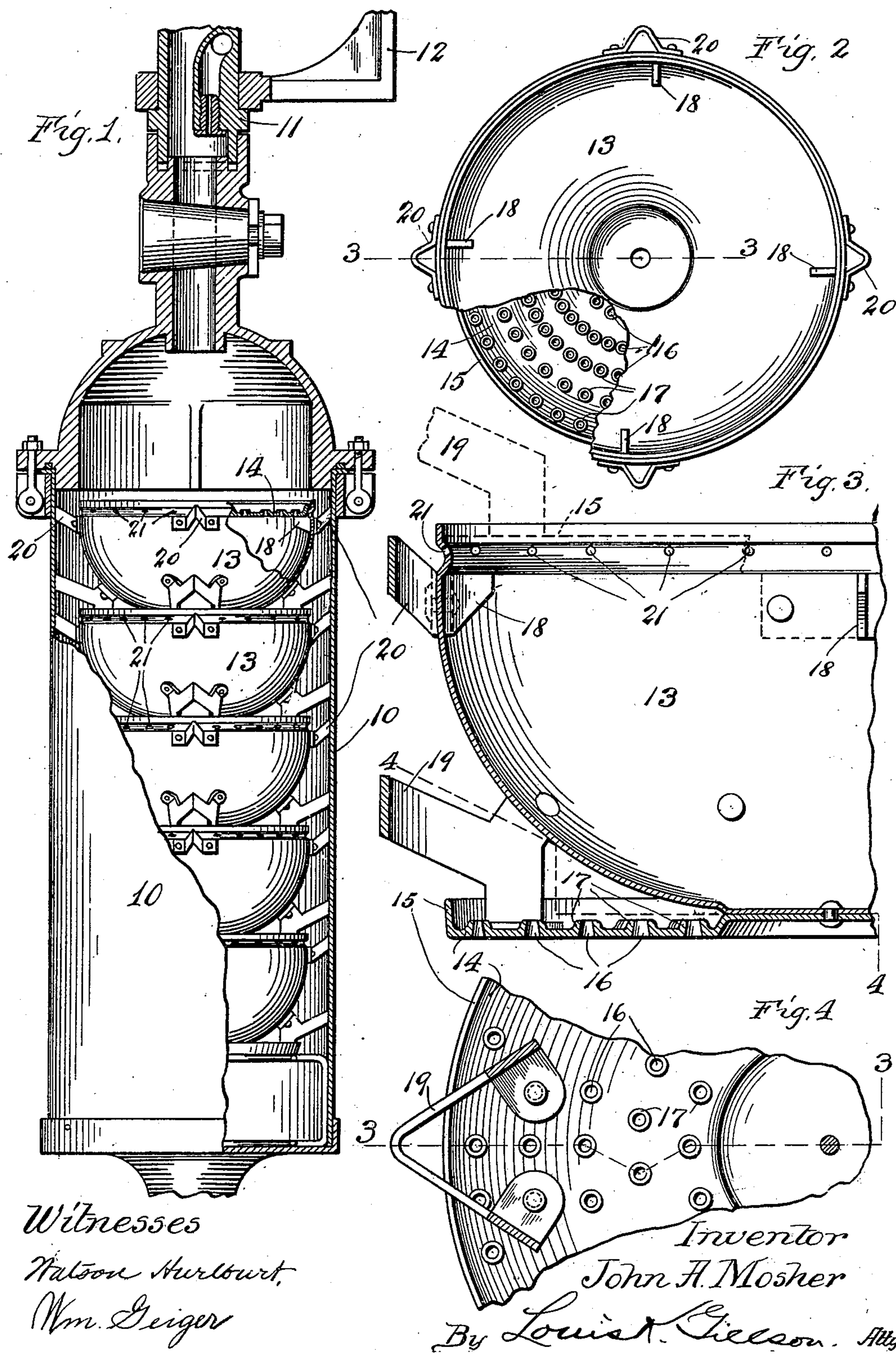
No. 674,612.

Patented May 21, 1901.

J. A. MOSHER.  
ACETYLENE GAS GENERATOR.

(Application filed Feb. 2, 1901.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

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## ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 674,612, dated May 21, 1901.

Application filed February 2, 1901. Serial No. 45,728. (No model.)

*To all whom it may concern:*

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

This invention relates to that type of generators in which water is conveyed to the carbide and delivered thereto by dripping thereupon from above, and for the purposes of illustration I have shown parts of the generating system which are shown in Letters Patent No. 652,974, granted to me July 3, 1900.

The object of the invention is to secure a more thorough and complete chemical action by improved means for distributing the water over the mass of carbide and insuring the substantially simultaneous attack of the water in liquid form upon the entire upper surface of the mass, so that generation by contact of water-vapor with the carbide is reduced to the minimum.

Broadly, the invention consists in so constructing the baskets in a generator of the type referred to that the water will reach the lower receptacles only by the overflowing of those above, this overflow being received by a distributor, which will insure its delivery to the next receptacle by a sprinkling action which shall discharge it simultaneously over the entire upper surface of the mass of carbide. This object is attained by the construction hereinafter described and which is shown in the accompanying drawings, in which—

Figure 1 is a vertical central section of a generating-cell provided with the improved form of carbide-receptacle which constitutes the essence of the present invention. Fig. 2 is a plan view of one of the receptacles partly broken away. Fig. 3 is a detail section taken on the line 3 3 of Figs. 2 and 4; and Fig. 4 is a plan, partly in section, on the line 4 4 of Fig. 3.

A generating-cell is shown at 10, and a nipple through which water enters and gas is delivered is shown at 11 as being supported by a wall-bracket 12. A plurality of carbide-receptacles 13 are arranged in vertical order

within the cell or flask 10. Each receptacle is substantially bowl-shaped and is preferably made of sheet metal and is without apertures. Each receptacle is provided with a freely-perforated or foraminous cover 14, having at its margin an upstanding rim 15, and each of its apertures 16 being inclosed by an upstanding wall or flange 17 of less height than the rim 15. For convenience one of these covers 14 is secured to the bottom of each of the receptacles, though it is obvious that that one which is secured to the receptacle which chances to be the lowest of the series has no function to perform. Each receptacle is provided with instanding lugs 18, upon which its cover rests, and with external guide-lugs or brackets 19 and 20, which engage the inner wall of the cell or flask 10, and thereby insure the proper sealing of the receptacles within it and prevent their subsequent accidental displacement. One detached cover 14 is of course necessary for the top receptacle of the series.

In operation the water enters the cell through its neck and falls upon the cover of the upper receptacle. The flanges or walls 17 prevent any of the liquid from passing through the aperture 16 until it has spread entirely over the surface of the cover, and then, as the cover is substantially horizontal and the flanges 17 are of uniform height, the water will drip through all of the apertures simultaneously and chemical action will be set up over the entire upper surface of the mass of carbide contained within the receptacle.

It is found in practice that but little trouble arises from generation by the action of water-vapor upon the carbide when the water is delivered from above, and the chemical action progresses downwardly with uniformity across the entire mass, and so the construction herein shown and described practically eliminates this difficulty, and when the carbide is of fairly good quality the residue comes out in the approximately white state, indicating that the chemical action has been complete as to all particles of the carbide.

No water reaches the lower receptacles until the contents of those above have been completely slaked. Then the water overflows



from one receptacle to the next, and the bowl shape shown serves the useful purpose of preventing any dripping from the receptacles down to the bottom of the tank, as the water naturally follows down the inclined wall of the receptacle.

It is advisable to extend the rim of each receptacle upwardly a sufficient distance so as to retain the slaked carbid. On the other hand, it is desirable to prevent the accumulation of water on top of the slaked carbid, and as it is not practicable to determine the exact level to which the residue will reach after the slaking operation I show the receptacle-rims as being extended higher than is usually necessary and perforate them, as shown at 21, so that the water may drain off should the lime not reach to the upper edge of the rim. These perforations are of course placed above the body portion of the receptacle, and hence above the level to which the receptacle is charged with carbid. The upper edge of the receptacle may be stiffened by an annular rib or beading, as plainly shown in Fig. 3.

By draining off the surplus water beyond that which the lime in the receptacle will absorb an economy in the water-supply is effected, but a more decided advantage is found in the fact that if the generating-cell is removed before the carbid in all of the receptacles is slaked there is not present a supply of water which may be discharged into the lower receptacles by the overturning of the cell.

I claim as my invention—

1. In an acetylene-generator, in combination, a generating cell or tank, a plurality of carbid-receptacles therewithin and being spaced apart from the walls thereof and arranged in vertical order, the bodies or containing portions of such receptacles having imperforate walls and bottoms, means for delivering water upon the upper receptacle and to each of the lower receptacles by overflow from the one immediately above, and means for distributing the water over the entire upper surface of the contents of each receptacle by a sprinkling action.

2. In an acetylene-generator, in combination, a generating cell or tank, a plurality of carbid-receptacles arranged therein in vertical order, a foraminous tray disposed between adjacent receptacles, and means for causing the water to overflow from one receptacle onto the foraminous tray immediately below the same.

3. In an acetylene-generator, in combination, a generating cell or tank, a plurality of carbid-receptacles arranged therein in verti-

cal order each having a foraminous cover, and means for causing the water to overflow from one receptacle onto the foraminous cover of the succeeding receptacle.

4. In an acetylene-generator, in combination, a generating cell or tank, a plurality of carbid-receptacles arranged therein in vertical order and spaced apart from the wall of the cell, means for sprinkling water over the entire upper surface of each charge of carbid, and means for causing the water to overflow from each receptacle to the receptacle immediately below the same.

5. In an acetylene-generator, in combination, a generating cell or tank, a plurality of carbid-receptacles arranged therein in vertical order and spaced apart from the wall of the cell, each having a foraminous cover, and means providing for an overflow to each receptacle successively from top to bottom.

6. In an acetylene-generator, in combination, a generating cell or tank, a plurality of carbid-receptacles arranged therein in vertical order and spaced apart from the wall of the cell, each of the receptacles having a foraminous cover having an upstanding rim and each aperture being inclosed by an upstanding wall, the said cover being adapted to sprinkle water over the entire upper surface of each charge of carbid thereunder, and means for causing the water to overflow from one receptacle to the foraminous cover of the receptacle immediately below the same.

7. In an acetylene-generator, a carbid-receptacle having a foraminous cover having an upstanding rim and each aperture thereof being inclosed by an upstanding wall.

8. In an acetylene-generator, a carbid-receptacle having a foraminous cover having an upstanding rim, and each aperture thereof being inclosed by an upstanding flange.

9. In an acetylene-generator, in combination, a plurality of carbid-receptacles arranged in vertical order, each receptacle having imperforate side and bottom walls, and a foraminous cover having an upstanding rim and each aperture thereof being inclosed by an upstanding wall.

10. In an acetylene-generator, in combination, a cell or flask, a carbid-receptacle within the cell or flask and having a foraminous cover provided with an upstanding rim and having each of its apertures inclosed by an upstanding wall, and means for delivering water upon the cover of the receptacle.

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Witnesses:

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