

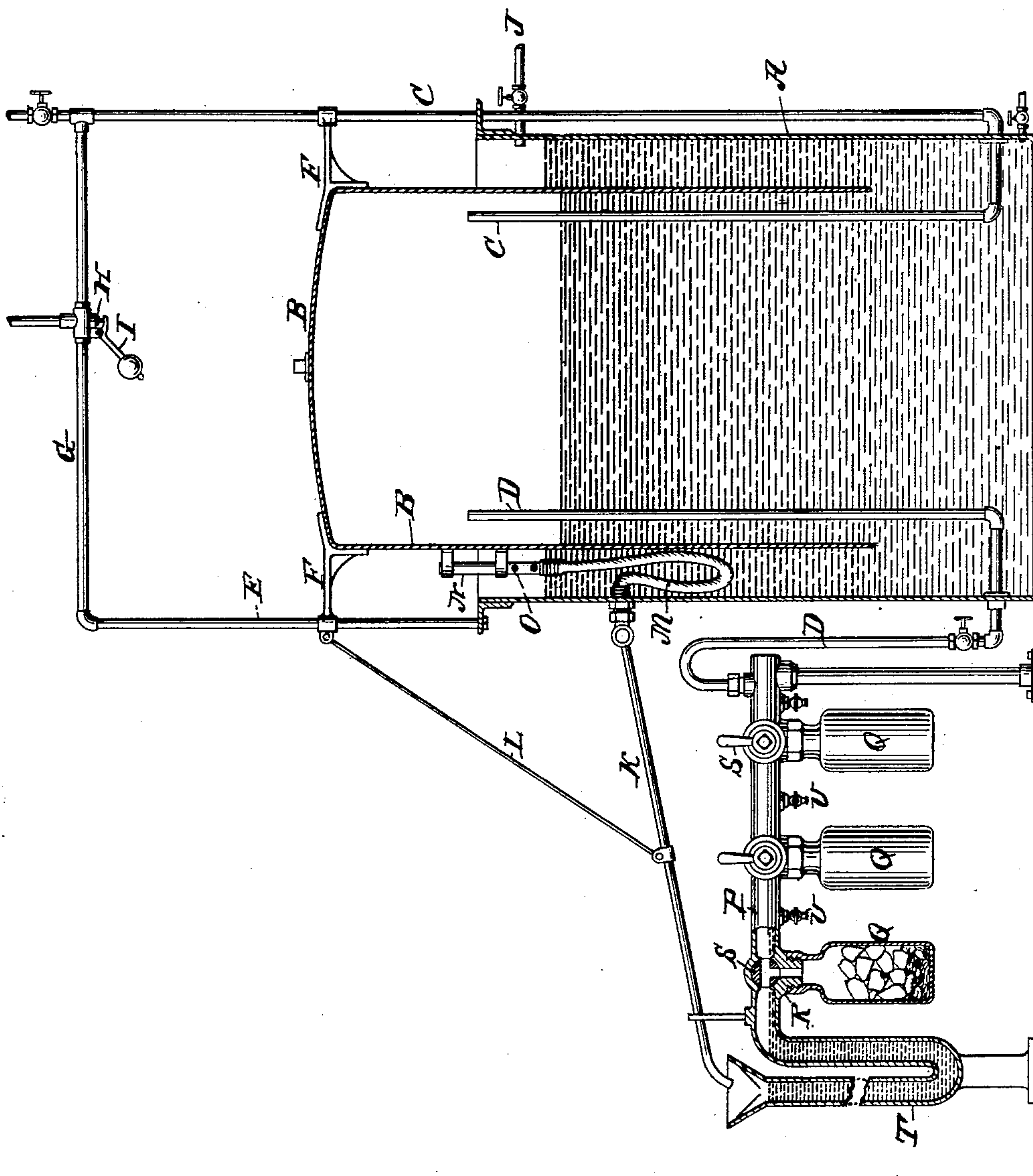
(No Model.)

J. J. McGRANE.

ACETYLENE GAS GENERATING APPARATUS.

No. 587,533.

Patented Aug. 3, 1897.



Witnesses:

Robt. F. Gaylord
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Inventor

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UNITED STATES PATENT OFFICE.

JOHN J. McGRANE, OF LONG ISLAND CITY, NEW YORK.

ACETYLENE-GAS-GENERATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 587,533, dated August 3, 1897.

Application filed August 29, 1896. Serial No. 604,262. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. McGRANE, a citizen of the United States, residing at Long Island City, in the county of Queens and State
5 of New York, have invented a certain new and useful Improvement in Gas-Generating Apparatus, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

10 The essential purpose of the invention is the production of an improved form of generating apparatus constructed and arranged to automatically regulate the generation and the storage of acetylene gas, as also to provide means whereby the gas-generating process can be progressively continued.

One feature of invention consists generally of means whereby the water used in the generating process is taken from the storage or
20 gasometer tank and the supply thereof automatically regulated by the rise and fall of the gasometer.

Other more specific features of invention will be explained in the following description
25 and defined in the claims to follow.

The accompanying figure of drawing illustrates one part of my apparatus in partial section.

Referring to this view, A represents the
30 tank of the gasometer, and B the floating or storage chamber of the same, which is suspended in the water in the tank.

C indicates the outlet or service pipe, and D is the charging-pipe. The pipes C and E are
35 utilized as guides for the gasometer B, and slide-brackets F, fixed to the gasometer and running on said pipes. The pipe G extends between these two pipes and serves as a brace therefor. This pipe G is in open communication with the pipe C and is provided with
40 a blow-off valve H, the weight of the lever I of which normally holds the valve closed. In case of the generating process being carried to undue extent and the gasometer being
45 raised as high in the tank as it is desired it should go it will hit lever I and open the valve, thus permitting some of the gas to blow off and preventing its further rise.

J is a pipe for supplying the tank with water. Pivotaly attached to the side of the

tank is the drip K, which conducts water from the tank to the generating apparatus.

L is a wire or other suitable connection attached to this pipe and also to one of the brackets F of the gasometer. By this arrangement it will be seen that the nozzle of
55 pipe K rises and falls with the gasometer, and that when it is lifted to above the level of the water in the tank no water can flow out of it and into the generating apparatus.

60 M is a flexible pipe attached to the faucet-joint of pipe K and also secured to the pipe N, which is carried on the gasometer and is perforated or slotted along its length, as seen at O. Whenever the gasometer descends to
65 a point where the opening in this pipe comes to or below the level of the water in the tank, then the water will run from the drip-pipe into the generating apparatus and the generation of the gas will be started. In reverse
70 sense when the gasometer has been raised so that the water cannot enter the pipe N the generation of gas will cease. If for any reason this mechanism should fail to control the
75 generation of gas, then the action of the drip-pipe should do so, and in extreme cases the blow-off valve would be opened. Thus drawing water from the tank involves proper attention to keeping the tank supplied, as also
80 that this supply will not become stagnant or impure.

The generating mechanism consists of a pipe P, communicating with the supply-pipe D and provided with a series of reaction or
85 generating chambers Q, which are removably attached to the necks R, each of which necks is provided with a three-way cock S. The pipe P at its outer end is openly connected to the trap T, which is to be proportioned in
90 height to the amount of pressure that it is desired to retain in the gasometer. The bowl of this trap is located just under the nozzle of the pipe K, so as to receive water flowing from the same. The column of water held in the
95 trap T serves also to regulate the supply of water to the generating-chambers during the time when the gasometer is so raised that it lifts the drip-pipe K so that water will not run through the same into the trap—that is to
100 say, assuming that the gasometer is at a high

point, drawing gas therefrom will cause it to descend and become lighter as it becomes immersed, and thus the greater weight of the column in the trap will force the water into the generators.

U indicates petcocks, which are employed for testing the condition of the generator and especially for ascertaining which of the generating vessels is in operation.

The operation of this apparatus will now be clear. So long as water drips into the trap there will be a gradual flow into the first generator and the gas evolved will pass into the gasometer and be then held until drawn off for consumption. By the rise and fall of the gasometer water from its tank will be supplied to the generator or not in accordance with the contents of the gasometer. When it is desired to renew the carbid charge, the three-way cock corresponding to the generating-chamber to be recharged is turned to close communication between the pipe P and that generator and the chamber is unscrewed or otherwise disconnected from the pipe P and recharged, and said chamber being filled with water there will be no escape of gas from the pipe P or from the said chamber. The petcocks U will show the presence of water or gas whereby to indicate which of the generators is in use. Thus if one of these cocks shows gas it will be known that the generator on the left of such cock is in use, and if it shows water it will be known that the generator on the left has ceased to work and that the generator on the right is in operation.

These features of construction may be variously modified and yet have the same principle and purpose of action, and therefore I do not limit myself to the particular forms shown.

What is claimed as new is—

1. In an apparatus for generating acetylene gas, and in combination with the water-tank and gasometer therein, a carbid-chamber or gas-generator, and mechanism communicat-

ing between the said chamber and the tank whereby water is supplied from the tank to the chamber, and means for regulating the flow of water by the rise and fall of the gasometer.

2. In an apparatus for generating acetylene gas, the combination of a water-tank and floating gasometer therein, a carbid-chamber or gas-generator, and mechanism communicating between the said chamber and the tank and carried by the gasometer, whereby water from the tank is supplied to the generating-chamber and regulated by the rise and fall of the gasometer.

3. In combination with the water-tank and gasometer therein, a carbid-chamber or generator, a drip-pipe extending from said tank to said generator, and a flexible pipe M attached to the gasometer, whereby by the rise and fall of the gasometer the water is delivered from the tank to the generator.

4. In combination with the water-tank and gasometer therein, a carbid-chamber or gas-generator, the drip-pipe K pivotally attached to said tank and acting to conduct water from the gasometer-tank to the generator, and a connection between said pipe and the gasometer, whereby the flow of water from the tank is regulated by the rise and fall of the gasometer.

5. In combination with the water-tank and gasometer therein, a carbid-chamber or gas-generator, a pipe (such as drip-pipe K) connected with the walls of the tank and for conducting water from the tank to the generator, and means (such as pipe M) attached to said pipe and to the gasometer and operating to control the flow of water from the tank to the generator in accordance with the rise and fall of the latter.

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Witnesses:

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