

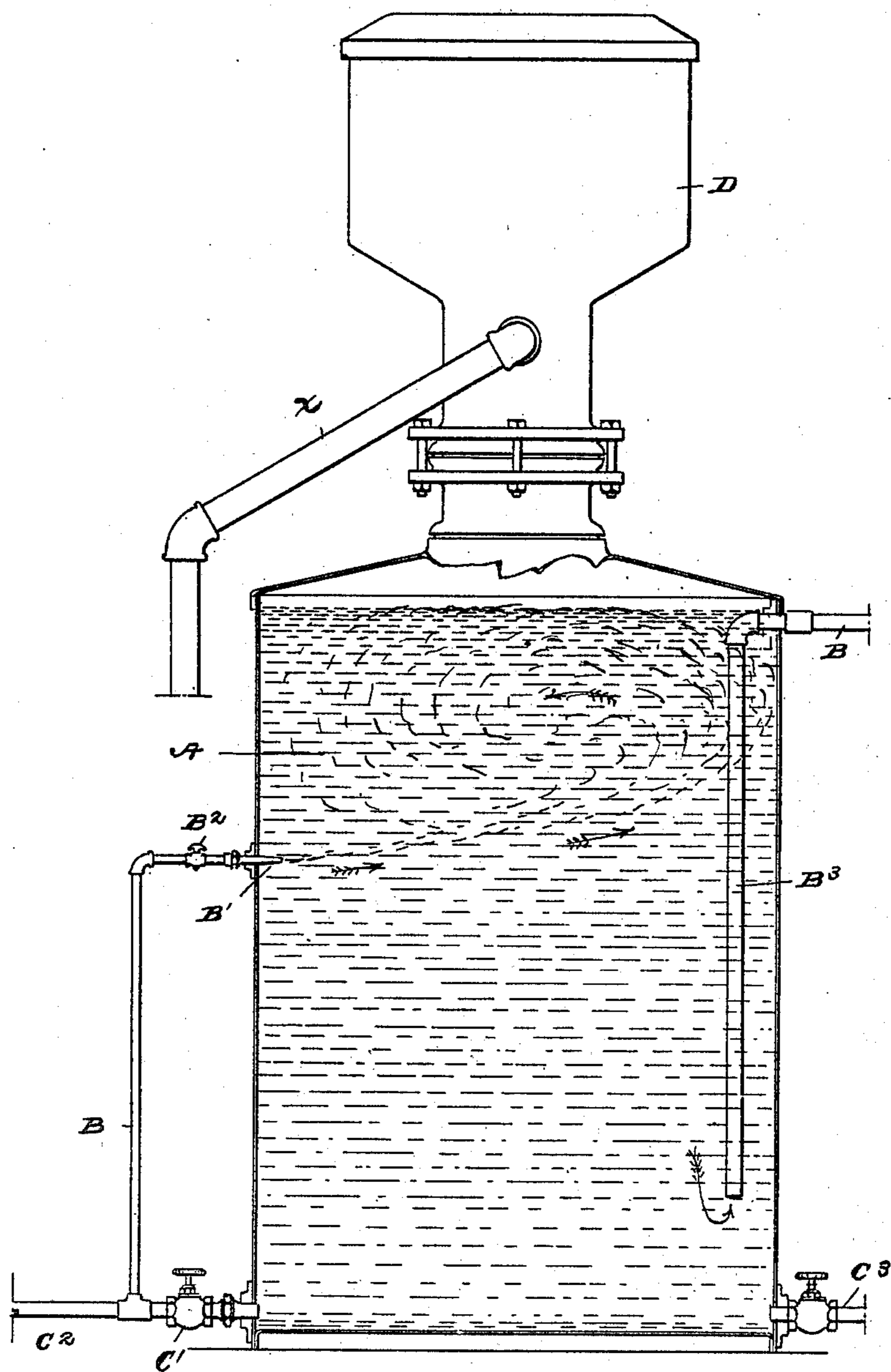
No. 719,373.

PATENTED JAN. 27, 1903.

W. A. ROBERTSON.  
ACETYLENE GAS GENERATOR.

APPLICATION FILED OCT. 18, 1900.

NO MODEL.



WITNESSES:

S. K. Smith  
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# UNITED STATES PATENT OFFICE.

WILLIAM A. ROBERTSON, OF ALAMEDA, CALIFORNIA.

## ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 719,373, dated January 27, 1903.

Application filed October 18, 1900. Serial No. 33,507. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. ROBERTSON, a citizen of the United States, residing at 2110 Alameda avenue, Alameda, in the county of Alameda and State of California, have invented certain new and useful Improvements in Acetylene-Generators; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to improvements in acetylene-gas generators, particularly to that class of generators wherein the calcium carbide is dropped into the water. Generators of this class have been subject to the imperfection of the finely-powered carbide-dust falling upon the surface of the water and forming a thin scum, which becomes thicker and thicker as the carbide sifts in, until there is quite a quantity of carbide that is not acted upon by the water until the scum referred to becomes too heavy to float, when it breaks up and sinks, liberating a quantity of gas in excess of the figured capacity of the generator, generating an excessive heat and putting a dangerous pressure on the gasometer, making the gas generation fitful and uncertain. In many instances the scum will hold up sufficiently long to stop generation entirely, putting out the lights throughout the system, followed by an excessive generation, with its obvious disadvantages.

To overcome the above imperfections and to provide a convenient means for flushing and changing the water in the generator are the objects of this invention.

The invention consists of means for keeping the surface of the water in the generator in an agitated state to prevent the formation of scum.

The generator A is filled to near its top by opening the valve C' on the service-pipe C<sup>2</sup>. The water in the generator is kept agitated by a small jet of water led from the service-pipe C<sup>2</sup> through the branch pipe B and nozzle B' into the body of water in the genera-

tor. The force of the jet is regulated by the valve B<sup>2</sup>.

To accommodate the constant inflow from the agitator B, the outflow-pipe B<sup>3</sup> is provided. This extends from near the bottom of the generator A to the water-level and out to a waste-pipe, care being taken not to incline the outlet to prevent siphoning.

The carbide in the chamber D is automatically measured and spilled into the generator A in the usual manner, but falling upon agitated water readily sinks and decomposes evenly, which is not true when the carbide-dust falls on a placid surface of water, as above set forth. The carbide falling into constantly-flowing water, a larger quantity of water is acted upon and the generation of gas takes place at a normally low temperature. The gas is led off to the gasometer from the generator in the usual manner through the pipe X.

To flush the generator to carry off the precipitated calcium, the service-pipe C<sup>2</sup> and the outlet C<sup>3</sup> are placed near the bottom of the generator. The outlet C<sup>3</sup> being opened, the foul water is drawn off to waste and the valve C' opened, the water being allowed to run till it comes clear at the outlet. Outlet C<sup>3</sup> is closed and the generator permitted to fill.

It is obvious that the agitator may be made to operate automatically or may be differently arranged without interfering with the spirit of the invention.

Having thus described this invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an acetylene gas-generator or the like, a generator, means for injecting a constant stream of water into the body of the water in the upper portion thereof, an inlet-pipe entering the generator at the bottom on one side, an outlet-pipe at the bottom on the other side, valves on both pipes, and an overflow consisting of a pipe extending down into the water near the bottom of the generator and its upper end leading out of the generator at the water-level, the difference between the heights of the overflow and the injecting means causing a constant circulation of water.

2. In an acetylene-gas generator or the like,  
a water-tank, a service-pipe feeding there-  
into, and a branch pipe leading from said  
service-pipe and having a nozzle feeding into  
5 the side of the tank near the water-level,  
whereby said nozzle feeds a jet of water into  
said tank for agitating the carbid-receiving  
surface of the water, an overflow-pipe adapted

to discharge said water; substantially as de-  
scribed.

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In testimony whereof I have hereunto set  
my hand this 13th day of October, 1900.

WILLIAM A. ROBERTSON.

Witnesses:

BALDWIN VALE,  
JOHN F. SAWYER.