

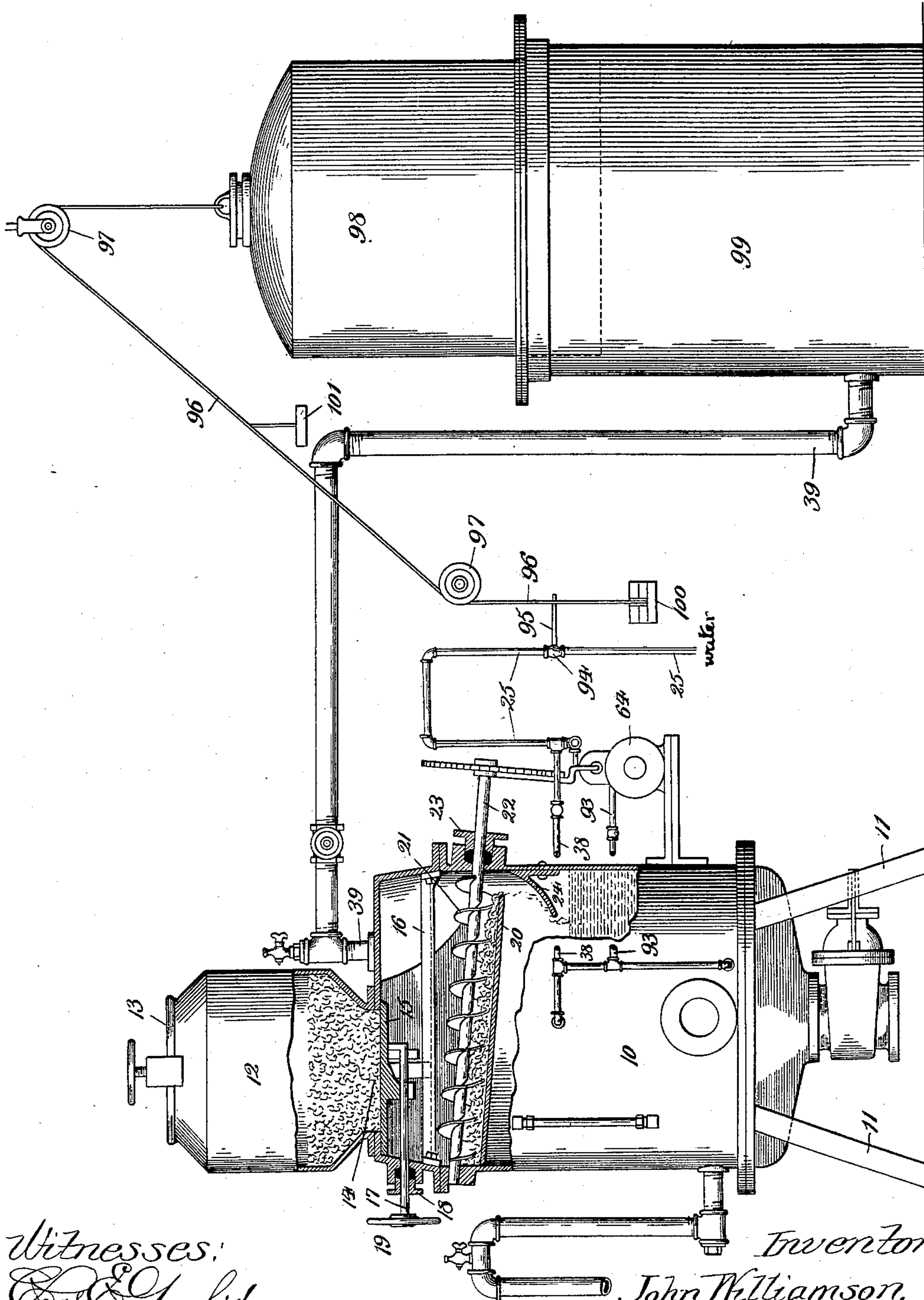
No. 609,861.

Patented Aug. 30, 1898.

J. WILLIAMSON.  
ACETYLENE GAS GENERATOR.

(Application filed Aug. 30, 1897.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN WILLIAMSON, OF CHICAGO, ILLINOIS.

## ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 609,861, dated August 30, 1898.

Application filed August 30, 1897. Serial No. 649,926. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WILLIAMSON, of Chicago, Illinois, have invented a certain new and useful Improvement in Acetylene-Gas Generators, of which the following is a specification.

This invention relates to gas-generators, and more particularly to generators for the production of acetylene gas, and has for its object to provide an automatic mechanism whereby such gas may be automatically produced in such quantities as are required to supply the consumption and whereby such production may be carried on in a simple and efficient manner with a minimum cost for attendance and labor and a gas of superior quality is produced.

To these ends my invention consists in certain novel features which I will now proceed to describe, and then particularly point out in the claim.

In the drawing I have shown a side elevation of my improved gas-generator with parts broken away to show the interior and the construction and operation of the various parts.

In the drawing, 10 represents the body of the generator, which consists of a suitable gas-tight chamber which may be supported in an elevated position by means of legs 11 or other suitable means. Above the generating-chamber 10 is a charging-chamber 12, provided with a removable gas-tight cover 13, communicating with the interior of the generating-chamber 10 by means of an opening 14. This opening is controlled by a valve 15, sliding in suitable ways 16 within the generating-chamber and operated by means of a stem 17, extending out through the wall of the generating-chamber, which is provided with a stuffing-box 18, the valve-stem having a suitable handle 19, by means of which the valve 15 may be conveniently operated.

In the upper portion of the generating-chamber 10, above the water-line therein and immediately below the charging-opening 14, is a supporting and conveying mechanism consisting of a shelf or trough 20, preferably inclined, as shown, and adapted to receive the charge from the chamber 12 when the valve 15 is open. Operating in conjunction with

the shelf or trough 20 is a spiral conveyer 21, mounted on a shaft 22, preferably inclined to the horizontal, as shown, one end of said shaft extending through a suitable stuffing-box 23 and having power applied to said end to rotate said shaft. An inclined deflector-plate 24, located below the discharge end of the trough 20, serves to guide the material toward the center of the chamber.

25 represents a water-supply pipe communicating with a suitable motor-cylinder 64, which through suitable connections communicates power to the conveyer-shaft 22, so that the same may be properly rotated.

The water-supply for the generator is provided by means of a pipe 93, connecting with the waste-port of the motor. An auxiliary pipe 38 may be employed and the several pipes provided with suitably-located hand-valves, as shown. The supply-controlling valve 94 of the pipe 25 is provided with an arm 95, to which is connected a rope, cord, chain, or wire 96, which passes over suitable guide-pulleys 97 and is connected at one end to the floating tank 98 of the gas-holder 99, while its free end is provided with a suitable weight 100. A supplementary weight 101 may be employed to take up the slack of the member 96. The eduction-pipe 39 of the generator extends to and is connected with the holder in the usual manner.

The motor gives a step-by-step movement of rotation to the conveyer, thus feeding the carbid and generating the gas, and when the pressure of gas becomes excessive the valve 94 is closed, thereby stopping the motor, and consequently the feed of the carbid and the generation of the gas. When the pressure of the gas falls, the water-supply valve is again opened, the feeding of the carbid resumed, and the gas again generated.

I have described my invention as employed in the manufacture of acetylene gas by the use of carbid calcium and water; but it is obvious that the apparatus is equally well adapted for use in the manufacture of gas from any materials in which a solid and a liquid are used.

I claim—

In a gas-generator of the character de-

scribed, the combination, with the generat-  
ing-chamber and the conveyer therein, of a  
water-supply pipe, a motor connected with the  
water-supply pipe and adapted to operate the  
5 conveyer, a pipe connecting the waste-port of  
the motor with the generating-chamber, and  
a controlling-valve in the water-supply pipe

operatively connected with the movable tank  
of the gas-holder, substantially as set forth.

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