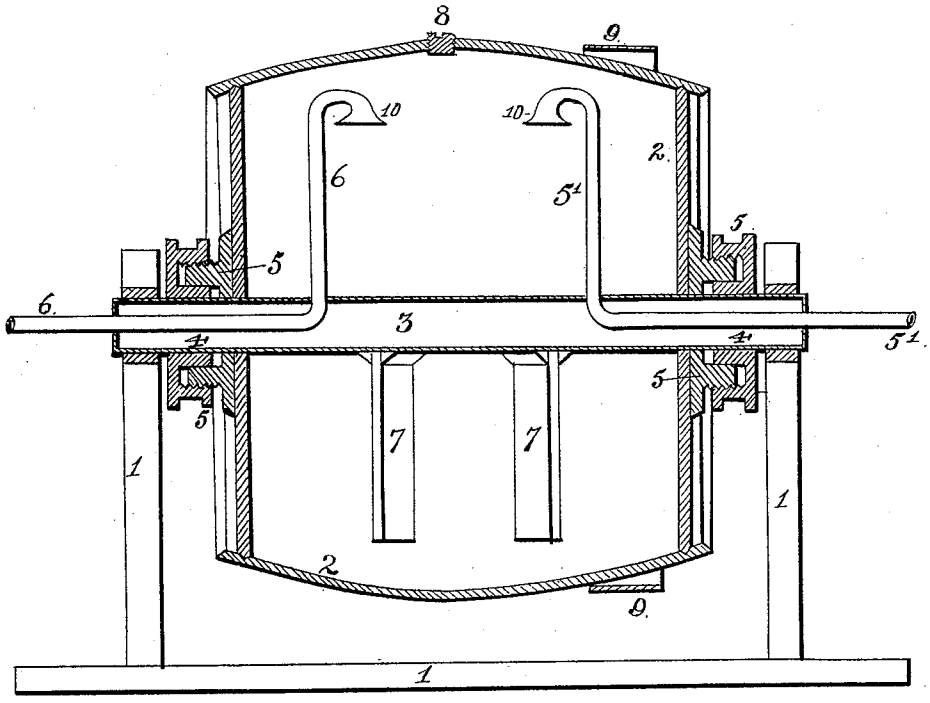
(No Model.)

C. W. GIBSON.

GAS GENERATOR.

No. 436,975. Patented Sept. 23, 1890.



Witnesses
A. N. Buzzitt,
F. W. Johnson.

Inventor
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UNITED STATES PATENT OFFICE.

CHAUNCEY W. GIBSON, OF DETROIT, MICHIGAN.

GAS-GENERATOR.

SPECIFICATION forming part of Letters Patent No. 436,975, dated September 23, 1890.

Application filed January 24, 1890. Serial No. 337,915. (No model.)

To all whom it may concern:

Be it known that I, CHAUNCEY W. GIBSON, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Gas-Generators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the figures of reference marked thereon, which forms a part of this specification.

My invention relates to gas-generators.

The objects of my improvements are to produce a carbonic-acid-gas generator of simple and efficient construction, as will be more particularly hereinafter set forth. To effect these objects my invention consists in the following construction and combination of parts, which will first be fully described, and the features of novelty then set forth in the claims.

The drawing is a central vertical section of a device embodying my improvements.

In the drawing, 1 1 represent any suitable standards or frame for supporting the operating parts of my invention.

2 is a revolving barrel or chamber, which may be of any suitable shape or dimensions.

3 is a hollow stationary axle passing centrally and longitudinally through the barrel.

The bearings 4 4 of the barrel upon the axle are provided with stuffing-boxes 5 5, which prevent the escape of the contents during the revolution.

5′ represents an inlet-pipe which enters axially through the stationary axle 3 and thence extends upwardly into the interior of the barrel.

6 is the outlet-pipe, which is similarly arranged as the inlet-pipe, and both are preferably provided at their inner ends with an opening facing downwardly.

7 7 are vanes or wings bolted or otherwise secured to the stationary axle 3. These wings are preferably inclined with the same or opposite inclinations, so as to cause side or diverse currents along the length of the barrel during its revolution for the more thorough agitation and aeration of the contents.

8 is the bung or other opening in the barrel or chamber.

9 is a pulley formed upon the circumference of the barrel, by means of which power is applied through a belt. The pulley may, however, be upon the side or end of the barrel, or on the stuffing-box or other suitable place.

I have designed this generator for the production of carbonic-acid gas; but it may be used for other purposes.

In operation I place in the barrel marble-dust, carbonate of soda, bicarbonate of soda, and water, in the usual proportions. Power is applied and the barrel caused to revolve, which thoroughly mixes the contents. Sulphuric acid is then run into the cylinder or barrel through the inlet-pipe 5 and drops into the contents while in motion. Carbonic-acid gas is thereby formed, which passes out through the outlet-pipe 6 to any suitable gasometer, from which it is condensed for use.

In my apparatus I use no copper or other metals which would tend to adulterate the gas. The gas passes away from the generator without pressure, and, owing to the improved construction, no particles of marble-dust, sulphuric acid, or other impurities can be carried away with the gas. An increased amount of gas is made from the same materials with my generator.

As the gas is generated under little or no pressure, it may be filtered in any number of baths very readily, and, owing to the same fact, it is next to impossible to generate an impure gas with my apparatus.

I deliver the sulphuric acid and remove the resulting gas from the upper portion of the rotary generator. By means of this construction I get a purer gas than is otherwise attainable where the outlet-pipe is located farther down.

The rapid rotary motion of the generator, even when it has but very little material in it, serves to carry the marble-dust and other matter up its sides and drop them into the outlet-opening unless the same is located at the extreme top of the chamber.

To further aid in obtaining a very pure gas, the inlet and outlet pipes are inverted at their discharge and inlet ports 10 10 and flared, so that no particles which may adhere and be carried around the inner periphery of the chamber may fall therein and impair the efficiency of the apparatus.

I claim—

1. The combination of a rotating chamber with an opening, as 8, a stationary axle therefor, and inlet and outlet pipes extending up and opening into the upper portion of the cylinder or chamber through said axle.

2. The combination of the rotating chamber having an opening, as 8, and its stationary axle, an inlet-pipe opening into the upper part of the chamber, both pipes leading through such axle, an outlet-pipe also opening into the upper part of the chamber, and oblique deflecting-wings secured to the axle.

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

CHAUNCEY W. GIBSON.

Witnesses:
H. D. W. GIBSON,
ED. J. CAMERON.