F. W. WIESEBROCK.

AUTOMATIC CARBONIC ACID GAS GENERATORS.

No. 190,396. Patented May 1, 1877.

Fig. 1.

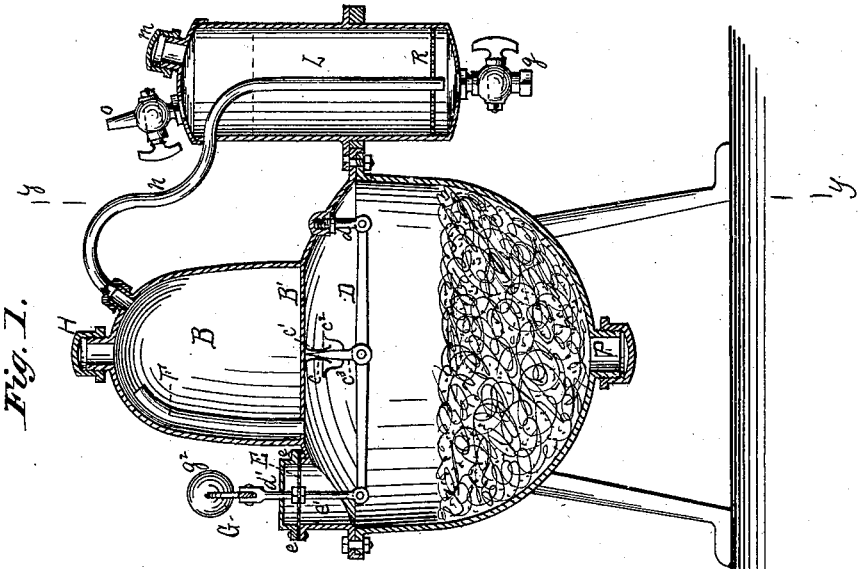
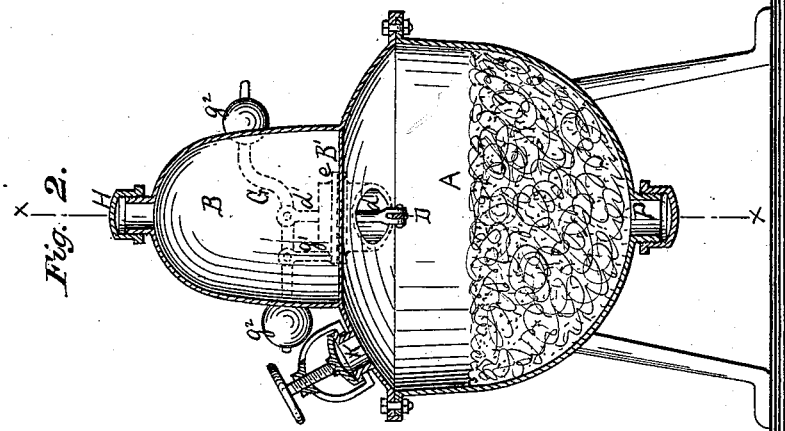


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

FREDERICK W. WIESEBROCK, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN AUTOMATIC CARBONIC-ACID-GAS GENERATORS.

Specification forming part of Letters Patent No. **190,396**, dated May 1, 1877; application filed November 9, 1876.

To all whom it may concern:

Be it known that I, FREDERICK W. WIESEBROCK, of Brooklyn, in the county of Kings and State of New York, have invented an Improved Automatic Carbonic-Acid-Gas Generator, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, and the letters of reference marked thereon, making part of this this specification, in which—

Figure 1 is a cross-section on the line *x x*, Fig. 2. Fig. 2 is a cross-section on the line *y y*, Fig. 1, one of the pipes being removed.

The object of my invention is the construction of an automatic device by means of which the carbonic-acid gas can be generated and supplied to the beer-keg at the same time.

The nature of my invention consists in regulating the flow of the acid, at will, into the generator by means of an automatic valve, and also the pressure of the gas, as more fully hereinafter described.

The construction and operation of my invention are as follows:

A is the gas-generator, which is constructed out of any suitable material, and in any convenient form. This generator is provided with a bung, K, by means of which it is charged with marble chips, or other suitable carbonate and water, and has at its bottom a discharge-bung, P. B is the acid-chamber, having a bung, H, at its top, by means of which it is charged. To the bottom B′ of the acid-chamber, and within the generator A, is attached the valve-seat c^1, in which rests the valve *c*, which, as shown in the drawing, is conical in shape. To the valve-stem c^3 is secured a cup, c^2, which has for its object the reception of any acid which may drip from the chamber B, and also preventing any acid from falling on the lever D, thus destroying the same. D is a lever, which is pivoted to the arm *d*, secured to the top of the generator A, and is attached to the valve-stem c^3. The other end of this lever D is secured to a rod, *d′*. This rod *d′* is attached to and passes up through a flexible diaphragm, E, secured in suitable bearings *e e* in a short cylinder, *e′*, attached to the top of the generator A. To the other end of this rod *d′* is secured the regulating-lever G, which is pivoted to an arm, g^1, secured to the top of the generator, and provided with movable weights g^2 g^2, one at each end of the lever. F is the equalizing-pipe, which extends from the bottom of the acid-chamber B to its top, and is connected at its lower end with the generator A.

The object of this pipe is to equalize the pressure of the gas in the chamber B, so as to have the same pressure in this chamber as in the generator. L is a cylinder, in which the gas is washed or purified. This cylinder is filled with water, up to about the point indicated by dotted lines in Fig. 1. R is a perforated bottom secured in the lower section of the cylinder L, through which the gas, in finely-divided particles, is forced up through the water in the cylinder and washed. *n* is a pipe secured at one end to the dome of the chamber B, its other end extending down through the perforated bottom R, to near the bottom of the cylinder L. *m* is the bung through which the cylinder is charged, and *o* is the exit-pipe, both of which are located in the top of the cylinder L. To the bottom of the cylinder is attached the discharge-cock *g*.

The operation is as follows: The generator A is supplied with a sufficient quantity of marble chips, or other suitable carbonate and water, through the bung K, and the acid-chamber B is supplied with acid through the bung H. The weights g^2 g^2 on the lever G are adjusted to suit the pressure of the acid required. Then, as the pressure in the generator A becomes less than the pressure of the weighted lever G, the rod *d′* is pressed down, which opens the valve *c*, and allows the acid to flow into the generator, until there is a sufficient quantity of gas generated to overcome the pressure of the weighted lever G. This gas then presses upon the flexible diaphragm E, lifting the lever D and closing valve *c*. The gas, as generated, passes up through the pipe F, into the top of the chamber B, from whence it passes through the pipe *n*, down to the bottom of the purifying-cylinder L. From thence it passes up through the perforated bottom R in finely-divided particles,

through the water, by means of which it is washed or purified, and out through the exit-tube *o* into the beer barrel or keg.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

In a carbonic-acid-gas generator, the combination of the acid-chamber B, valve *c*, valve-lever D, flexible diaphragm E, weighted lever G, equalizing-pipe F, and generator A, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

F. W. WIESEBROCK.

Witnesses:
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