

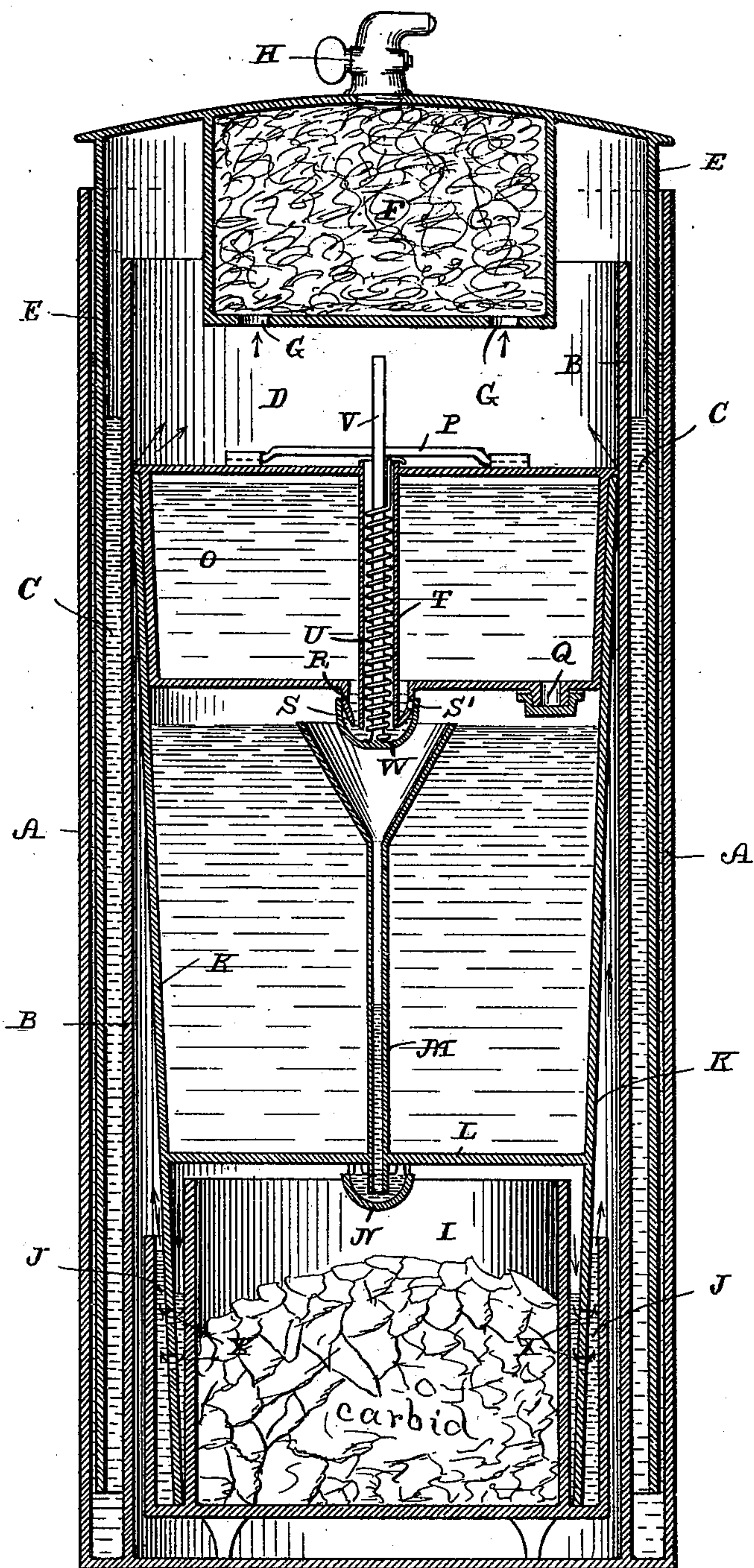
No. 667,161.

Patented Jan. 29, 1901.

W. J. BAULIEU.
ACETYLENE GAS GENERATOR.

(Application filed June 23, 1900.)

(No Model.)



Witnesses

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WILLIAM J. BAULIEU, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF TO JOHN D. CARPENTER, OF SAME PLACE.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 667,161, dated January 29, 1901.

Application filed June 23, 1900. Serial No. 21,294. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. BAULIEU, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Portable Acetylene-Gas Generators, of which the following is a specification.

My invention relates to new and useful improvements in portable acetylene-gas generators, and refers especially to the smaller types of machines of one or two burner capacity. These machines may be used similar to a lamp for lighting separate or independent rooms of a building, or they may be used for stagework, as a street-light, and in many other places.

It is the object of my invention to produce a compact water-feed machine of the above class which is simple in construction, convenient to operate, and easily cleaned and recharged; further, to make it automatic in its feeding operations, and finally to secure an improved quality of gas.

With the above objects in view my invention resides and consists in the novel construction and combination of parts illustrated in the accompanying drawing, forming a part of this specification, upon which characters of reference are used to designate the several parts thereof, and in which a central vertical cross-section of my complete generating apparatus is shown.

Referring in detail to the characters of reference marked upon the drawing, A indicates a cylindrical tank, of which B represents an inner wall therefor, forming an annular water-seal chamber C and an internal cylindrical compartment D, as will be apparent from the drawing.

E represents a bell, the depending flange of which is submerged in the water seal C more or less, in accordance with the quantity of gas contained within said bell. To the under side of this bell I attach a purifier F, which is formed of sheet metal, and is provided with perforations G in its bottom and an outlet-cock H in the top through which the gas is fed to one or more burners, as may be desired. The compartment F, as will be seen, is packed with cotton or a similar material in

any suitable manner to form a straining and purifying device for the gas as it passes through said chamber for consumption.

In the bottom of the inner cylinder D, I arrange my carbid-pot I, which is provided with suitable legs, as shown, and is encircled with an annular water seal J, which also serves to cool the carbid, as will be obvious. The carbid-pot is inclosed by a tubular body K, which contains a transverse partition L, as shown. The lower contracted extremity of the tube K is provided with perforations X and is submerged in the water seal before mentioned. The upper end of this tube is of a somewhat-greater diameter than the bottom, and in consequence engages the inner wall D. To the partition L of this tube I attach a vertically-disposed funnel M, which is surrounded with water for cooling purposes. Beneath the exit or lower extremity of this funnel M is a cup N, which forms a water seal for said funnel, as will be seen. The purpose of this funnel and construction is to lead the water down onto the carbid and also to prevent the passage of gas therethrough. Within the upper end of the tube K, I place a water-tank O, having a filling-hole Q, and a handle P, by means of which it is lifted out for refilling when exhausted or when the machine is to be recharged. Central of this tank is a pipe T, forming a wall of an opening therethrough, and in it I arrange a spring U and a stem V. Surrounding the lower end of this pipe I provide the tank with a nipple R, having a water-exit hole S and a vent S'. To the lower end of the stem V, I attach a cap W, which normally covers the nipple and its openings, and in connection therewith it will be apparent that the action and purpose of the spring is to hold the cap W up against the nozzle of the tank in a manner to cover the vent S' and prevent the escape of water from said tank, and likewise to cause the feeding of the water from said tank when the bell drops.

The operation of my machine is as follows: Beginning with the parts in the position as shown in the drawing, it will be seen that the bell is slightly elevated by reason of a supply of gas therein. As this gas is consumed through cock H the bell gradually settles

down into its seal, causing the bottom edge of the purifier to engage the valve-stem V in a manner to force the cap W away from the nozzle of the tank, affording a vent through opening S' and causing a flow of water through the opening S into the cup, from which it overflows into the funnel M, passing down through the same into the cup N, from which it runs over onto the carbid. The gas rises from the carbid against the partition L and is deflected down into the water seal J, where it is washed and passed through perforations X of the tube, rising up from the water seal around the outside of the cooling-tube K and emerging out at its extremity, (see arrow,) between it and the inner wall B under the bell, thus raising the same from the stem V, the spring of which acts to cut off the flow of water.

By reason of this construction it will be noted that an automatic water-feed is afforded and that the same is fed in very small quantities to the carbid, thus generating a small percentage of gas at each feeding operation.

The construction of the valves and feed mechanism of my device is such that the water is entirely under control, and leakage from the tank is accordingly prevented. It is furthermore true that with the construction referred to both the carbid and gas are kept cool and the generating of steam and moisture is avoided.

When it is desired to recharge or clean this machine, it is necessary, of course, to first remove the bell, with its purifier, then to lift out the water-tank O by means of its handle, whereupon the cooling-tube K can be removed and the carbid-pot proper taken out, cleaned, refilled with carbid of the desired quantity, and its water seal likewise replaced. The several parts can then be replaced in their respective order, whereupon the bell will naturally settle down upon the stem in a manner to generate a small quantity of gas, thus placing the machine in readiness for lighting.

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

1. In a portable acetylene-gas-generating apparatus, the combination with a tank and

an expansible bell, of a carbid-holder having an annular water-chamber, a tubular body seated in said water-chamber having suitable perforations therethrough and a transverse partition, a funnel-like pipe mounted in said partition, with its outlet upon the under side, a cup covering said outlet to form a water-feed and gas-trap, a water-tank with means for automatically feeding water therefrom into the funnel, as, and for the purpose set forth.

2. A portable gas-generator comprising a tank and bell, a tube fitted therein and having a transverse partition, a carbid-pot with a water seal inclosed by the lower end of said tube, a detachable water-tank seated in the upper end of the tube, a nipple on said tank having a water-exit and vent, a spring-actuated cap covering said nipple and provided with a stem for engagement by the bell, a pipe arranged below the cap and leading to the carbid-pot, a water-feed and gas-trap for said pipe, substantially as described.

3. In a generator of the class described, the combination of a carbid-holder, a water-sealed tubular covering for the same, means to permit the gas to escape from said holder through said water seal, a water-chamber in said tube above the carbid, a water-tank above said chamber, means for automatically feeding water therefrom, a funnel to receive said water and convey it to the carbid-holder, a water seal for said funnel.

4. In an acetylene-gas generator, the combination with an annular tank, of a bell mounted therein, a cotton-packed purifier arranged beneath said bell, a carbid-pot located interior of said tank and provided with an annular water seal a tubular body seated in said water seal, a water-tank located in said tube and provided with a water-outlet and vent, a spring-actuated cap for closing said outlet and seal, a pipe for receiving the water from said cap and conveying it to the carbid-pot, and a water seal for said pipe.

Signed at Bridgeport, Fairfield county, Connecticut, this 19th day of June, 1900.

WILLIAM J. BAULIEU.

Witnesses:

C. M. NEWMAN,
J. D. CARPENTER.