

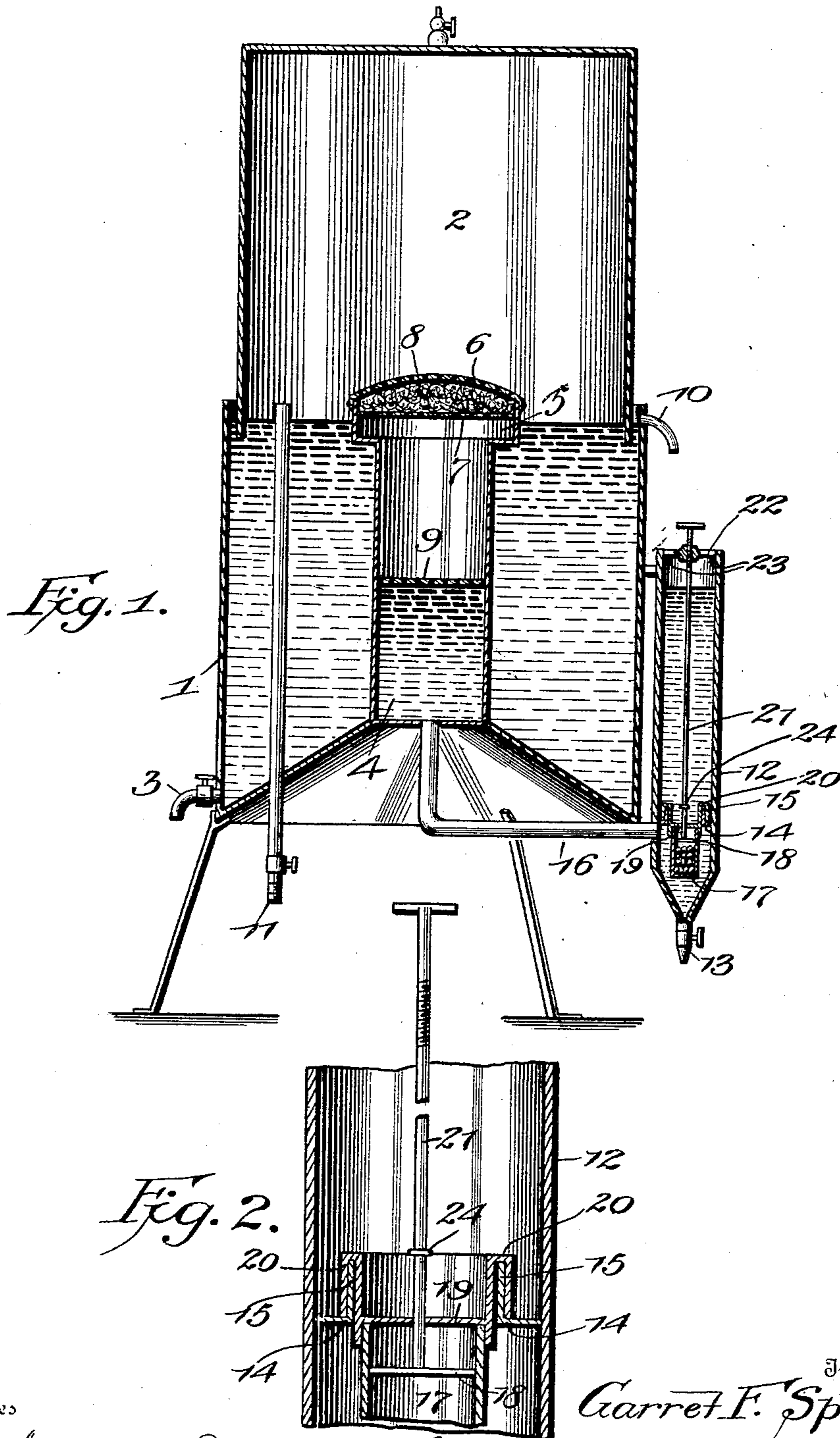
No. 625,426.

Patented May 23, 1899.

G. F. SPEER.
ACETYLENE GAS GENERATOR.

(Application filed Mar. 1, 1899.)

(No Model.)



Witnesses

A. Roy Appleman
J. C. Wilson

Inventor,
Garret F. Speer.

by A. B. Wilson & Co.

Attorneys

UNITED STATES PATENT OFFICE.

GARRET F. SPEER, OF CANISTEO, NEW YORK.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 625,426, dated May 23, 1899.

Application filed March 1, 1899. Serial No. 707,394. (No model.)

To all whom it may concern:

Be it known that I, GARRET F. SPEER, a citizen of the United States, residing at Canisteo, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Acetylene-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.

The invention has relation to acetylene-gas generators; and the object is to simplify the construction and provide a generator of this character which may be manufactured at small cost and which will be positive in its actions and reduce to a minimum the liability of explosion.

With this object in view the invention consists in certain features of construction and combination of parts which will be herein-after fully described and claimed.

In the drawings, Figure 1 is a vertical sectional view illustrating my invention. Fig. 2 is a fragmentary sectional view of the carbide-holder, showing the manner in which its cover engages and is removed from the holder by the flange in the gas-generating chamber.

In the drawings, 1 denotes the tank, and 2 the holder arranged within the tank and separated therefrom by a water seal. The bottom of the tank is preferably conical and is provided with a draw-off cock 3.

4 denotes a vertically-disposed chamber which contains water and acts as a scrubber. The upper end of this chamber is enlarged, as shown at 5, and is provided with two perforated diaphragms 6 and 7, between which is clamped a sponge 8, which acts as a drier for the gas. 9 denotes a perforated float situated within said scrubber-chamber. This float serves to break up the bubbles caused by the flowing of gas through the scrubber, so as to present it in a fine aerated condition to the drier. By this breaking up of the bubbles the sulfureted and phosphoreted hydrogen is nearly all liberated, and when the gas reaches the sponge or drier it is nearly pure and is rendered absolutely pure by passing through the drier.

10 denotes the water-overflow pipe, secured to the upper end of the tank, and 11 denotes the gas-outlet pipe, which has one end pro-

jecting upwardly through the tank above the water-level and the other end leading to the point of consumption.

12 denotes the generator-chamber, which is preferably provided with a tapering base having a draw-off cock 13. This chamber is provided near its lower end with an annular flange 14, having an upturned edge 15.

16 denotes a pipe which establishes communication between the generating-chamber and the scrubber-chamber, the two chambers having the same water-level.

17 denotes the carbide-holder, the upper end of which is provided with a cross-bar 18.

19 denotes a cover which tightly fits the upper end of said holder and is provided with an annular inverted-U-shaped flange 20, which is adapted to cooperate with the vertical edge 15 of the flange 14.

21 denotes a rod the lower end of which is fixed to the cross-bar 18 and the upper end of which is screw-threaded and passes through a threaded bar 22, held in position at the upper end of the generator-chamber by lugs 23.

In charging the generator-chamber the carbide-holder is first filled with calcium carbide and its cap or cover forced firmly upon its open end. In this position the holder is forced downward through the water contained in the generating-chamber and the bar 22 engaged with the lugs 23 at the upper end of the chamber. Now when it is desired to generate the gas the rod 21 is screwed downward, thus bringing the U-shaped flange 20 into engagement with the upturned edge 15 of the annular flange 14 and forcing the holder away from its cover, thus allowing the water to come in contact with the calcium carbide and generate the gas, which passes through the pipe 16 into the scrubber 4, from thence through the drier, and out into the gas-holder.

To prevent the cover sliding too far upward on the rod 21 after it has been separated from the carbide-holder, I provide the rod with a stop-shoulder 24. Thus it will be seen that after the carbide-holder has been forced away from the cover this stop 24 will bear against the cover and hold the U-shaped flange down firmly against the upturned edge 15 of the flange 14 and prevent the escape of gas at that point.

It will of course be understood that various

changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

5 Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

10 1. In an acetylene-gas generator, the combination with the generator-chamber, of a carbid-holder adapted to be submerged within said chamber, said holder being provided with a cover, and said chamber being provided with means for separating the cover from the holder when the latter is submerged within
15 the chamber, substantially as and for the purpose set forth.

20 2. In an acetylene-gas generator, the combination with the generating-chamber having an annular flange arranged therein, of a carbid-holder having a cap or cover, provided with a U-shaped flange to engage the flange of the generator-chamber, and a rod fastened to the holder and extending through the cover

thereof, and provided with a stop-shoulder, substantially as and for the purpose set forth. 25

3. In an acetylene-gas generator, the combination with the generator-chamber having an annular flange provided with a vertical edge, and a pipe leading from said generator below said flange; of a carbid-holder having
30 a bar secured across its top, a cover for said holder having an inverted-U-shaped flange, a rod loosely engaged with said cover and fastened to the bar in the holder, a bar removably secured to the top of the generator-chamber and provided with screw-threads to engage the upper threaded end of said rod, substantially as and for the purpose set forth. 35

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 40

GARRET F. SPEER.

Witnesses:

CHARLES C. BURRELL,
A. M. BURRELL.