

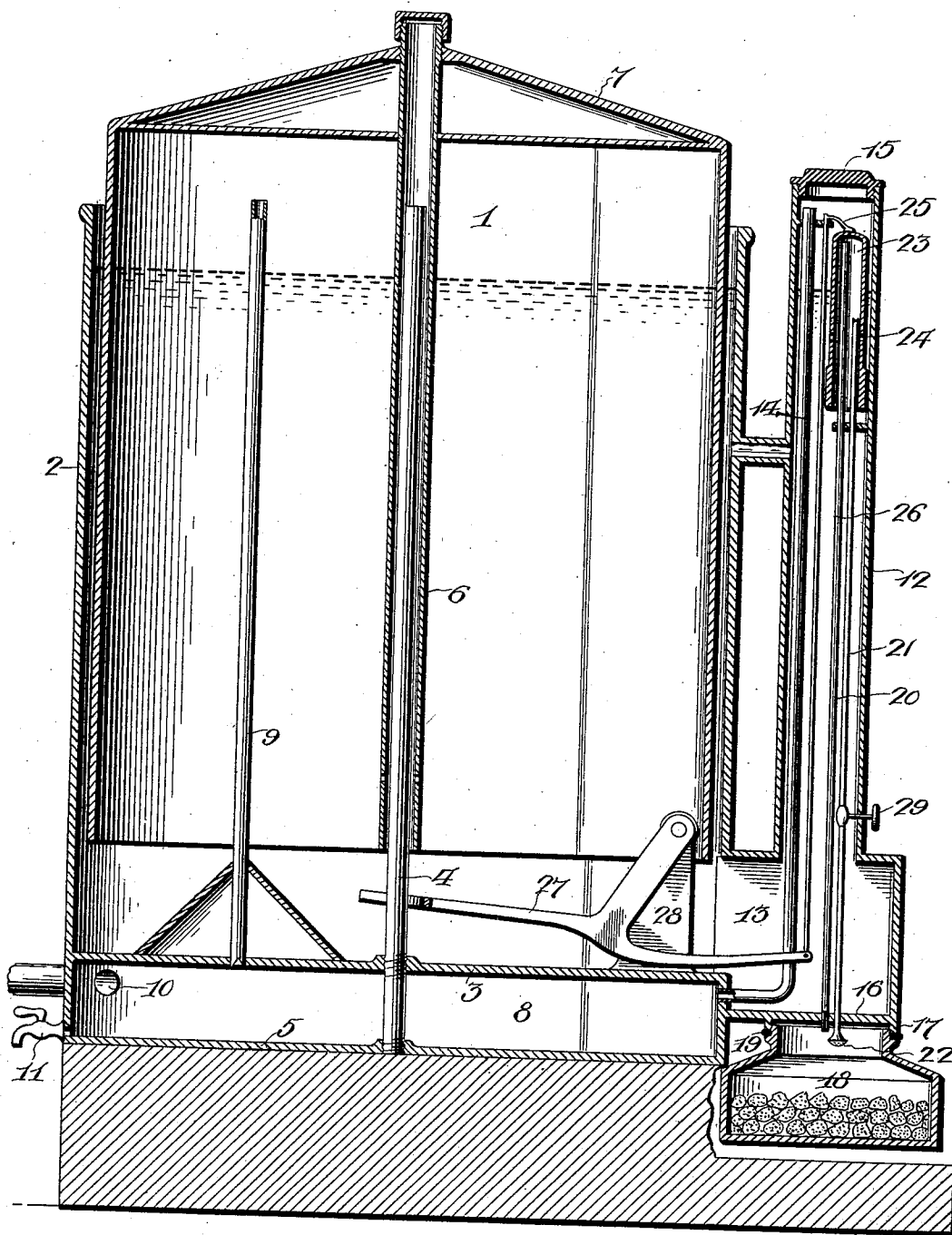
No. 643,887.

Patented Feb. 20, 1900.

W. W. PITTS.
ACETYLENE GAS GENERATOR.

(Application filed July 22, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM WIRT PITTS, OF HILLSBOROUGH, TEXAS.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 643,887, dated February 20, 1900.

Application filed July 22, 1899. Serial No. 724,799. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WIRT PITTS, a citizen of the United States, residing at Hillsborough, in the county of Hill and State of Texas, 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 relates to certain novel improvements in acetylene-gas generators; and the object is to improve and simplify the construction, increase the efficiency, and provide a practically-automatic device of this character.

To this end the invention consists in certain features of construction and combination of parts, which will be hereinafter fully described and claimed.

In the accompanying drawing the figure is a vertical transverse section of an acetylene-gas generator and holder embodying my invention.

In the drawing the same reference characters indicate the same parts of the invention.

1 denotes the gas-holder, and 2 its tank, which is formed with a false bottom 3, through which a standard 4, fixed in the main bottom 5, rises, and which serves as a guide for the telescoping tube 6, fixed in the top 7 of the holder 1. The space between the bottoms 3 and 5 forms a condensing-chamber 8, from which a pipe 9 leads to the bell above the water-level in the tank 2.

10 denotes the gas-outlet pipe leading from the chamber 8, and it communicates with the service-pipes, (not shown,) and 11 designates a drip-cock to remove the water of condensation from the chamber 8.

12 denotes the water-supply chamber fixed to and communicating with the tank 2 through the medium of the passage-way 13, so that said tank and communicating chamber will have a common water-level, as shown by the horizontal dotted line in the upper part of the figure on the drawing.

14 denotes the gas-outlet pipe leading from the upper end of the chamber 12 and opening into the chamber 8. The upper end of the generator-chamber 12 is provided with a screw-cap 15 and its lower end is provided

with a bottom 16, having an annular internally-threaded flange 17 to receive the externally-threaded neck of the carbid-chamber 18, which is removably secured thereto, so as to form an air-tight joint with the chamber 12 by means of the packing-ring 19.

20 denotes the gas-outlet pipe leading from the carbid-chamber and which extends into the chamber 12 at a suitable distance above the water-level.

21 denotes the water-supply pipe, extending from a point about four inches below the water-level in the generator-chamber and terminating in a spray-nozzle 22 in the carbid-chamber.

23 denotes a weighted bell or hood encompassing the upper open ends of the gas and water pipes 20 21 and provided with an annular series of horizontally-arranged orifices 24, which normally extend below the water-level, as shown, and this bell 23 is suspended from an arm 25, carried on the upper end of a vertical rod 26, the lower end of which is pivoted to a lever 27, fulcrumed on a vertical bracket 28, fixed to the bottom 3 of the tank 2, and the opposite end of this lever is forked to straddle the guide-post 4 and project into the path of the lower end of the guide-sleeve 6.

29 designates a stop-cock in the feed-water pipe 21, by means of which the water-supply is cut off while recharging the generator.

The operation is as follows: The carbid-chamber being charged, the gas for use is drawn from the condensing-chamber and bell through the outlet-pipe 10, thereby causing the bell or holder to lower in the tank and carry down with it the guide-sleeve 6, the lower end of which comes in contact with the contiguous end of the lever 27, causing its opposite end to raise the rod 26, which in turn lifts the bell 23 until the perforations or orifices 24 are on a level with or slightly above the upper open end of the feed-water pipe 21, thus permitting the water to enter the pipe 21 and flow into the carbid-chamber and generate gas, which passes up through the pipe 26 into the space above the water-level in the bell 23, then down and out through the perforations or orifices 24 in the bell 23, and bubbles up through the water in the chamber 12 and downward through the pipe 14 into the condensing-chamber 8 and up through the pipe 9

into the gas holder or bell 1, thereby raising the bell and releasing the lever 27, which, being relieved of its weight and by gravity the rod 26, lowers the bell 23 and stops the flow of water in the feed-pipe 21.

If from any cause the connections between the lever 27, rod 26, and bell 23 should be interrupted, the weighted bell 23 would drop down and rest on top of the pipe 20, and the perforations or orifices 24 would then be below the open end of the pipe 21, thereby stopping the inflow of water and generation of gas, regardless of the other conditions of the machine, and rendering the same inoperative and prevent the generation and waste of gas.

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 principle or sacrificing any of the advantages of this invention.

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

1. A generator of the class described comprising the chamber 12, the tank communicating with said chamber, and the gas-holder mounted in said tank, the carbid-chamber, the pipes 20 21 connecting the carbid and chambers and having their upper ends terminating respectively above and below the water-level of the chamber, the orificed bell or hood 23 encompassing the open ends of said

pipes, and means substantially as described for communicating a vertical movement to said bell or hood through the medium of said gas-holder, as and for the purpose set forth.

2. The tank 2 provided with the bottoms 3 and 5, the latter forming the condenser-chamber 8, the vertical gas-pipe 9, and the outlet-pipe 10, the vertical standard 4, the gas-holder 1 and its guide-sleeve 6 encompassing said standard, the chamber 12 communicating with said tank, the carbid-chamber detachably suspended from said chamber, the gas-pipe 20 extending from said carbid-chamber to a point above the water-level in said chamber, and the water-pipe 21 extending from said carbid-chamber to a point below the water-level in said chamber, the pipe 14 extending from a point above the water-level in the chamber to the condenser-chamber, the lever 27 mounted in the tank and having its free end extending into the path of the guide-sleeve 6, the rod 26 pivoted to said lever, and the orificed bell 23 suspended from said rod and encompassing the open upper ends of said gas and water pipes 20 21, substantially as and for the purpose set forth.

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

WILLIAM WIRT PITTS.

Witnesses:

WALTER COLLINS,
JOHN S. KIRK.