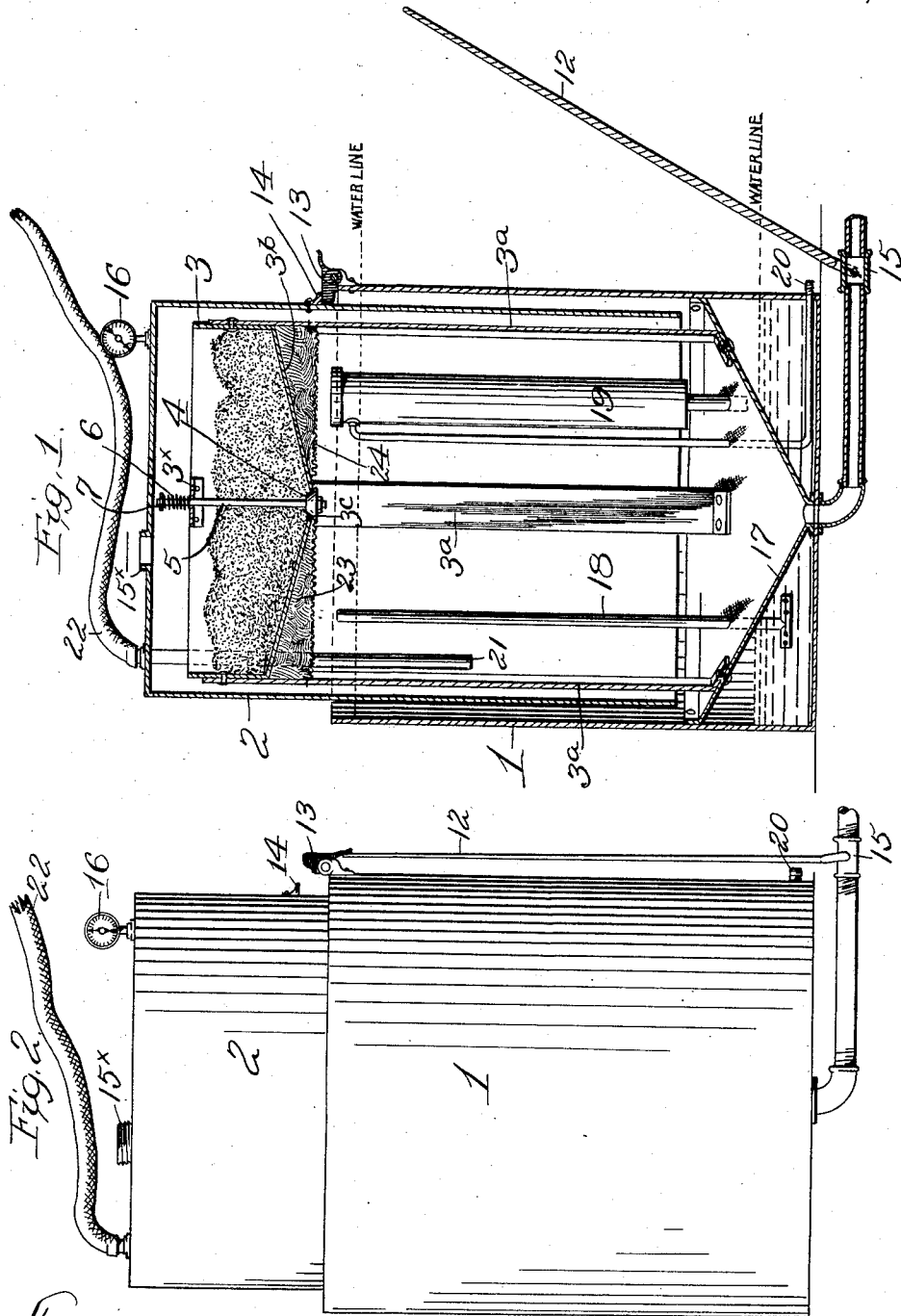


J. H. MINER.
ACETYLENE GAS GENERATOR.
APPLICATION FILED MAR. 8, 1911.

1,016,843.

Patented Feb. 6, 1912.



Witness.
Bent M. Stahl,
L. B. Middleton

Inventor.
James H. Miner.

by Spear Middleton Donaldson & Co.
Attys.

UNITED STATES PATENT OFFICE.

JAMES HENRY MINER, OF LUMBERTON, MISSISSIPPI.

ACETYLENE-GAS GENERATOR.

1,016,843.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed March 8, 1911. Serial No. 613,069.

To all whom it may concern:

Be it known that I, JAMES H. MINER, citizen of the United States, residing at Lumberton, Mississippi, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

My present invention relates to improvements in acetylene gas generators, and has for its object to provide an extremely simple, durable, economical and efficient construction in which all danger of explosions, when recharging, shall be reduced to a minimum or entirely eliminated.

The invention includes the novel features of construction hereinafter described and particularly pointed out in the appended claims.

A generator constructed in accordance with my invention is illustrated in the accompanying drawing, in which—

Figure 1 shows the device in central vertical section and Fig. 2 is an elevation showing the catch out of engagement with the lug.

Referring by reference characters to this drawing, the numeral 1 designates a water tank, open at its upper end, and 2 a gas drum or bell, open at its lower end, and located within the water tank and adapted to be freely movable vertically therein. Within the gas drum or bell is located a carbide receptacle 3 which is supported from the bottom of the tank by a suitable supporting member 3^a having openings for the passage of the gas, and provided with a bottom 3^b of inverted cone shape which terminates in a delivery opening 3^c. The carbide receptacle and its supporting member constitute a guide for the gas bell. The delivery opening 3^c is normally closed by a valve 4 mounted on the lower end of a valve spindle 5 extending upwardly through the carbide receptacle, and through a cross bar 3^x on the top of the receptacle. A spring 6 surrounds the spindle between a cross pin or abutment 7 and the cross bar 3^x, and tends to draw said stem upwardly and keep the valve closed.

The spring, as above stated, normally keeps the valve closed so that no carbide can drop into the water, but as the volume of gas beneath the bell decreases due to the gas being drawn off through the outlet pipe 20 and the necessity for more carbide, the bell lowers until the upper end of the valve stem or spindle contacts with the top of the bell.

This forces the spindle down against the pressure of the spring, opening the valve and permitting carbide to drop through into the water until the pressure of the generated gas is sufficient to raise the bell, when the spring immediately closes the valve and cuts off a further feed of carbide.

When it is desired to stop the generation of gas for the purpose of refilling the machine, or for any other reason, the lever 12 is operated to throw the trip or latch 13 carried by the top of the tank, into the path of the lug 14 secured to the bell in such a position that when the lug and latch are in engagement, the top of the bell is held above the end of the spindle 5 and the valve remains closed. The operation of the lever opens the waste outlet 15, and as the water level lowers the gas pressure is reduced in the bell. On top of the bell is provided a gage 16 for registering the gas pressure. When the gage registers zero or a slight vacuum, the cock 15 is closed and the machine is then ready for refilling. The carbide receptacle may now be filled through the filling opening 15^x, whereafter, on filling the water tank to the level indicated by the upper water line, the bell is raised by the pressure imparted to the gas left within the bell. The gas outlet cock now being opened, the operation hereinbefore described as to the generation of the gas is repeated.

The tank is provided with a second cone shaped bottom 17, partly filled with water, into which leads the pipe 18 for carrying off the gas generated. The pipe 18 ends in a T, which is below the water level beneath the second bottom, so that as the gas passes through the T, it is caused to pass through the water and is thus cleaned. The gas then enters the filter 19 and escapes from this filter by way of the pipe 20, which is connected to the main.

For carrying off an over charge of gas, there is provided a pipe 21 connected to the top of the bell and extending down into the water in the tank. The top of the pipe is connected by a flexible hose 22, with the outside of the building. Thus, should there be an overcharge, the bell will rise until the end of the pipe 21 is above the water level and the gas will escape through this pipe.

Below the bottom 3^b is provided a felt filling 23, resting on a support 24 situated above the water level. This felt is to prevent moisture forming on the inside of the

carbid holder caused by the change of temperature from the heat generated as the carbid drops in the water. This felt also acts as an additional filter, as a large portion of
5 the dust collects in this.

I claim as my invention:

1. An acetylene gas generator comprising a water tank, a bell therein and means for simultaneously stopping the downward
10 movement of the bell and lowering the water level to reduce the gas pressure.

2. An acetylene gas generator comprising a water tank, a bell movable therein, a

carbid receptacle within the bell, means operated by the downward movement of the bell for feeding carbid, a catch for preventing the downward movement of the bell, a
15 refuse controlling cock and a lever for opening said cock and for throwing the catch into operation.

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

JAMES HENRY MINER.

Witnesses:

PERCY VAUGHAN,
L. C. PIGFORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."