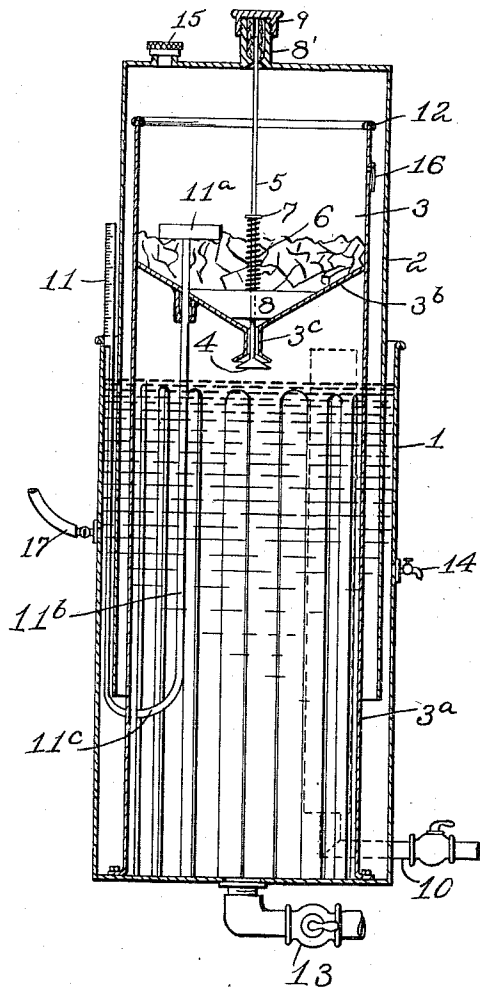


J. H. MINER.
ACETYLENE GAS GENERATOR.
APPLICATION FILED OCT. 8, 1910.

1,005,865.

Patented Oct. 17, 1911.



Attest.
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UNITED STATES PATENT OFFICE.

JAMES H. MINER, OF LUMBERTON, MISSISSIPPI.

ACETYLENE-GAS GENERATOR.

1,005,865.

Specification of Letters Patent.

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Application filed October 8, 1910. Serial No. 535,949.

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 claim.

A generator constructed in accordance with my invention is illustrated in the accompanying drawing, in which the figure shows the same in vertical section.

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 carbid receptacle 3 which is supported from the bottom of the tank by a suitable supporting standard 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 carbid receptacle and its supporting member constitutes 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 carbid receptacle to near the upper end thereof, a spring 6 surrounding the spindle between a cross pin or abutment 7 and the guiding member 8 tending to draw said stem upwardly and keep the valve closed. The upper end of the valve spindle 5 is in line with a tubular extension 8' on the top of the bell (which is preferably slightly flared at its lower end to facilitate the entrance of the spindle therinto) and is provided with a stuffing box to make a gas tight joint with the rod, and also with a screw cap or closure 9.

The spring, as above stated, normally keeps the valve closed so that no carbid can drop into the water, but as the pressure of

gas beneath the bell lowers due to the gas being drawn off through the outlet pipe 10 and the necessity for more carbid, the bell lowers until the upper end of the valve stem or spindle passes into the extension 8', and contacts with the closure 9. This forces the spindle down against the pressure of the spring, opening the valve and permitting carbid 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 carbid.

It is of the utmost importance, to insure absolute safety, that the interior of the carbid chamber should be completely cut off from the interior of the bell or gas chamber when renewing the supply of carbid. To accomplish this, I provide the upper edge of the carbid receptacle with a packing 12, which, when the bell has dropped to its lowest position for recharging the carbid chamber, will contact with the interior face of the upper wall or top of the bell and form a gas tight joint.

An indicator 11 is provided to show the height of carbid within the carbid receptacle, which comprises a weighted follower 11^a within the carbid chamber carried by one arm 11^b of a U-shaped rod which passes through a suitably packed opening in the bottom of the carbid holder, the bend 11^c passing through between the standards and the other arm extending up between the bell and tank and provided with suitable graduations to coact with the top edge of the tank. When the indicator shows that the carbid level has lowered to such an extent that the receptacle needs recharging the cocks 13 and 14 are opened, the outlet through 13 removing the deposit in the bottom of the tank. As the rod 5 enters the opening 8 the stuffing box acts to seal the outlet to the passage of gas, whereupon the cap 9 is removed. The withdrawal of the water is continued until the flow through cock 13 ceases when cocks 13 and 14 are both cut off. The lowering of the water level to this extent will remove all pressure from within the bell, and in fact produce a rarefaction which will result in the opening of check valve 16 (which may be a simple flap valve) allowing the excess of gas within the carbid receptacle to pass into the bell, thus reducing the pressure within the carbid receptacle to below atmospheric

pressure. The cap 15 may now be removed and the receptacle recharged without the escape of any gas from the carbid chamber. After replacing the cap 15 water is admitted
5 to the tank through pipe 17 which as the level rises gradually compresses the gas in the bell raising the bell until the end of the rod enters the extension 8 when the cap 9 is replaced and the water level raised to the
10 point shown in the drawings, when the apparatus is again ready for operation.

Having thus described my invention what I claim is:—

15 In an acetylene gas generator, a water tank, a bell movable therein constituting a

gasometer, a stationary carbid receptacle within the bell, means controlled by the rise and fall of the bell for regulating the carbid feed and a packing on the upper edge of the carbid receptacle adapted to effect a tight
20 closure with the inner face of the top wall of the bell, and an outwardly opening check valve in the wall of the carbid chamber, substantially as described.

In testimony whereof I affix my signature 25 in presence of two witnesses.

JAMES H. MINER.

Witnesses:

W. A. SHIPMAN,
D. C. CAMP.

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