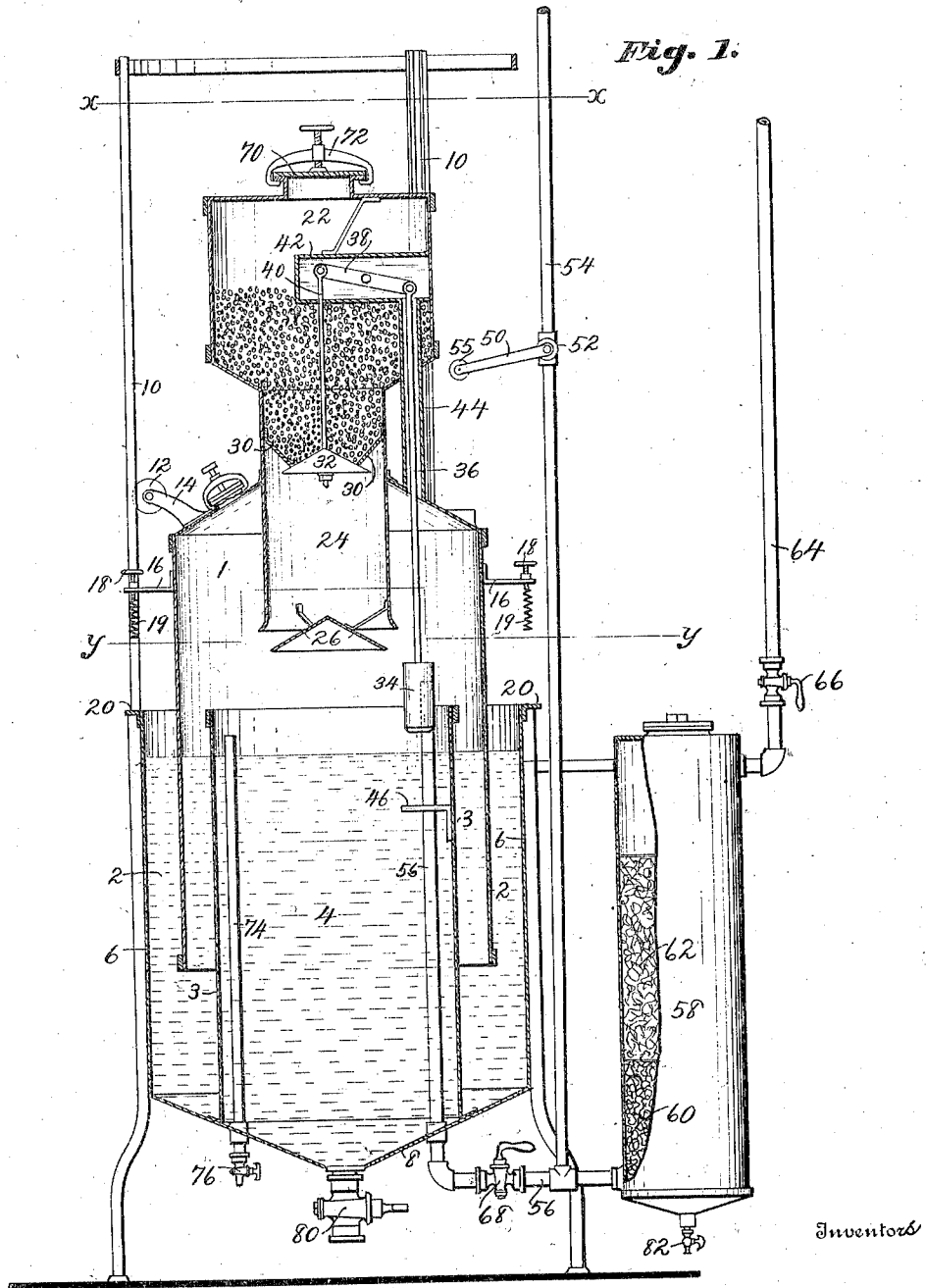


A. DÉR & M. FISCHER.
ACETYLENE GAS GENERATOR.
APPLICATION FILED JAN. 22, 1908.

948,089.

Patented Feb. 1, 1910.



Witnesses
H. F. Dopke.

Alexander Dér
Michael Fischer
By Erwin & Wheeler
Attorneys

UNITED STATES PATENT OFFICE.

ALEXANDER DÉR AND MICHAEL FISCHER, OF WEST ALLIS, WISCONSIN.

ACETYLENE-GAS GENERATOR.

948,089.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed January 22, 1908. Serial No. 412,095.

To all whom it may concern:

Be it known that we, ALEXANDER DÉR and MICHAEL FISCHER, citizens of the United States, residing at West Allis, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

Our invention relates to improvements in acetylene gas generators with special reference to that class of generators in which the carbid holder is mounted upon a reciprocating gas bell.

The object of our invention is to provide a form of construction in which the carbid will be released when the bell has descended a predetermined distance, and in which the released carbid will be distributed into the water of the generating chamber.

In the following description, reference is had to the accompanying drawings in which, the figure is a vertical sectional view of a generator, embodying our invention, also illustrating a filter, part in section and connected for use in conjunction with the generator.

A reciprocating gas holding bell is arranged with its lower end submerged in the water of an annular chamber 2, formed between the outer wall 3 of the generating chamber 4, and a wall 6 concentric therewith, the bottom 8 of the chamber 4 being extended to the wall 6 and forming also a bottom for the annular chamber 2. The bell is guided by supporting posts 10 which are engaged by suitable rollers 12 supported from the bell by brackets 14. Brackets 16 connected with the bell are provided with set screws 18 which are adapted for contact with an angle iron arm 20 connected with the upper margin of the wall 6, thus limiting the descent of the bell.

A carbid holder 22 is mounted upon the bell and is provided with a tubular portion 24 which extends downwardly within the bell and carries a deflecting cone 26 which is adapted to spread material dropping through the tube 24, and deliver the same laterally toward the outer wall of the chamber 4. The lower end of the tube 24 is preferably bell-mounted to facilitate this lateral distribution of the carbid.

The tube 24 is provided in its upper portion with a conically tapered inner wall 30, which forms a hopper leading to a central aperture which is normally closed by the

cone valve 32, the latter being held in closed position by means of a weight 34 connected with the valve through the rod 36, lever 38, and valve stem 40. The lever 38 is preferably located in a suitable housing 42, and the rod 36 extends downwardly through a suitable passage 44 which may form a part of said housing.

As the bell 1 descends, the weight 34 comes in contact with a rest 46, whereupon with a continued descent of the bell, the weight is lifted and motion transmitted through the connections 36, 38, and 40 to open the valve 32. The extent to which the valve is opened is regulated by the set screws 18, which positively limit the downward motion of the bell, although in the ordinary operation of the machine, sufficient gas will be liberated to raise the bell before the set screws come into actual contact with the flange 20. In case an excessive quantity of gas should be generated, the bell is permitted to rise until it strikes a lever 50 connected with a valve 52 in the escape pipe 54, thus relieving the pressure. The lever 50 is preferably provided with an anti-friction roller 55. The service pipe 56 leads from a point within the bell above the water line, downwardly through the bottom 8 of the generator and outwardly to a filter 58, the lower portion of which is filled with coke or charcoal covered by a body of cotton or other fibrous material 62. The filtered gas is delivered to a main 64, this main being provided with a valve 66. The service pipe 56 is also provided with a valve 68.

The carbid holder is filled through a suitable door 70 which is normally held in position by a clamping member 72.

74 is a blow-off pipe provided with a valve 76. This pipe may also be used for filling the tank with water.

80 is a clean-out valve for the water tank and 82 is a similar valve for the filter chamber whereby the water of condensation may be drawn off.

It will be observed that the relief pipe 54 is connected with the service pipe 56, this being a matter of convenience in construction.

It will be observed that the set screws 18 are provided with depending cushion springs 19 which contact with the rim 20 in advance of the set screws. This dims the lights by relieving the pressure exerted by the bell, and thus gives warning that the gas supply

is still failing after the valve has been opened for the delivery of carbid. An opportunity is thus afforded to correct the difficulty before the lights are entirely extinguished.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is,—

1. The combination of a reciprocating gas bell having its lower margin submerged in water, a carbid holder mounted on the bell exterior thereto and provided with an apertured bottom, a valve arranged to close said aperture and provided with an upwardly projecting stem, a housing within the carbid holder provided with an aperture through which said stem passes, a lever pivotally mounted within the housing and connected with the stem, a tube extending downwardly from the housing to the gas bell, a depending, actuating rod connected with said lever and extending through said tube into the gas bell, a weight connected with said rod and a fixed stop in the path of the weight

and within the gas bell, said weight supporting lever actuating rod being arranged to open the valve when the descent of the gas bell brings the weight into contact with the stop.

2. The combination of a water receiver, a gas bell in operative relation thereto, a carbid holder mounted on the bell and provided with a valved outlet arranged to discharge to the water chamber, valve actuating connections carried by the bell and arranged to automatically open the valve when the bell has descended to a given point, and resilient cushions arranged to increasingly resist the downward movement of the bell after the valve is open.

In testimony whereof we affix our signatures in the presence of two witnesses.

ALEXANDER DÉR.
MICHAEL FISCHER.

Witnesses:

LEVERETT C. WHEELER,
O. R. ERWIN.