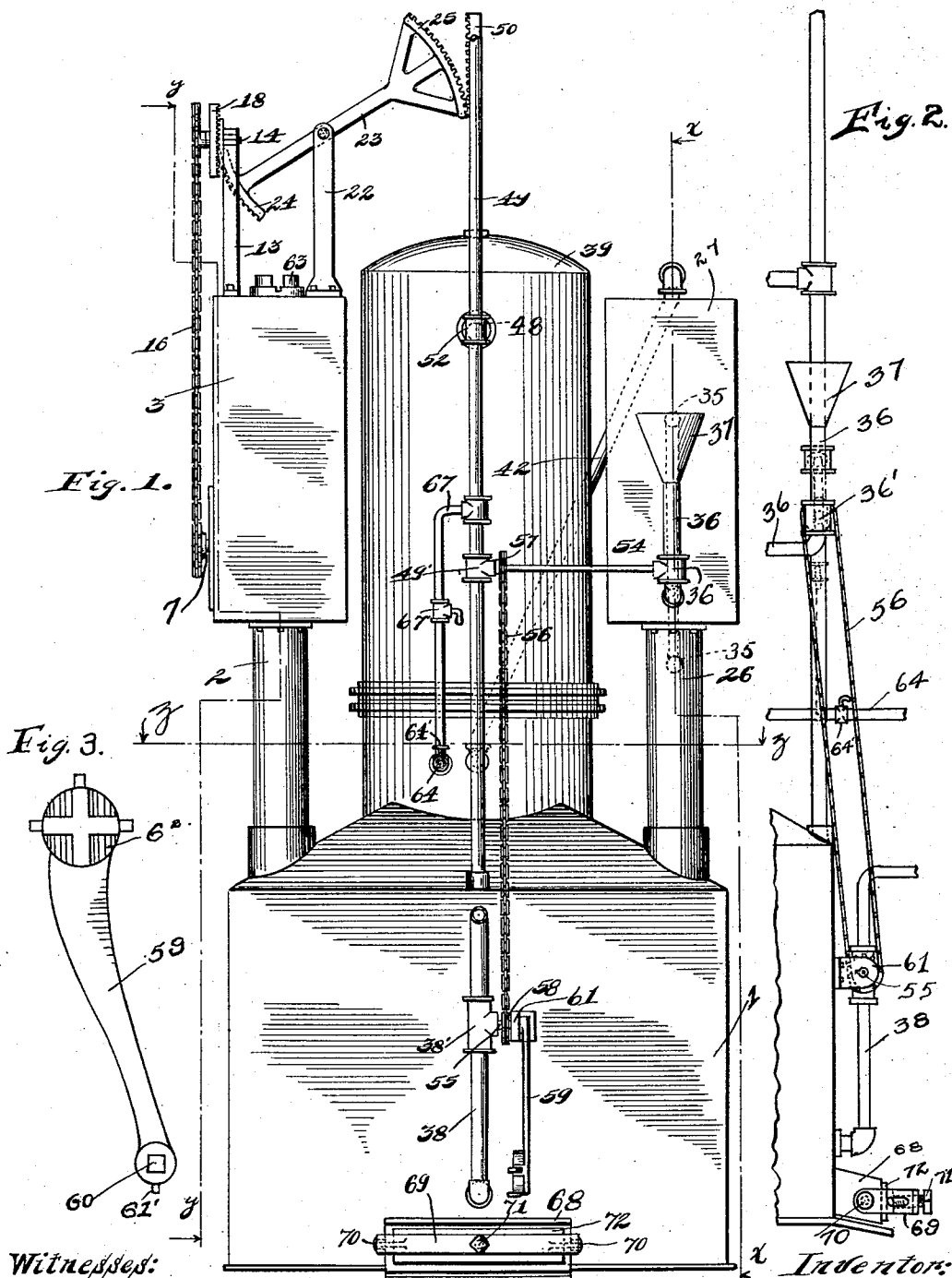


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ACETYLENE GAS GENERATOR.
APPLICATION FILED NOV. 25, 1910.

1,015,867.

Patented Jan. 30, 1912.



Witnesses:

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UNITED STATES PATENT OFFICE.

LOUIS BADER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-THIRD TO MARTIN J. DETMER AND ONE-THIRD TO WILLIAM BADER, BOTH OF CHICAGO, ILLINOIS.

ACETYLENE-GAS GENERATOR.

1,015,867.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed November 25, 1910. Serial No. 594,053.

To all whom it may concern:

Be it known that I, LOUIS BADER, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

My invention relates to improvements in generators and more specifically to that class thereof especially adapted for employment in the generation of acetylene gas.

The object of my invention is the provision of a generator of the character mentioned which will be of improved construction and efficient in operation.

Other objects will appear hereinafter.

With these objects in view my invention consists in an acetylene gas generator characterized as above mentioned and in certain details of construction and arrangements of parts all as will be hereinafter more fully described and particularly pointed out in the appended claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a front elevation of a generator embodying my invention, Fig. 2, a detail side elevation of the valve connections employed in the device, and Fig. 3 is a detail of an operating handle or lever employed in conjunction with the device.

The preferred form of my invention as illustrated in the drawings comprises a generator 1 from which extends at one side thereof an upwardly extending pipe 2. Mounted at the upper extremity of the pipe 2 is the carbid holder 3 which is of substantially rectangular form. Arranged upon the upper extremity of the holder 3 is a bracket 13 in the upper extremity of which is rotatably mounted a stud shaft 14 carrying a sprocket wheel at its outer extremity. Said sprocket wheel is connected by a sprocket chain 16 with a sprocket wheel secured to a shaft 7 connected with suitable carbid feeding mechanism arranged within holder 3 and adapted to deliver carbid to generator 1. Loosely mounted upon the shaft 14 is a crown gear 18 which has a pawl and ratchet connection with shaft 14, the arrangement being such that operative con-

nection between the shaft 14 and the gear 18 will be effected only when the latter is driven in one direction. Also secured to the upper extremity of the carbid holder 3 is a bracket 22 in the upper extremity of which is rockingly mounted a bar or lever 23, the latter being formed at its respective extremities with segmental gears 24 and 25, the gear 24, as will be observed, meshing with the gear 18.

Arising from the generator 1 at the side opposite the carbid holder is a pipe 26 upon the upper extremity of which is mounted a cleansing or washing tank 27. A pipe 35 connects pipe 26 and the tank 27. Communicating with the tank 27 adjacent the lower extremity thereof is a pipe 36 the upper open end of which is provided with a filling funnel 37, this provision evidently affording means for readily filling the tank 27. Provided in the filling pipe 36 is a valve 36' which when the generator is in operation is closed, a similar valve 38' being provided in the overflow pipe 38 of the generator 1.

Mounted centrally above the generator 1 is the gasometer 39 provided with a relief pipe 48 which communicates with a vent pipe 49, the latter communicating at its lower extremity with generator 1 and at its upper extremity with the outside atmosphere. An exteriorly projecting rack bar 50 is arranged in gasometer 39 to be elevated by increase of pressure therein and to be depressed by decrease of such pressure as will be readily understood by those skilled in the art. The rack bar 50 meshes as seen with the segmental gear 25 so that movements of said rack bar effect a corresponding rocking of the lever 23 and hence rotation of the crown gear 18. The connection between crown gear 18 and shaft 14 is such that depression of rack bar 50 causes rotation of shaft 14 and consequent rotation of shaft 7 to feed carbid to the generator.

The valves 49' and 36' provided respectively in the vent pipe 49 and the filling pipe 36 are connected by the common stem 54 so that simultaneous operation thereof will be effected. The stem 54 is operatively connected with the stem 55 of the valve 38' of the over flow pipe 38 by means of a sprocket chain 56 which passes over sprocket wheels 57 and 58 provided respectively upon said stems 54 and 55. Thus with this

provision a simultaneous operation of the valves 38', 49' and 36' is made possible. Operation of said valves is effected by means of a lever 59 which is provided at one extremity with a socket 60 for the reception of the squared end of the stem 55. Said extremity of said stem 55 is however, surrounded by a housing 61 which is provided with an opening adapted to snugly receive the extremity of the said lever. Said extremity of said lever is provided with a projecting stud 61' which is adapted to register with a corresponding notch in the housing 61 permitting of the removal of the lever 59 only when the latter is in a certain position. When said lever is in position for removal the valves 38', 49' and 36' will be in open position so that removal of the lever 59 is only permitted when said valves are so positioned. The opposite extremity 62 of the lever 59 is formed for engagement with a filling plug 63 which is threaded in the top of the carbid holder 3, the head of said plug being so formed as to require the use of the lever 59 in effecting removal thereof. This being so it will be seen that when the plug is engaged by said lever for removal the valves above mentioned will be open and so that when said plug is removed gas will not escape from the carbid holder, the gas having previously been exhausted from the device by reason of the open positions of the valves 48', 39' and 36'. When the lever 59 is in engagement with the valve stem 55 the same will by its own weight normally assume the position shown in Fig. 1 in which position said valves will be closed, so that said lever when attached will automatically effect the closing of said valves without any attention being given by the operator.

64 indicates the service pipe which leads from the gasometer, passage through said pipe being governed by an ordinary stop cock 64'. Extending from the pipe 64 is a by pass pipe 67 which communicates at its upper extremity with the vent pipe 49 above the valve 49' provided in the latter. A suitable stop cock 67' is provided in the pipe 67. With this provision, upon commencement of operation of the generator, the dead air in the device may be exhausted through the by pass pipe 67 into the vent pipe 49, the valve 64' in this operation being closed and the valve 67' open. Upon such dead air being exhausted through the vent pipe the valve 67' will be closed and the valve 64' open whereupon the gas supplied to the pipe 64 will pass through the latter for service.

Provided at the lower extremity of the generator 1 is a clean out opening 68 through which the spent carbid may be removed from the generator or the water drained therefrom. Arranged at the opening 68 is a U-shaped member 69 having its

ends pivotally secured as at 70. Threaded centrally in the member 69 is a screw 71 carrying at its inner extremity a closure plate 72 which is in swiveled connection therewith. The closure plate 72 is adapted normally to be forced into closing position by means of the screw 71. When it is desired to gain access to the interior of the generator the screw 71 may be screwed outwardly to effect the withdrawal of the closure plate from the mouth of the discharge opening, whereupon the member 69 may be swung upwardly to permit of free access to said discharge opening.

A generator of the construction as set forth is durable and economical, the same is positive and reliable in operation and the same is not susceptible to readily becoming inoperative.

While I have shown what I deem to be the preferable form of my generator I do not wish to be limited thereto as there might be various changes made in the details of construction and the arrangements of parts described without departing from the spirit of the invention as comprehended within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. In an acetylene gas generator, the combination of a generator; a vent for said generator; a valve controlling said vent; a carbid holder communicating with said generator; means for affording access to said holder; common means for operating said valve and said access means; and means for preventing the removal of said valve operating means except when said valve is open, substantially as described.

2. In an acetylene generator, the combination of a generator; a vent pipe leading from said generator and communicating with the outside atmosphere; a valve controlling the passage through said vent pipe; an overflow pipe for said generator; a valve controlling the passage through said overflow pipe; a carbid holder communicating with said generator; a gasometer; a cleanser interposed between said generator and said gasometer; a pipe communicating with said cleanser for introducing water thereinto; a valve in said pipe; and an operative connection between said last mentioned valve and said before mentioned valves whereby simultaneous operation of said valves is effected, substantially as described.

3. In an acetylene generator, the combination of a generator; a vent pipe leading from said generator and communicating with the outside atmosphere; a valve controlling the passage through said vent pipe; an overflow pipe for said generator; a valve controlling the passage through said overflow pipe; a carbid holder communicating

with said generator; a gasometer communi-
cating with said generator; a gas cleanser
interposed between said generator and said
gasometer; a pipe communicating with said
5 cleanser for introducing water thereto; a
valve in said pipe; an operative connection
between said last mentioned valve and said
before mentioned valves whereby simultane-
ous operation of said valves is effected; a
10 threaded plug for giving access to said
holder; a weight lever removably mounted
on the valve in said overflow pipe and ar-
ranged to normally hold said valve in closed

position, one end of said lever being ar-
ranged to engage said plug; and means for 15
preventing the removal of said lever except
when said overflow valve is open, substan-
tially as described.

In testimony whereof I have signed my
name to this specification in the presence of 20
two subscribing witnesses.

LOUIS BADER.

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