

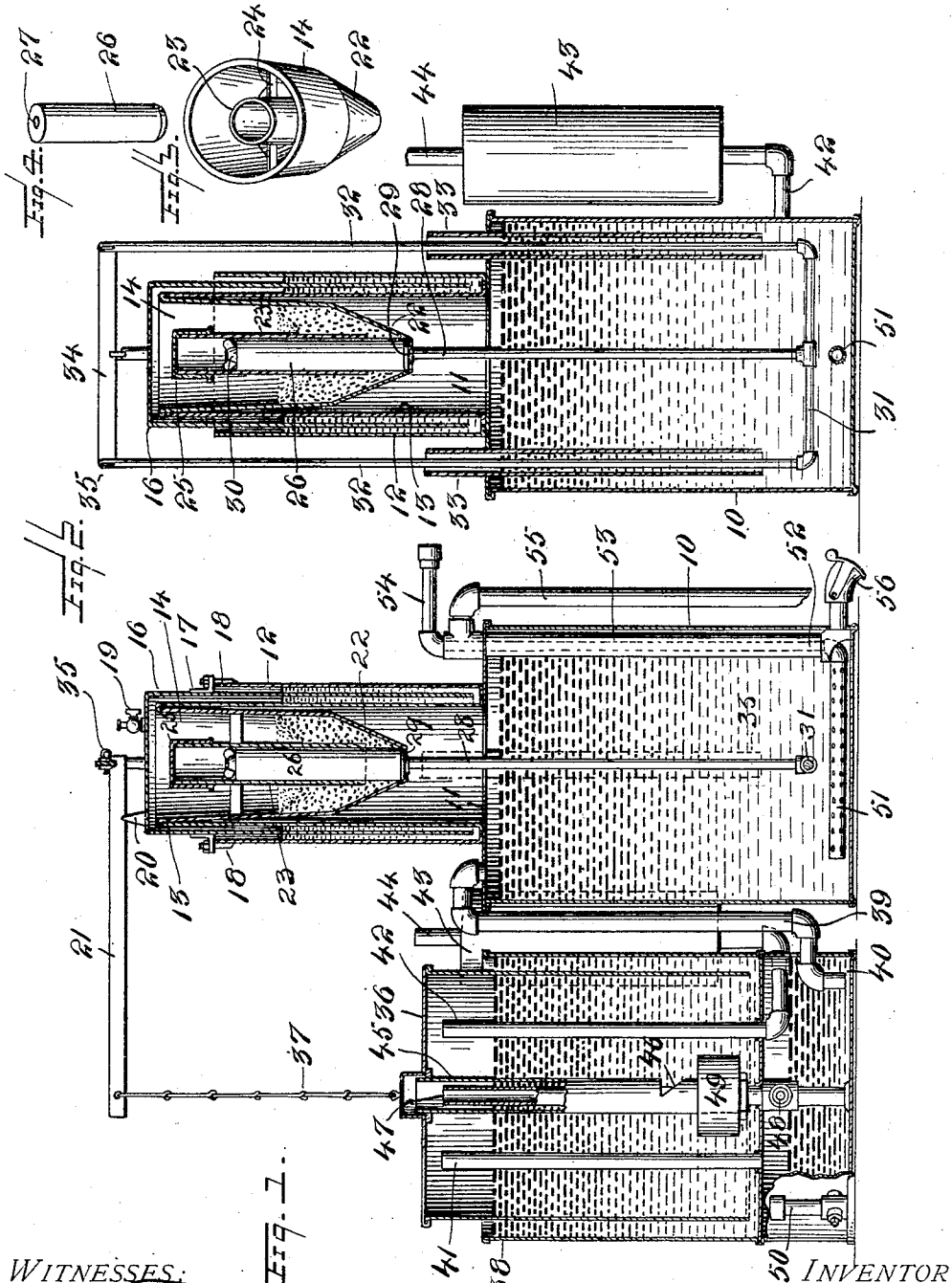
L. C. GILMORE.

GAS GENERATOR.

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944,856.

Patented Dec. 28, 1909.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LOUIS C. GILMORE, OF GARDENA, CALIFORNIA.

GAS-GENERATOR.

944,856.

Specification of Letters Patent.

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Application filed March 15, 1909. Serial No. 483,535.

To all whom it may concern:

Be it known that I, LOUIS C. GILMORE, citizen of the United States, residing at Gardena, county of Los Angeles, and State of California, have invented certain new and useful Improvements in Gas-Generators, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a gas generator and particularly to the construction of the carbid feeding mechanism coöperating therewith.

The invention has for an object to provide a novel and improved construction of a removable carbid receptacle and the controlling valve thereof operated from a gasometer connection.

Other and further objects and advantages of the invention will be hereinafter fully set forth and the novel features thereof defined by the appended claims.

In the drawing:—Figure 1 is a vertical section through the generator and gasometer; Fig. 2 is a section through the generator at a right angle to Fig. 1; Fig. 3 is a detail perspective of the carbid receptacle; and Fig. 4 is a similar view of the valve mounted therein.

Like numerals refer to like parts in the several views of the drawing.

The numeral 10 designates the generating chamber which may comprise a tank of any desired construction or configuration and having an opening 11 in its upper portion. Surrounding this opening is an annular casing 12, the inner wall 13 of which is extended upward to form a support for the carbid receptacle 14. This annular casing is adapted to receive a body of water into which the lower end of the bell 16 is inserted thus forming a water seal for the carbid chamber to prevent the escape of gas therefrom. The bell is held against movement by means of the lugs 17 at the sides thereof secured to the casing 12 by means of the bolts 18. The upper portion of the bell is also provided with an air cock 19 to permit the escape of air from the bell when it is removed or inserted within the water seal. The bell is also provided with pivot piece 20 upon its upper surface upon which the operating lever 21 is mounted.

The carbid receptacle is preferably of conical configuration at its lower portion

22 and provided with a centrally disposed tube 23 supported by braces 24 from the walls of the receptacle. The upper portion of this tube is closed by a cap 25 and within the tube the valve 26 is adapted to slide. This valve comprises a solid body having the opening 27 therethrough adapted to receive the upper end of the valve rod 28 which carries a supporting plate or projection 29 upon which the lower end of the valve rests. The upper end of the rod is provided with a securing nut 30 threaded thereon to hold the valve rigidly in position. This valve rod extends downward into the generating chamber and is there connected to a cross bar 31 from which the operating rods 32 extend upwardly through casings 33 and are connected at their ends above the carbid receptacle by means of the cross piece 34 seated upon the upper face of one end of the lever 21 and pivotally connected to the rods 32. One of these connections is removable, for instance, by means of the pin 35 inserted through the parts, which when removed permits the bar 34 to be swung to one side for the purpose of removing the bell to fill the carbid receptacle. The opposite end of the lever 21 is connected to the dome 36 of a gasometer by means of a linked connection at 37 and this dome is seated in the tank 38 of the gasometer forming a water seal.

The gasometer may be of any desired construction, but is here shown as connected with the upper portion of the generator by means of the pipe 39 which discharges beneath the water level in the washing chamber 40 at the lower portion of the gasometer. The gas from this washing chamber is discharged by the pipe 41 into the upper part of the dome 36 and carried therefrom by the pipe 42 through a purifier 43 which is in communication with the service pipe 44. The central portion of the dome 36 is provided with the depending tube 45 provided with an inlet opening 46 and surrounding a blow off pipe 47 which has a discharge connection at 48 so that when the dome rises to bring the opening 46 above the top of the blow off pipe 47 the excess of pressure is thus discharged to prevent accident. This tube is also provided with a weight 49 to apply the desired pressure to the dome. The washing chamber 40 is also provided with a filling pipe 50 upon its outer face, as shown in Fig. 1.

For the purpose of agitating and removing the sludge from the bottom of the generating chamber, a perforated pipe 51 is disposed therein and communicates with a feed pipe 52 extended upward through the overflow pipe 53 in which it is pivotally mounted, and is provided with a handle portion 54 with which a hose connection may be effected for the purpose of supplying water for washing out and agitating the sludge during the oscillation of the pipe 51 above the bottom of the generator. The overflow pipe is provided with a discharge connection 55, and the bottom of the generating chamber has the usual draw off cock 56 for the discharge of material therefrom. The overflow pipe is not a siphon, but acts when the water rises into the casing carrying the carbid receptacle.

In the operation of the invention it will be seen that the gas formed in the generator will pass through the washer to the gasometer and thence through the purifier to the service pipe. The collection of gas in this gasometer causes it to rise thus closing the valve of the carbid receptacle through the connection before described, while a descending action of this dome through a reduction in the gas pressure causes said valve to be raised and opened. When it is desired to refill the carbid receptacle, the cross bar connecting the valve operating rods is disconnected from one of said rods and swung to one side thus permitting the removal of the gasometer lever, and the dome of the water seal about the receptacle is then released so that the receptacle can be filled with carbid. As soon as the valve operating rods are disconnected the weight thereof seats the valve thus preventing the escape of carbid into the water below, while the cap upon the valve tube also prevents the escape through that part or the entrance of carbid into the tube during the filling operation. When it be desired to clean the valve and receptacle this cap is removed and the valve released from its support upon the rod within the receptacle from which it may be readily discharged by inverting the receptacle. The valve connection shown provides for an even operation thereof to prevent friction in the valve tube and also permits the ready removal and accessibility to all parts of the carbid chamber. The sludge agitator which is pivotally mounted in the overflow pipe also provides a filling device by which fresh water may be introduced into the generator tank by the hose connection and when oscillated agitates the sludge so that it will be quickly discharged through the draw off cock for that purpose. It will therefore be seen that the invention presents, a simple, efficient and economically constructed form of gas generator, from which the escape of gas is prevented by the

washing chamber when the carbid receptacle is removed.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is:—

1. In a gas generator, a generating chamber, an annular casing mounted upon said chamber, a bell secured to the outer wall of said casing, a carbid receptacle suspended from the top of the inner wall of said casing, a tubular valve case open at each end and supported within said receptacle, a plunger valve removably disposed in said case, and means for operating said valve.

2. In a gas generator, a generating chamber, a casing mounted thereon, a carbid receptacle disposed within said casing and provided with a tubular valve case open at each end, an apertured plunger valve disposed in said case, a valve rod extending upward from the generator and through said valve, a valve supporting projection carried by said rod beneath said case, and means mounted upon said rod at the upper end of the valve for retaining it in contact with said projection.

3. In a gas generator, a generating chamber, a casing mounted thereon, a carbid receptacle disposed within said casing and provided with a tubular valve case open at each end, an apertured plunger valve disposed in said case, a valve rod extending upward from the generator and through said valve, a valve supporting projection carried by said rod beneath said case, means mounted upon said rod at the upper end of the valve for retaining it in contact with said projection, a removable cap upon the upper end of the valve case, and a removable bell mounted upon said casing to inclose said receptacle.

4. In a gas generator, a generating chamber, a casing mounted thereon, a carbid receptacle disposed within said casing and provided with a delivering valve, a valve rod extending upward from the generator and connected to said valve, a cross bar carried by the lower end of said valve rod, parallel operating rods extending upward from said cross bar, a gasometer, an operating lever connected to the dome thereof, a connecting cross bar mounted upon said lever and pivoted at one end to one of said operating rods, and a removable attaching device for connecting the opposite end of said connecting bar to the opposite parallel rod.

5. In a gas generator, a generating chamber, a casing mounted thereon, a carbid receptacle disposed within said casing and provided with a valve case open at each end, an apertured plunger valve disposed in said case, a valve rod of less diameter than the aperture in said valve and extended upward from the generator through the valve, a supporting plate carried by said rod beneath

said valve case, and a securing nut threaded upon the upper end of said rod to engage the top of said valve.

6. In a gas generator, a generating chamber, a casing mounted thereon, a carbide receptacle disposed within said casing and provided with a tubular valve casing, a cylindrical valve disposed in said valve casing, a valve rod extending upward from the generator through the valve and provided with a support for said valve, means for retaining said valve in contact with said support, a cross bar carried by the lower end of said valve rod, parallel operating rods extending

upward from said cross bar, a gasometer, an operating lever connected to the dome thereof, a connecting cross bar mounted upon said lever and pivotally secured at one end to one of said parallel operating rods, and a removable attaching device for connecting the opposite end of said connecting bar to one of said rods.

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

LOUIS C. GILMORE.

Witnesses:

L. L. GILMORE,
JOHN MAKIUS.