

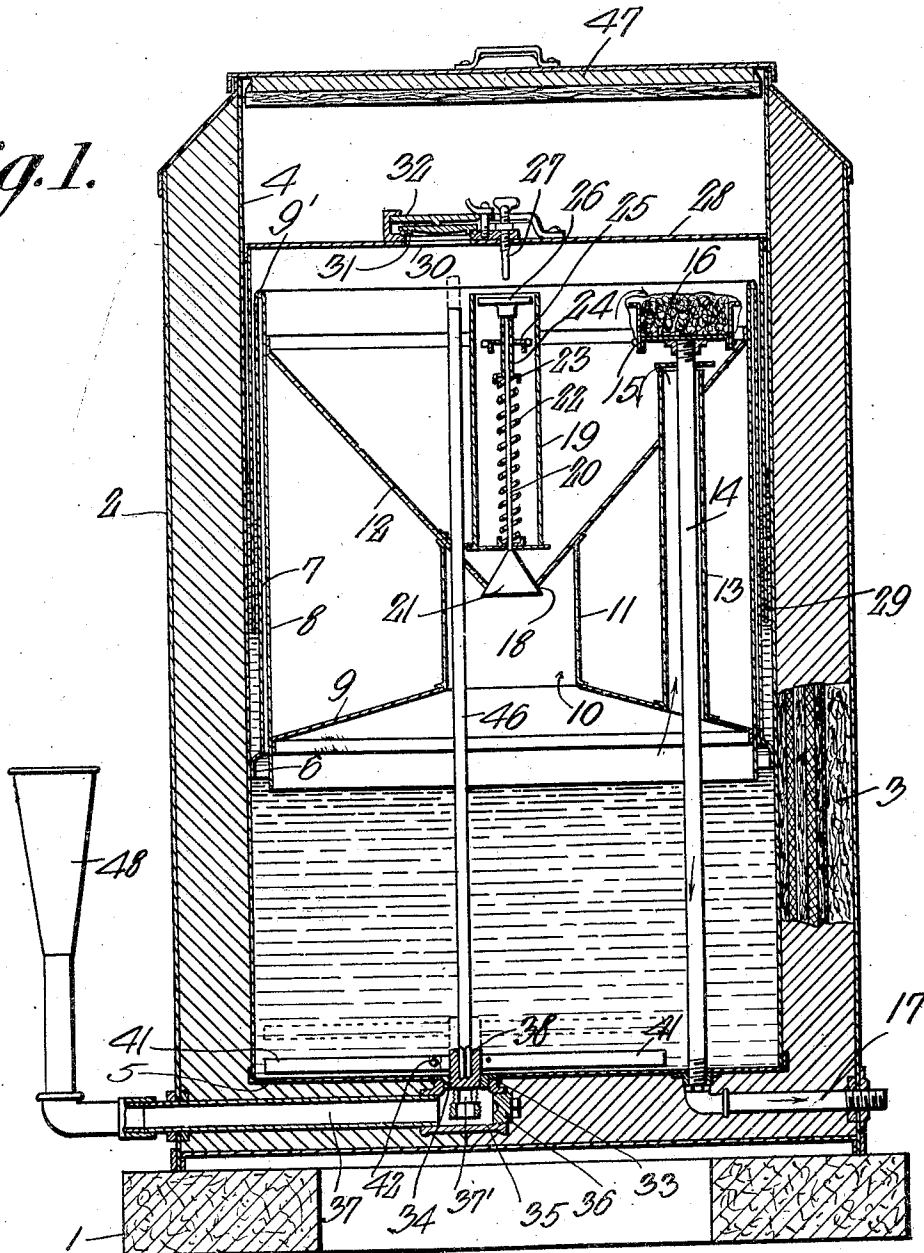
C. E. SUMMERS & C. B. LARMON.
ACETYLENE GAS GENERATOR.
APPLICATION FILED MAR. 25, 1912.

Patented Nov. 19, 1912.

2 SHEETS—SHEET 1.

1,044,599.

Fig. 1.



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Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

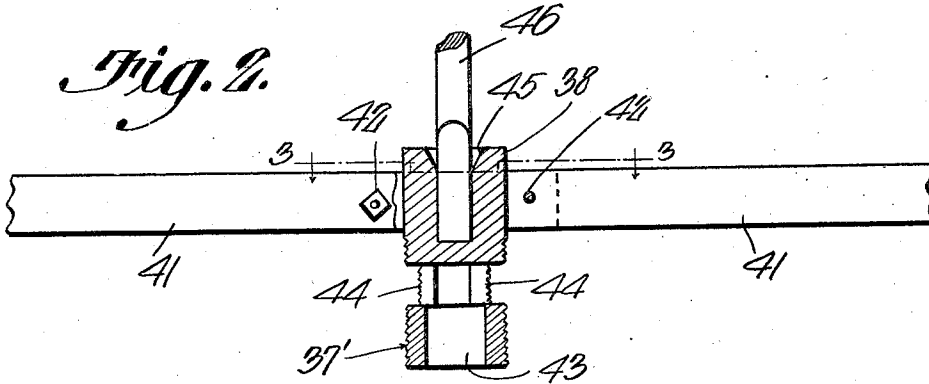


Fig. 3.

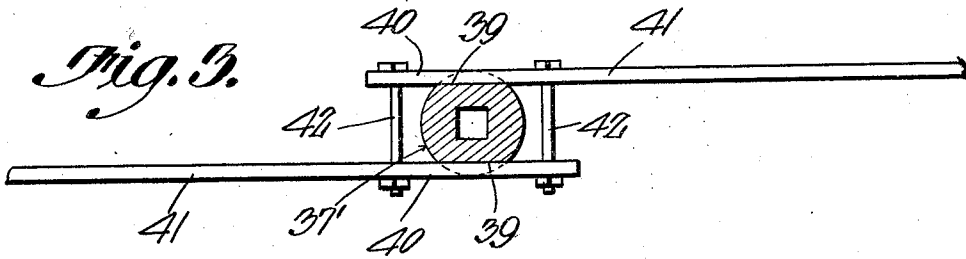


Fig. 4.

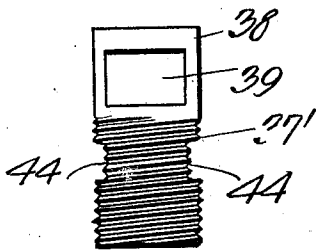
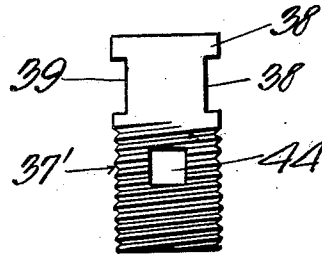


Fig. 5.



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UNITED STATES PATENT OFFICE.

CALEB E. SUMMERS AND CHARLES B. LARMON, OF KANSAS CITY, MISSOURI.

ACETYLENE-GAS GENERATOR.

1,044,599.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed March 25, 1912. Serial No. 685,921.

To all whom it may concern:

Be it known that we, CALEB E. SUMMERS and CHARLES B. LARMON, citizens of the United States, residing at Kansas City, in the county of Jackson, State of Missouri, have invented a new and useful Acetylene-Gas Generator, of which the following is a specification.

The present invention relates to improvements in acetylene gas generators, the primary object of the present invention being the provision of a generator provided with a water inlet and outlet at the lower end thereof, the same being substantially concentrically disposed, and having a rotatable valve disposed concentrically of the receptacle at the inlet or outlet end of said conduit in combination with a stem operably connected with the valve and carrying sludge stirring arms, so that the movement of the valve into open or closed position will stir or agitate the sludge at the bottom of the receptacle.

A further object of the present invention is the provision of an acetylene gas generator in which the water compartment is provided with a valved controlled water admitting and escaping conduit and with a stationarily disposed carbid holder with a concentrically disposed gas bell thereabove, the said gas bell and holder being provided with co-acting valve actuating means, whereby the carbid due to the fall of the bell is automatically fed to the water container below.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a vertical central sectional view through the complete acetylene gas generator, with the valve in closed position. Fig. 2 is a vertical sectional view through the valve, the operating stem and sludge arms being shown in elevation. Fig. 3 is a section taken on line

3—3 of Fig. 2. Figs. 4 and 5 are detail elevations of the valve *per se*.

Referring to the drawings, the numeral 1 55 designates the base of the generator, upon which is mounted the cylindrical casing 2, which is filled with an insulating material 3, to prevent the outside atmosphere from affecting the water in the main reservoir 60 and the inner concentric cylinder 4, whose base 5 is circular and rests above the base 1 of the generator.

Mounted within the cylinder 4 and having its outer flared end 6 connected thereto is 65 the open ended cylinder 7 which has fitting therein and concentrically thereof, a cylindrical casing 8 supported thereby by means of the rim 9, which is a sealed joint to prevent the passage of the gas from the lower 70 portion of the receptacle between the adjacent walls of the cylinder 7 and the casing 8. The lower end of the casing 8 is closed by the crown 9 provided with a concentric aperture 10 to which is connected the tube 75 or sleeve 11 which surrounds and is connected to the lower tapered end of the truncated conical carbid holder 12, the upper rim of the holder being secured to and within the upper end of the casing 8. Connect- 80 ed to the crown 9 and eccentrically thereof and projecting upwardly and through the bottom of the carbid holder 12 and therein, is a tube 13 which has disposed therein a gas outlet pipe 14 whose upper end carries 85 the receptacle 15 containing the acetylene gas filtering material 16. The outlet of the conduit or pipe 14 is projected through the bottom of the casing 4 and exteriorly of the apparatus as indicated at 17. It will thus 90 be seen that the gas generated in the lower portion of the apparatus will follow the direction of the arrows up the tube 13 and into the carbid holder 12, where coming in contact with the carbid therein, the moisture 95 will be extracted therefrom before the passage of the gas through the filtering material 16 and downwardly through the outlet pipe 14. Mounted concentrically of the carbid holder 12 and directly above the out- 100 let 18 thereof, is a cylindrical casing 19 having the concentric rod 20 disposed therein and carrying upon its lower end the conical valve 21 which controls the outlet 18. A

spring 22 surrounds the rod within the casing 19 and abuts the lower end of said casing and the collar 23 carried by the sleeve 24 which is journaled for sliding movement in the spider 25 and carries upon its upper end the button 26 which is in line to be abutted by the adjusting screw 27 carried concentrically of the top of the gas bell 28. The rim or apron portion 29 of the gas bell is disposed concentrically of the cylinder 17 and the wall of the casing 4 and is liquid sealed at the lower end thereof as illustrated.

The aperture 30 in the top of the bell 28 has a removable cover 31 held closed by the holding bar 32, whereby carbid may be fed to the holder 12 and whereby the sludge stirrer as will later appear may be readily operated.

Disposed at the bottom of the water reservoir is a plate 33 provided with the threaded aperture 34 and to this plate below the bottom of the water reservoir is a T-coupling 35 provided with a plug 36 at one end and with the water supply or drain pipe 37 leading from the opposite end thereof.

Disposed within the threaded aperture 34 and within the disk 33 and coupling 35 constituting the casing therefor, is a valve 37' provided with the head 38 having the oppositely disposed flat faces 39, which are at all times within the lower end of the casing and receive the inner ends 40 of the sludge stirring arms 41, said sludge stirring arms being connected thereto in clamped relation by means of the bolts 42.

The valve is provided with the lower open end 43 and with the oppositely disposed outlets 44, which when the valve is closed assumes the full line position Fig. 1 and fully open assumes the dotted line position Fig. 1. Removably mounted within the socket 45 in the upper end of the valve 37', is the valve actuating rod 46 which extends upwardly and into the carbid receptacle 12 and in line with but below the aperture 30. Thus a valve key of any construction may be inserted through said aperture 30 when the cover 47 of the generator is off for rotating the rod 46 and the valve 37' in the direction for opening or closing the valve 37'. At the same time the sludge stirring arms 41 are rotated to stir the sludge near the bottom of the generator. With this form of sludge stirring device, it is evident that the sludge or precipitant within the bottom of the main reservoir of the generator, will be affected by the in or out flow of the water through the conduit 37 and the movement of the paddles 41. It is also evident that the sludge stirring arms 41 will be actuated as the valve 37' is opened or closed and as the arms are disposed near the bottom of the main reservoir, the lowermost portion of the sludge will be that most affected.

By the form of valve 37' as shown, the same will inclose the pipe and at the same time provide a means whereby no liquid is confined within it or the conduit 37, as the funnel 48 thereof is removed to permit the water to flow outwardly of the conduit 37, thus eliminating any detrimental effect due to freezing.

An annular sealed compartment is provided by means of the lower wall of the carbid holder, the sleeve 8, the dome 9 and the sleeve 11, so that when the carbid holder is filled with carbid, there is less waste in the escaping gas that is generally contained in the space below the outlet of the carbid holder. In this case it is confined within the sleeve 11 and dome 9.

What is claimed is:

1. The combination with an acetylene gas generator, of a valved water supply and drain pipe operably connected therewith, a stem operably connected to said valve for opening and closing the valve, and a stirring device connected to the valve and disposed within the generator for stirring the precipitant during the actuation of the valve.

2. The combination with an acetylene gas generator, of a valved water supply and drain pipe operably connected therewith, a stem operably connected to said valve for opening and closing the valve, and a stirring device connected to the valve and disposed within the generator for stirring the precipitant during the actuation of the valve into opening or closing position.

3. An acetylene gas generator, having a valved conduit for admitting water and providing an eduction means for permitting the water and sediment to be drawn from the lower end of the generator, and a sediment stirring device operably connected with the valve.

4. An acetylene gas generator, having a valved conduit for admitting water and providing an eduction means for permitting the water and sediment to be drawn from the lower end of the generator, and a sediment stirring device operably connected with the valve, said valve being a rotary valve and having a stirring device connected thereto to rotate simultaneously therewith.

5. An acetylene gas generator, having a cylindrical casing, a combined water supply and drain conduit in communication with the lower end thereof, a rotary valve mounted in said conduit and within the casing, a pair of stirring arms connected to said valve and within the casing above the bottom thereof, and means for rotating said valve and said stirring arms.

6. An acetylene gas generator, having a cylindrical casing, a combined water supply and drain conduit in communication at the

lower end thereof, a valve casing at the connection of said conduit with the casing, a rotary valve mounted in said casing for controlling the conduit, sludge stirring arms connected to said valve and disposed at all times within the casing, and means detachably connected to the upper end of the valve for rotating the valve into open and closed position.

In testimony that we claim the foregoing 1)
as our own, we have hereto affixed our signatures in the presence of two witnesses.

CALEB E. SUMMERS.
CHAS. B. LARMON.

Witnesses:

C. H. R. McELROY,
ANNA OCHELTREE.