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J. E. McINTIRE.

ACETYLENE GAS GENERATOR.

APPLICATION FILED AUG. 24, 1907.

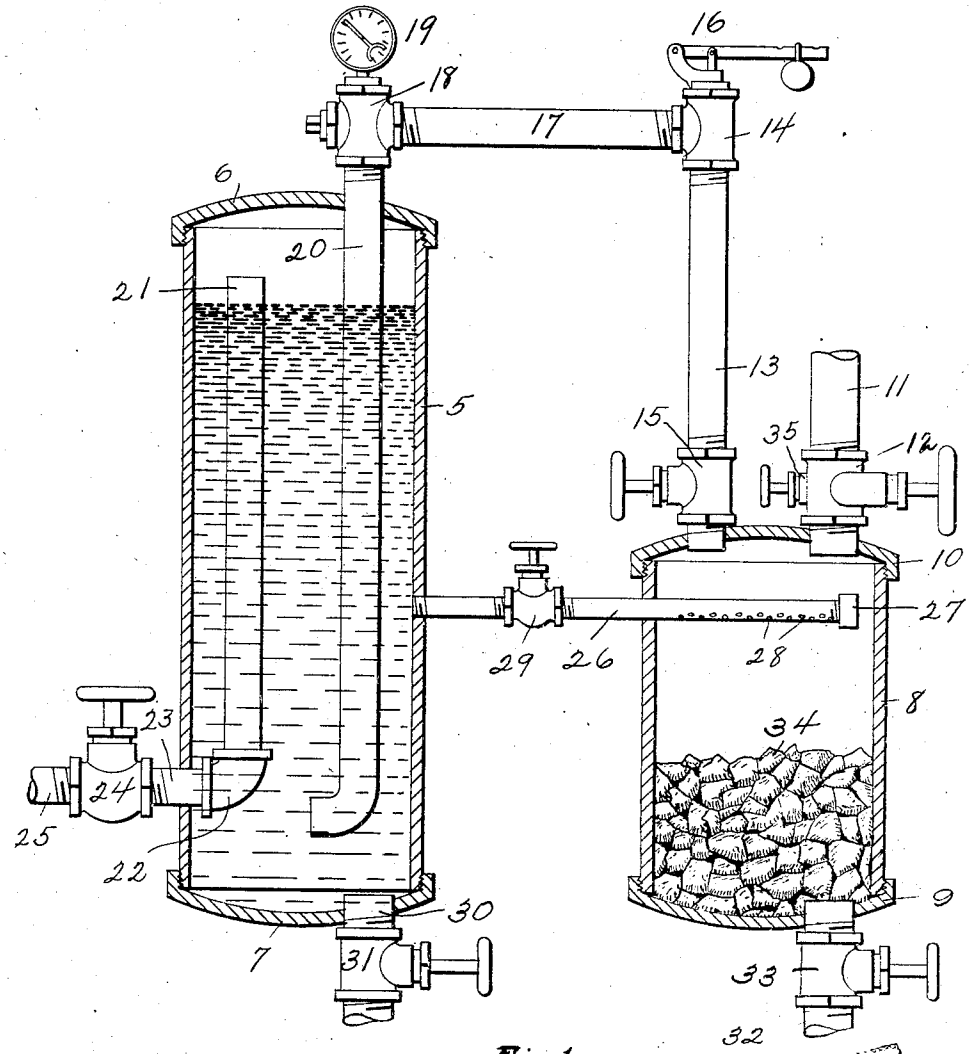


Fig. 1.

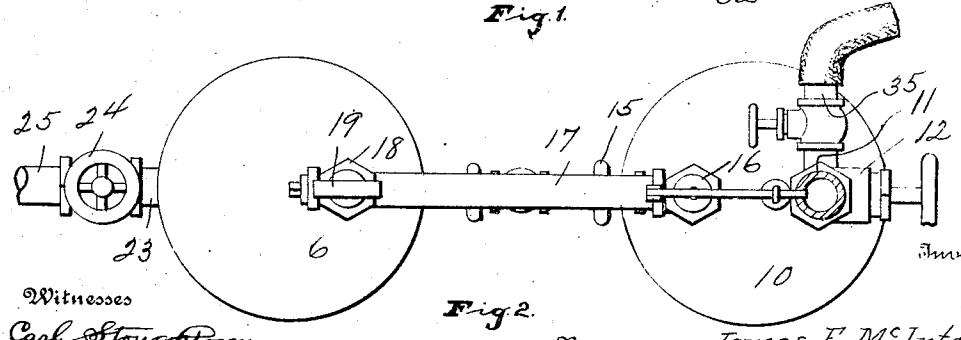


Fig. 2.

Witnesses

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JAMES E. McINTIRE, OF COLUMBUS, OHIO.

ACETYLENE-GAS GENERATOR.

No. 890,439. Specification of Letters Patent. Patented June 9, 1908.

Application filed August 24, 1907. Serial No. 390,019.

To all whom it may concern:

Be it known that I, JAMES E. McINTIRE, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

My invention relates to acetylene gas generators and has for its object the provision of a device of this character constructed in such manner that the gas generated must pass through the water that is brought into contact with the calcium carbid, before the gas is permitted to pass from the generator, whereby the gas will be washed and cleansed of all impurities before being permitted to pass to the burner.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawing: Figure 1 is a vertical section of an acetylene gas generator constructed in accordance with the invention, and, Fig. 2 is a plan view of said generator.

Like numerals designate corresponding parts in both of the figures of the drawing.

Referring to the drawing, the numeral 5 designates a water supply tank which is provided with a cap plate 6 and a bottom plate 7. 8 designates a generating tank which is provided with a bottom plate 9 and a cap plate 10. Threaded into this cap plate 10 is a pipe 11 which leads to a calcium carbid receptacle, not shown. A valve 12 which is preferably a gate valve in order that it may be opened to a considerable extent, is provided to control the passage of the calcium carbid to the tank 8. A pipe 13 leads from the generating tank 8 to a safety valve casing 14 and a valve 15 controls the passage of gas through this pipe. A safety valve 16 of any desired construction is mounted within the casing 14 and a gas conducting pipe 17 leads from the safety valve casing to a nipple 18. Mounted upon this nipple is a pressure gage 19 adapted to indicate the pressure of the gas generated, as will be hereinafter described. A pipe 20 leads from the nipple 18 to the lower portion of the water tank 5. A second pipe 21 leads from the upper portion of the water tank 5 to the lower portion thereof, where it is connected to a nipple 22. A short pipe 23 connects this nipple with valve 24 and a service pipe 25 leads from this valve to a point at which the gas is to be used. A pipe 26 leads from the tank 5 into the tank 8 and is closed by a nipple 27 at one end. This pipe is provided with a series of perforations 28 and a valve 29 is located in this pipe. A pipe 30 leads from the lower portion of the tank 5 and has a valve 31 located therein. A pipe 32 leads from the lower portion of the casing 8 and has a valve 33 located therein.

The operation of the device is as follows: The valve 12 when open, permits the carbid indicated at 34 to fall through the pipe 11 and into the tank 8. When the valve 29 is opened, water passes through the pipe 26 from the tank 5 and falls from the perforations 28 upon the carbid, thereby generating gas in the usual and well known manner. This gas passes through pipes 13, 17 and 20 to the lower portion of the water tank 5 and ascends through the water, being thereby thoroughly washed and cleansed of all impurities. This gas collects in the upper portion of the tank 5 and is conducted from there by the pipes 21 and 25. The pressure gage 19 provides means for determining the pressure within the tank 5 at all times, while the safety valve 16 will relieve the pressure within the apparatus if it should at any time go beyond a predetermined point. The pipe 32 and valve 33 provide means for removing the ash of the calcium carbid from the tank 8. It is but necessary to open the valve 33 in order to accomplish this. The pipe 30 which leads from the lower portion of the tank 5, provides means for blowing off this tank and thereby removing any sediment which may have collected in the tank. The casing of the valve 12 is provided with a valved nipple 35 to which water may be conducted through a hose or like conducting member. When the valve of this nipple is open and the valves 15 and 29 are closed and the valve 33 opened, the flow of water will be straight through the generating tank 8 and will flush all of the calcium carbid ash from this generating tank. If the valves 12 and 29 are closed and the valve 15 be opened, the tank 5 may be filled through the pipes 13, 17 and 20.

From the foregoing description, it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention and while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction

set forth, but includes within its purview such changes as may be made within the scope of the appended claims.

What I claim, is:

In a device of the character described, the combination with a water supply tank, a generating tank, a gas supply pipe leading from the generating tank through the top of the water supply tank and terminating near the bottom of said water supply tank, a service pipe extending downwardly through the water supply tank and leaving said water supply tank at the lower portion thereof, said service pipe opening into the water supply tank near the top thereof, a pipe leading from the water supply tank into the generating tank, a valve located within said last named pipe, a pipe leading into the top of the generating tank and adapted to conduct calcium carbid to said tank, a valve located within said pipe, and a second valve adapted to conduct water under pressure to the casing of the first named valve.

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

JAMES E. McINTIRE.

Witnesses:

FRANK G. CAMPBELL,

L. CARL STOUGHTON.