J. T. FINLEY.

ACETYLENE GAS GENERATOR.

APPLICATION FILED JUNE 13, 1912.

1,044,510.

Patented Nov. 19, 1912.

Fig. 1.

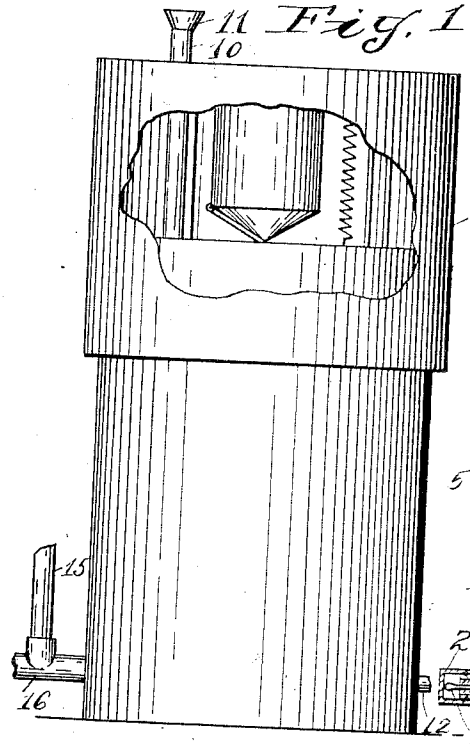


Fig. 2.

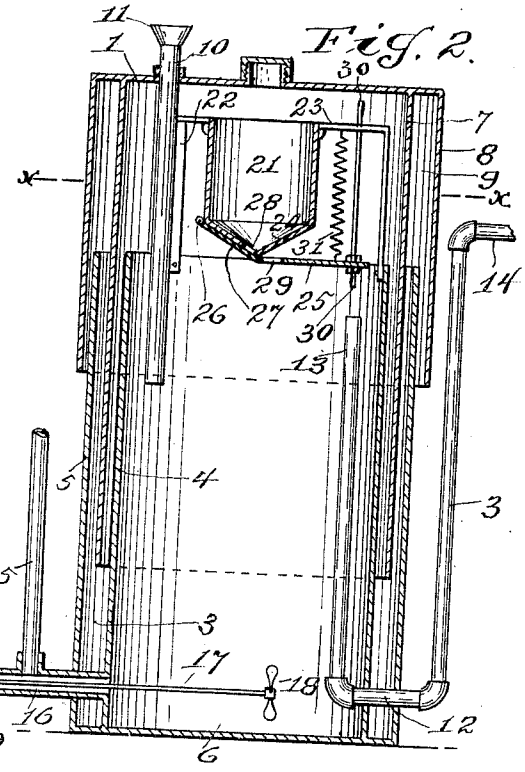


Fig. 3.

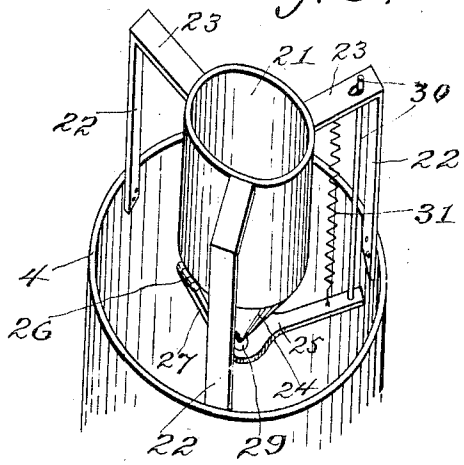
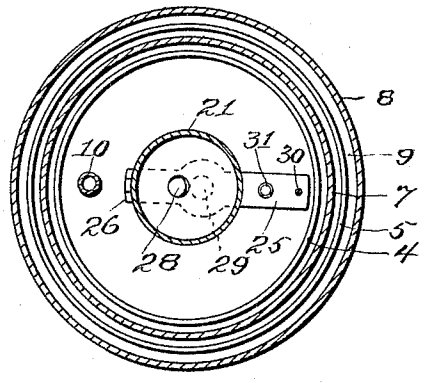


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

JESSE T. FINLEY, OF RULE, TEXAS.

ACETYLENE-GAS GENERATOR.

1,044,510. Specification of Letters Patent. Patented Nov. 19, 1912.

Application filed June 13, 1912. Serial No. 703,365.

To all whom it may concern:

Be it known that I, JESSE T. FINLEY, a citizen of the United States, residing at Rule, in the county of Haskell and State of Texas, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

This invention relates to acetylene gas generators, and pertains especially to improvements in connection with the generator for which a patent was granted to me June 13, 1911, No. 995,242.

The object of the invention is to provide, in an acetylene gas generator, special means for preventing the over-charging of the generator with carbid.

A further object of the invention is to provide, in an acetylene gas generator a carbid feed valve of novel and peculiar shape or construction, and to furnish such connections between the valve and the carbid hopper, and between the valve and the top of the generator for automatically operating the valve, so that the latter will control the discharge of carbid according to the movement of the bell.

Various advantages and improved results attainable in this invention will be found in the practical working and application of the same.

In the accompanying drawings forming part of this application:—Figure 1— is an elevation partly broken away, of a gas generator embodying the invention. Fig. 2— is a central vertical section. Fig. 3— is a perspective view of the carbid hopper and its supporting frame, with the valve open. Fig. 4— is a section on the dotted line *x*—*x* Fig. 2.

The same reference characters denote the same parts throughout the several views of the drawings.

In this apparatus, the bell 1 is floated by oil contained in a chamber 3 formed between the inner and outer walls 4 and 5, respectively, of a generator cylinder 6. The top of the bell 1 is closed, and the bell has an inner and outer casing 7 and 8, respectively, forming an annular chamber 9 into which the outer wall 5 of the cylinder 6 extends. A removable pipe 10, having a funnel-shaped mouth 11, is inserted through the top of the bell and extends into the cylinder 6 for supplying this cylinder with water. When the pipe 10 is removed, the opening therefor in the top of the bell is closed by a suitable cap or plug. A gas discharge pipe 13 extends from near the top of the bell to the bottom of the cylinder 6, and such pipe has a connection 12, through the walls of the cylinder 6, with a pipe 3, extending above the top of the said cylinder, and this pipe is connected with a gas distributing pipe 14.

In order to provide for the over-flow of water from the cylinder 6, a pipe 15, is connected with the cylinder 6 near the bottom thereof, by means of a T-coupling 16 having the outer end closed except for a central aperture through which, and the said coupling, a rod 17 extends into the cylinder. The inner end of the rod 17 is provided with a curved plate or scraper 18, and the outer end of the said rod has a hand piece 19, for operating the arm in a cleaning operation. The coupling 16 is provided with a removable screw cap 20 for inclosing the hand-piece 19. It is obvious that upon removal of the cap 20, the rod 17 may be turned, and slid horizontally so as to operate the scraper in cleaning the cylinder 6.

The carbid hopper 21 is suspended by a tripod comprising uprights 22 having one end attached to the top of the wall 4 of the cylinder 6 and the other end is connected with the top of the hopper by radial arms 23, so as to suspend the hopper centrally between the uprights and centrally over the cylinder 6. The hopper has a funnel-shaped discharge end 24, and the feed or discharge of the carbid to the cylinder 6 is governed by a feed valve 25, hinged to the hopper at 26, and having a concaved portion 27 conforming with the conical shape of the hopper and extending over the discharge opening 28, of the hopper for closing said opening. A carbid passage 29 is formed in the valve adjacent to the valve-portion 27, and said passage or opening is of much greater size than the hopper-discharge 28, so that the carbid is only fed to the cylinder 6, in greater or less amounts according to the position of the passage 29 relative to the discharge opening 28. The valve is extended laterally from the passage 29, and has one end of an operating rod 30, adjustably secured thereto, said rod extends through

one of the tripod-arms 23, and above the hopper so as to be engaged by the top of the bell in the descent of the latter for opening the valve. Upon the ascent of the bell the valve is closed by means of a helical spring 31, having one end attached to the valve and the other end is secured to the tripod arm 23.

It will be observed that the valve starts to open simultaneously upon the engagement of the bell-top with the rod 30, and that the supply of carbid to the cylinder 6 is regulated and governed by the valve during the movement of the bell which operates the valve so as to gradually swing the valve-passage 29 from the discharge opening 28 of the hopper.

I do not wish to be understood as confining the invention to any particular size or material, nor to the exact location and connection of the various parts of the apparatus, especially the carbid feed-valve, but reserve to myself the right to make such changes and variations therein as may come within the scope of the appended claim.

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

The combination with an acetylene gas generator, a bell, and a carbid feed hopper, of a tripod for suspending the hopper, a feed valve hinged to the discharge end of the hopper and provided with an extension having a carbid passage therethrough, a helical spring suspended from the top of the tripod and attached to the valve extension for holding the valve in closed position, and a rod adjustably secured to and projecting from the valve and extending through an arm of the tripod and adapted to be engaged by the bell for operating the valve so as to swing the said passage into communication with the opening in the discharge end of the hopper.

In witness whereof I hereunto set my hand in the presence of two witnesses.

JESSE T. FINLEY.

Witnesses:
H. H. KELLEY,
A. C. HENY.