

1,028,174.

Fig. 4.

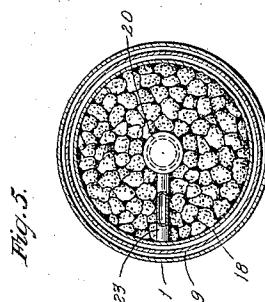


Fig. 5.

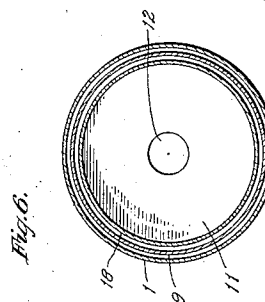


Fig. 6.

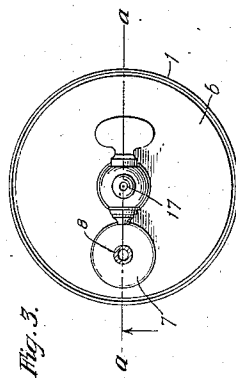


Fig. 3.

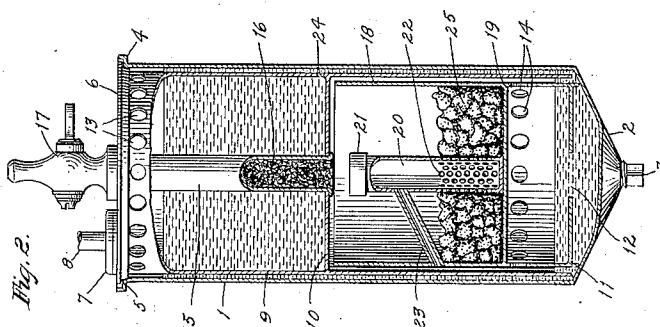


Fig. 2.

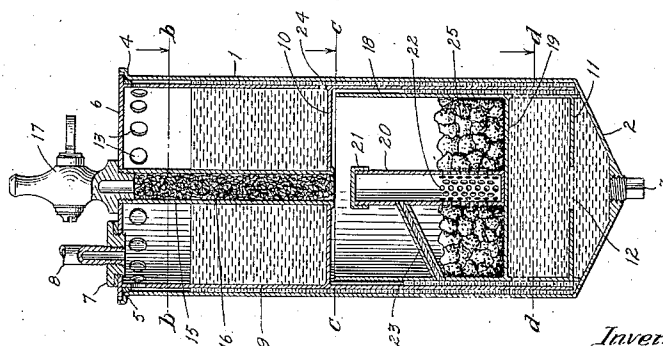


Fig. 1.

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UNITED STATES PATENT OFFICE.

FAY H. YOUNG, OF ROCKFORD, ILLINOIS.

ACETYLENE-GAS GENERATOR.

1,028,174.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed March 24, 1911. Serial No. 616,751.

To all whom it may concern:

Be it known that I, FAY H. YOUNG, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

The object of this invention is to automatically regulate the flow of water on the carbid by the pressure of the gas formed.

In the accompanying drawings, Figure 1 is a vertical central section on dotted line *a a* Fig. 3, in which water is being applied to the carbid. Fig. 2 is a similar section in which the flow of water is stopped. Fig. 3 is a plan view. Fig. 4 is a transverse section on dotted line *b b* Fig. 1. Fig. 5 is a transverse section on dotted line *c c* Fig. 1. Fig. 6 is a transverse section on dotted line *d d* Fig. 1.

The outer casing 1 in this instance has a conical shaped bottom 2 with a removable plug 3. The upper end of this outer casing has an outwardly extending flange 4 on which is placed a packing ring 5. A top or cover 6 rests on the packing ring 5, and is provided with a removable screw-threaded plug 7 having a vent opening 8. From the underface of this top depends an inner casing 9. This inner casing near its upper end is formed with a series of holes 13.

A tube 15 has its upper end connected to the top 6, and its lower end is connected to the partition 10. A filling 16 of filtering material is placed within the tube 15. To the upper end of this tube is secured a cock 17 to which a rubber hose may be connected to supply gas to the burner.

Within the inner casing 9, below the partition 10 is located a carbid receptacle formed of the shell 18, and a partition 19, forming a support for the carbid. Below the partition 19 is located another partition 11 having a central opening 12 therethrough. Openings 14 are formed in the wall of the shell 18, just below the partition 19. A tube 20 is supported by the partition 19, and has a closed upper end 21. This tube is formed with perforations 22. A pipe 23 is downwardly inclined and has its upper end communicating with the interior of the tube 20 and its lower end connected with the shell 18. A hole 24 is formed through the inner cylinder 9.

By removing the top 6, the inner cylinder

is removed which will expose the open end of the carbid receptacle which will permit carbid 25 being placed on the partition 19. The inner casing is then placed in position, and water poured through the opening closed by the plug 7. The water will pass through the hole 24 into the space between the outer casing 1, and the inner casing 9, and will pass beneath the lower end of the inner casing into the space between the inner casing and the shell 18 which will fill the space beneath the partition 19, and the water will rise and be discharged through the pipe 23 into the tube 20, and will pass out through the holes 22 into contact with the carbid 25. Gas will then be formed, and when the pressure has increased to a given point, the water will be forced back in the pipe 23 which will cut off the supply of water to the carbid. The gas will be drawn off through the tube 15, and will pass through the filtering material 16, upon opening the cock 17, and will supply the lamps. If the pressure of the gas increases materially it will force the water into the position shown at Fig. 2, and upon the gas being drawn off the pressure will be reduced which will allow the water to again drip into the tube 20, moisten the carbid and generate more gas. The openings 14 allow the water to fill the space beneath the carbid receptacle and the opening 24 allows the water when forced up by the excess pressure of gas to enter the water receptacle. By this arrangement the water is fed onto the carbid and this is automatically accomplished by the pressure of the generated gas. This automatic operation will continue so long as there is water and carbid.

I claim as my invention.

In an acetylene gas generator, the combination with an outer casing having an open top, of a removable cover for said open top, an inner casing located wholly within the outer casing and removable through the top of the same, said inner casing having a transverse partition above its lower end, forming a water reservoir in the upper portion of the outer casing, said casing having their lower portions spaced apart and the water reservoir forming a water reservoir in the upper portions spaced apart and the water reservoir communicating with the space between the casings to permit the water to flow between the two casings into the lower portion of the outer casing and thence into the inner

casing, a removable carbid holder separate from both casings and located in the lower portion of the inner casing, said carbid holder being spaced from the inner casing
5 and having means in one side and above its bottom for admitting water thereinto from the lower portion of the inner casing, and a gas conduit communicating with the carbid holder and extending through the partition of the inner casing and through the
10

removable cover, said inner casing being removable upon the removal of the cover and exposing the carbid holder when so removed.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FAY H. YOUNG.

Witnesses:

A. O. BEHEL,

E. D. E. N. BEHEL.

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