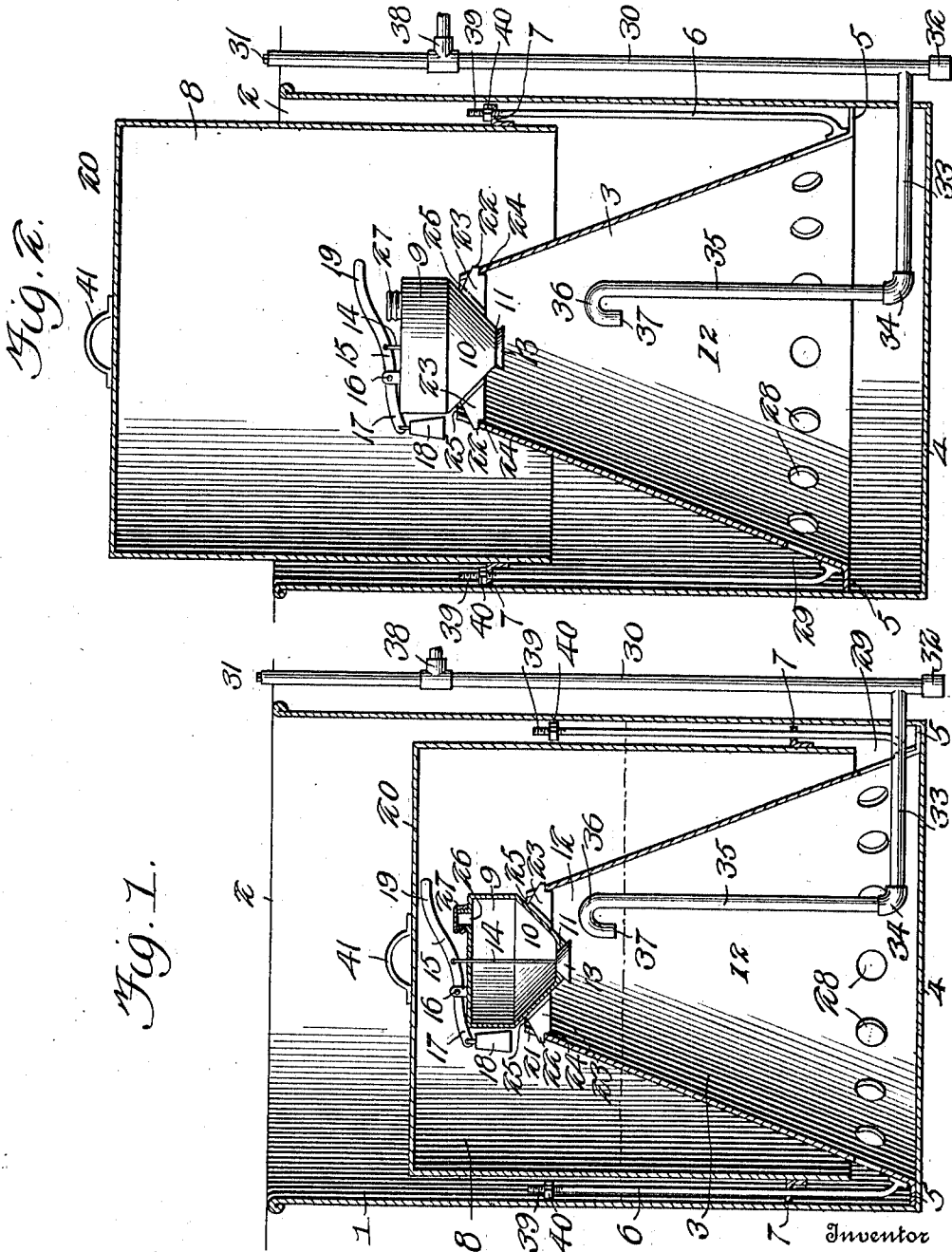


J. D. SMITH.
ACETYLENE GAS GENERATOR.
APPLICATION FILED AUG. 20, 1912.

1,059,228.

Patented Apr. 15, 1913.



Witnesses

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JOHN D. SMITH, OF SAN JOSE, ILLINOIS.

ACETYLENE-GAS GENERATOR.

1,059,228.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed August 20, 1912. Serial No. 716,039.

To all whom it may concern:

Be it known that I, JOHN D. SMITH, a citizen of the United States, residing at San Jose, in the county of Mason and State of Illinois, have invented new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

This invention relates to acetylene gas generators and has for an object to provide a generator of maximum compactness; one which will be positive in action to permit introduction of carbid to the water container on the drop of the bell below a predetermined position, one which will be so constructed that all of its different parts can be readily cleaned and separated from one another, and one which will also be constructed whereby the carbid container, the support therefor and the bell can be removed together when desired.

A still further object of the invention is to provide means for spacing the carbid container from the support whereby direct communication is established between the water chamber and the bell.

In the drawing forming a portion of this application and in which like letters of reference indicate similar parts in the several views: Figure 1 is a vertical section through the generator. Fig. 2 is a vertical section of the bell and the carbid support showing the former adjusted upon the latter whereby they may be removed together from the tank.

The generator comprises a tank 1 which may be embedded in the ground so that its upper open end 2 will come flush with the surface of the ground. A truncated conical support 3 is removably mounted in the tank 1 being supported upon the bottom 4 thereof as shown. This support is provided at its base with an outwardly extending flange 5 whereby it is spaced equally from the vertical walls of the tank and maintained in a central position therewithin. This support is provided with guide and spacing rods 6 which are disposed in parallel relation with the vertical walls of the tank 1 and extended through horizontal guide brackets 7 which extend from the sides of the bell 8.

The carbid container 9 is provided with a hopper bottom 10 in which is formed a discharge opening 11 whereby a portion of the carbid may be discharged into the gas generating chamber 12 which is defined by the side walls of the support 3. A conical

valve 13 moves vertically in the discharge opening 11, being provided with a rod 14 which is operatively connected with a controlling lever 15. The controlling lever is pivoted at 16 upon the top of the carbid container, and as shown a portion 17 of the lever extends downwardly against one side of the carbid container where it is connected with a weight 18. Under the influence of the weight the lever 15 is normally sustained in a position to warrant a closing of the valve 13 against the walls of the discharge opening 11 so as to prevent the discharge of the carbid. The portion 19 of the lever is disposed above the plane of the carbid container and is located directly in the path of the crown 20 of the gas bell so as to be engaged thereby on the fall of the bell below a predetermined position. The weight of the bell against the portion 19 will actuate the lever 15 against the normal action of the weight 18 so that the valve 13 is opened to permit a quantity of the carbid to discharge into the generating chamber 12.

With a view to establishing communication between the generating chamber 12 and the gas bell I provide the supporting member 3 with vertical notches 21. These notches are located at the reduced end of the support and they are designed to accommodate the projecting portions 22 of spacing brackets 23. These brackets are secured to the hopper portion of the carbid container and as shown they are provided with shoulders 24 which may be seated against the inner walls of the portion 3 and thereby hold the hopper portion of the carbid container spaced from the adjacent portion of the support 3 as shown at 25. The carbid container is provided with a filling opening 26 and a closure 27 therefor. Adjacent to the lower end the support 3 is provided with one or more passages 28 whereby water when introduced to the chamber 12 will be permitted to flow into the sealing chamber 29 so that a quantity of the water will seal the lower open end of the gas bell to prevent the gas from discharging to the atmosphere.

A gas distributing pipe 30 is located exteriorly of the tank 1. This pipe is provided at its upper end with a vent plug 31 which may be removed when introducing water to the chamber 12, while the lower end of said pipe is provided with a drip

cup 32 into which water of condensation will be permitted to accumulate. Immediately above the cup 32 and connected with the pipe 30 is a branch pipe 33. This branch
 5 pipe extends through the tank 1 and at 34 it is connected with a vertical intake 35 which extends into the chamber 12 and which terminates at a point above the water level in a portion which is curved laterally
 10 at 36 and then downwardly as at 37. The portion 36 forms a guard to prevent water from being carried into the distributing pipe when the water is introduced to the chamber 12. The distributing pipe 30 has
 15 connected therein one or more branches 38 which may be led to a point where the gas is desired for use.

The upper extremities of the rods 6 are threaded as at 39 to accommodate nuts 40.
 20 The nuts are disposed directly in the path of the guides 7 so that should it be desired the bell 8, the carbid container 9 and the support 3 can be removed together. The crown 20 of the gas bell carries a handle 41
 25 which may be grasped by the hand to per-

mit the bell to be drawn up and to cause the guides 7 to engage against the stop nuts.

I claim:—

A gas generator comprising a tank, a support of truncated cone form located within 30 the tank and rising from the bottom thereof, a bell movable in the tank and over the support, guides carried by the bell, rods carried by the support and associated with the guides to hold the bell centrally disposed in 35 the tank, and a carbid container carried by the support, said support having its walls arranged relatively to define a gas generating chamber beneath the carbid container and said chamber being in open communi- 40 cation with the bell, and stops carried by said rods and disposed directly in the path of the guides for the purpose specified.

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

JOHN D. SMITH.

Witnesses:

PETER J. IMIG,
 FRED W. JACOBS.

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