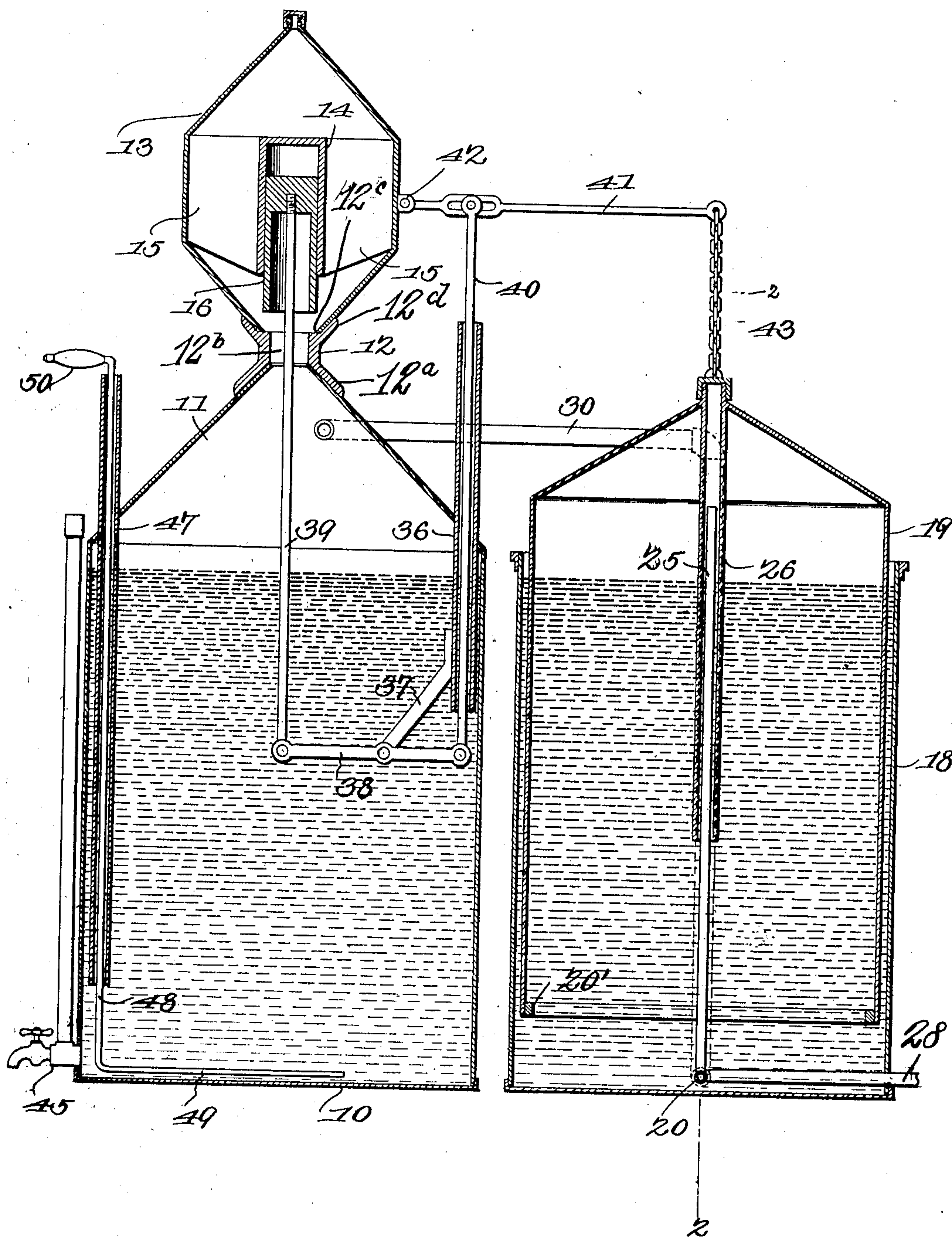


No. 876,119.

PATENTED JAN. 7, 1908.

W. J. WALSH.
ACETYLENE GAS GENERATOR.
APPLICATION FILED MAY 12, 1906.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM J. WALSH, OF FERRIS, TEXAS.

ACETYLENE-GAS GENERATOR.

No. 876,119.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed May 12, 1906. Serial No. 316,569.

To all whom it may concern:

Be it known that I, WILLIAM J. WALSH, a citizen of the United States, residing at Ferris, in the county of Ellis and State of Texas, have invented a new and useful Acetylene-Gas Generator, of which the following is a specification.

This invention relates to acetylene gas generators and has for its object to provide a secure and simple connection for supporting the carbide chamber above the generating chamber, said connection also serving as a seat for the valve controlling the feed of carbide to the generating chamber.

With this object in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

The accompanying drawings represent a sectional elevation of an acetylene gas generator constructed in accordance with the invention.

Similar numerals of reference are employed to illustrate corresponding parts throughout the several figures of the drawings.

The generating tank 10 is preferably cylindrical in form and is provided with a frusto-conical upper portion 11 that is connected by a throat piece 12 to a carbide chamber 13. The throat piece 12 comprises a short cylindrical section with a conical flange 12^a on its lower end diverging from the opening 12^b through the throat piece at such an angle as to fit snugly on the upper portion 11 of the generating chamber. The top of the throat piece has a flat surface 12^c surrounding the aforesaid opening which forms the seat for the valve 16. Surrounding the flat surface 12^c is a divergent flange 12^d for the frusto conical end of the carbide chamber 13.

Arranged within the carbide chamber is a cylindrical valve guide 14, closed at the top to protect the valve from the weight of the carbide, and said casing is held in position by a plurality of wings or ribs 15, extended inward from the main wall of the casing. The casing is arranged to contain a cylindrical

valve 16 that slides vertically within said casing, and is elevated to permit the discharge of a quantity of carbide to the generating tank. When closed the valve seats at the upper portion of the throat piece.

At a point adjacent to the generating chamber is a gasometer including a tank 18, and a movable bell 19, the latter being provided at its lower end with a weight ring 20 of a size dependent on the pressure under which the gas is to be forced through the service pipe. Extending transversely through the lower portion of the gasometer is a pipe 20 from which extends a vertical pipe 25 that forms a guide for a pendent tube 26 that is secured to the gasometer bell, the tube and pipe forming a guide for the bell during its vertical movement. Normally the lower end of the tube is sealed by the water in the gasometer tank, but when the quantity of gas is in excess of the capacity of the gasometer, the tube will move above the water line and the gas may escape by way of the pipe 25 through which it flows and a pipe 28 to a point of discharge that may be disposed any distance from the gasometer. Gas flowing from the generator through a pipe 30 enters the gasometer from below and discharges thereinto through a suitable pipe above the water level in a manner well understood.

Extending through the top of the generating tank to a point below the water line thereof is a tube 36 having at its lower end a bracket 37 to which is pivoted a lever 38. One end of the lever is connected by a rod 39 to the valve, and the opposite end is connected by a rod 40 to a lever 41. One end of the lever 41 is pivoted to a bracket or lug 42 projecting from the side of the carbide chamber or other fixed point, while the opposite end has a flexible connection 43 with the top of the gasometer bell, so that as the bell moves up, the rod 40 will be elevated by the fall of the valve 16 and rod 39 cutting off the supply of the carbide. When the supply of gas runs low in the gasometer, the bell descends, and this results in downward movement of the rod 40 which is transmitted through the lever 38 to the valve rod 39, opening the valve and allowing a charge of carbide to fall into the generating tank.

The operation is entirely automatic, and as fast as the gas is consumed, fresh charges of carbide are admitted to the tank to generate the gas. At the bottom of the generating tank is a valved outlet 45, by which the

slush and water may be drawn off, and at one side of the tank is a tube 47 extending nearly to the bottom of the tank and serving as a guide for the rod 48 that is provided at its lower end with a slush agitating bar 49, and at its upper end with a handle 50 for operating the slush bar.

Attention is called to the fact that the throat piece 12 is shown of heavier material than the tank 10 and carbid chamber 13. This throat piece is so shaped that the valve 16 contacts solely with it when closed and the structure is therefore rendered much more lasting than should the valve necessarily rest upon the sheet metal or other comparatively thin material of which the carbid chamber is formed. Obviously should the valve seat which is formed by the throat piece become worn as a result of long usage a new throat piece could be substituted at comparatively slight cost.

Having thus described the invention, what is claimed is:—

In an acetylene gas apparatus, a generating chamber having a frusto conical upper portion, a throat piece of heavier material than the tank or chamber with a conical flange on its lower end diverging from a vertical opening therethrough at such an angle as to fit snugly on the frusto conical upper portion of the generating chamber, a diver-

gent flange on the upper end of said throat piece between which and the vertical opening is a flat valve seat formed by the top of the throat piece, a carbid chamber having a frusto conical bottom seated in the upper divergent flange of the throat piece, a self closing valve adapted to control the flow of carbid from the carbid chamber to the generating chamber and disposed when closed to rest solely upon the flat top of the throat piece, a cylindrical valve guide within the carbid chamber having a closed top, supporting means for the valve guide, a valve operating rod, a lever fulcrumed in the generating chamber pivoted at one end to the valve rod and at the other end to a second rod passing through the top of said chamber, a slotted lever fulcrumed at one end to a fixed part of the apparatus, said second rod movably engaging the slotted portion of said lever, and a gasometer having a vertically movable bell connected to the other end of the slotted lever.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM J. WALSH.

Witnesses:

S. O. MARTIN,
W. R. HALL.