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GAS APPARATUS.

APPLICATION FILED MAY 22, 1914.

1,182,121. Patented May 9, 1916.

Fig. 1.

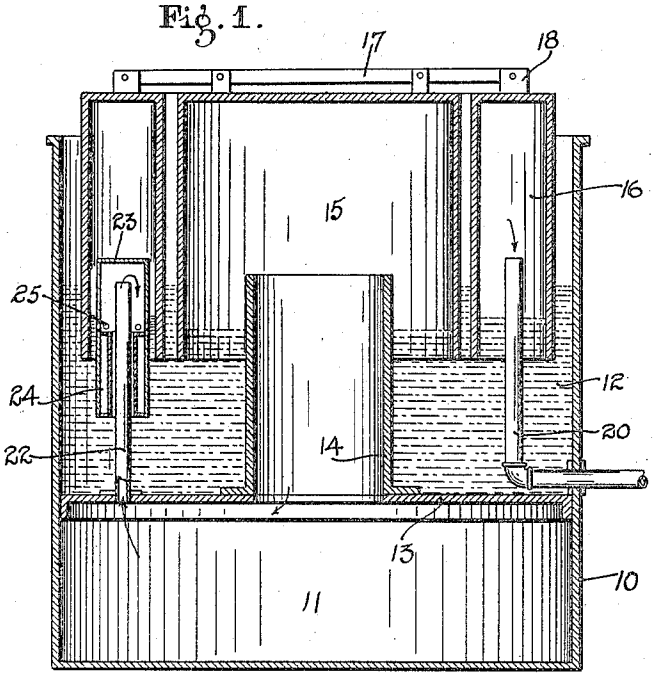
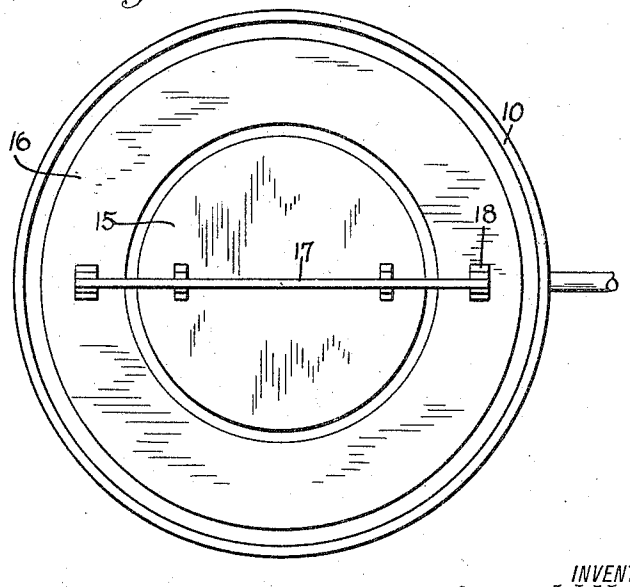


Fig. 2.



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OSWALD W. VISSCHER AND CHARLES T. TARPENNING, OF INDIANAPOLIS, INDIANA, ASSIGNORS TO JENNE ACETYLENE GAS MACHINE COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION.

GAS APPARATUS.

1,182,121. Specification of Letters Patent. Patented May 9, 1916.

Application filed May 22, 1914. Serial No. 840,299.

To all whom it may concern:

Be it known that we, OSWALD W. VISSCHER and CHARLES T. TARPENNING, citizens of the United States, and residents of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Gas Apparatus; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

The object of this invention is an improvement in the construction and operation of that part of an acetylene generator in which the gas is stored and washed, whereby washed gas and unwashed gas are stored separately, with provision for automatically washing the unwashed gas and transferring it to the receptacle containing washed gas as required; and also whereby the pressure at which the gas is stored is maintained substantially constant and independent of such variables as the level of the water in the apparatus.

One feature of the invention consists in providing a high pressure gas bell and a normal pressure gas bell, sealed by water at their lower ends and supported by the water, said bells being secured together so that they rise and fall together with the result that gas in the high pressure bell will pass through a washing device to take the place of gas drawn from the normal pressure bell.

Along with the foregoing feature of the invention is the provision of a gas washer in communication with the high pressure bell and the normal pressure bell, said gas washer being automatically buoyant so as to discharge the gas from a constant depth below the surface of the water into the normal pressure bell. This is important since the difference in pressure in the high pressure and normal pressure bells is equal to this depth and in each of said bells a constant pressure is desired.

While the invention is shown and described with particular reference to use in connection with acetylene gas apparatus, still it is not limited to apparatus for handling acetylene gas.

The nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a central vertical section through that part of an acetylene gas apparatus in which the gas is stored and washed. Fig. 2 is a plan view thereof.

There is an outer tank 10 open at the top and provided with a chamber 11 in the lower part thereof. Above said chamber 11 there is a water chamber 12 having a bottom 13 and surrounding a central tube 14 which brings the generating chamber and the high pressure bell 15 into communication with each other. Said bell is closed at the upper end and is supported by the water in said water chamber 12. The normal pressure bell 16 surrounds the high pressure bell 15 and is closed at the top, and is supported by the water in the water chamber 12. The two bells 15 and 16 are secured together by a cross rod 17 connected to flanges 18 extending upward from the bells. Hence, said bells move up and down together. As the gas is produced, it first enters into the high pressure bell 15 and when it reaches a sufficient pressure therein it passes through the gas washer 23 to the normal pressure gas bell 16, and in such passage the gas is washed. The accumulation of gas in these bells causes them to rise.

The washer 23 which brings the high pressure bell 15 and the normal pressure bell 16 into communication with each other is in the form of a bell which is free to move up and down over the upper end of the tube 22 which leads from the chamber 11 and projects above the water level in the normal pressure bell 16. The lower end of said washer is provided with a buoyancy chamber 24 which supports the washer in the surrounding water at such an elevation that gas outlets in the walls of the washer are always at a constant distance, say one inch, below the surface of the water. It is obvious that with this construction it requires a difference in pressure in the two bells which is proportional to this distance to force gas to issue through these outlets. The outlets 25 are relatively small as it is desirable to have the bubbles of gas small so as to bring every particle of the gas into contact with the cleansing fluid. A service pipe 20 leads from above the water level in the normal pressure bell to the point where the gas is used.

In the drawings, the bells 15 and 16 are concentric, but this construction is not necessary to this invention, as any arrangement whereby they are caused to move up and down together and gas can pass from

the high pressure chamber to the normal pressure chamber, will suffice.

The operation of the apparatus is as follows: When gas is generated, it ascends from chamber 11 through the tube 14 into the bell 15 and elevates said bell. As the gas bell 15 rises it carries the gas bell 16 with it and tends to lower the pressure in the gas bell 16. But immediately gas passes through the gas outlets 25 in the washer 23 and maintains the pressure in gas bell 16 unchanged, so that both bells rise together with unchanged pressure as long as gas is generated. As the gas issues through the gas outlets 25 it passes up through the water and is washed and purified. As gas is drawn from the generator through the service pipe 20 the normal pressure bell 16 falls carrying high pressure bell 15 with it and tending to increase the pressure in the bell. Immediately, however, gas from the high pressure bell 15 passes to the normal pressure bell 16 through the water washer 23, thus replenishing the latter bell with washed gas and maintaining the pressure in both bells unchanged as they fall.

The invention claimed is:

1. Gas apparatus, a water sealed bell, a gas supplying tube leading into said bell, another water sealed bell secured to said first-mentioned bell, and a floating gas washing device in the last-mentioned bell which is in communication with said generating chamber.

2. In a gas apparatus, a water sealed bell adapted to receive gas from the generator, another water sealed bell secured to the first mentioned bell, a vertical tube in the last mentioned bell and through which the gas enters the first mentioned bell and which extends to a point above the water line in the last mentioned bell, a gas washing device over the upper end of said tube in the form of a gas bell, provided with a plurality of lateral outlets, and designed to float with these outlets below the water line in the last mentioned bell, and a service pipe leading from the last mentioned bell.

3. In a gas apparatus, a water sealed bell adapted to receive gas from the generator, another water sealed bell secured to the first mentioned bell, a vertical tube in the last mentioned bell and through which the gas enters the first mentioned bell and which extends to a point above the water line in the last mentioned bell, a gas washing device over the upper end of said tube in the form of a gas bell, provided with a plurality of lateral outlets, and provided with a float chamber for supporting said washing device and designed to float with these outlets below the water line in the last mentioned bell, and a service pipe leading from the last mentioned bell.

4. In a gas apparatus, a water sealed bell adapted to receive gas from the generator, another water sealed bell secured to the first mentioned bell, a vertical tube in the last mentioned bell and through which the gas enters the first mentioned bell and which extends to a point above the water line in the last mentioned bell, a gas washing device over the upper end of said tube in the form of a gas bell, provided with a plurality of lateral outlets, and provided with a float chamber immediately below said outlets for supporting said washing device, and designed to float with these outlets below the water line in the last mentioned bell, and a service pipe leading from the last mentioned bell.

In witness whereof, we have hereunto affixed our signatures in the presence of the witnesses herein named.

OSWALD W. VISSCHER.
CHARLES T. TARPENNING.

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