

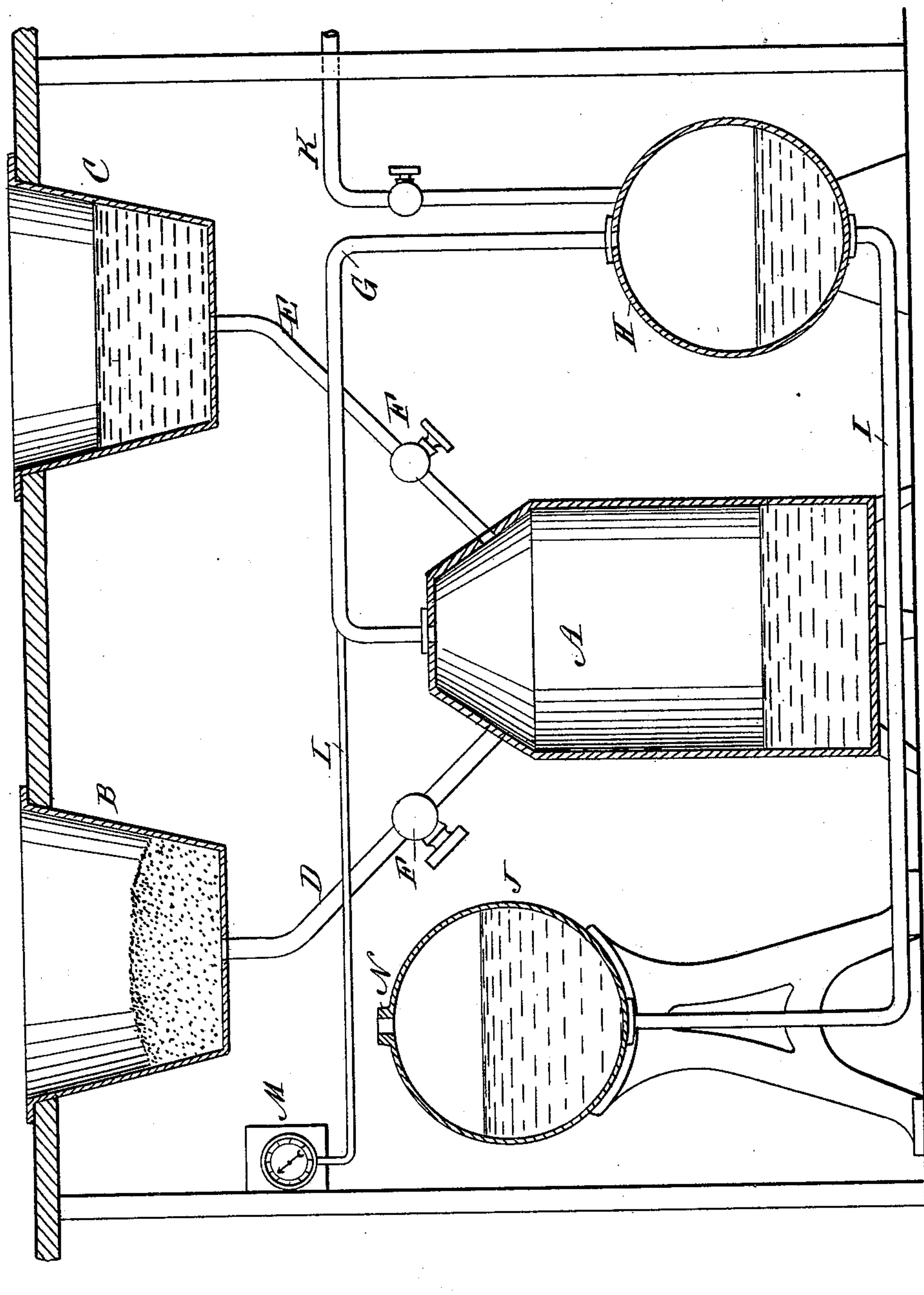
(No Model.)

J. J. POWERS.

APPARATUS FOR MAKING AND STORING GAS.

No. 366,874.

Patented July 19, 1887.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JAMES J. POWERS, OF BROOKLYN, NEW YORK.

## APPARATUS FOR MAKING AND STORING GAS.

SPECIFICATION forming part of Letters Patent No. 366,874, dated July 19, 1887.

Application filed January 5, 1887. Serial No. 223,476. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES J. POWERS, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Gas Generating and Storing Apparatus, of which the following is a full, clear, and exact description.

The object of my invention is to provide a convenient, simple, and safe apparatus for the manufacture of chlorine or other noxious gases which are made by mixing or volatilizing chemicals, and to so store such gases as to prevent the escape of gas into the atmosphere by permeation of the liquid-seal or evaporation, and to prevent the loss of gas consequent to saturating the seal when the apparatus is in use.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which the figure is a sectional elevation of my new gas generating and storing apparatus.

A represents a mixing-tank to receive the gas-forming chemicals, which are admitted to the tank from elevated receptacles B C, through the connecting-pipes D E. These connecting-pipes are each provided with a cock, F, by which they may be closed after a supply of chemicals has been admitted to the tank A. From the top of the tank A leads a pipe, G, which enters the top of the gas-holder H. Connected to the bottom of the holder H by the pipe I is the pressure-tank J, which is elevated above the holder H. K represents the service-pipe leading from the top of the holder H, and connected to the pipe G by the small pipe L is the gage M, to indicate the pressure of gas in the holder H.

In use the holder H is to be filled with water through a small opening, N, in the top of the tank J, and in the receptacle B is to be placed a quantity of salt and manganese, (if chlorine gas is to be made,) and in the receptacle C is placed a quantity of sulphuric acid. Then the cocks F are opened to admit a suitable quantity of these chemicals to the tank A and the cocks closed again. The gas generated from the mixture passes through pipe G to the holder H, displacing the water therein and forcing the same into the tank J, so that when the holder is full of gas the tank J will be full of water, which acts as a seat and a pressure-head to maintain a pressure upon the gas to force it through the service-pipe K.

The water in the apparatus when once saturated with chlorine will prevent all escape of gas and all further waste of gas. Instead of using a single generator, as shown in the drawing, I may use a nest of two or more for continuous generation of gas.

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

The gas-generator A and the elevated tanks B C, connected by the pipes D E to the gas-generator, in combination with the holder H, connected to the generator by the pipe G, and the elevated water-tank J, connected to the holder by the pipe I, substantially as and for the purposes set forth.

JAMES J. POWERS.

Witnesses:

H. A. WEST,  
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