W. MAYNARD.

Apparatus for the Manufacture of Gases.

No. 136,081. Patented Feb. 18, 1873.

Fig. 1

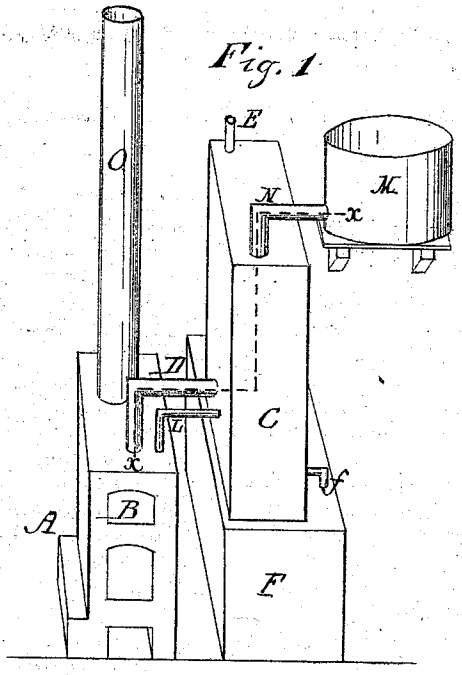
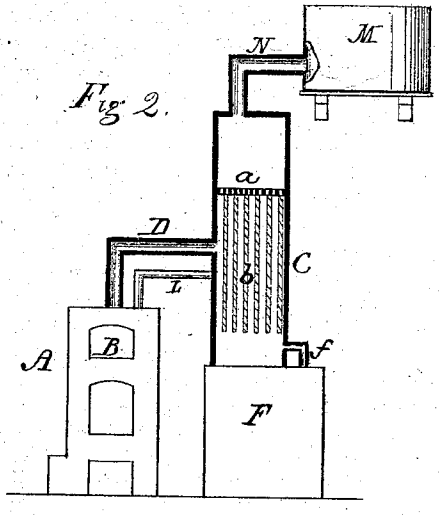


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN APPARATUS FOR THE MANUFACTURE OF GASES.

Specification forming part of Letters Patent No. **136,081**, dated February 18, 1873.

To all whom it may concern:

Be it known that I, WILLIAM MAYNARD, formerly of Leominster, Herefordshire, England, but at present residing in Salem, in the county of Essex and State of Massachusetts, have invented a certain new and useful Improved Apparatus for the Manufacture of Gases; and that the following is a full and exact description of the same, reference being had to the accompanying plate of drawing.

The present invention relates to an improved apparatus for the manufacture of gases; and it is designed more especially for the production of the gases employed by me in the tanning of hides, skins, &c., as described in the specification accompanying an application for Letters Patent which I have made for improvements in process of tanning hides. My invention consists in combining a generator and condenser, having a water-supply pipe and a medium for percolating water, as hereinafter specified, with an air-tight chamber, an elevated auxiliary condenser, an oven, and a furnace, the several component parts constituting the apparatus having communication with each other by means of pipes, in the manner and for the objects hereinafter more fully set forth.

In the accompanying plate of drawing is illustrated my improved apparatus, Figure 1 being a perspective view of the same; and Fig. 2, a transverse vertical section in plane of line *x x*, Fig. 1.

A in the drawing represents a furnace, having an oven, B, either and both of which may be constructed in any of the ordinary modes, suitable for reducing carbon, sulphur, lime, or other material used to a gaseous state; C, the generator and condenser proper. This generator C is connected, at or near its bottom, through a pipe, D, with the oven B of furnace, so that the vapors made in said oven can enter the generator and condenser C. The interior of the generator above the point where the pipe D enters the generator C is constructed with a perforated plate, *a*, from which are suspended more or less strings or lengths of cotton wicking, *b*. E, a pipe communicating with upper portion of the generator C above the perforated plate, which pipe is for the purpose of supplying water to said generator; F, an air-tight chamber below condenser C, and communicating therewith through pipe *f*, having stop-cock. This chamber is for receiving the gases and water passing from condenser C.

The operation of the apparatus described is as follows: Place the material from which gas is to be produced within the oven, and then apply heat thereto sufficient to change such material into a gas, which, as made, passes through pipe D into lower portion of condenser C, wherein more or less ascends and comes in contact with the water flowing or dripping from the cotton wick-strings, with which it unites, falling and discharging at pipe *f* into receptacles F ready for use.

In lieu of using cotton wicking, as described, the water may be made to percolate through a chamber filled with pumice-stone or its equivalent, suitably arranged within the condenser C; or the condenser C may be constructed with a continuous plate in a screw form, slightly descending, so as to slowly conduct the water down to the point, or thereabout, of the generator C where the gas enters; or various other means may be employed for properly distributing or bringing water into condenser C for the gas to come in contact with it and to be absorbed by it.

L, a pipe communicating with generator and condenser C at or near the point where the gas-pipe enters the same. This pipe L is intended for conducting vaporized water into the generator C should it be desired so to do, and for such purpose is to be connected with a boiler in which water is vaporized.

It may be well to here observe that my improved apparatus, in its practical construction, is provided with all the necessary safety-valves, test-cocks, and other appliances of substantially a similar character.

M, condenser for condensing what vapors may escape from the upper portion of condenser C, the pipe N connecting the two; O, smoke stack or pipe to furnace A.

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

The condenser or generator C, provided with a water-supply pipe and a water-percolating medium, as herein specified, and arranged above and in communication with the air-tight chamber F, in combination with each other and with the vapor-pipe D, vaporized-water pipe L, oven B, and furnace A, with or without the pipe N and elevated condenser M, all arranged and operating substantially as described, for the object specified.

The above specification of my invention signed by me.

WM. MAYNARD.

Witnesses:

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M. D. BECKWITH.