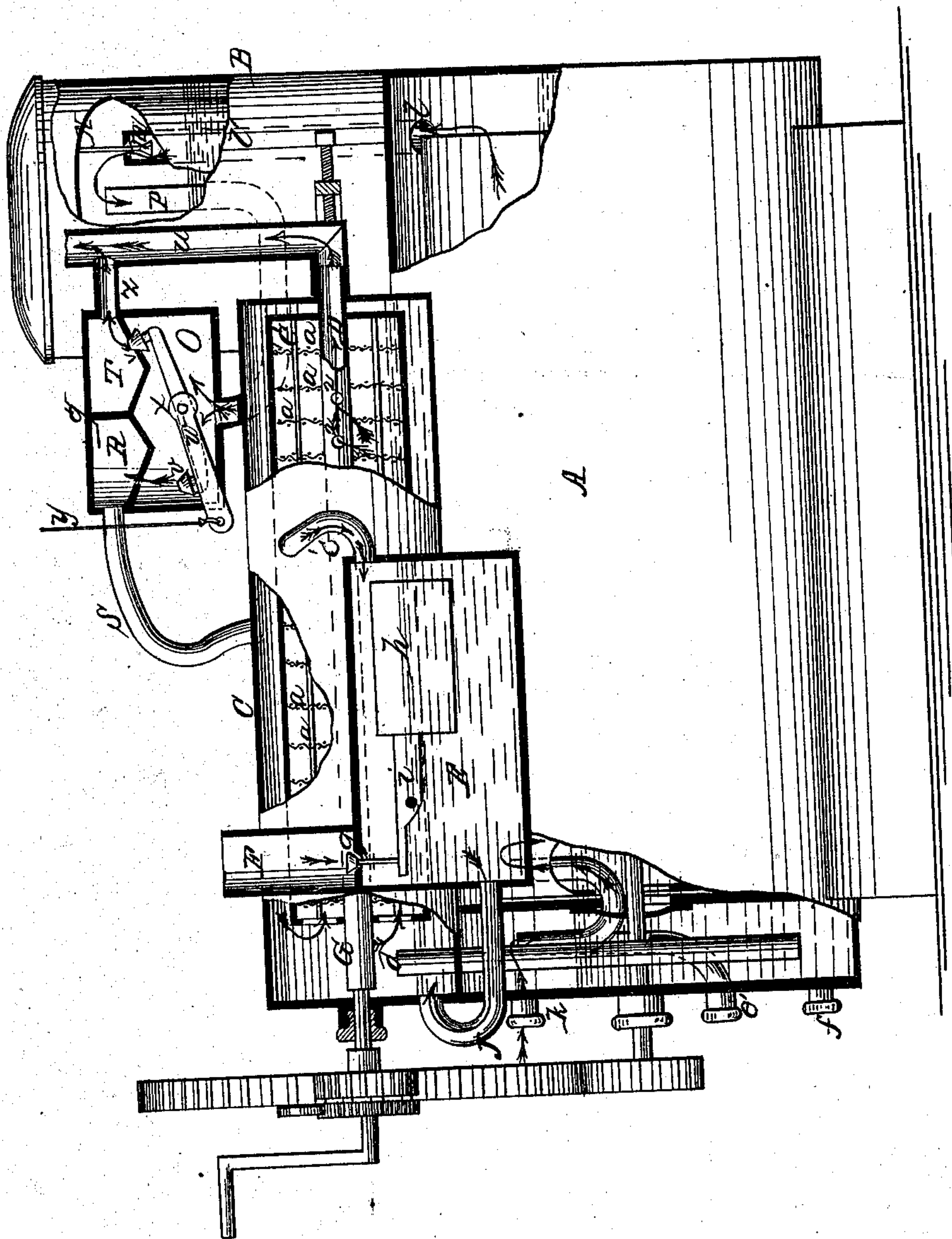


T. B. Fogarty,

Carburetor.

No. 103036.

Patented May 17, 1870.



Witnesses:
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United States Patent Office.

THOMAS B. FOGARTY, OF NEW YORK, N. Y.*

Letters Patent No. 103,036, dated May 17, 1870; antedated May 12, 1870.

IMPROVED GAS-GENERATOR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS B. FOGARTY, of the city, county, and State of New York, have invented a new and useful Improvement in Gas-Generator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in apparatus for producing illuminating gas by carbureting atmospheric air; and

The invention consists—

First. In the arrangement of the liquid-regulator, with relation to the carbureter and an ordinary gas-meter, whereby a uniform pressure of air is obtained, and the same level of liquid maintained in the carbureter and liquid-regulator.

Second. In the construction of the air-regulating vessel, and its arrangement with relation to the carbureter, distributing-pipe, air-pipe, and gasometer, whereby the air or gas from the gasometer is directed to the carbureter, and the gas from the carbureter diluted with air, in a more simple and expeditious manner than heretofore; and it consists, lastly, in the general arrangement of parts to produce an economical and compact apparatus.

The drawing represents a longitudinal elevation of the apparatus, with parts of the different sections broken away to show the construction and operation.

A represents an ordinary "Olegg" gas-meter, in its internal arrangement, by which the necessary quantity of air is forced into the air-holder B.

C is the carbureting-chamber, containing a cylinder, C', which revolves on a perforated hollow shaft, D, through which the carbureted air (or gas) is discharged, as indicated by the arrows.

E is the oil or liquid-regulator for supplying the cylinder C with a uniform quantity of liquid.

F is a pipe on the top of E, which connects with the liquid-reservoir above.

g is a valve in the bottom of this pipe, which is operated by a float, h, through the lever i.

A regular and constant supply of liquid is maintained in E by the rising and falling of the float, and the liquid having an outlet-pipe, J, which discharges the liquid into the carbureting-chamber C, the liquid is maintained in the chamber C at the same level as it is in E.

The air enters the forcing-chamber or meter A through the pipe k, where it is brought in contact with the water in A, and is discharged into the air-holder through the orifice l, and the pipe seen in dotted lines m, and valve-orifice n.

The air-holder B contains water, and the construc-

tion is similar to that of the ordinary gasometer, B being the cistern, and N the gas-holder proper.

The valve at m is operated by N, and is opened and closed according to the pressure produced.

From N the air is conveyed into the chamber O, through the pipe P, (seen partly in dotted lines.)

The chamber O is the lower part of a vessel marked q, which is divided into three compartments.

The compartment R is in communication with the carbureter C, through the pipe S, and the compartment T is in communication with the pipe U, through which the gas or carbureted air is discharged to the burners.

Through the partition there are two valve-orifices, V V', with valves to fit, attached to a weighted bar, w, which is hung on a pivot, x.

The position of this bar and of the valves is controlled by a cord, y, which is attached to the bar, as seen, and extends upward into the apartments of the building above, as may be convenient or desirable.

As seen in the drawing, V' is closed, and all the air which enters the chamber O is discharged through V, and into the carbureter through the pipe S.

Whenever the air becomes too freely charged with carbon, and it is found necessary or expedient to dilute the gas, the valve V' is lowered, by drawing upon the cord y, which admits of a flow of air into the pipe U, through the short pipe z, as indicated by the arrows.

The course of the air, as it enters the carbureting-chamber C and cylinder C', is also indicated by arrows.

The cylinder C' is provided with a series of wire-gauze or perforated diaphragms, a, which diaphragms are covered (upon one or both sides) with flannel, felt, or other good absorbent, so that, as the cylinder is revolved, they take up the carbureting liquid, and become saturated therewith, thus exposing a very large surface for the air, which is brought in contact therewith, and charged with the vapor of the liquid.

After the air has passed through and by nearly all the diaphragms, it enters the hollow shaft D, through orifices 2, and passes into the pipe u, for distribution to the burners, as before stated.

C' is a pipe, which connects the carbureter with the liquid-regulator E, for the purpose of keeping up an equilibrium of pressure between the two.

d' is an overflow-pipe for the carbureter.

e is a pipe for drawing off any water of condensation which may accumulate in the air-pipe k.

f is a pipe for drawing the water from A.

The movable parts of the apparatus are actuated by a weight, the cord of which is wound on the drum G, from the shaft of which drum motion is imparted to the shaft H of the vessel A by gear-wheels or pulleys and belts, as may be most convenient or desirable.

*Assignor to Thomas A. Mitchell of Washington, D. C.

Instead of a weight, a spring may be used for actuating the shafts or moving parts of the apparatus.

By this apparatus the air becomes thoroughly charged with the vapor of the hydrocarbon liquid, and its richness in carbon or its illuminating power is at all times under perfect control through the valve arrangement in the air-regulating vessel *q*.

I do not claim anything novel in the air-meter *A*, nor in the air-holder *N*, as I am aware that such parts are common; but

What I do claim, and desire to secure by Letters Patent, is—

1. The combination of the gasoline self-regulating

device *E F g h i* with diaphragmed carbureter *C C'*, as set forth.

2. The arrangement of the gas-discharger in the shaft *D* of the diaphragmed carbureter *C C'*.

3. The combination of discharging-pipe *u*, chamber *I z*, and valve *v* with an air-chamber, to graduate the strength of gas, in the manner described.

4. The air-vessel *V*, composed of chambers *R O T*, valves *v v'*, and lever *u*, operating as and for the purpose specified.

Witnesses:

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