

UNITED STATES PATENT OFFICE.

HERBERT O. BROWN AND JOHN R. DONNELLY, OF FAIRFIELD, MAINE.

CARBURETER.

SPECIFICATION forming part of Letters Patent No. 677,852, dated July 9, 1901.

Application filed September 13, 1900. Serial No. 29,907. (No model.)

To all whom it may concern:

Be it known that we, HERBERT O. BROWN and JOHN R. DONNELLY, citizens of the United States of America, and residents of Fairfield, Somerset county, State of Maine, have invented certain new and useful Improvements in Carbureters, of which the following is a specification.

Our invention relates to gas-generators adapted to generate illuminating or heating gas from gasolene or other like hydrocarbon, and it is particularly directed to producing a machine of relatively small size which will generate an automatically-regulated supply of gas with a comparatively small quantity of gasolene in storage at any one time. In other words, we aim to produce a small gas-machine, adapted to small plants, in which the generation of gas is automatic, according to the amount required, the machine being so compact and holding so little gasolene in storage at any one time that it may be safely located inside of any building. We accomplish this object by means of the apparatus hereinafter shown and claimed.

We illustrate our invention by means of the accompanying drawings, in which—

Figure 1 is a plan of the apparatus without the water-tank, and Fig. 2 is a central vertical section showing the water-tank.

A represents the generating-chamber, provided with a series of diaphragms disposed one above another, each alternate diaphragm, as here shown, inclining in opposite directions. Means are provided for introducing gasolene to the lower portion of the tank, below the diaphragms. We here show an automatic feeding device by which the gasolene is automatically fed down as it is vaporized to form gas. A supply-tank B is located above the generating-chamber and is connected with the generating-chamber through an auxiliary gas-chamber C, with which it is connected by means of a pipe *b*, which terminates near the bottom of the generating-chamber, as here shown, at a point where it is desired to maintain the normal level of the gasolene. The gas-chamber C connects with the generating-chamber at its lower end, but is otherwise separate from it, forming a distinct chamber. The supply-tank is closed with a screw-stopper *b'*, which makes an air-

tight joint. The gas-pressure in the generating-chamber holds the gasolene up in the supply-tank as long as the lower end of the pipe *b* is sealed by the gasolene; but as soon as the level of the gasolene drops below the level of the lower end of the pipe *b* gas passes up the pipe and gasolene flows down until the level of the liquid again reaches the lower end of the pipe. Thus the supply of gasolene is automatically regulated according to the amount used.

The gasolene is converted into gas by being forced by an atomizer to the top of the series of diaphragms and by allowing the unvaporized gasolene to run down through the screens.

An atomizer *f* is located at the end of a short lateral outlet-duct *a'*, near the bottom of the generating-chamber, and is supplied with air under pressure from a suitable source of supply (not here shown) through the air-supply pipe *e*, and the air and vapor are forced through the pipe *d* to the top of the series of screens *a*. A portion of the gasolene will be vaporized in the pipe *d*, and what remains unvaporized will run slowly through the diaphragms *a* and vaporize as it falls, forming a permanent gas of uniform quality.

Means are provided for preventing frost from forming in the pipe *d*, and for this purpose I submerge it in water which is kept at a sufficiently high temperature to prevent the formation of frost.

As here shown, we submerge the whole apparatus in a tank G, which is filled with water. The gas is drawn off through the pipe *c* and may be used for any of the purposes for which gasolene is used.

The apparatus here described is so constructed as to be well adapted for a small apparatus, it will make a great deal of gas for its size, and the supply-tank need be only large enough to hold a limited supply, which may be renewed as often as required.

We claim—

The herein-described gas-generator having a generating-chamber, a gasolene-supply tank above said generating-chamber, a vertical supply-pipe leading from said supply-tank and terminating near the lower portion of said generating-chamber, a series of perforated diaphragms in said generating-cham-

ber, an air-pipe and an atomizer connecting
therewith and with the lower portion of the
generating-chamber, an outer pipe for dis-
charging carbureted air from said generating-
5 chamber, and a pipe leading from said atom-
izer to a point in the generating-chamber
above said diaphragms.

Signed at Fairfield, Maine, this 7th day of
September, 1900.

HERBERT O. BROWN.
JOHN R. DONNELLY.

Witnesses:

F. E. MCFADDEN,
MAUD MCFADDEN.