C. EDGAR.

CARBURETER.

No. 181,926. Patented Sept. 5, 1876.

FIG. 1.

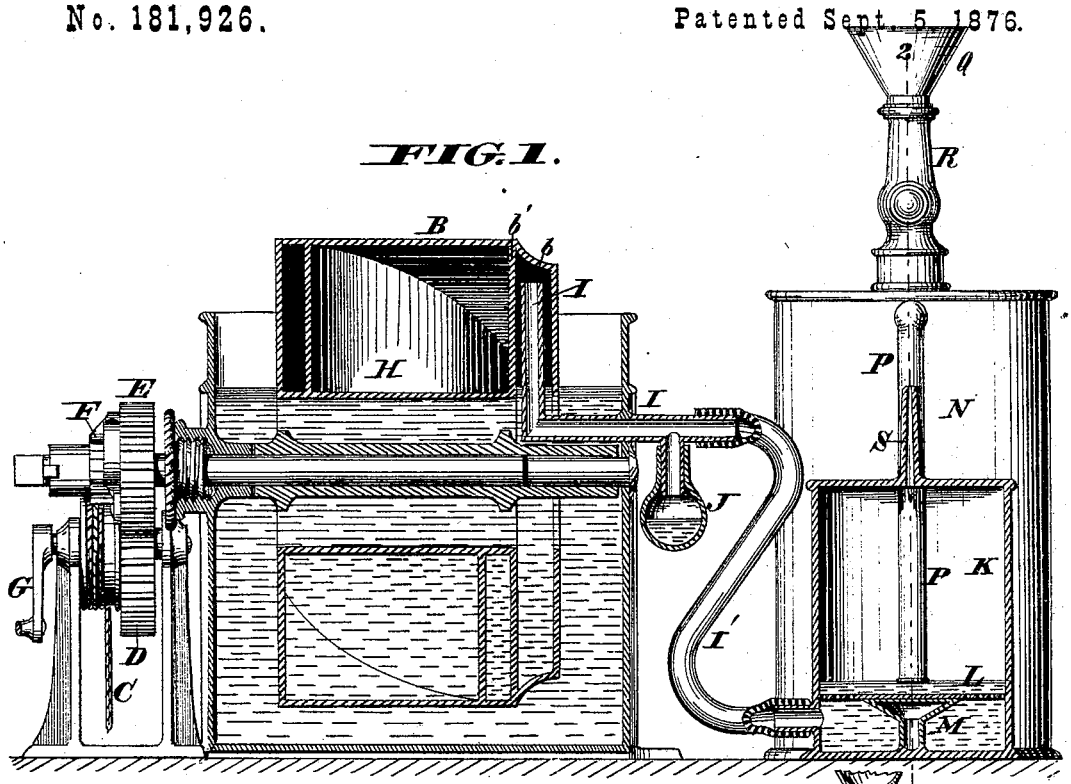
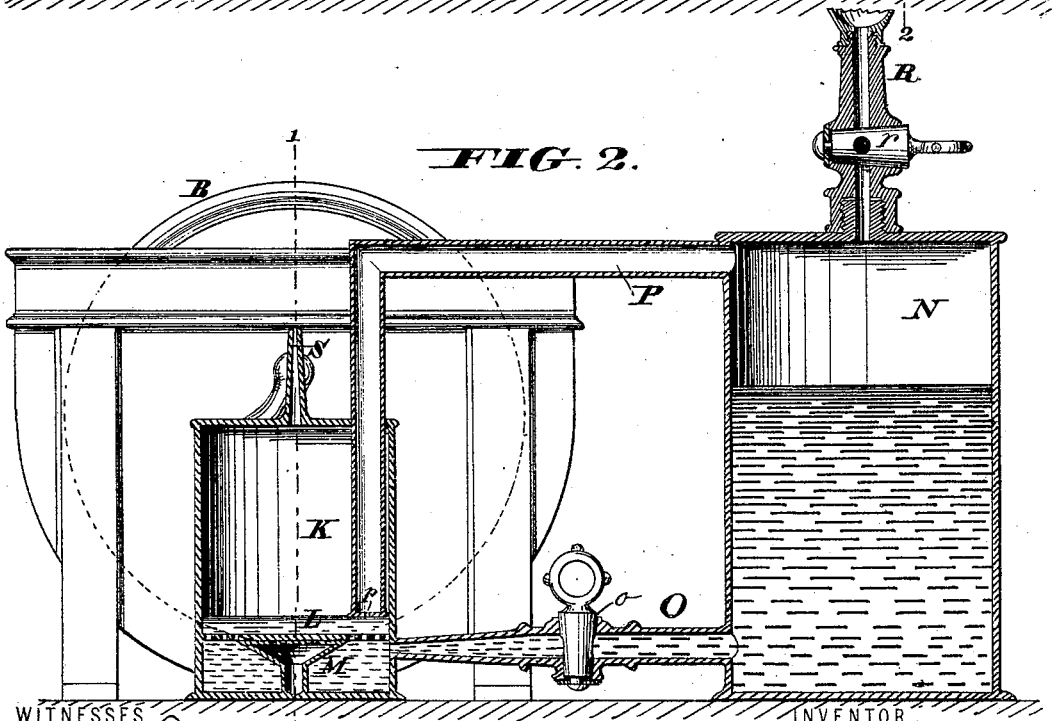


FIG. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES EDGAR, OF DAYTON, OHIO.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **181,926**, dated September 5, 1876; application filed February 15, 1876.

To all whom it may concern:

Be it known that I, CHARLES EDGAR, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Carbureters, of which the following is a specification:

My invention relates to that class of carbureters in which the air is forced by a suitable blower beneath the surface of a volatile hydrocarbon liquid for the purpose of carbonizing the air.

The improvement particularly relates to a combination of parts by which the air is constantly delivered at an equal distance below the surface of the liquid in the carbureting-chamber, and is distributed over the area of the said chamber, so as to become thoroughly charged, and in such manner as to not interfere with the induction of the hydrocarbon liquid, as hereinafter described.

In the accompanying drawing, Figure 1 is a vertical longitudinal section of a carbureting apparatus illustrating my invention, the line 1 1, Fig. 2, indicating the plane of section. Fig. 2 is a vertical transverse section in the plane indicated by the line 2 2, Fig. 1.

A represents a water-tank, within which revolves a drum, B, driven by a weighted cord, C, through the medium of gearing D E, the wheel E being connected to its shaft through the medium of a ratchet, F, so as to admit of winding up the weight-cord C by means of a crank, G, in the customary manner.

The drum B is constructed with internal spiral flanges H, by means of which the air is forced by the revolution of the wheel, and is delivered within the smaller chamber *b* at the rear end of the drum, the said chamber *b* being divided from the main chamber of the wheel by a partition, *b'*.

I represents a conducting-pipe, formed with an elbow, and projecting upward within the chamber *b*, so as to keep its inlet-opening constantly above the level of the water in the tank A.

J is a removable drip-chamber, for the purpose of collecting water which may be carried into the pipe I by the flow of air, and permitting the discharge of said water at intervals. The continuation I' of the pipe I communicates with the lower part of the carbureting-chamber K, which is formed with a perforated diaphragm, L, directly above the level of the inlet from the pipe I', and a conical deflector, M, by which the air is distributed over the area of the liquid in the carbureting-chamber.

The supply of hydrocarbon liquid is contained in a reservoir, N, communicating with the carbureting-chamber K through a supply-pipe, O, controlled by a cock, *o*, and also through an air-pipe, P, which opens into the reservoir N at or near its top, and is carried down within the carbureting-chamber K to the level at which it is desired that the hydrocarbon liquid shall stand, which is slightly higher than the perforated diaphragm, so that the said diaphragm shall be at all times covered by a thin film of liquid.

In order to prevent the pressure of air within the carbureting-chamber from carrying liquid up through the pipe P, the communication of the latter with the interior of the carbureting-chamber is through a minute aperture, *p*, which is sufficient for the passage of the small body of air necessary to take the place of the liquid which flows from the reservoir N into the chamber K, to take the place of that which is carried off by evaporation.

The hydrocarbon liquid is supplied to the reservoir N through a funnel, Q, and pipe R, which latter is closed air-tight by a cock, *r*, so that the pressure of the air may support the column of liquid within the reservoir N, and prevent that in the chamber K rising above the required level. The carbureted air or gas is delivered through an outlet-pipe, S, and supplied to conducting-pipes and gas-burners in customary manner.

I do not claim novelty in the blowing apparatus employed, but propose to use any air-forcing appliances that may be preferred.

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

The combination of the oil-reservoir, evaporating-chamber, perforated diaphragm, a regulating-pipe to maintain a thin film of oil above the diaphragm, a suitable air-forcing appliance, a conducting-pipe arranged to introduce the air underneath the diaphragm, and the deflecting-shield M, to distribute the air, as set forth.

Witnesses: CHAS. EDGAR.

OCTAVIUS KNIGHT,

LE BLOND BURDETT.