

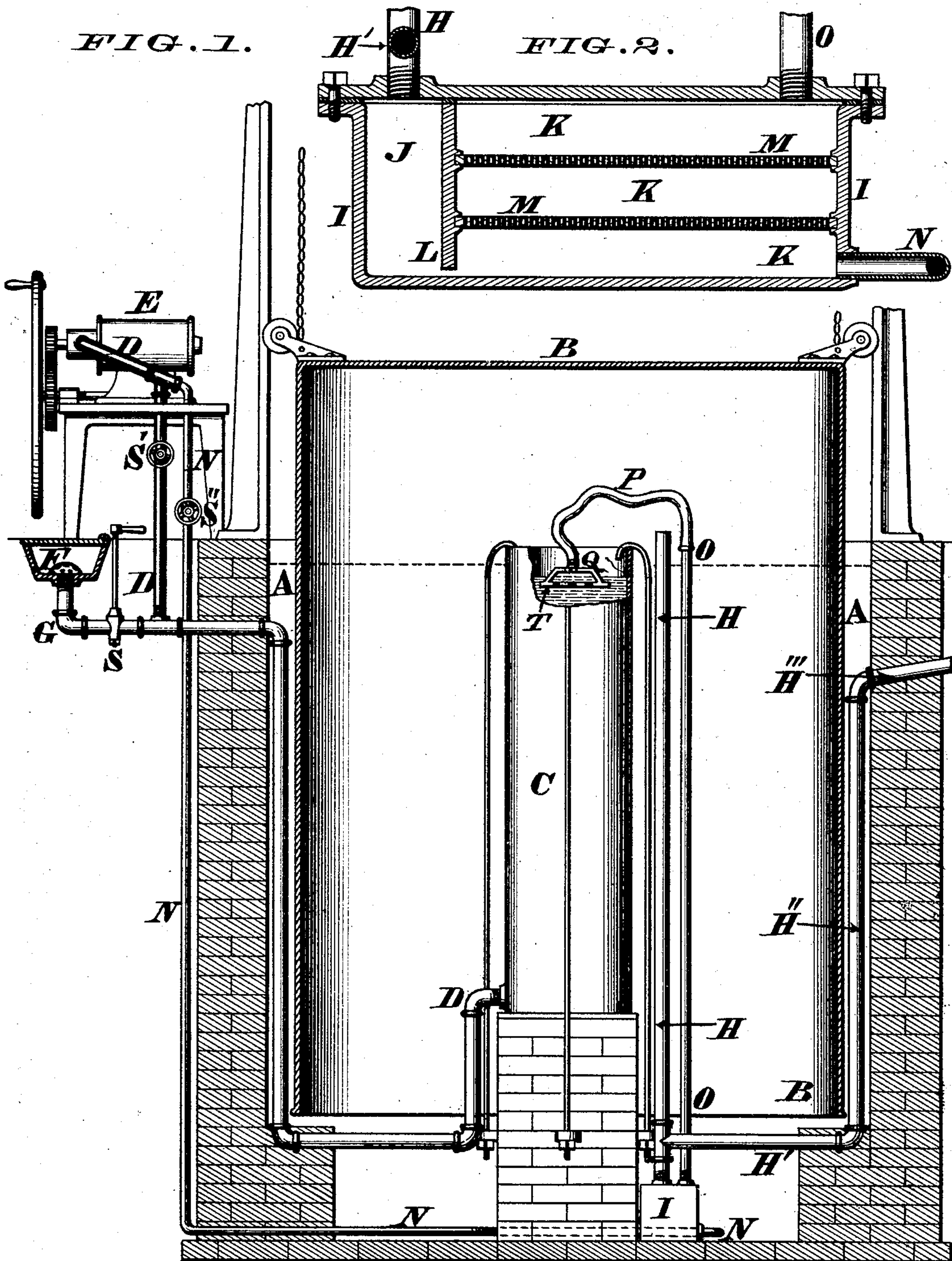
J. McHENRY.
Carbureters.

No. 155,096.

Patented Sept. 15, 1874.

FIG. 1.

FIG. 2.



Attest.
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JOHN MCHENRY, OF CINCINNATI, OHIO.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **155,096**, dated September 15, 1874 : application filed May 28, 1874.

To all whom it may concern:

Be it known that I, JOHN MCHENRY, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Carbureters, of which the following is a specification.

This is an improvement in those devices in which the vapor of gasoline or other volatile hydrocarbon is mechanically combined with atmospheric air for the purpose of illumination or of heat; and the most distinguishing feature of my invention consists in a provision for utilizing those portions of the gasoline which become condensed or resume the liquid condition within the service-pipes—a defect which, in apparatus of this kind now in use, operates to seriously obstruct the outflow of gas, besides wasting the same and imposing considerable labor and watchfulness on those having the apparatus in charge. This utilization I effect by the immediate and constant reconversion of the liquefied gasoline into the gaseous form; the object being accomplished by forcing a portion of the entering blast of air through the liquid products of condensation collected in a suitable vessel or reservoir at or near the bottom of the holder-tank, said products being thereby driven back into the carbureter, whence they return, in a diffused or vaporized condition, along with the originally-carbureted air, into the service-pipe. Besides utilizing the condensed gasoline by aid of my improvement, in connection with the carbureter A B C, a light carbureted air or gas can be produced that is suitable for culinary or heating purposes, and which may be consumed in an ordinary gas-burner, and so dispense with a special air-mingling attachment to the gas jet or burner.

My improvement is especially designed for use in connection with the carbureting apparatus which is described in patents to A. C. Rand, granted February 26, 1867, and numbered 62,363 and 62,364. The condensed matters, which in these apparatus, as usually constructed, are a source of care, trouble, and waste, are safely removed from the pipes and utilized by the aid of my improvement.

In the accompanying drawing, Figure 1 is a vertical diagram of a carbureting apparatus embodying my invention, a portion of the car-

bureter proper being broken away and the tank and holder being in section. Fig. 2 represents my sub-carbureter by means of a vertical longitudinal section to a larger scale than Fig. 1.

I make of customary or any approved form the following parts, to wit: The water-tank or cistern A, the floating gas-holder B, the carbureter proper C, the blast-pipe D, and the blower E. Communicating with the blast-pipe D is a pipe, G, which I prefer to have a flaring or funnel-formed mouth, F. The rim of this funnel being as high as or higher than that of carbureter, it follows that gasoline poured into said funnel flows, by pipes G and D, (in obedience to its gravity merely,) into the carbureter. A cock, S, enables the closure of the pipe G when not employed for the above purpose. My service-pipe H, to receive and forward carbureted air from the holder, has its inlet a little higher than the top of the carbureter, and passes perpendicularly downward into a receptacle, I, which I style the sub-carbureter. A little above the sub-carbureter my service-pipe branches, as at H', and, extending upward, H'', passes, by a slight ascent, through the tank-wall, as at H'''. The office of my said sub-carbureter and its accessories is to catch or receive the condensations from the service-pipe H H' H'' H''', and to reconvert these liquid accumulations into gas by blending them with a portion of the blast-air. The pipe H enters the sub-carbureter near one end of it, as shown, which end J is partially separated from the other and larger compartment K of the sub-carbureter by a partition, L, which extends from the top to near the bottom of the sub-carbureter. The compartment K of the sub-carbureter is traversed by several perforated horizontal trays or diaphragms, M, which operate to bring the blast-air in minute contact with the fluid contained within the sub-carbureter. To secure this supplementary air-blast, I connect the sub-carbureter I with the blast-pipe D by means of a branch, N, which discharges into the bottom of the compartment K. (See Fig. 2.) From the upper part of the same compartment there extends a pipe, O, which communicates, by flexible tube P, with float Q, that rests, partially submerged, upon the gasoline within the main

carbureter C. (See Fig. 1.) This float may be composed of metal or other material, in the form of an inverted pan partially closed by a perforated diaphragm, T, as shown in Fig. 1. Cocks S' and S'' enable the entire or partial closure of either the main blast-pipe D or of the supplementary blast-pipe N.

The operation of my improvement is as follows: Those portions of the suspended gasoline in the service-pipe which resume the liquid condition flow, by simple gravity, back into the chamber J of the sub-carbureter I, and thence rise to an equal level in both compartments of that vessel. The air which enters compartment K from the supplementary blast-pipe N operates to vaporize the drippings in the sub-carbureter, and to drive the same, combined with air, through pipe O, flexible tube P, and float Q, back into the carbureter proper, where it is brought again into intimate contact with the gasoline contained therein, and finally mingles with the other carbureted air within the holder.

I have selected to illustrate my invention the form of carbureting apparatus successfully employed by me, but may vary the same or other parts of the apparatus in non-essential particulars; for example, an inwardly-opening valve in pipe G may be used in place of or addition to the cock S'', or the in-

let of said pipe may be closed by a cap or plug when not in use.

Felt, hair-cloth, or other porous material may be used instead of or in conjunction with the perforated diaphragm M, which latter may be more or less in number, as desired.

While describing the form of my apparatus successfully employed by me, I reserve the option of varying the same, while retaining the essential characteristics of the improvement; for example, the condense receiving and evaporating compartments may be replaced by two distinct chambers or vessels united by a pipe or passage at bottom, or the collection and evaporation of the condensed matter may be effected in a single chamber.

I claim herein as new and of my invention—

The receiving and vaporizing box or chamber, which I have called a sub-carbureter, placed within the tank or cistern, in combination with the carbureter A B C, the blast-pipe N, and the pipe O for returning the condensations into the carbureter A B C, all combined and adapted to operate substantially as and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

Attest:

JOHN McHENRY.

GEO. H. KNIGHT,
HARRY KNIGHT.