

M. P. FLEMING.
Carbureter.

No. 219,705.

Patented Sept. 16, 1879.

Fig. 1.

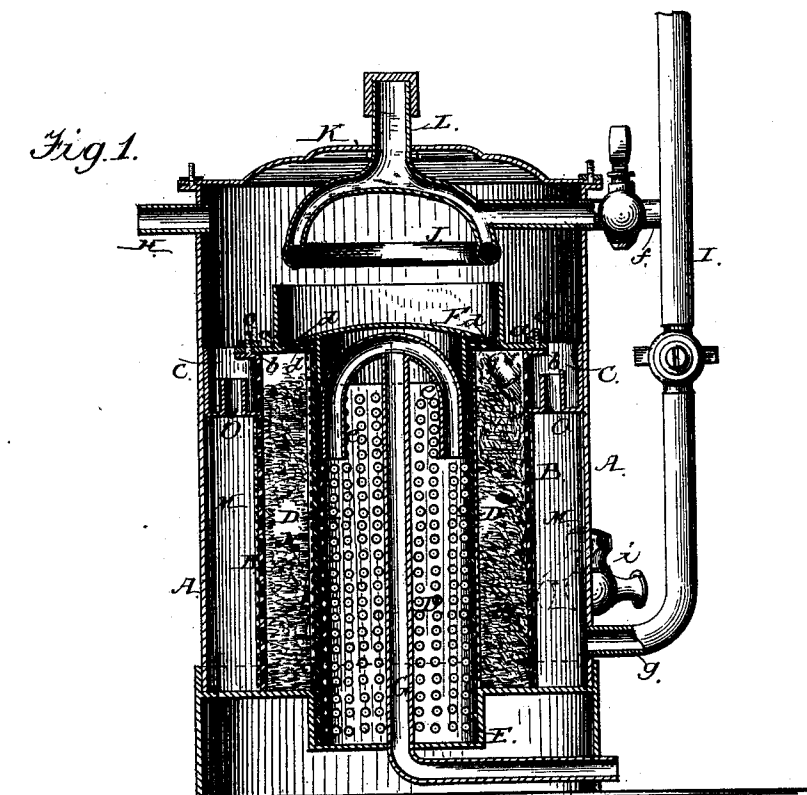
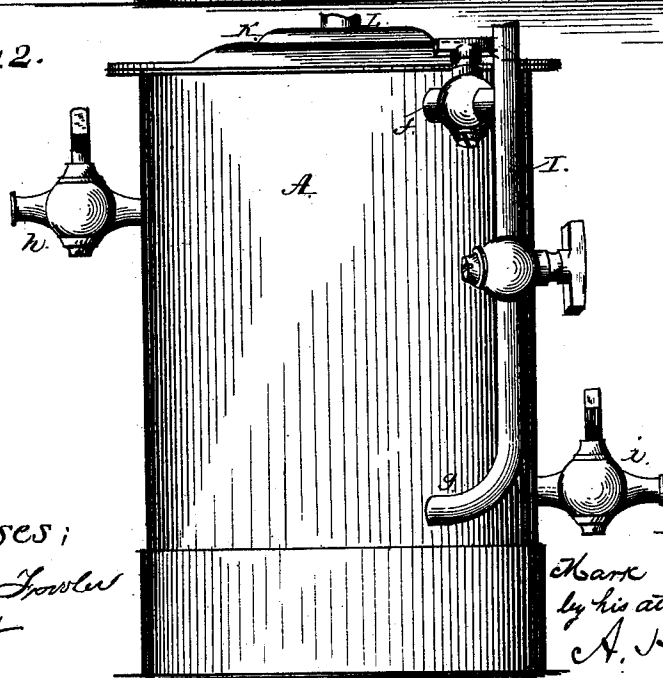


Fig. 2.



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UNITED STATES PATENT OFFICE.

MARK P. FLEMING, OF OAKLAND, CALIFORNIA.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **219,705**, dated September 16, 1879; application filed June 28, 1879.

To all whom it may concern:

Be it known that I, MARK P. FLEMING, of Oakland, county of Alameda, and State of California, have invented a Carbureter; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an improved carbureter for enriching gas or air; and my improvements consist in certain details of construction whereby I am enabled to catch and discharge the water of condensation, and by means of which the gas or air is thoroughly saturated with the enriching hydrocarbon oils, as is more fully described in the accompanying drawings.

Figure 1 is a vertical section of my carbureter, and Fig. 2 is a side elevation.

Inside the cylinder A is placed a smaller cylinder, B, formed of perforated metal, with a wire-gauze netting outside of it, and having a circular drip or sediment pan, C, around its upper end, which does not reach quite to the top of the cylinder A. Inside of this again is placed a movable perforated tank or cylinder, D, which is covered on its outside with flannel or other textile fabric, and has its lower end fitted into a depression, E, at the lower end of the chamber.

A perforated cap or distributor, F, fits down closely on top of the movable perforated tank, its flange *a* fitting in the flange *b* on top of the cylinder B. Bolts *c* on top of the cylinder pass up through the flange *a*, and nuts screw down on them so as to hold the cap in position and make a tight joint, a washer being placed between them.

The cap or distributor F has an upwardly-extending rim, and the perforations *d* are made in the cap around near the edge of this rim, so that the oil fed into the cap will pass through the perforations into the sawdust or charcoal which I place in the space between the cylinders B and D.

The gas-supply tube G enters the lower end of the chamber A, and, rising up, is branched into two or more perforated arms or pipes, *e*, in the central cylinder or chamber. The pipe H leads the gas off into the house-pipe.

The supply of oil or hydrocarbon which is fed to the carbureter is led in through the pipe I, which has branches *f* and *g*, each controlled by stop-cocks, so as to supply the oil either

above or below. The upper pipe, *f*, connects with a circular-tube sprinkler, J, which is placed on the under side of the cover K of the carbureter. This sprinkler has also a pipe, L, opening through the top of the cover, so that the oil may be admitted through that way, if desired. The lower pipe, *g*, admits the oil to the sawdust below when necessary.

A faucet, *h*, connected with the sediment-pan C serves to carry off any water which may collect in said pan. The tell-tale cock *i* will show at any time whether the oil is at a required height in the carbureter, so the supply may be regulated.

The operation of my device is as follows: Before the perforated cylinder B is put in position in the cylinder A it is covered with a wire netting or wire-gauze, to prevent any sawdust or other solid substance getting through the perforations. When in place a space or chamber, M, is left around it, as shown, for the purpose hereinafter described.

The movable tank or cylinder D, after being covered on its outer surface with flannel or other textile fabric, is put in place, and the space N, between the cylinders B D, filled with sawdust or charcoal. The perforated cap F is then put in place and secured by the nuts on the bolts. The cap extends over the edges of the central cylinder, and the perforations *d* are made outside of the cylinder, so that the oil admitted to the distributor or cap will pass through the perforations into the sawdust or charcoal.

The oil is admitted to the cap by means of the sprinkler from the cover of the carbureter, as described. As the oil passes down it saturates the charcoal or sawdust and the blanket or textile fabric on the inner cylinder.

The gas or air to be enriched is admitted to the center of the cylinder D by means of the pipe G, with its perforated pipes *e*. The only means of escape of this gas is through the saturated flannel covering the cylinder D, through the saturated sawdust or charcoal, and into the chamber M, being enriched on its passage. It then rises up through the raised tubes O, which rise up above the level of the drip-pan, so no water can pass down them, and is thence led off through the discharge-pipe H. In this way the gas is enriched by

passing or being filtered through the hydrocarbon oils in the sawdust, or air may be carbureted in the same manner.

The water of condensation which forms in the pipes in the house, when it flows back through the pipes, falls out of the pipe H into the drip-pan, which comes under it, and may be removed without disturbing the carbureter. Whenever the sawdust becomes dirty or poor it may be removed by taking off the perforated cap and lifting out the central cylinder. New covering may then be put on the central cylinder when necessary. The covering for the cylinder D is to prevent any of the sawdust in the chamber N from entering the central cylinder, D.

It will easily be seen that the supply of oil may be fed to the sawdust or charcoal by simply pouring it through the cover, through the tubes O, or in any other manner; but I prefer to supply the chamber with the oil in the manner described.

By the method described I am enabled to provide a ready means of catching and removing the waters of condensation, and also to insure the passage of the gas or air through the mass of hydrocarbon rapidly and with little resistance.

I am aware that apparatus has been constructed through which a current of gas or air has been passed and brought in contact with hydrocarbon contained in the apparatus for the purpose of enriching the gas.

I am also aware that carbureters having a perforated cylinder covered by an absorbent material, and perforated cylinders having an absorbent material arranged between them, and through which the gas passes, are old, and

I do not therefore claim, broadly, such apparatus; but

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

1. The cylinder A, with its internal perforated curved cylinders B D, covered, respectively, with wire-gauze and flannel, and chamber N, filled with absorbent material for containing hydrocarbon, in combination with the gas-supply pipes G, chamber M, pipes O, and discharge-pipe H, by means of which the gas is enriched in its passage through, substantially as and for the purpose herein described.

2. The protected perforated cylinders B D, forming the containing-chamber N for an absorbent material for hydrocarbons, with the perforated distributing-cap F, in combination with the sprinkler J and its oil-supply pipes I f, whereby the absorbent porous material is kept saturated with hydrocarbon for enriching the gas passing through the chamber, substantially as and for the purpose herein described.

3. The annular drip-pan C, with its discharge pipe h and vertical pipes O, in combination with a carbureter having a discharge-pipe, H, by means of which the waters of condensation are collected and discharged, substantially as herein described.

In witness whereof I have hereunto set my hand.

MARK P. FLEMING.

Witnesses:

GEO. H. STRONG,
FRANK A. BROOKS.