J. BRADLEY.
Carbureters.

No. 199,781. Patented Jan. 29, 1878.

Fig. 1.

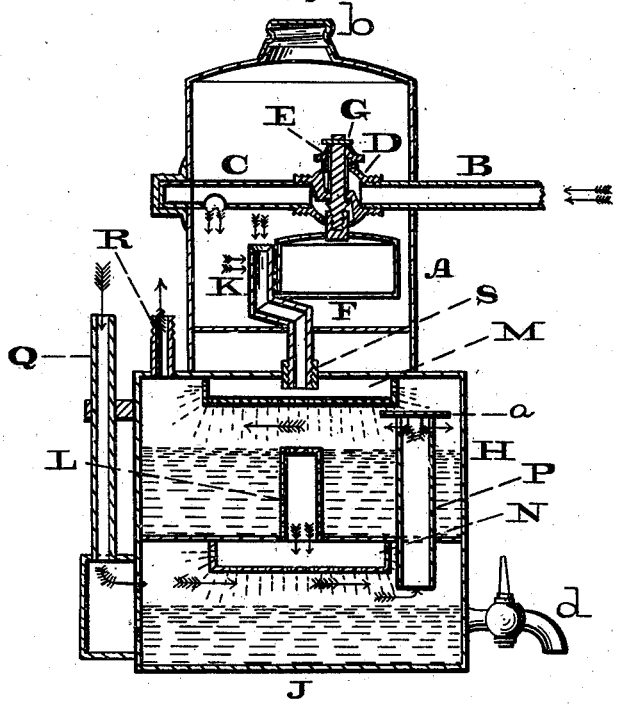


Fig. 2.

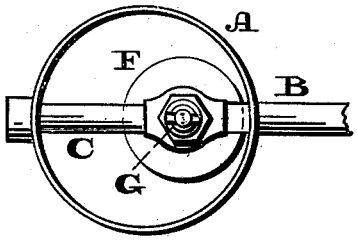


Fig. 3.

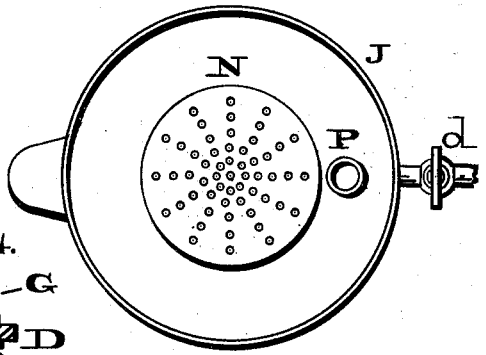
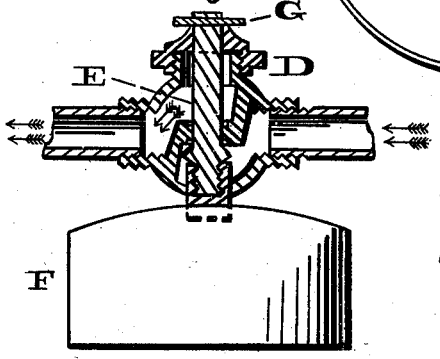


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES BRADLEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **199,781**, dated January 29, 1878; application filed May 28, 1877.

To all whom it may concern:

Be it known that I, JAMES BRADLEY, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Carbureters, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a central vertical section of the carbureter embodying my invention. Fig. 2 is a top view of the inside of the upper portion thereof. Fig. 3 is a bottom view of the inside of the lower portion thereof. Fig. 4 is a sectional view of the automatic feeding mechanism of the apparatus.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a fluid-receiving chamber and carbureting and spray chambers, whereby the particles of the hydrocarbon fluid will be exposed and the air highly charged with carbonaceous vapors.

The fluid-receiving chamber communicates with the spray-chamber by means of a pipe, which projects above the bottom of the receiving-chamber, so as to cause, by the action of an automatically-operated valve, the overflow of fluid to the spray-chamber, said pipe also serving to connect the receiving and carbureting chambers.

The automatically-acting valve supports and is supported by the inner ends of the inlet and outlet pipes of the receiving-chamber.

The air-pipe in one carbureting-chamber has a deflector, to direct the air from said pipe laterally through the spraying-fluid.

The object of the invention is to produce a cheap, simple, and compact carbureting apparatus.

Referring to the drawing, A represents a chamber, within which projects a pipe, B, leading from the place of supply of hydrocarbon fluid. C represents another pipe supported on one end of the walls of the chamber, and connected at the other end to a valve, D, to which is also connected the inner end of the pipe B, the pipe C opening into the chamber A. The stem E of the valve proper, which closes upwardly against its seat, and opens by downward motion, is extended below the valve proper, and it has suspended from its lower end a float, F, which occupies a position within the chamber A.

In order to prevent displacement of the stem E, its upper end has connected to it a pin, G, which is adapted to rest against the cap of the valve, and it may be substituted by different weights, so as to adjust the float relative to the condition of the hydrocarbon fluid, the extent of operation, &c.

Below the chamber A is another chamber, H, beneath which is a chamber, J, the chambers A H communicating by means of a pipe, K, and the chambers H J by means of a pipe, L. Interposed between the pipe K and chamber H is a rose or spray chamber, M, and between the pipe L and chamber J is a rose or spray chamber, N, the two roses intercepting the communications between the respective pipes K L and chambers M N.

P represents a pipe which opens into the two chambers H J, so as to form communications between them. Q represents the air-induction pipe leading to the bottom chamber, and R the eduction-pipe leading from the chamber H; but the pipe Q may be employed for eduction purposes and the pipe R for induction purposes. The several pipes and chambers will be properly secured in position with tight joints, couplings, &c.

The operation is as follows: The hydrocarbon fluid flows from a tank or other suitable elevated place of supply into the pipe B through the valve D and pipe C, from whence it runs into the chamber A, and fills the same to just above the level of the pipe K, whereby it is directed to the rose M.

Should the supply of fluid enter the chamber A more rapidly than it discharges through pipe K, the float F rises and closes the valve, whereby the supply is shut off until the proper level thereof is again attained, when the float falls and permits the entrance of more fluid, it being noticed that the float is so adjusted that it is inoperative when the fluid is at the proper level in the chamber A.

Air under pressure from a blower or other suitable apparatus will be directed through the pipe Q into the chamber J, thence through the pipe P into the chamber H and the exit-pipe R, to the place of service.

As the fluid leaves the rose M it sprays or

drops into the chamber H, and by means of the pipe L it enters the rose N, where again it sprays or drops into the chamber J.

As the fluid sprays from the roses M N the air passes through it, whereby the particles of fluid are thoroughly exposed and the air has full access thereto; consequently the air is highly charged with carbonaceous vapor, and it will be passed out, in a carbureted state, through the pipe R, for purposes of illumination or enriching other gases.

The course of the fluid is indicated by the double arrows, and that of the air by the single arrows.

The chambers H J will be properly packed with fibrous or other material, so as to absorb certain quantities of hydrocarbon fluid, and thus increase the fluid-surface over which the air will be passed.

The top of the pipe P will be covered by a deflector, *a*, for directing or spreading the air therefrom in a lateral direction, and access will be had to the chamber A by means of a cap, *b*, properly located.

The chamber A is secured to the chamber H by means of the pipe K, which is fixed to the chamber A, and, having its lower end threaded, screws into a plug, S, which is firmly connected to the top of the chamber H.

When the fluid in the chamber J has expended its valuable carbonaceous properties, it may be withdrawn through the faucet *d*.

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

1. The receiving-chamber A and carbureting-chambers H J, in combination with the intermediate rose or spray chambers M N, and with the overflow-pipe K of the chamber A projecting into the rose M of the chamber H, and fitted to the screw-plug in said chamber H, substantially as and for the purpose set forth.

2. The chambers H J and spray-chambers M N, in combination with the pipe P and its deflector *a*, substantially as and for the purpose set forth.

3. The chamber A and pipes B C, with float-valve D, chambers H and J, with rose or spray chambers M N, pipes K P, and induction and eduction pipes, constructed, combined, and operating substantially as and for the purpose set forth.

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