H. W. MERRITT.

Regulated Valve for Carbureters.

No. 198,657. Patented Dec. 25, 1877.

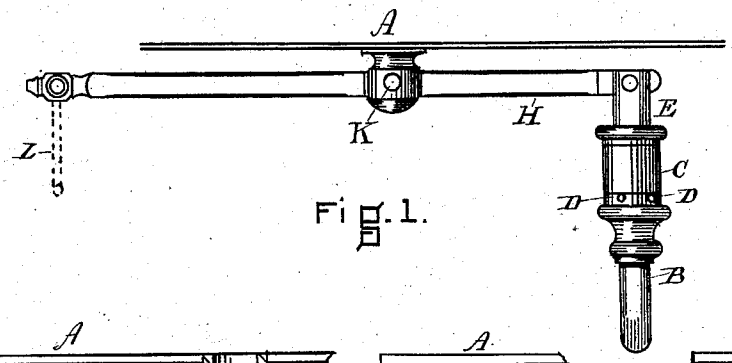

Fig. 1.

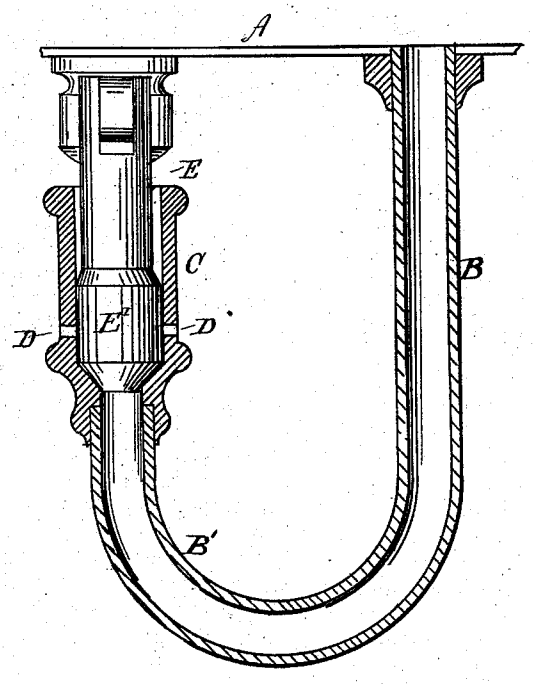

Fig. 3

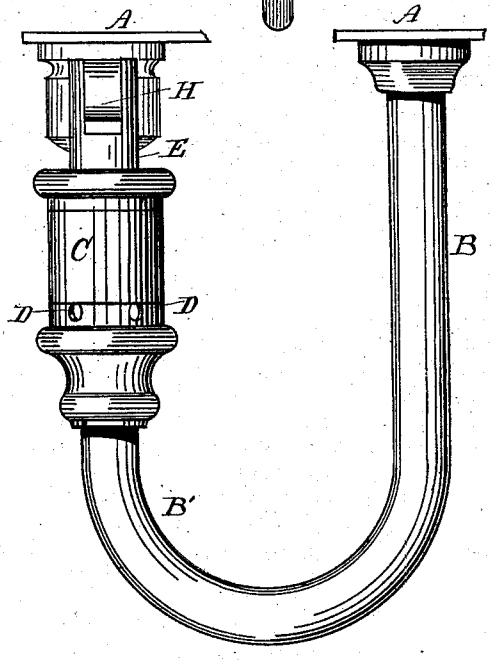

Fig. 2

WITNESSES

Alban Andrew.

Henry Chadbourn.

INVENTOR

Henry W. Merritt.

UNITED STATES PATENT OFFICE.

HENRY W. MERRITT, OF SOMERVILLE, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM R. STEARNS AND WILLIAM H. IRELAND, OF BOSTON, MASS.

IMPROVEMENT IN REGULATED VALVES FOR CARBURETERS.

Specification forming part of Letters Patent No. **198,657**, dated December 25, 1877; application filed December 8, 1877.

To all whom it may concern:

Be it known that I, HENRY W. MERRITT, of Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improved Regulated Valve for Carbureters, Aerators, and Vaporators, of which the following is a specification:

This invention relates to an improvement in the construction and arrangement of automatic hydrocarbon valves for carbureters; and it consists in the combination, with the oil-tank of a carbureter, of a pipe extending downward from the bottom of said tank, and having its end curved upward, and terminating in a perforated valve-chamber, which opens upward beneath the bottom of said tank, for emitting the liquid in spray, and a valve-plug fitting said valve-chamber, and reciprocated vertically to open or close the port or ports of said valve-chamber by means of a suitably-connected lever, which is pivoted to a stud depending from the bottom of the tank, and operated automatically by a float connected therewith, which rises and falls with the changes of level of the liquid in the vaporizing-chamber, whereby the jointed valve-operating parts are located above and out of the way of the flow of oil, and thereby protected from liability to become corroded or gummed so as to impair their efficient working.

In the drawings, Figure 1 is a view, in elevation, of the invention. Fig. 2 is a side view of the curved oil-pipe with the valve-chamber and plug. Fig. 3 is a vertical section of the oil-pipe and valve-chamber, the valve-plug being shown in elevation.

The letter A represents the bottom of an oil-tank of a carbureter, and B is an oil-pipe projecting downward therefrom, having its end curved upward, as shown at B′, and terminating in a valve-chamber, C, opening upward, and having its bottom in the form of an inverted frustum of a cone, and constituting the seat of the correspondingly-shaped end of a valve-plug, E′, from which a shank, E, extends upward, and is pivoted to the end of a lever, H, fulcrumed on a stud, K, projecting downward from the bottom A of the oil-tank. The other end of this lever is jointed to a rod, L, which extends downward, and is intended to be attached to a float which rests upon the surface of the liquid in a vaporizing-chamber, within which all the parts described are inclosed, the bottom A of the oil-tank forming the top wall of said chamber.

A short distance above the valve-seat the valve-chamber C is provided with a circumferential series of perforations, D, which are closed by the cylindrical plug E′ when the coned end of said plug is upon its seat, but are open, and permit the outward flow of any liquid contained by pipe B when the cylindrical portion of the plug is raised above the lower edges of the perforations, the extent of flow of liquid being controlled by the height to which the plug is raised between the bottom and top edges of said perforations.

The operation of the invention is as follows: When the tank, the bottom of which is designated by A, is supplied with oil, the latter, of course, flows into the pipe B, and rises in the bent end, and, supposing the vaporizing-chamber to be empty, the float will be at its lowest point, and through the rod L and lever H cause the plug E′ to be raised and the perforations D opened, so that the oil in pipe B will flow through said perforations into the vaporizing-chamber, and as soon as it has risen to proper level therein the float will have risen, and cause the plug E′ to close the perforations, and whenever, on account of vaporization, the oil falls below a proper level, the perforations will again be opened, as will be readily understood.

By the construction of the valve-chamber with the series of small radial perforations the vaporization of the oil is greatly facilitated, as the weight of the oil in the tank causes the oil in pipe B to flow through these perforations when open with such force as to project the fine streams of oil to a considerable distance nearly horizontally from the valve-chamber, thus presenting to the warm air of the vaporizing-chamber a great extent of oil-surface, and, as is well-known, the greater the surface of oil exposed the more rapid is its vaporization.

When the length of the float-rod L is once adjusted by any known adjusting device, the

operation of the apparatus is very reliable, as the parts having working joints are so arranged as to be out of the way of the oil flowing from the valve-chamber, and are, therefore, not liable to corrosion or gumminess, which would prevent their prompt action at the proper time.

What I claim as my invention is—

The combination, with the oil-tank and vaporizing-chamber of a carbureter, of a pipe extending downward from the bottom of said tank, and having its end curved upward, and terminating in a perforated valve-chamber, which opens upward beneath the bottom of said tank, for emitting the liquid in spray, a valve-plug fitting said valve-chamber, a lever and suitably-connected float, whereby the valve is opened and closed with the variations of the level of the liquid in the vaporizing-chamber, substantially as described.

HENRY W. MERRITT.

Witnesses:

ALBAN ANDRÉN,

HENRY CHADBOURN.