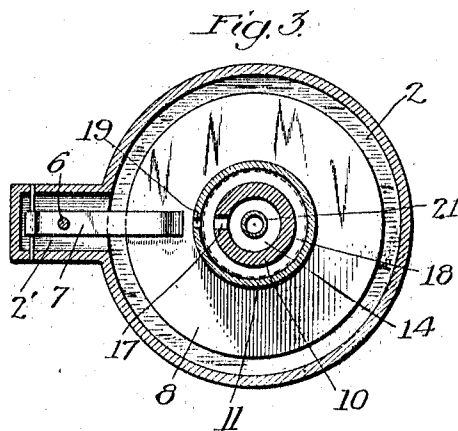
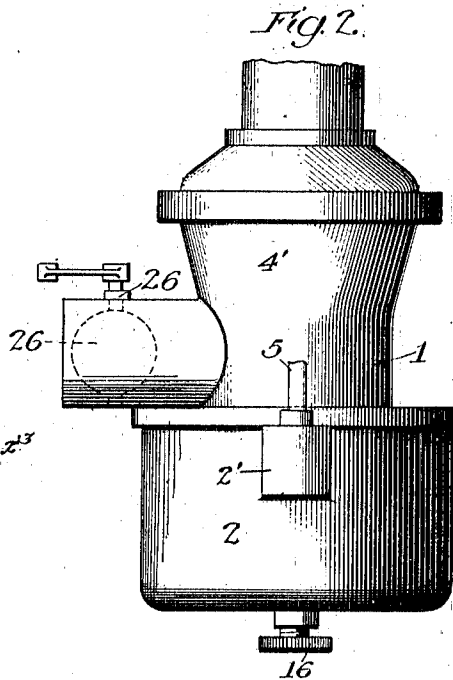
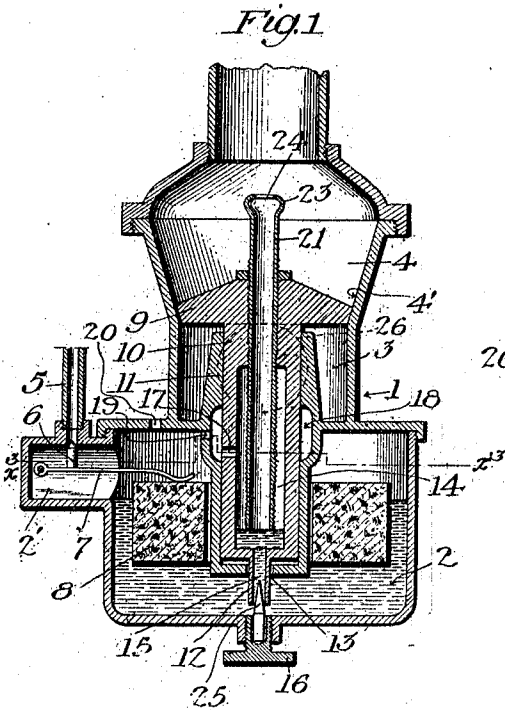


A. C. STEWART.
CARBURETER.
APPLICATION FILED JULY 13, 1910.

1,059,501.

Patented Apr. 22, 1913.



Witnesses:
Lute D. Allen,
Lester H. Palmer.

Inventor:
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By [Signature] Attorney.

UNITED STATES PATENT OFFICE.

ALFRED C. STEWART, OF LOS ANGELES, CALIFORNIA.

CARBURETER.

1,059,501.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Original application filed April 27, 1908, Serial No. 429,563. Divided and this application filed July 13, 1910. Serial No. 571,855.

To all whom it may concern:

Be it known that I, ALFRED C. STEWART, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Carbureter, of which the following is a specification.

The subject matter of the present application was shown and described, but not claimed, in my application Serial No. 429,563, filed April 27th, 1908, of which this application is a division and continuation.

The main object of the present invention is to provide improved means for admitting gasoline or oil to the mixture chamber of the carbureter under the control of a valve operated automatically by the suction of the engine.

Other objects of the invention will appear hereinafter.

The accompanying drawings illustrate the invention and referring thereto: Figure 1 is a vertical section of the carbureter. Fig. 2 a side elevation thereof. Fig. 3 a horizontal section on the line x^3-x^3 in Fig. 1.

The casing 1 is formed with superimposed oil, air inlet and suction or outlet chambers 2, 3, 4 and fuel is supplied to the oil chamber through a pipe 5, whose outlet is controlled by a valve 6 carried by a lever 7, operated by a float 8 in the oil chamber, to maintain a definite level of oil therein. Valve 6 is in a chamber 2' opening laterally from oil chamber 2. Valve member 9, whose conical face corresponds with and rests on the upwardly flaring wall 4' of the suction chamber has a stem 10 working freely in a guide tube 11, the stem having an extension 12 passing loosely through an opening 13 in the bottom of the tube 11, so as to allow restricted passage of oil, the tube serving as a dash pot for the valve stem, which works as a piston thereon. Said stem is formed with an interior chamber 14, forming an oil reservoir, communicating with the oil chamber through a bore 15 in the extension 12, and an adjustable needle valve 16 screwing through the bottom of oil chamber 2 has a loose needle 25 which projects into this bore to control flow of oil therethrough. Interior chamber 14 also communicates through an opening 17 with a channel 18 in the wall of tube 11, said channel surrounding the valve stem 10 and communicating through opening 19 with the

upper part of oil chamber 2, which is open to communication with the outer air by an opening 20. A tube 21 screws into a screw threaded bore of the valve member 9, and extends down into inner chamber 14, the upper end of said tube having a bulb 23 and constricted opening 24 for atomization of the oil. By turning tube 21 the distance of its lower end from the bottom of chamber 14 may be adjusted. When the engine is at rest the oil will be at the same height in the interior chamber 14 as in the oil chamber, and will extend above the bottom of tube 21, and when the engine starts the fluid will be sucked up through tube 21 until the level falls to the bottom of said tube, thus flushing the carbureter to temporarily enrich the mixture. In normal operation, the suction is sufficient to break any liquid seal that may form at the bottom of tube 21, and to keep the oil level at the bottom of said tube, and the amount of oil supplied is determined by the head or difference in level between the bottom of tube 21 and the oil in chamber 2, and enough air will pass in through openings 20, 19, 17 to pass up with the oil through tube 21 to provide air in proper amount for ejecting the oil from the well as required for steady running, for example at maximum output or capacity, this being determined by the size of opening 17. The channel 18 prevents sucking of gasoline up through the space between the stem and the tube, so that the stem may work freely and with slight friction in the tube without leakage of gasoline into the air inlet chamber 3. As the valve member 9 rises, it varies the height of tube 21 and thus diminishes the feeding head, but this may be compensated by properly shaping the valve needle 25 of valve 16, said needle being tapered in such manner that in the elevation of the tube 12 the opening between the needle and said tube increases sufficiently to compensate for this loss of head.

Throttle 26 controls admission of air to air inlet chamber 3 and by its closure regulates the suction and air feed.

The above described construction provides a carbureter in which the oil is supplied to the mixture chamber in the most advantageous manner as it rises to the center of the valve and is distributed equally in all directions. By the provision of the central loosely mounted valve member 25, I am enabled to

use the valve stem of the air valve as the means for controlling the oil supply; the said member 25 adjusting itself automatically to any inaccuracy in centering the parts, such as is liable to arise in such a construction.

Tube 21, well 14 and bore 15 constitute a passage for establishing communication from the oil chamber to the mixture chamber, and the needle valve 25 is adjustable longitudinally in said passage to control admission of oil therethrough and, being loosely mounted, is movable laterally in said opening to adjust itself thereto.

What I claim is:

1. In a carbureter, a casing provided with a mixture chamber, air inlet means, an oil chamber, a valve controlling communication from said air inlet means to said mixture chamber, and provided with a passage for establishing communication from said oil chamber to said mixture chamber, said valve being movable in response to the suction in the mixture chamber to control the admission of oil thereto, and a longitudinally adjustable member cooperating with said passage in said valve to control admission of oil therethrough, said longitudinally adjustable member being mounted to move laterally within said opening to adjust itself thereto.

2. In a carbureter, a casing provided with a mixture chamber, air inlet means and an oil chamber, a tube extending within said casing, a valve controlling communication of air from said air inlet means to said mixture chamber, said valve having a stem slidably mounted in said tube, said valve and valve stem being formed with a passage communicating at its lower end with the oil chamber, and communicating at its upper end

with the mixture chamber, and a valve adjustably mounted in the bottom of the casing, and cooperating with the lower end of said passage to control supply of oil therethrough, said tube being provided with means for admission of oil thereto, and said valve stem working as a piston therein, whereby the tube serves as a dash pot for the valve.

3. In a carbureter for internal combustion engines, the combination of a casing having an air inlet, a vertically movable weighted valve which is operated automatically by the engine suction and controls the admission of air to the carbureter, said valve having a hollow stem forming a gasoline supply passage which is movable with said valve, a valve which cooperates with said passage for regulating the supply of gasoline, and means for steadying the movement of said weighted valve, substantially as set forth.

4. In a carbureter for internal combustion engines, the combination of a mixing chamber, a gasoline chamber, a weighted valve which is operated automatically by the engine suction and controls the admission of air to the mixing chamber, said valve having a stem with a gasoline passage entering the gasoline chamber and a connecting discharge duct, means cooperating with said passage in the valve stem for regulating the feed of the gasoline, and means cooperating with said stem for causing a gradual movement of said valve, substantially as set forth.

In testimony whereof, I have hereunto set my hand at Los Angeles, California this 6th day of July 1910.

ALFRED C. STEWART.

In presence of—

ARTHUR P. KNIGHT,

FRANK L. A. GRAHAM.