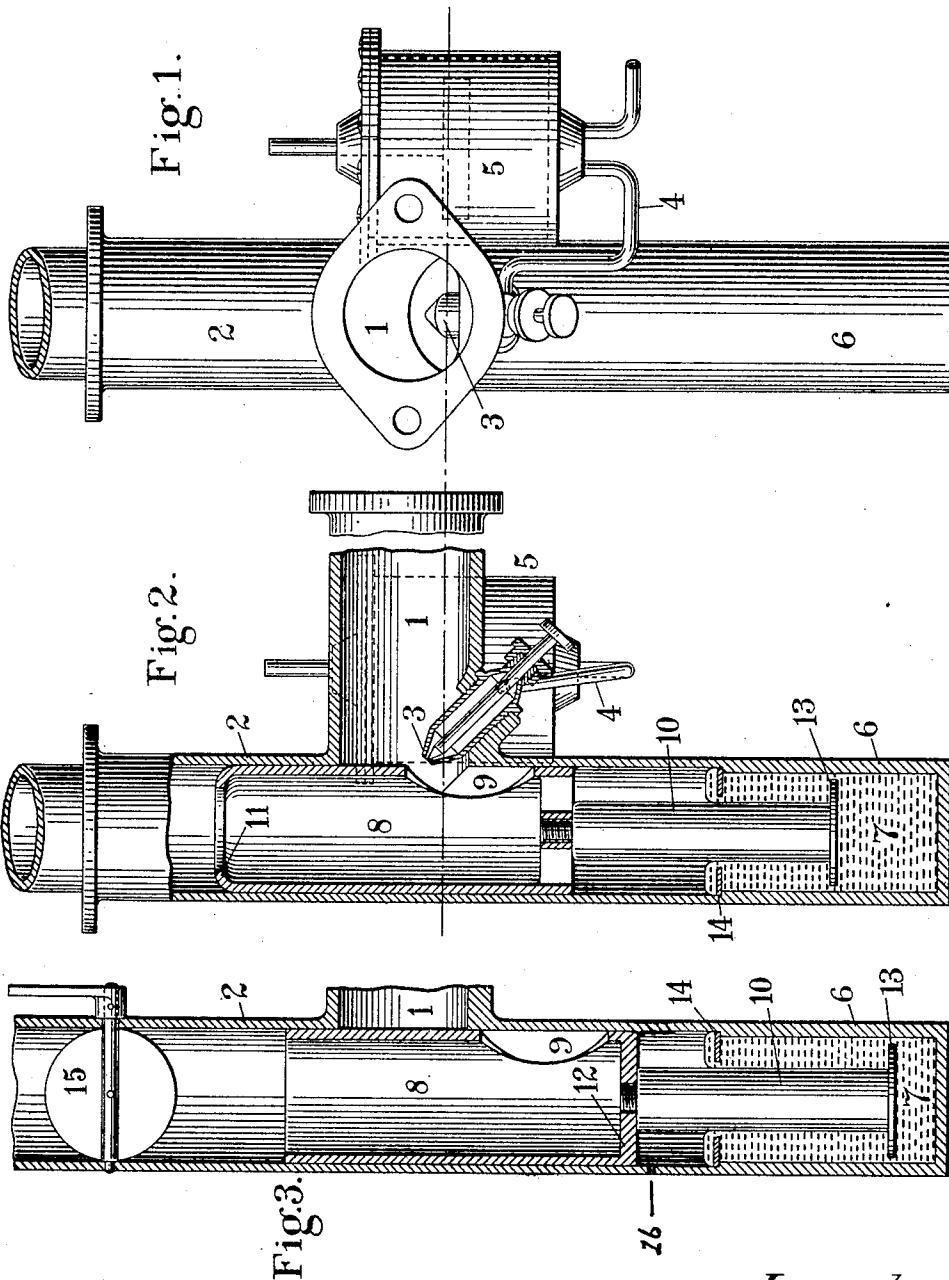


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O. MINTON.
CARBURETER FOR INTERNAL COMBUSTION ENGINES.
APPLICATION FILED AUG. 2, 1907.



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UNITED STATES PATENT OFFICE.

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CARBURETER FOR INTERNAL-COMBUSTION ENGINES.

No. 878,411.

Specification of Letters Patent.

Patented Feb. 4, 1908.

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To all whom it may concern:

Be it known that I, OGDEN MINTON, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Carbureters for Internal-Combustion Engines, of which the following is a specification.

The object of this invention is to make a simple and effective carbureter whereby the vaporization of the volatile hydrocarbon fuel and its mixture in definite proportions with the air employed in its combustion may be maintained at varying engine speeds. This result is accomplished by regulating the supply of the air which is admitted to form an explosive mixture so that the volume of such air is proportionate to the engine speed.

In the drawings Figure 1 is a side view of my invention, Fig. 2 a longitudinal central section thereof, and Fig. 3 a similar view of a modification of the valve.

Similar reference letters indicate corresponding parts in the several figures.

In the drawings, 1 represents the main air inlet pipe which supplies air to the cylinders. 2 is the continuation of this pipe to the engine. 3 is the fuel admission valve which is supplied by the pipe 4 from the float chamber 5. The lower part of 2 is closed to form a chamber 6 in which is placed mercury or some other liquid as shown at 7. A sliding valve 8 regulates the admission of air from 1 to 2 through its opening 9. This valve is furnished with a stem 10 extending into the liquid 7 which serves to float the valve 8 upon such liquid. The valve 8 is also furnished with a flange 11 at its upper part, upon which the current of air and fuel impinges and tends to lift the valve, the support thus given to it replacing to a greater or less extent the support afforded by the liquid 7.

The modification of the valve shown in Fig. 3 shows this valve having the flange 11 omitted and having a closed end 12. In this modified form the suction of the indraft of air and fuel to the engine upon the valve bottom 12 accomplishes the same result as the flange 11, and raises the valve from its floating position on the liquid 7. An air hole 16 connects the space below, the valve with the exterior air. A plate 13 is secured to the valve member 10 and nearly reaches the wall 6, of the valve chamber so as to restrict the flow of the liquid 7 from above to a position below it, or vice versa. By this

means the movement of the valve is greatly steadied and rapid changes in its position are avoided. This plate 13 also prevents lateral displacement and sticking of the valve.

A baffle plate 14 is placed in the liquid chamber 6 at about the normal level of the liquid 7, to prevent its being dashed upwards by sudden movements. 15 represents a butterfly valve placed in the pipe 2. The operation will be readily understood from the drawings. The inward suction caused by the engine piston causes an inward current of air in 1 and 2 drawing in and vaporizing the fuel from the valve 3. As the engine speed increases the speed of this current of air increases and as more air is required to maintain a regular mixture with the fuel, the valve is raised by upward pressure on the flange 11 or by suction upon the valve bottom 12, thereby increasing the area of the opening 9 by raising it to more nearly register with the inner end of the tube 1.

The valve 8, when the engine is not running, is entirely floated upon the mercury or other liquid in 6 but as the engine speed increases and it is raised by the inward current of air and fuel it is held partly suspended thereby and partly by the displacement of the liquid by its float 10.

I claim:

1. A carbureter comprising an air inlet, a fuel supply pipe, a valve therein, and a liquid receptacle containing a supporting fluid for said valve, a float secured to said valve for immersion in said liquid, and means attached to said valve, upon which the inward suction of the air may act to raise the same.

2. A carbureter comprising an air inlet, a fuel supply pipe, a valve therein having a float, a liquid chamber for said float, a supporting liquid, an air current lifting member for said valve and a steadying member for said float, adapted to restrain the flow of the liquid upon the movement of the valve.

3. A carbureter, comprising an air inlet, a fuel supply pipe, a valve therein having a variable immersion float adapted to support the same, secured thereto, a liquid chamber for said float, an air current lifting member for said valve, and a liquid checking device for steadying the movement of said valve.

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