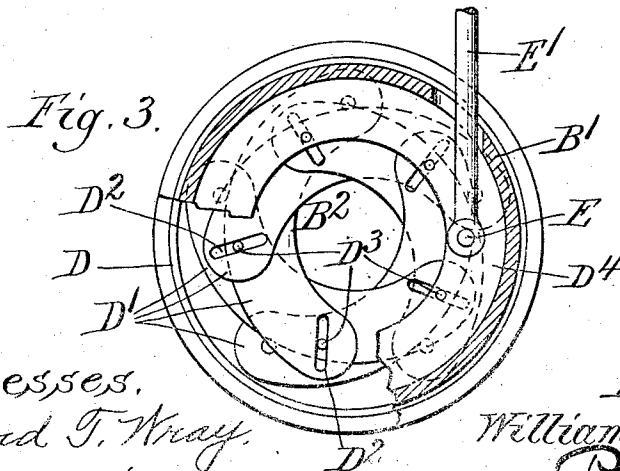
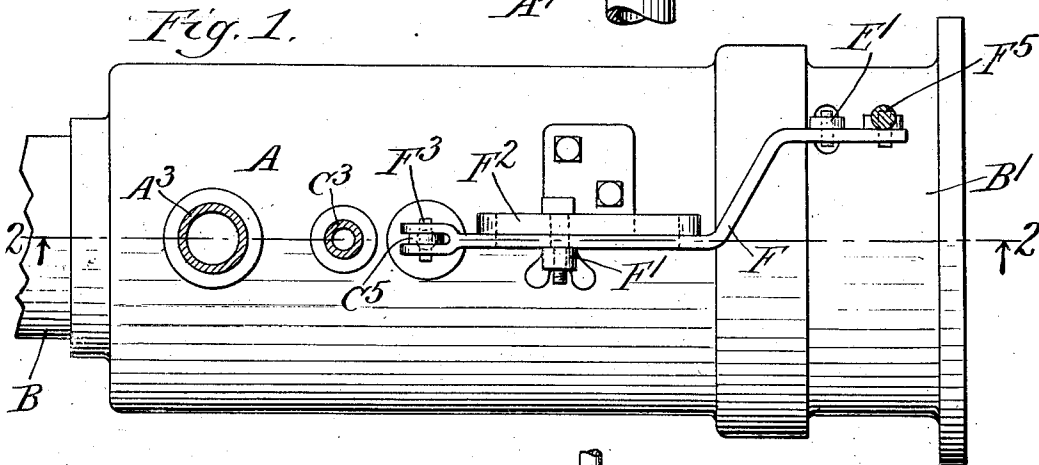
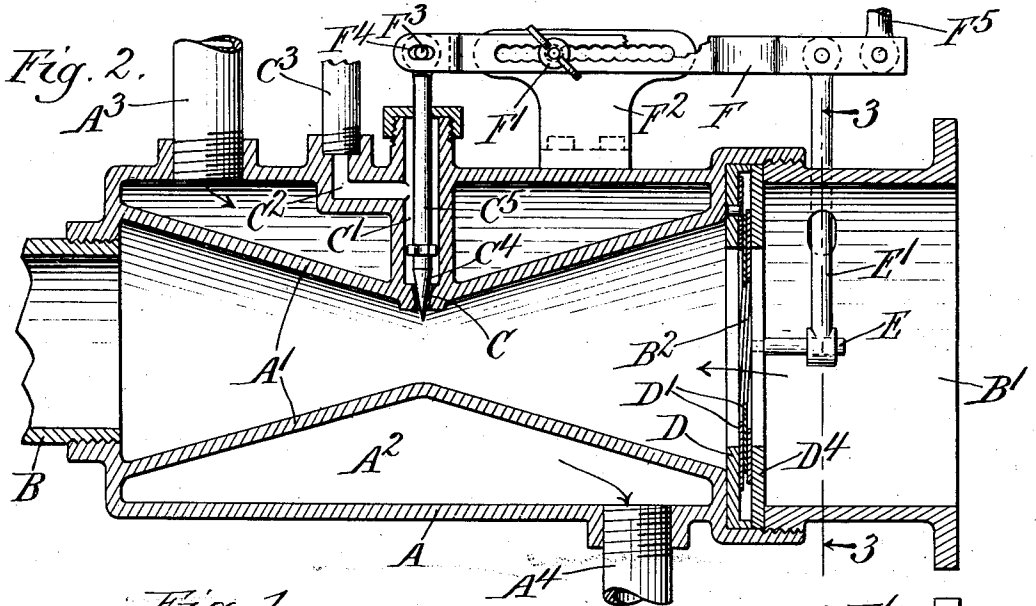


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CARBURETER.

APPLICATION FILED AUG. 20, 1910.

1,055,042.

Patented Mar. 4, 1913.



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UNITED STATES PATENT OFFICE.

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CARBURETER.

1,055,042.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed August 20, 1910. Serial No. 578,172.

To all whom it may concern:

Be it known that I, WILLIAM H. C. HIGGINS, Jr., a citizen of the United States, residing at Laporte, in the county of Laporte and State of Indiana, have invented a certain new and useful Improvement in Carbureters, of which the following is a specification.

My invention relates to improvements in carbureters, and in one form is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view; Fig. 2, a section along the line 2—2 of Fig. 1; and Fig. 3, a section along the line 3—3 of Fig. 2.

Like parts are indicated by like letters throughout the several figures.

The cylindrical casing A surrounds the Venturi tube A¹ and forms with the wall of the tube the exhaust chamber A² in communication with the exhaust of the engine by means of the pipe A³ and discharging through the pipe A⁴. The Venturi tube is provided at one end with the mixture discharge pipe B and at the other end with the air intake pipe B¹ controlled by the iris valve B². The Venturi tube A¹ is provided at its smallest point with the oil openings C in communication with the oil passages C¹, C², and oil piping C³ and controlled by the needle valve C⁴ on the valve stem C⁵. The iris valve B² consists of the fixed annular collar D to which are pivotally mounted the curved plates D¹ provided with the diagonal slots D² in engagement with pins D³ in the rotatable collar D⁴. The pin E projects outwardly from the rotatable collar D⁴ and is actuated by the link E¹ which extends outwardly through the wall of the pipe B¹.

The lever F is pivotally mounted upon the thumb screw F¹ which may be adjusted in position with respect to the lever and with respect to the bracket F² upon which it is mounted. It will be observed that both the lever and bracket are slotted and that therefore the thumb screw may be moved back and forth in these slots to give the desired adjustment. The link E¹ is pivotally connected to said lever F at a fixed point and the valve stem C⁴ is provided with the pin F³ in engagement with the slot F⁴ in one end of the lever F. The actuating rod F⁵ pivoted at one end of the lever F is pro-

vided with means for operating said lever from any source of power.

It will be evident that while I have shown in my drawings an operative device still many changes might be made in the size, shape and arrangement of the parts without materially departing from the spirit of my invention, and I wish, therefore, that my drawings be regarded as in a sense diagrammatic.

The use and operation of my invention are as follows:—It is a well known fact that in a Venturi tube a partial vacuum is set up at the point where the cross-sectional area is the smallest. By placing therefore a fuel supply valve or nozzle at this point I am enabled to suck the fluid into the carbureter, and in view of the fact that the velocity at this point is very high the fluid is immediately broken up into a practically infinite number of fine particles. The iris or other suitable valve which controls the air supply is located between the Venturi tube and the air supply pipe and has a rigid adjustable connection with the fuel supply valve. By varying the pivotal point of the lever connecting the fuel supply valve and air supply valve, the relative movement of the two valves may be adjusted and when the lever is actuated the supply of air may be varied and by a suitable adjustment of the levers, which adjustment must be made empirically for each engine, some position will be found at which the carbureter gives a satisfactory mixture for all velocities and powers. In order that the danger of condensation owing to too low temperatures may be obviated I conduct the exhaust from the engine into a casing surrounding the Venturi tube, and my carbureter, therefore, acts both as a carbureter and a muffler since this exhaust chamber has a muffling effect while the hot gases at the same time operate to in a sense prevent condensation of the mixture to render the whole more volatile.

It will be understood, of course, that my invention is applicable to the use of any kind of hydro-carbon fuel such as oil, gasoline, alcohol and other similar fluids.

I claim:

A carbureter having a Venturi tube, a fuel supply discharging into the smallest

part of said tube, and a valve therefor, an
air valve located at the outer end of the
Venturi tube and adapted to control the
pure air entering the tube, means connecting
5 both of said valves, means for mechanically
controlling them, and means for varying
the relation between the fuel and the oil
valves, the air valve taking the form of an
iris valve the center of whose effective open-
ing is always in line with the center of the 10
Venturi tube.

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Witnesses:

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