V. R. HEFTLER.

CARBURETER.

APPLICATION FILED OCT. 31, 1914.

1,222,400.

Patented Apr. 10, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

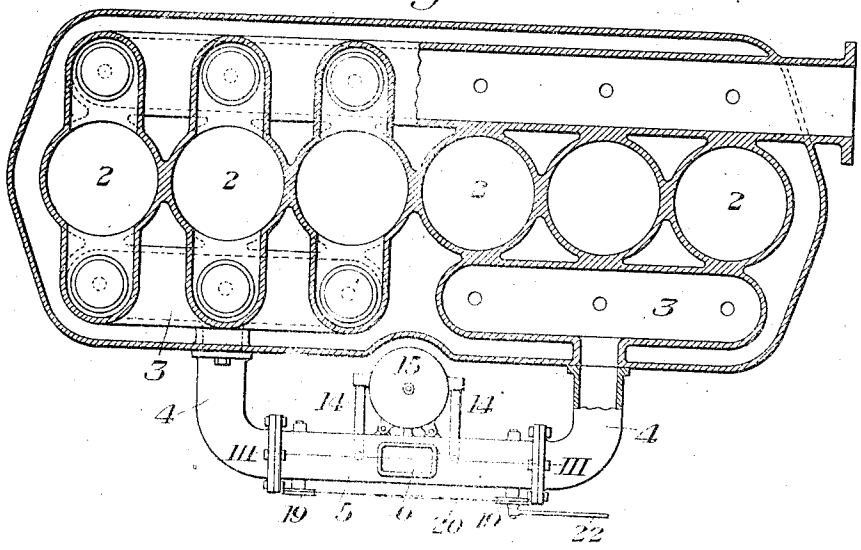


Fig. 2.

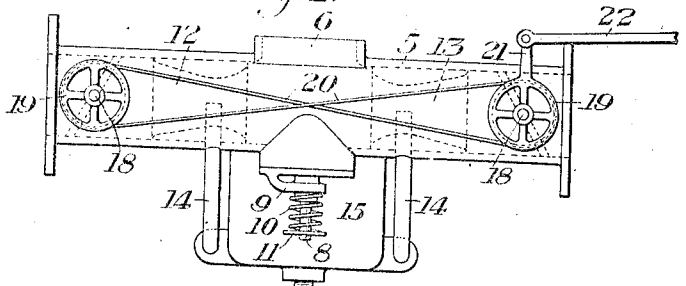
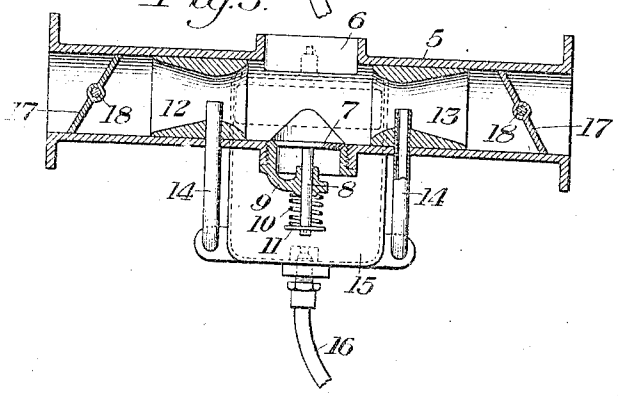


Fig. 3.



WITNESSES

R. A. Balderson

E. B. Fleming

INVENTOR

V. R. Heftler,

by Bakewell, Byron & Pamely,

Attys

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2 SHEETS—SHEET 2.

Fig. 4.

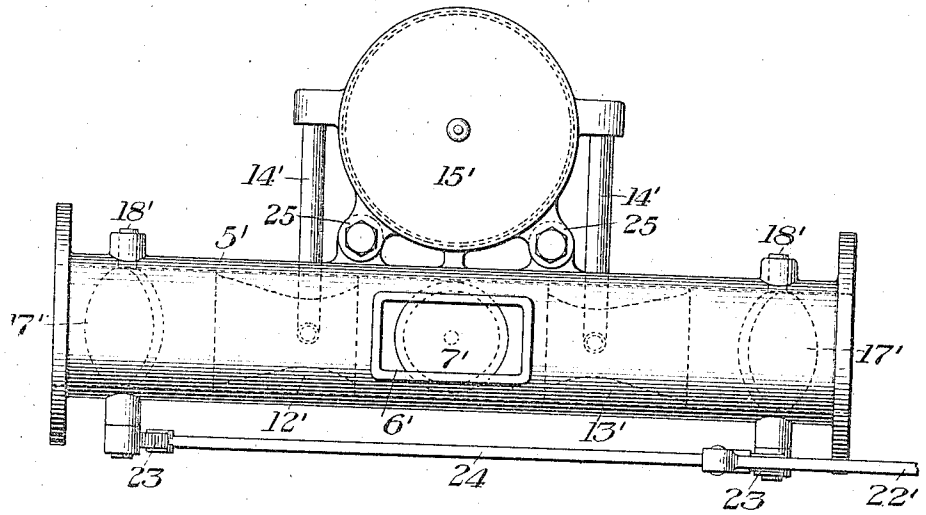
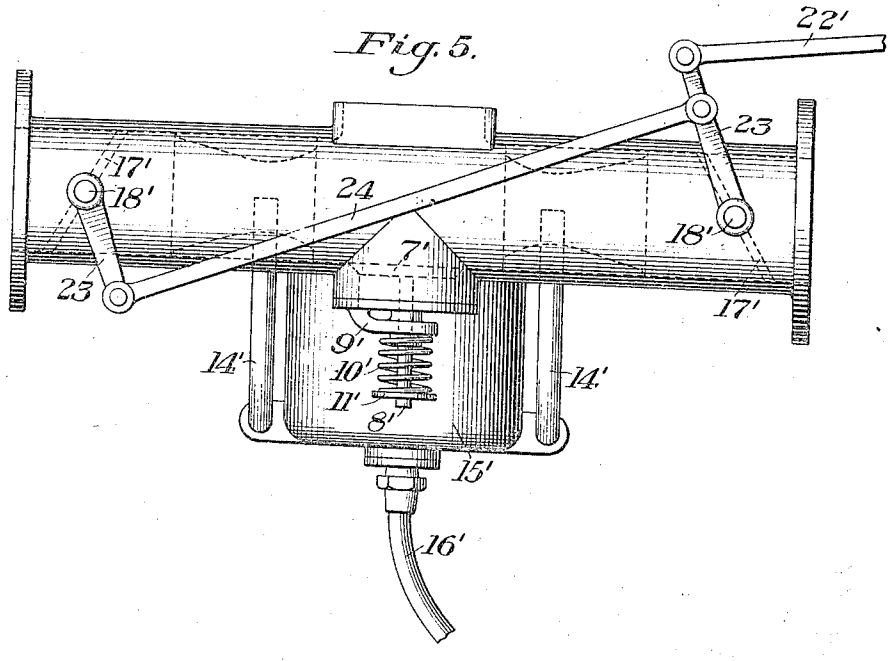


Fig. 5.



WITNESSES

R. A. Balderson

G. B. Fleming

INVENTOR

V. R. Heftler,

by Bakewell, Byrnes & Parmelee

Attys

UNITED STATES PATENT OFFICE.

VICTOR R. HEFTLER, OF DETROIT, MICHIGAN, ASSIGNOR TO SOCIÉTÉ ANONYME DU CARBURATEUR ZENITH, OF LYON, FRANCE, A CORPORATION OF FRANCE.

CARBURETER.

1,222,400. Specification of Letters Patent. Patented Apr. 10, 1917.

Application filed October 31, 1914. Serial No. 869,582.

To all whom it may concern:

Be it known that I, VICTOR R. HEFTLER, a citizen of the French Republic, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Carbureter, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view, partly broken away, showing my improved carbureter applied to a six-cylinder engine.

Fig. 2 is a front elevation of the same on a larger scale.

Fig. 3 is a vertical section of the same on the line III—III of Fig. 1.

Fig. 4 is a plan view of the carbureter itself, on a larger scale, with a modified form of connection between the throttle valves, and

Fig. 5 is a front elevation of the form of Fig. 4.

My invention relates to carbureters employed for engines having a relatively large number of cylinders, such as six cylinders or eight cylinders. It has been found difficult to properly distribute the explosive mixture from carbureters to such engines, and my invention relates to the double or multiple type of carbureters formed of two or more carbureters operating together. The object of the invention is to provide a simple, cheap and efficient assembly of the multiple carbureters for such engines. To that end the invention consists in providing carbureting chambers in line with each other in a common passageway, the air preferably being supplied between the carbureting chambers and being split to flow in opposite directions through said carbureting chambers. In this assembly the throttle valves are also preferably placed in line with each other in the common passageway and thereby they may be easily connected for simultaneous operation. This gives a symmetrical assembly which may be cheaply and easily made and which will operate efficiently in distributing the mixture to the cylinders.

In the drawings, referring to the form of Figs. 1, 2 and 3, the numerals 2 represent the cylinders of a six-cylinder explosive engine, and 3 a pair of manifolds, each supplying three cylinders. The supply channels 4 to these manifolds are curved and fastened to the ends of my improved double carbureter. This carbureter consists of a common supply channel 5, which is preferably a casting, having centrally located at one side the common air inlet 6. If a supplemental air valve is desired, it may be located opposite this main air opening or at any point around the casting in the general cross sectional plane of the main air inlet, about which central plane the parts are substantially symmetrically arranged on each side.

In the form shown, 7 is the supplemental air valve having a stem 8 extending through a guide arm 9 and provided with closing spring 10 compressed between the arm 9 and a washer 11 on the stem. This valve is, of course, normally closed and is opened to different extents under the varying suction of the engine. This valve may be made of any of the usual types of secondary air valves now known in this art.

At each side of the central air opening are the carbureting chambers 12 and 13, preferably having the usual Venturi tubes into which the fuel supply tubes 14 open. These feed tubes preferably lead from a common constant level chamber of any desirable type, which feeds both. This float chamber may be located as shown at 15, receiving gasolene through a suitable supply tube 16. The two gasolene supplies may be of any desirable type. For example, each may be of the usual Zenith type of the United States Baverey Patent No. 907,953, dated December 29, 1908.

Toward the outer portions of the casing 5 and in the common passageway, I provide the throttle valves 17, each of which controls the flow of mixture from its carbureter to its cylinder or set of cylinders. These throttle valves are preferably arranged to be operated simultaneously and to equal degrees of opening. For this purpose, in the form of Figs. 1, 2 and 3, the throttle shafts 18 are provided with small sheaves or pulleys 19, which are connected by the crossed belt 20. One of these sheaves has an operating arm 21 connected through 22 to the usual control, by which both throttles are actuated.

In Figs. 4 and 5 I show a form generally similar to that of Figs. 1, 2 and 3, except as to the throttle connections. In this form each throttle has an actuating lever arm 23,

these arms extending in opposite directions and parallel to each other when the throttles are closed, they being connected by pivotal link 24. In this case, when one of them is actuated the other will be simultaneously actuated in the opposite direction to practically the same amount. In these figures, parts similar to those of Figs. 2 and 3 are marked with the same numerals, with a prime mark applied.

In both forms the gasolene feed system, comprising the constant level reservoir 15 and the feeds therefrom, is attached to the air system by suitable lugs 25 bolted to corresponding lugs at the side of the casting 5. It will be noted that the gasolene feed supply system may be easily detached and removed and that when the parts are assembled the feed tubes secure the Venturi tubes in place.

The advantages of my invention resu from the symmetrical arrangement of the parts, giving two carbureters in line with only one float chamber, and affording a cheap and simple device which may be easily made. The air entering through the common supply channel is split and passes in opposite directions through the two carbureting chambers under the control of the connected throttles.

Many changes may be made in the form of the carbureters, the supply connections, etc., the supplemental air valve may be used or not, as desired, and other changes may be made without departing from my invention.

I claim:

1. A carbureting device, comprising a casing, said casing having a through bore, there being an air chamber intermediate the ends of said casing, an air supply communicating with said chamber, there being a carbureting chamber on each side of said chamber within the bore, a float chamber, and gasolene feed tubes extending from said float chamber to each carbureting chamber beyond the air chamber; substantially as described.

2. A carbureting device, comprising a casing having a through bore, there being an air chamber intermediate the ends of said casing, an air supply communicating with said chamber, there being a carbureting chamber on each side of said air chamber, a Venturi tube in each carbureting chamber within the through bore, said casing being so arranged that the tubes can be entered through the ends thereof, a float chamber, means for supporting said float chamber on the casing, gasolene feed tubes extending from said float chamber to each carbureting chamber beyond the air chamber, and throttle valves within the bore of said casing, said throttle valves being located beyond the Venturi tubes; substantially as described.

3. A carbureting device, comprising a casing having a through bore, there being an air chamber intermediate the ends of said casing, an air supply communicating with said chamber, there being a carbureting chamber on each side of said air chamber, a Venturi tube in each carbureting chamber within the through bore, said casing being so arranged that the tubes can be entered through the ends thereof, a float chamber, means for supporting said float chamber on the casing, gasolene feed tubes extending from said float chamber to each carbureting chamber beyond the air chamber, throttle valves within the bore of said casing, and means for connecting the opposite ends of said casing to the engine supply channels; substantially as described.

In testimony whereof, I have hereunto set my hand.

VICTOR R. HEFTLER.

Witnesses:
GEO. B. BLEMING,
W. C. LYON.