

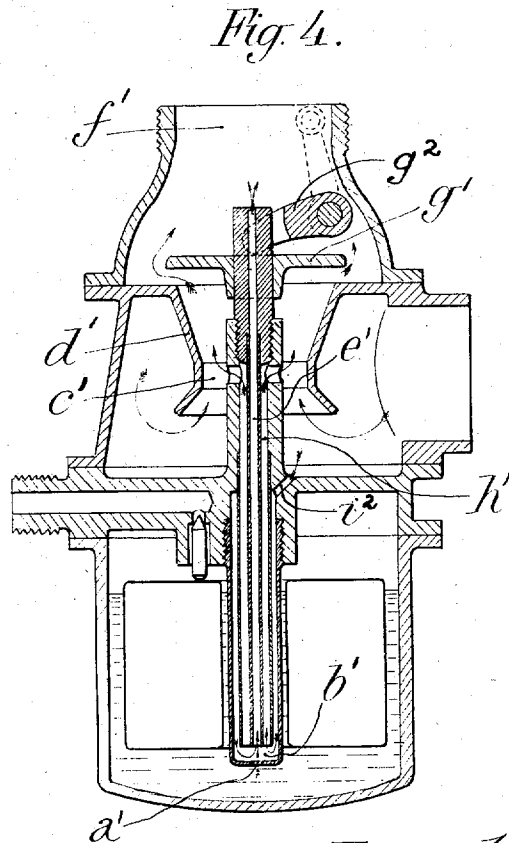
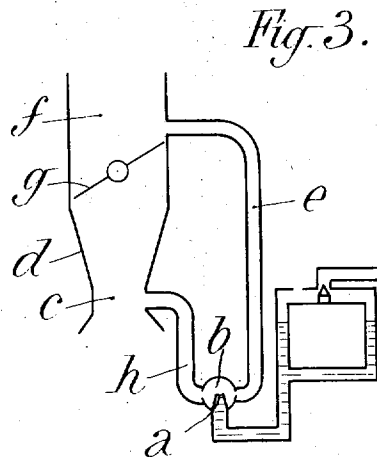
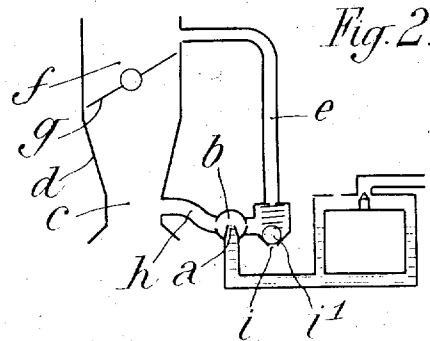
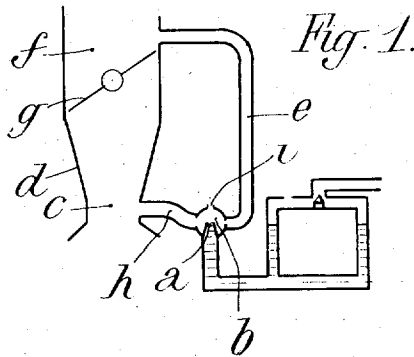
H. V. J. JOUFFRET & J. M. RENÉE.

CARBURETER.

APPLICATION FILED OCT. 10, 1910.

1,002,700.

Patented Sept. 5, 1911.



Witnesses:

W. B. Keeler
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By James L. Norris, Attorney

UNITED STATES PATENT OFFICE.

HENRI VICTOR JULES JOUFFRET AND JULES MAURICE RENÉE, OF PARIS, FRANCE,
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CARBURETER.

1,002,700.

Specification of Letters Patent.

Patented Sept. 5, 1911.

Application filed October 10, 1910. Serial No. 536,345.

To all whom it may concern:

Be it known that we, HENRI VICTOR JULES JOUFFRET and JULES MAURICE RENÉE, engineers, citizens of the French Republic, residing at 18 Rue de Bruxelles, Paris, France, have invented certain new and useful Improvements in Carbureters, of which the following is a specification.

This invention relates to improvements in carbureters, and it has for its object to provide a carbureter having a single spraying nozzle which is so arranged with respect to the aspirator tube that an action is secured which is similar to, and has the advantages of, the action of carbureters having primary and secondary spraying nozzles.

Embodiments of the invention are illustrated in the accompanying drawings, wherein—

20 Figure 1 is a diagram in vertical section showing one form of the invention. Fig. 2 is a view similar to Fig. 1, showing substantially the same form of the invention, combined with an adjunctive improvement. 25 Fig. 3 is a view similar to Fig. 1, showing the same form of the invention, in connection with a further adjunctive improvement, and Fig. 4 is a vertical longitudinal sectional view showing a modified form of the invention.

Referring more particularly to Fig. 1, the spraying nozzle *a*, which is supplied from the usual float feed chamber is arranged in a chamber *b*, the essential feature of which 35 is that it is distinct from, and adjacent to, the contracted portion *c* of the aspirator tube *d*, and is connected with said aspirator tube by a pipe *e* and also a pipe *h*. The pipe *e* connects with the part *f* of said tube, 40 which is in advance of the throttle *g*, and the pipe *h* connects with the contracted portion *c* of said tube, which is situated in the rear of said throttle. The chamber *b* is preferably provided with an orifice *i*, which 45 communicates with the atmosphere.

The action of the carbureter will be readily understood from the foregoing description. When the motor runs at full speed, the spraying nozzle is under the influence 50 of the vacuum, produced by the passage of air through the contracted portion *c*, a suction influence being transmitted to said spraying nozzle through the pipe *h*. The action of the spraying nozzle under these 55 conditions corresponds to the action of

the principal spraying nozzle in carbureters which have principal and secondary spraying nozzles. However, when the motor runs at reduced or low speed, that is to say, with the throttle *g* partially closed, 60 the spraying nozzle is under the influence of the suction in the part *f*, the suction influence being then transmitted to the nozzle through the passage *e*. The action of the spraying nozzle under these conditions 65 corresponds to the action of the secondary nozzle of carbureters of the type referred to.

It is true that carbureters have already been proposed which have a single spraying nozzle that is subject to the suction produced in the part of the aspirator tube which is in advance of the throttle, such suction influence being transmitted by a pipe or passage, which opens at one end in the said part and at its other end in the contracted portion; but in such constructions 70 the spraying nozzle is arranged in the contracted portion, and not in a chamber which is distinct from the said contracted portion, the latter serving as a main passage for air. 75 The general regulation of such known carbureters is attended with great difficulty, and must be made with great precision, whereas in a carbureter according to the present invention, all that is required is to 80 properly determine the cross sectional extent of the passages *h*, *e*, and *i*. Another objection to such known carbureters is that it is practically impossible to employ in connection therewith any adjunctive improvement calculated to increase their efficiency. 85 A carbureter according to the present invention is of such nature that adjunctive improvements tending to promote the general efficiency of the device, may be employed, as will be apparent from a reference 90 to Figs. 2 and 3.

In Fig. 2 the carbureter is of the same form as in Fig. 1, but the opening *i*, instead of being uncovered, is fitted with a main 100 air admission valve, such as is provided for the secondary spraying nozzle of the carbureter described in the French Patent No. 402,733. In Fig. 3, the spraying nozzle is arranged below the level of the liquid in the float chamber, as is proposed in the French 105 Patent No. 338,979. The object of the provision of this arrangement in connection with the present carbureter, is that the passages *e* and *h* are so related as to form a 110

trap which, without the use of mechanical means, prevents the fuel from escaping when the motor is stopped. The same result that is secured in the arrangement shown in Fig. 3 is also secured in the arrangement shown in Fig. 4, wherein a chamber *b'*, corresponding to the chamber *b* aforesaid, is disposed concentrically in the float chamber, and is provided at its lower end with a nozzle *a'*, corresponding to the nozzle *a*. Within the chamber *b* are the pipes *h'* and *e'*, which correspond with the respective pipes *h* and *e* aforesaid. The pipe *h'* surrounds the pipe *e'*, and opens into the contracted part *c'* of the aspirator tube, and the pipe *e'* opens into the part *f'* of said tube, which is in advance of the throttle valve *g'*. The orifice *i'* corresponds to the orifice *i* aforesaid, and is formed in the sleeve-like part of the extension in which the pipes *h'* and *e'* are fitted. In this construction, the valve *g'* is mounted for vertical sliding movement on a nipple which forms a continuation of the pipe *a'*, and its forward movement is effected by the suction in the aspirator tube, and is limited by the position of the stop *g''*. It will be apparent in this case that the action of the throttle valve *g'* is semi-automatic.

Having fully described our invention, we claim:

1. In carbureters having an aspirator tube which is provided with a throttle valve, and with a contracted portion in the rear of said valve, a fuel supply chamber and a nozzle supplied therefrom, a chamber in which said nozzle is arranged and which is distinct from the said contracted portion, and pipes connecting the said chamber respectively with the contracted portion and with

the part of the aspirator tube which is in advance of the throttle valve.

2. In carbureters having an aspirator tube which is provided with a throttle valve and with a contracted portion in the rear of said valve, a fuel supply chamber and a nozzle supplied therefrom, a chamber in which said nozzle is arranged and which is distinct from the said contracted portion, and pipes connecting the said chamber respectively with the contracted portion and with the part of the aspirator tube which is in advance of the throttle valve, the said nozzle being located below the level of the liquid in the fuel supply chamber, and the said pipes being related to one another and to the chamber in which the nozzle is inclosed in a manner to afford a trap to prevent the escape of fuel when the engine is stopped.

3. In carbureters having an aspirator tube provided with a throttle valve and with a contracted portion in the rear of said valve, a fuel supply chamber, a nozzle supplied therefrom, a chamber in which the said nozzle is arranged and which is located outside of and adjacent to the said tube, and pipes connecting said chamber in which the nozzle is arranged respectively with the said contracted portion and with the part of the aspirator tube which is in advance of the throttle valve.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

HENRI VICTOR JULES JOUFFRET.
JULES MAURICE RENÉE.

Witnesses:

H. C. COXE,
HENRY ROLLET.

DISCLAIMER.

1,002,700.—*Henri Victor Jules Jouffret and Jules Maurice Renée, Paris, France.*

CARBURETER. Patent dated September 5, 1911. Disclaimer filed April 21, 1920, by the owner, *George M. Holley.*

"Hereby disclaims from said Letters Patent all carbureters except those in which the effective areas of passages *h* and *e*, and of *i* when used, are such that the requisite fuel feed when the motor is running at high speed is produced by reason of the nozzle *a* being under the influence of the vacuum produced by the passage of air through the contracted portion *c* of the aspirator tube, as pointed out at lines 43 to 54 of page 1 of said patent, and the requisite fuel feed when the motor is running at reduced or low speed is produced by reason of the said nozzle being under the influence of the suction in the part *f*, as pointed out at lines 58 to 64 of page 1 of said patent."

[*Official Gazette, May 4, 1920.*]

trap which, without the use of mechanical means, prevents the fuel from escaping when the motor is stopped. The same result that is secured in the arrangement shown in Fig. 3 is also secured in the arrangement shown in Fig. 4, wherein a chamber *b'*, corresponding to the chamber *b* aforesaid, is disposed concentrically in the float chamber, and is provided at its lower end with a nozzle *a'*, corresponding to the nozzle *a*. Within the chamber *b* are the pipes *h'* and *e'*, which correspond with the respective pipes *h* and *e* aforesaid. The pipe *h'* surrounds the pipe *e'*, and opens into the contracted part *c'* of the aspirator tube, and the pipe *e'* opens into the part *f'* of said tube, which is in advance of the throttle valve *g'*. The orifice *i'* corresponds to the orifice *i* aforesaid, and is formed in the sleeve-like part of the extension in which the pipes *h'* and *e'* are fitted. In this construction, the valve *g'* is mounted for vertical sliding movement on a nipple which forms a continuation of the pipe *a'*, and its forward movement is effected by the suction in the aspirator tube, and is limited by the position of the stop *g''*. It will be apparent in this case that the action of the throttle valve *g'* is semi-automatic.

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the part of the aspirator tube which is in advance of the throttle valve.

2. In carbureters having an aspirator tube which is provided with a throttle valve and with a contracted portion in the rear of said valve, a fuel supply chamber and a nozzle supplied therefrom, a chamber in which said nozzle is arranged and which is distinct from the said contracted portion, and pipes connecting the said chamber respectively with the contracted portion and with the part of the aspirator tube which is in advance of the throttle valve, the said nozzle being located below the level of the liquid in the fuel supply chamber, and the said pipes being related to one another and to the chamber in which the nozzle is inclosed in a manner to afford a trap to prevent the escape of fuel when the engine is stopped.

3. In carbureters having an aspirator tube provided with a throttle valve and with a contracted portion in the rear of said valve, a fuel supply chamber, a nozzle supplied therefrom, a chamber in which the said nozzle is arranged and which is located outside of and adjacent to the said tube, and pipes connecting said chamber in which the nozzle is arranged respectively with the said contracted portion and with the part of the aspirator tube which is in advance of the throttle valve.

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