

Dec. 11, 1923.

1,477,280

D. PORDES

CARBURETOR FOR INTERNAL COMBUSTION ENGINES

Filed Aug. 6, 1920

Fig. 1

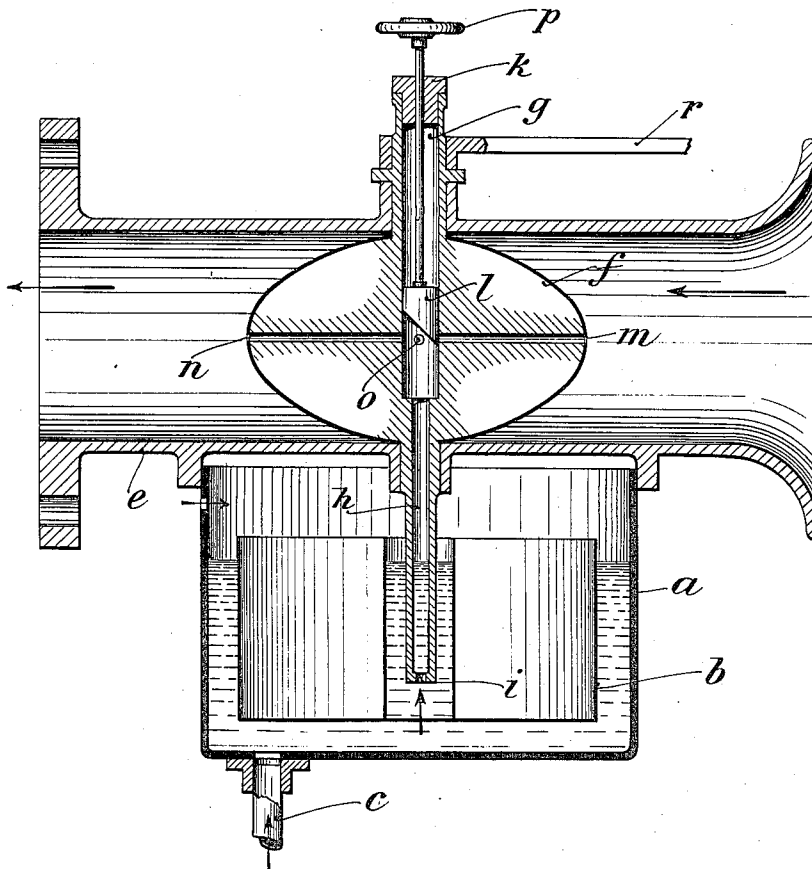


Fig. 2

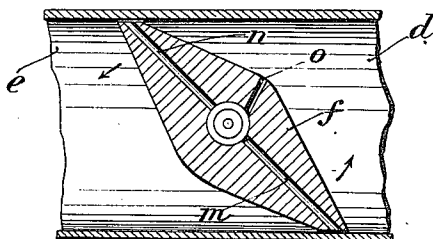
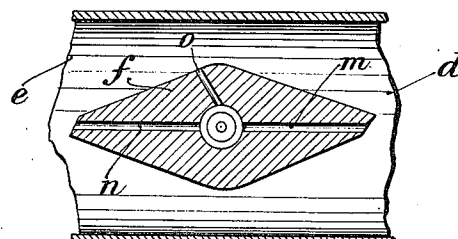


Fig. 3



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UNITED STATES PATENT OFFICE.

DORÉ PORDES, OF VIENNA, AUSTRIA, ASSIGNOR TO FA. P. S.-VERGASER-UND APPARATEBAU-AKTIENGESSELLSCHAFT, OF VIENNA, AUSTRIA.

CARBURETOR FOR INTERNAL-COMBUSTION ENGINES.

Application filed August 6, 1920. Serial No. 401,817.

To all whom it may concern:

Be it known that I, DORÉ PORDES, mechanical engineer, a citizen of the Republic of Austria, and resident of Vienna, V. Margaretenstrasse 105, Austria, have invented new and useful Improvements in Carburetors for Internal-Combustion Engines (for which I have filed applications for patents in Austria, filed March 9, 1917; Germany, filed March 16, 1917, and Italy, filed June 27, 1919), of which the following is a specification.

My invention relates to carburetors for internal combustion engines of the type, in which the introduction or injection of the fuel into the air passage is regulated in accordance with the working of the engine.

One object is to effect improvements in the construction of the butterfly valve arranged in the air passage or intake pipe. A further object of my invention is to provide means to supply the fuel to a central chamber or bore of this valve, and to cause the fuel to be atomized and initially mixed with air while passing through said valve into the intake pipe.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawing, in which a preferred form of the invention is shown—

Fig. 1 is a vertical section of the same.

Figs. 2 and 3 are detail sections respectively showing the butterfly throttle valve in closed and open positions.

In the drawing, *a* indicates the float tank, *b* the float, *c* the fuel pipe, *e* the usual intake pipe to the engine manifold, *d* the air intake tube located above the tank and *f* the throttle or butterfly valve, thickened in the center and having oppositely bevelled side walls which converge forwardly and rearwardly as shown. Said valve has the usual operating lever *r*, and has upper and lower tubular axes *g*, *h*. The lower part *h* reaches downwardly into the float tank and has at the lower end the fuel intake nozzle *i*.

The body of the valve is provided with two co-axial suction ducts *m* and *n* and with a duct *o* inclined to the axle. All these ducts communicate with a central bore in the valve, as does also the vertical axial duct *h*. A slide valve *l* operates in said bore, has its

lower end bevelled on one side, and also has an operating rod provided with a hand wheel *p*.

The operation of the carburetor is as follows:—On starting the engine, the throttle valve *f* (Fig. 2) is closed, suction taking places through the duct *n*, so the fuel rises through the nozzle *i* and the axial pipe *h* into the middle hole or bore of the butterfly throttle valve. The fuel supply is regulated by the air flowing through the duct *m*. With the parts in the position shown in Figure 2 which is the position the parts occupy in starting or idling, the passage *n* serves as a mixture outlet passage from the fuel passage *h* while the passages *o* and *m* admit air to said fuel passage. With the parts in the position shown in Figure 3, which is the position the parts occupy when the motor is running at high speed, the passages *n* and *o* both serve as mixture outlet passages while the passage *m* alone is an air inlet to the fuel passage *h*. It will be obvious that with the parts in the position shown in Figure 3 with less air admitted to the fuel passage *h* and a greater mixture outlet area the flow of fuel from the passage *l* will be greater.

Having now particularly described and ascertained the nature of my invention, what I claim is:

1. In a carburetor, an intake pipe, a butterfly valve in said intake pipe and having a vertical central bore, and a fuel intake duct leading downwardly from said bore, said valve having a fuel duct leading from said central bore toward the discharge end of the pipe, an air duct extending from said bore toward the intake end of said pipe, and a third duct extending from said bore to one side of said valve, and means to open or close said air duct either wholly or to any desired extent and to also close said third duct either wholly or partially while the air duct is closed.

2. In a carburetor, an intake pipe, a butterfly valve in said intake pipe and having a vertical central bore, and a fuel intake duct leading downwardly from said bore, said valve having a fuel duct leading from said central bore toward the discharge end of the pipe, an air duct extending from said bore toward the intake end of said pipe, and a third duct extending from said bore to one side of said valve, said ducts being arranged

with their ends which communicate with said bore in a common plane, and a slide valve movable in said bore and having its lower end bevelled on one side to thereby adapt
5 said slide valve to be employed to open or close said air duct either wholly or to any desired extent and to also close said third duct either wholly or partially while the air duct is closed.

10 3. In a carburetor, an intake pipe, a butterfly valve in said intake pipe, said valve having a thickened central portion and bevelled side walls which converge forwardly and rearwardly toward each other from the
15 said central portion and toward the respective ends of said valve, and also having a vertical central bore, and a fuel intake duct

leading downwardly from said bore, said valve having a fuel duct leading from said central bore toward the discharge end of the
2 pipe, an air duct extending from said bore toward the intake end of said pipe, and a third duct extending from said bore to one side of said valve, and means to open or
25 close said air duct either wholly or to any desired extent and to also close said third duct either wholly or partially while the air duct is closed.

In testimony whereof I affix my signature in presence of two witnesses.

INGENIEUR DORE PORDES.

Witnesses:

GUIDO CORNI,
RUDOLF SCHISKE.