

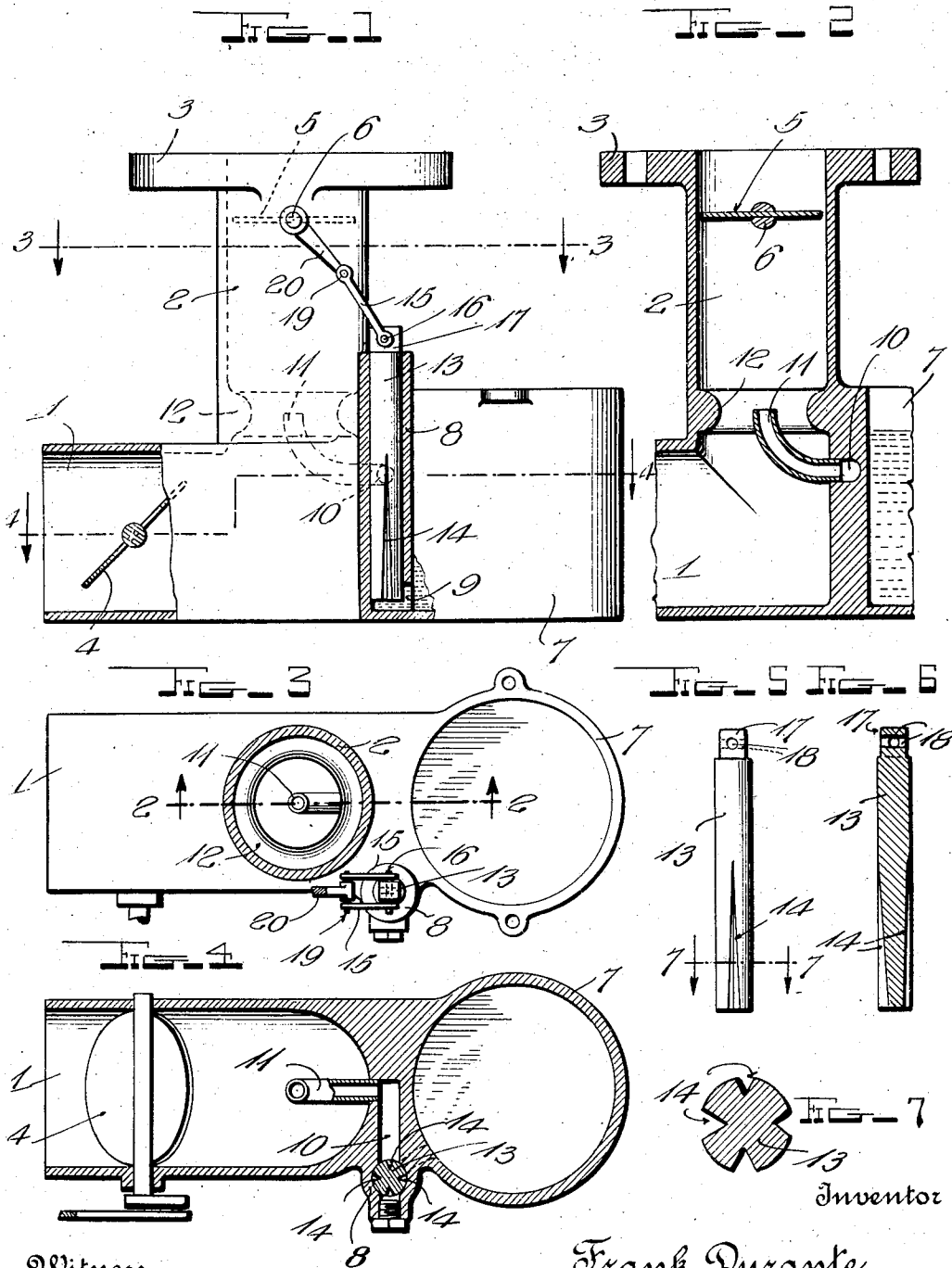
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F. DURANTE

CARBURETOR

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Witness

Frank Durante

E. E. E. E. E.

By *A. B. Wilson & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

FRANK DURANTE, OF PATERSON, NEW JERSEY.

CARBURETOR.

Application filed November 26, 1924. Serial No. 752,418.

To all whom it may concern:

Be it known that I, FRANK DURANTE, a citizen of Italy, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Carburetors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in carburetors for internal combustion engines and has reference more particularly to the general type of carburetor in which a valve which controls the supply of fuel to the fuel nozzle, is automatically adjusted by means which connects it with the throttle valve, so that the greater this throttle valve is opened, the greater the supply of fuel to the nozzle.

It is the object of the invention to provide a generally improved and simplified carburetor of the general type set forth, and with this in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being supplemented by the accompanying drawing.

Figure 1 is a side elevation partly broken away and in section, illustrating the improved construction.

Figure 2 is a detail vertical section on line 2—2 of Fig. 3.

Figures 3 and 4 are horizontal sectional views on lines 3—3 and 4—4 of Fig. 1.

Figure 5 is a side elevation of the fuel controlling valve.

Figure 6 is a longitudinal sectional view thereof.

Figure 7 is an enlarged horizontal section of the valve on line 7—7 of Fig. 5.

In the drawing above briefly described, a carburetor body has been shown which includes an air passage having a horizontal air intake branch 1 and a vertical branch 2, the latter being flanged as at 3 or otherwise adapted for connection to the usual intake manifold of an internal combustion motor. In the branch 1, the usual choke valve 4 is shown, while the well known throttle 5 is illustrated in the branch 2, said throttle having the usual rock shaft 6 which extends to the exterior of said branch and is operated by any of the well known connections. The carburetor body also includes an appropriate fuel bowl 7 which is preferably integral with

the branch 1, and formed also as a part of said body, is a vertical cylinder 8 which is by preference integral with the branch 1 and fuel bowl 7, the lower end of said cylinder being in direct communication with the fuel bowl, as indicated at 9, while the upper end of said cylinder is open in the present disclosure. A substantially horizontal port 10 is formed in the body and communicates at one of its ends with the cylinder 8, at a point between the upper and lower ends of said cylinder, the other end of said port 10 being in communication with an appropriate fuel nozzle 11 disposed in the air passage, a conventional restriction 12 being shown around said nozzle.

Slidable vertically in the cylinder 8, is a cylindrical plunger 13 which, in the present disclosure, is provided in its periphery with a plurality of different sized, upwardly tapered grooves 14, said grooves leading from the lower extremity of the plunger 13, to an elevation at least as high as the port 10. The plunger 13 may be turned so that any of the grooves 14 will serve to supply fuel from the lower end of the cylinder 8, to the port 10 and nozzle 11, the groove of proper size being brought into play, according to the requirements of the carburetor. When the plunger is lowered, only a very small amount of fuel can be drawn through the active groove 14 and discharged from the nozzle 11, but the amount of fuel fed to this nozzle through the groove will increase proportionately with raising of the plunger 13, and means are provided whereby this plunger is raised proportionately with opening of the throttle valve 5.

Two links 15 straddle the upper end of the plunger 13, and a pin 16 is provided for passage through said links and plunger to connect them, regardless of the position to which the plunger may be turned, for bringing one or another of the grooves 14 into play. The upper end of the plunger 13 is preferably provided with opposed flat sides 17 to engage the links 15, and said flat sided upper end is formed with a suitable number of openings 18 to receive the pin 16.

The upper ends of the links 15 are pivoted at 19 to a crank arm 20 secured on the rock shaft 6, said crank arm normally extending downwardly when the throttle is closed, so that as said throttle is opened, the

arm will be raised, thus pulling upon the links 15 and correspondingly raising the plunger 13.

5 Excellent results may be obtained from the simple and inexpensive construction herein shown and described and such construction may therefore be followed if desired. However, within the scope of the invention as claimed, numerous modifica-
10 tions may be made.

I claim:

1. A carburetor fuel control valve comprising a vertical cylinder whose lower end is formed with an inlet, said cylinder hav-
15 ing a fuel outlet at a single point between its ends, a plunger received slidably and rotatably in said cylinder, said plunger having a plurality of different sized circumferentially spaced upwardly tapered grooves
20 from its lower extremity to an elevation between its ends, any one of said grooves be-

ing adapted to be positioned for communication with said outlet by turning the plunger in the cylinder by hand, and raising and lowering means for said plunger.

2. A structure as specified in claim 1, said raising and lowering means for the plunger embodying means for holding said plunger against accidental rotation.

3. A structure as specified in claim 1; said raising and lowering means for said plunger including a pair of laterally spaced members to straddle the upper end of the plunger, and a pin for passing through said members and plunger, the latter having a plu-
35 rality of openings, any one of which may receive said pin, according to the position to which the plunger is turned.

In testimony whereof I have hereunto affixed my signature.

FRANK DURANTE.