

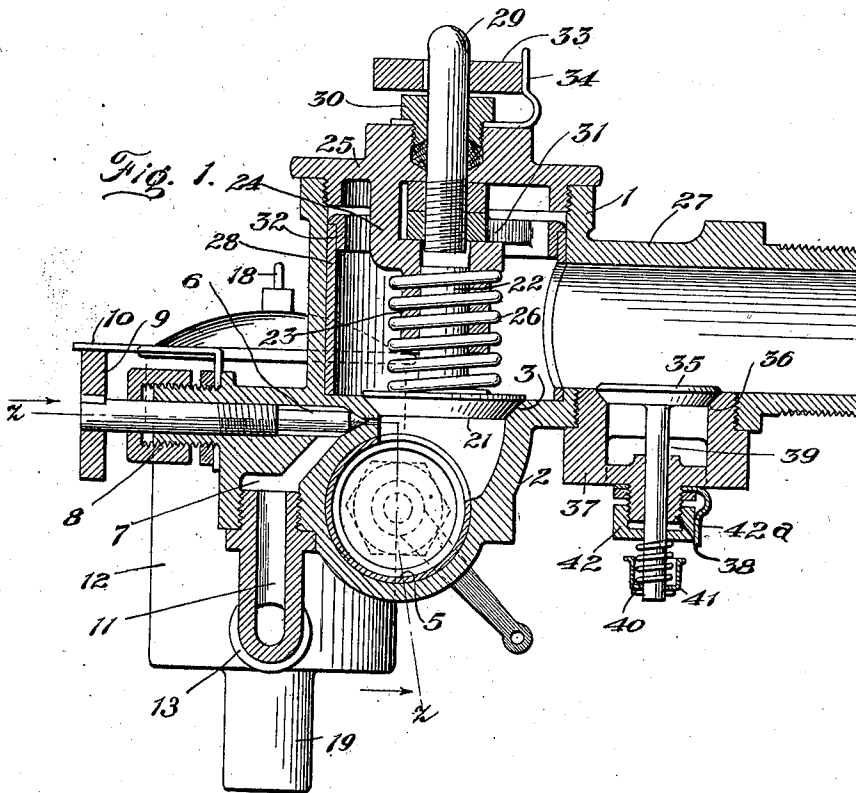
E. MAYNARD.
CARBURETER.

APPLICATION FILED SEPT. 17, 1910.

1,001,969.

Patented Aug. 29, 1911.

2 SHEETS—SHEET 1.



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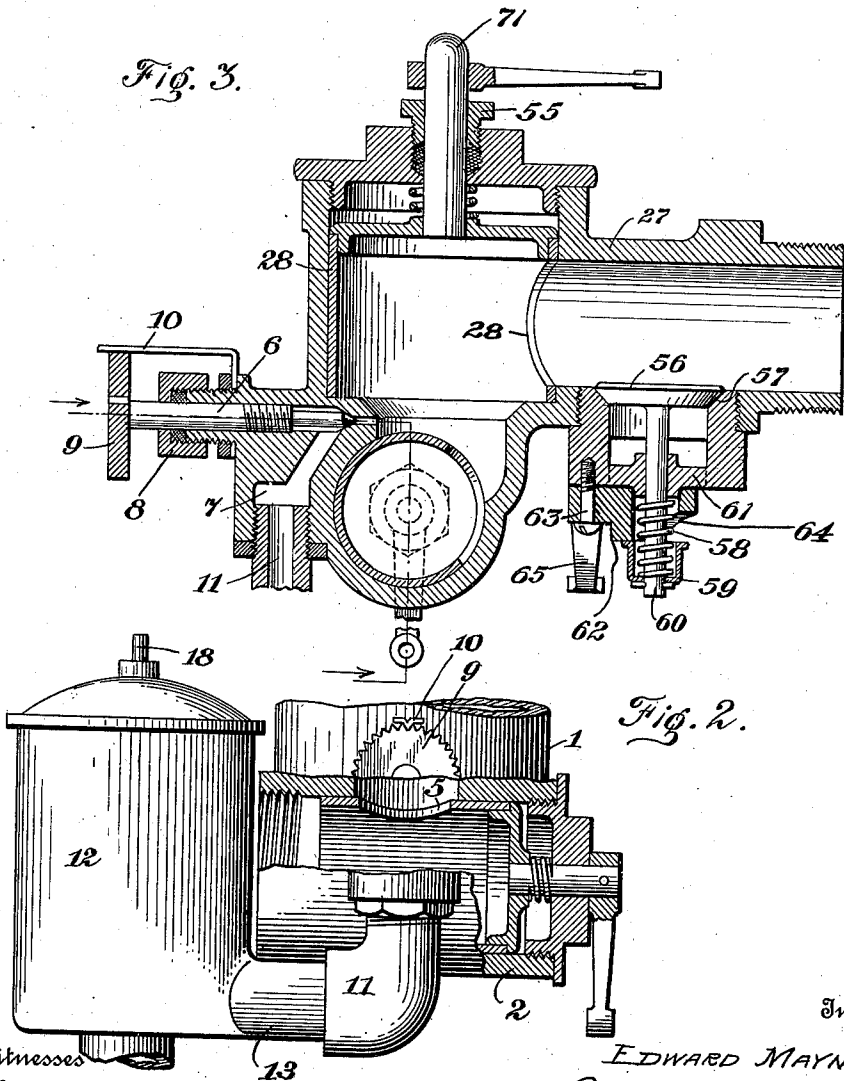
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UNITED STATES PATENT OFFICE.

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CARBURETER.

1,001,969.

Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed September 17, 1910. Serial No. 582,455.

To all whom it may concern:

Be it known that I, EDWARD MAYNARD, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Carbureters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to carbureters and to an arrangement thereof which enables them to be used in either right or left handed positions and by which any vacuum is avoided in the motor cylinder to which the carbureter is attached.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in longitudinal section through a carbureter that embodies features of the invention; Fig. 2 is a section on the line $z-z$ Fig. 1; Fig. 3 is a view in section of another modification of the device.

As herein indicated an upright substantially cylindrical casing 1 has a depending hollow boss 2 preferably formed integrally therewith below an annular valve seat 3 in the casing base. The boss 2 is preferably cylindrical with its axis transverse to the casing and one end is closed by a cap 4 of a sleeve or ported gate 5 for the admission of air into the casing, the gate being interchangeable end for end in the boss. A needle valve closure 6 controls a fuel duct 7 whose outlet is close to the annular valve seat 3 or may be through the latter. The closure is screwthreaded into a suitable aperture in the casing through a stuffing box or gland indicated at 8 and has a hand wheel 9 with notched periphery engaged by a spring index finger 10 secured on the casing. A nipple or fitting 11 is screwthreaded into the enlarged open end of the fuel duct 7 and supports a float feed chamber 12 through the medium of a lateral outlet arm 13 on the latter screwthreaded into the fitting.

A main valve closure 21 for the seat 3 is secured on the lower end of an upright stem 22 that is longitudinally reciprocable in a depending tubular extension 23 of an arm 24 formed preferably integrally on a cap 25 closing the upper end of the casing 1. A spring 26 encircles the extension in compression between the arm 24 and the closure 21 to hold the latter normally seated.

A tubular arm 27 extends laterally from the casing 1 on which it is formed integrally or to which, if preferred, it may be secured detachably. The inner end of the outlet arm may be brought into register with a port in a cylindrical throttle valve closure 28 rotatable in the casing 1. The latter is manipulated by a spindle 29 passing through a stuffing box or gland 30 on the cap 25 into screwthreaded engagement with an inwardly extending arm 31 secured to the upper end of the closure 28 preferably by an annular web 32 fastened to the upper end of the closure. The lower end of the spindle 29 is steadied in the arm 24 and the upper end is provided with a hand wheel 33 having index marks or notches that may be engaged if desired by a spring index finger 34. The latter preferably has an apertured sheet metal plate secured under the flanged head of the stuffing box 30 against the end of the cap 25 with an upturned extension in contact with the periphery of the wheel 33.

A lateral opening into the interior of the outer arm 27 is controlled by a relief valve closure 35. The latter is arranged to close on a replaceable valve seat formed in the end of a hollow screw plug 36 inserted into the opening and bridged at its outer end by an arm 37 having a central depending boss 38. The latter is longitudinally apertured as a guide for a stem 39 carrying the closure 35. A spring 40 encircles the outer end of the stem 39 in compression between a suitable cap 41 or stop thereon and an inner collar 42 whose interiorly screwthreaded flange engages the depending boss 38. An index member 42^a affords means for regulating the tension of the spring 41. Or any other preferred construction of an automatically opening relief valve may be used.

In Fig. 3 another arrangement is shown wherein the interior valve such as indicated at 21 in Fig. 1 is omitted and wherein a throttle closure 28 is worked by a stem 71 that passes through a stuffing box or gland 55 in the top of the casing. A tubular extension 27 is provided with a relief valve closure 56 mounted in a replaceable valve seat ring 57 and provided with a tension spring 58 in compression between the cap 59 on the end of the closure stem 60 and a bridge 61 spanning the outer end of the valve seat. A cam plate 62 is pivoted on a stud 63 to swing across the face of the ring 57 with its inner end encircling the stem

and spring 58 loosely. The outer face 64 of the cam 62 is beveled to bear against the cap 59 and a finger 65 on the arm may be provided with a suitable connection where-
 5 by a person operating the motor to which the carbureter is attached may close the relief valve positively.

By this arrangement of parts a carbureter is obtained that may be adjusted for either
 10 right or left hand position, the float chamber being detachable and arranged to be secured on either side of the main casing, and the air gate being insertible in either end of the boss. When the throttle valve
 15 is partly closed, the relief valve is adjusted so that it opens and thereby allows the motor to which the carbureter is attached to have sufficient air to fill the cylinder. This is a distinct advantage over carbureters
 20 which restrict the passage of air into the motor cylinders when they are throttled down and compel the pistons of the motors to either work against atmospheric pressure or else to draw air into the cylinders through
 25 the joints of the motor.

Obviously changes in the details of construction may be made without departing from the spirit of the invention and I do not limit myself to any particular form or
 30 arrangement of parts.

I claim as my invention:

1. A carbureter comprising a substantially cylindrical upright casing, a boss on the lower end of said casing having a trans-
 35 verse passage therethrough in communication with the interior of the casing, a ported sleeve closed at one end and adapted to turn in the boss, the sleeve being reversible end for end therein, a lateral extension on
 40 the casing having an exhaust passage therethrough from the interior of the casing, a throttle valve controlling the flow of air from the interior of the casing to the extension, and an automatically opening
 45 relief valve in the extension adapted to admit air thereto from outside the casing.

2. A carbureter comprising an upright substantially cylindrical casing, a transversely disposed cylindrical boss on the base
 50 of the casing having a transverse inlet passage in communication through the base of the casing with the interior thereof, a

lateral extension on the casing having an exhaust passage leading from the interior of the casing, a sleeve closed at one end and
 55 journaled in the boss, having a port adapted to register with the opening through the casing base, a cylindrical throttle valve journaled in the casing with its open base encircling the opening from the boss and
 60 with a port adapted to register with the opening through the lateral extension, and an automatically opening valve in a lateral opening in the extension.

3. A carbureter comprising a substan- 65 tially cylindrical upright casing having an annular valve seat in its lower end, a cap closing the upper end of the casing, a closure for the valve seat having a spindle sliding in a guide aperture in a depending arm of
 70 the cap, a spring around the stem in compression between the cap and closure, a cylindrical throttle valve journaled in the casing with its lower open end encircling the valve seat and with a lateral port, means
 75 for rotating the throttle valve, a lateral extension on the casing having an outlet passage adapted to register with the port of the throttle valve, a cylindrical boss transversely disposed on the base of the casing
 80 and provided with a transverse passage therethrough in communication through the annular valve seat with the interior of the casing, a sleeve closed at one end and journaled in the boss, having a port adapted to
 85 register with the opening from the boss into the casing, a fuel valve in the casing controlling the fuel duct whose mouth opens into the casing between the sleeve and the annular seat closure, a lateral extension on
 90 the casing having a passage therethrough adapted to register with the throttle valve port, an annular valve seat removably secured in the opening in the side of the extension, an inwardly opening spring seated-
 95 closure for the seat, and means for rotating the sleeve, the latter being reversibly secured in the boss.

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

EDWARD MAYNARD.

Witnesses:

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