

A. K. GEORGE.
CARBURETER.

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1,048,954.

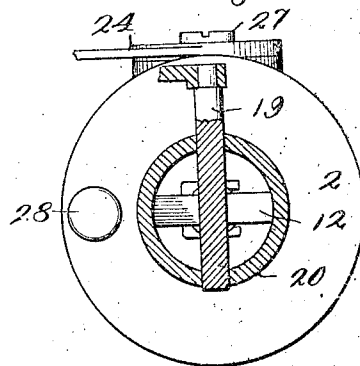
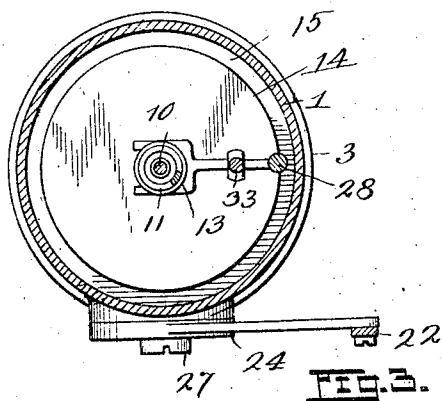
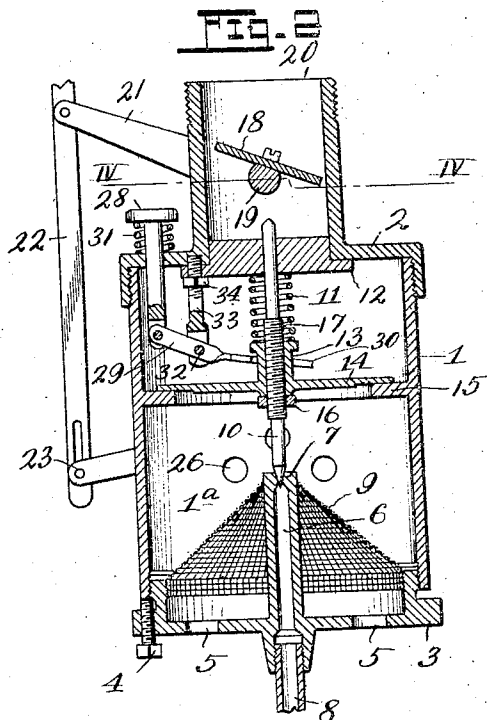
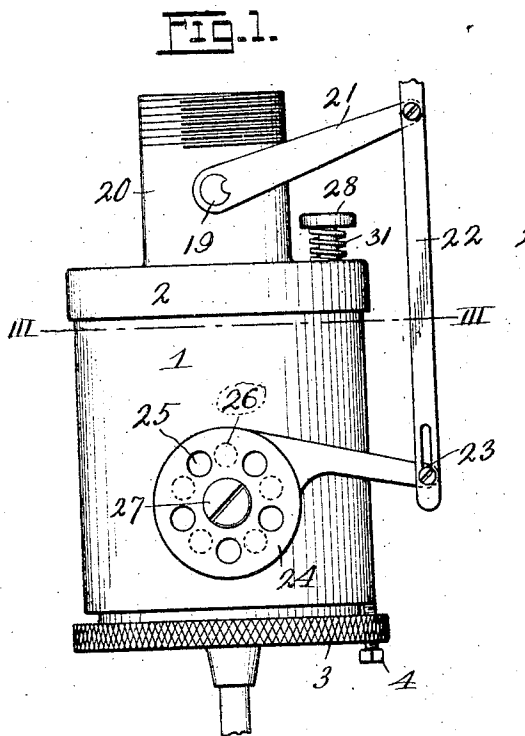


Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

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CARBURETER.

1,048,954.

Specification of Letters Patent.

Patented Dec. 31, 1912.

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To all whom it may concern:

Be it known that I, ALFRED K. GEORGE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Carbureters, of which the following is a specification.

My invention relates to improvements in carbureters for gas engines, etc., and my objects are first, to provide a carbureter of simple and durable design, and in which the customary floating chamber is dispensed with; second, one in which the valves controlling the gas mixture to the engine may be actuated manually to initially start the engine, and automatically after the engine has started; third, to provide novel means for admitting air to the mixing chamber of the carbureter, and fourth, to provide novel means for simultaneously actuating the air inlet valve and the throttle valve of the carbureter.

Other features of the invention will hereinafter appear, and in order that said invention may be fully understood, reference will now be made to the accompanying drawings, in which:

Figure 1 is a side elevation of my improved carbureter. Fig. 2 is a central vertical section of the carbureter. Fig. 3 is a horizontal section on line III—III of Fig. 1. Fig. 4 is a horizontal section on line IV—IV of Fig. 2.

In carrying out the invention I employ a cylindrical shell 1, closed at its upper end by a cap 2, and at its lower end by a head 3, which latter is adjustable for a purpose which will hereinafter appear, and rigidly secured at any point of its adjustment by a set-screw 4, extending through one side thereof and abutting against the lower end of shell 1, as shown in Fig. 2. Head 3 has a plurality of inlet ports 5, for the admission of air, and a centrally-disposed vertically-extending tubular member 6, which extends upward into shell 1, and terminates in a conical valve seat 7, the lower portion of said tubular member communicating with a supply-pipe 8, through which gasoline is supplied to the carbureter from a tank, or other suitable source, not shown.

9 designates a conical screen secured at its lower end to the interior of head 3 and at its upper end to the upper portion of the tubular member 6.

10 designates a needle valve normally

pressed to its seat 7 by a coil spring 11, interposed between a transverse guide 12 and the boss 13 of a disk-valve 14, threaded upon the needle valve 10 and normally seated upon an annular flange 15, as shown in Fig. 2. Valves 10 and 14 open and close simultaneously, and in order that wear of the valves, or their respective seats, may be taken up, valve 14 is adjustably-mounted upon valve 10 and reliably-secured at any point of its adjustment by a lock-nut 16, engaging the threaded portion 17 of valve 10. The upper portion of the needle-valve 10 extends through guide 12 and is thereby held in axial alinement, when open, with its seat 7.

18 designates a throttle-valve mounted upon a rock-shaft 19, journaled in opposite sides of the reduced tubular portion 20 of cap 2. Throttle 18 is controlled by a fixedly-mounted crank 21 pivotally-connected at its free end to a connecting-bar 22, having a pin-and-slot connection 23 at its lower terminal with an air-valve 24, having a circular row of ports 25 adapted to register with a like row of inlet ports 26 in one side of the shell to which latter valve 24 is pivotally-secured by a screw 27.

28 designates a push-rod forming part of manually-controlled means to open the valves 10 and 14, said manually-controlled means consisting of the push-rod 28, which is slidably mounted in cap 2, and a lever 29 pivotally-connected to the lower terminal of the push-rod and having a bifurcated terminal 30 embracing opposite sides of the flanged boss 13. Push-rod 28 is normally-held in raised position by a coil-spring 31 interposed between the head of the push-rod and cap 2. Lever 29 is fulcrumed upon a pin 32, extending through the lower terminal of a post 33, adjustably engaging cap 2 and provided with a lock-nut 34, so that it may be secured at any point of its adjustment.

The operation briefly stated is as follows: To start the engine a mixture of gas and air is admitted thereto by operating the push-rod 28, which raises the valves 10 and 14 from their seats and admits gasoline to the mixing-chamber 1^a of shell 1. As the gasoline discharges from the upper end of the tubular member 6, it flows down upon a conical screen 9, whereby it is spread, and is quickly generated into gas by air flowing inward through the inlet-ports 5. When

the engine is running normally, the suction thereof will be sufficient to automatically open the valves 10 and 14 to admit gasoline to chamber 1^a, and the gas from chamber

5 1^a to the engine. Should an additional supply of air be required, valve 24 is opened, which operation opens the throttle-valve 18 to a greater extent to admit the larger charges to the engine.

10 Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. A carbureter including a shell, a head at the lower end of the shell provided with
15 inlet ports and a vertical tubular member the upper end of which has a valve seat, a conical screen having its lower end secured to the interior of the head and having its apex surrounding the top of the tubular
20 member, an annular flange on the interior of the shell above the top end of said tubular member, a disk-valve for engagement with said flange formed on its upper face with a perforated boss, a cap on the upper
25 end of the shell having a reduced tubular portion, a transverse guide secured to the base of the cap and a needle valve for engagement in said valve seat of the tubular member and having a central threaded portion that engages in the perforation of the
30 boss, the upper end of the needle valve ex-

tending through said guide, and a spring surrounding the upper end of the needle valve and having its ends engaging the upper end of the boss and the under face of
35 the guide.

2. In combination with a shell having a tubular member extending up from its bottom and formed with a valve seat at its upper end, a valve seat in the shell above
40 the upper end of said member, a disk valve for engagement on said valve seat of the shell formed with a boss that is flanged at its upper end, a needle valve for engagement in the valve seat of the tubular member ex-
45 tending through said boss, a guide for the upper end of the needle valve, a cap closing the upper end of the shell, a post depending from the cap, a lever centrally pivoted to the lower end of the post and having a
50 bifurcated inner end which straddles the boss and engages the flange thereof, and a vertical spring pressed push rod pivoted to the outer end of said lever and extending
55 through the cap.

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

ALFRED K. GEORGE.

Witnesses:

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E. C. LILLIAN.