

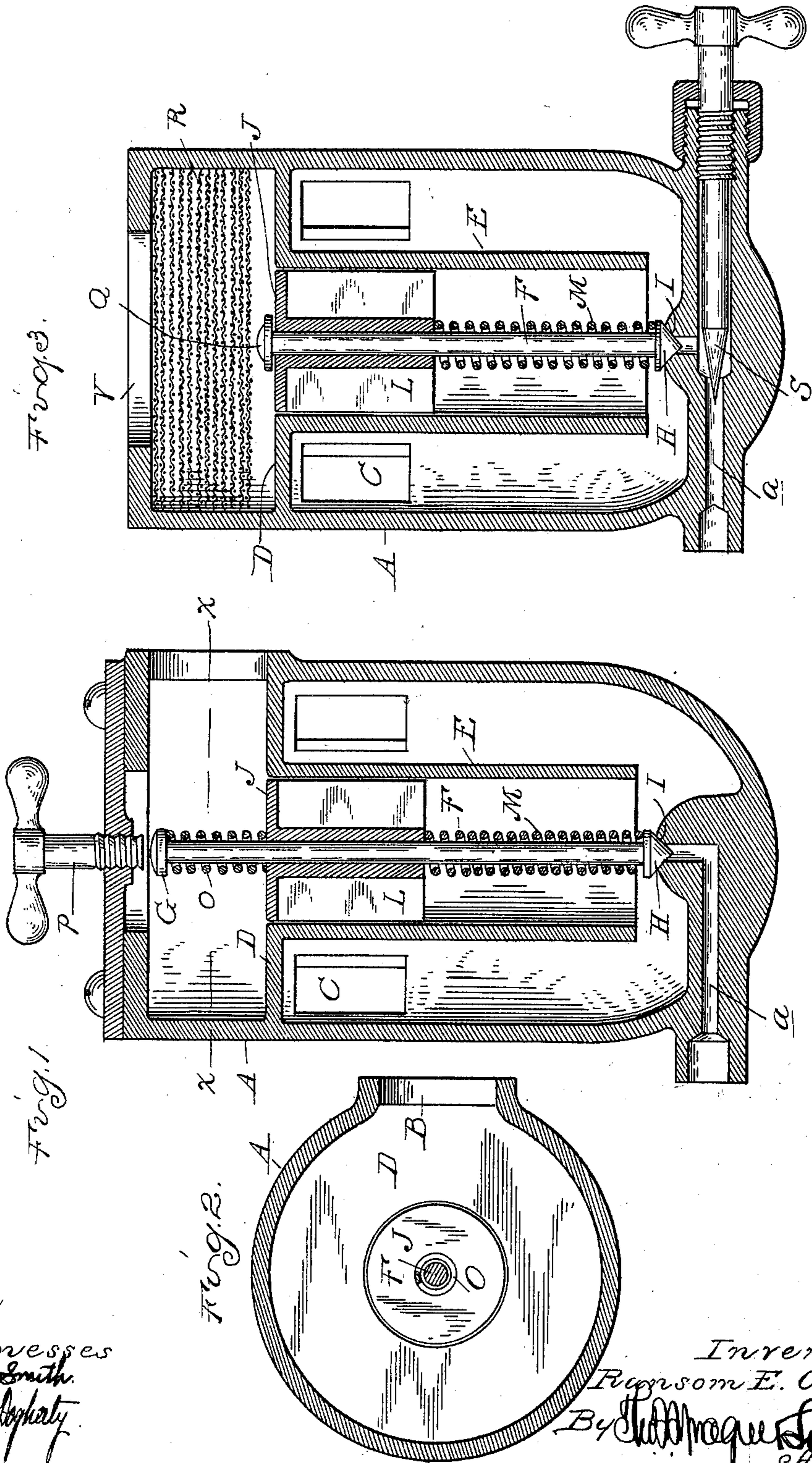
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Patented Mar. 26, 1901.

R. E. OLDS.  
CARBURETER.

(Application filed July 23, 1900.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## CARBURETER.

SPECIFICATION forming part of Letters Patent No. 670,921, dated March 26, 1901.

Application filed July 23, 1900. Serial No. 24,581. (No model.)

*To all whom it may concern:*

Be it known that I, RANSOM E. OLDS, a citizen of the United States, 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.

The invention has reference generally to carbureters; and it consists, essentially, in the novel construction of mechanism for controlling the exit from the mixing-chamber, whereby the carbureter will be capable of operating noiselessly and effectively.

The invention further consists in the peculiar construction and arrangement of the various parts of the carbureter, as will be more fully hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a vertical central section through my improved carbureter. Fig. 2 is a section taken on line *x x*, Fig. 1; and Fig. 3 is a vertical central section through a carbureter of modified construction.

In the drawings thus briefly referred to the reference-letter A designates an outer inclosing casing provided with an outlet B near one end and air-inlet ports C and having formed therein at its opposite end a liquid-inlet port *a*. Within the casing and below the outlet is a centrally-apertured partition D, which forms a support for an inner cylindrical casing E, the interior of which constitutes the mixing-chamber. The inner casing is open-ended, as illustrated, and is arranged centrally over the liquid-inlet port, as shown.

The reference-letter F designates a valve-stem extending through the inner casing, one end of which is provided with a head G, while upon the opposite end is a valve H, provided with a seat I, controlling the inlet-passage *a*. Mounted upon this stem for sliding movement is a piston-valve J, provided with wings L, which guide the valve within the inner casing.

The piston-valve just described is provided with a yielding support in the form of a coil-spring M, which encircles the stem, the ends of the spring bearing, respectively, against the lower portion of the piston-valve guides and the upper face of the valve H, as shown in Fig. 1. The spring just referred to is of such length as will hold the piston-valve nor-

mally flush with the partition D. A similar spring O upon the stem, intermediate the head G and the upper face of the piston-valve, forms a yielding connection between the valve and the stem.

P designates a stop in the form of a headed screw for limiting the movement of the stem, the screw projecting within the outer casing in proximity to the stem-head, as indicated.

The carbureter thus described is coupled to the engine in the usual manner by means of a pipe leading from the outlet B, and the fluid-inlet port *a* is connected to a suitable source of fluid-supply. Upon the passage of the mixture above the piston-valve into the engine air from the ports C is caused to enter the mixing-chamber and, acting upon the piston-valve J, raises the latter, together with the valve H. The latter valve is limited in its movement away from its seat by the stop P; but the yielding connection between the piston-valve and the stem allows the former to continue its movement after the movement of the valve H is checked, thereby allowing the mixture within the mixing-chamber to readily pass out therefrom. After the passage of the mixture the valve controlling the liquid-inlet reseats by gravity and the piston-valve is returned to its initial position, where it is held in suspension by the springs described.

From the foregoing description of my invention it will be readily seen that the controlling mechanism for the exit from the mixing-chamber is of such construction as will permit of its operating noiselessly and that as the entire weight of the piston-valve is borne by its spring-support the usual jarring is prevented.

In the modification of my carbureter, as illustrated in Fig. 3, the stem upon which the piston-valve is mounted projects but slightly beyond the valve and is provided with a head Q. This bears normally against the valve and constitutes the connection between the latter and its stem. The lower surface R of a packing composed of wire-cloth forms a stop which limits the travel of the stem. In this construction of carbureter the stop is so arranged as to permit the piston-valve to move the same distance as in the construction shown in Fig. 1, means in the form of a needle-valve

S being provided for regulating the supply of liquid through the inlet-port; also, the outlet V is arranged above the piston-valve instead of at one side of the latter, as in the figure 5 last referred to.

It will be obvious from the above that various modifications may be made in the construction of my improved carbureter without in any manner departing from the spirit of my invention. Therefore while I have shown 10 what I consider to be the best construction I do not desire to be limited to the same.

What I claim as my invention is—

1. In a carbureter, the combination with a 15 mixing-chamber, of a piston-valve controlling the exit from said chamber, a stem upon which the piston-valve slides, and a valve upon the stem controlling the fluid-inlet to the chamber.

2. In a carbureter; the combination with a 20 mixing-chamber, of a piston-valve controlling the exit from said chamber, a stem upon which the piston-valve slides, a yielding support for said piston-valve, and a valve upon the stem controlling the fluid-inlet to the chamber.

3. In a carbureter, the combination with a 25 mixing-chamber, of a piston-valve controlling the exit from said chamber, a stem upon which the piston-valve slides, springs upon the stem arranged above and below the piston-valve and acting to hold the latter in an operative 30 position and a valve fixed to the stem controlling the fluid-inlet to the chamber.

4. In a carbureter, the combination with an outer casing having a valve-controlled fluid-inlet port formed therein, of an inner open- 35 ended casing arranged over the liquid-inlet port a stem for said inlet-valve extending through the inner casing, a spring-supported piston-valve upon and having a sliding engagement with the stem, and a stop limiting 40 the movement of the stem, substantially as described.

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

RANSOM E. OLDS.

Witnesses:

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