

Draftsman.

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PATENTED NOV. 19, 1907.

J. G. P. M. MONNIER & A. M. MORIN.

CARBURETER.

APPLICATION FILED MAR. 13, 1906.

2 SHEETS—SHEET 1.

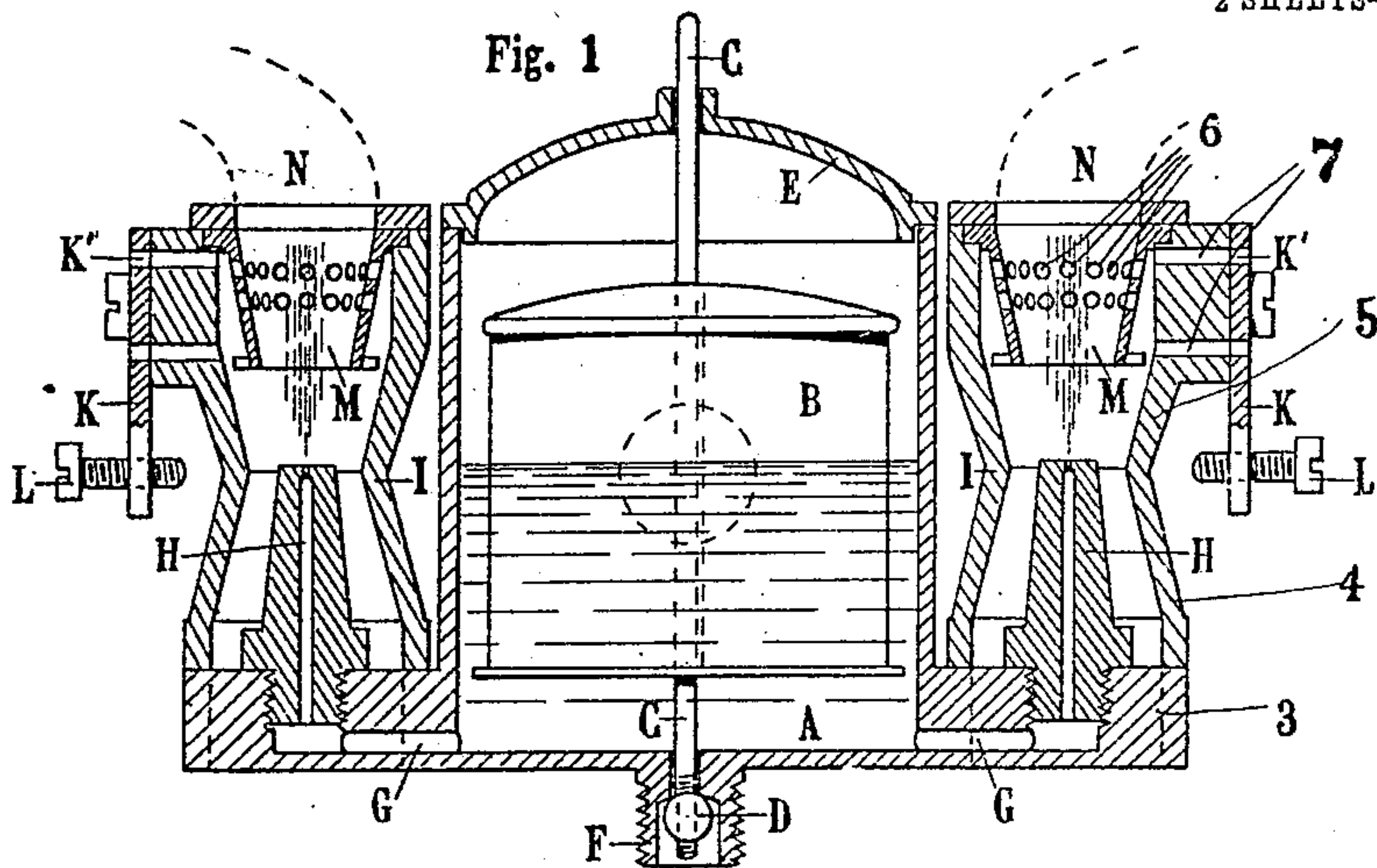


Fig. 2

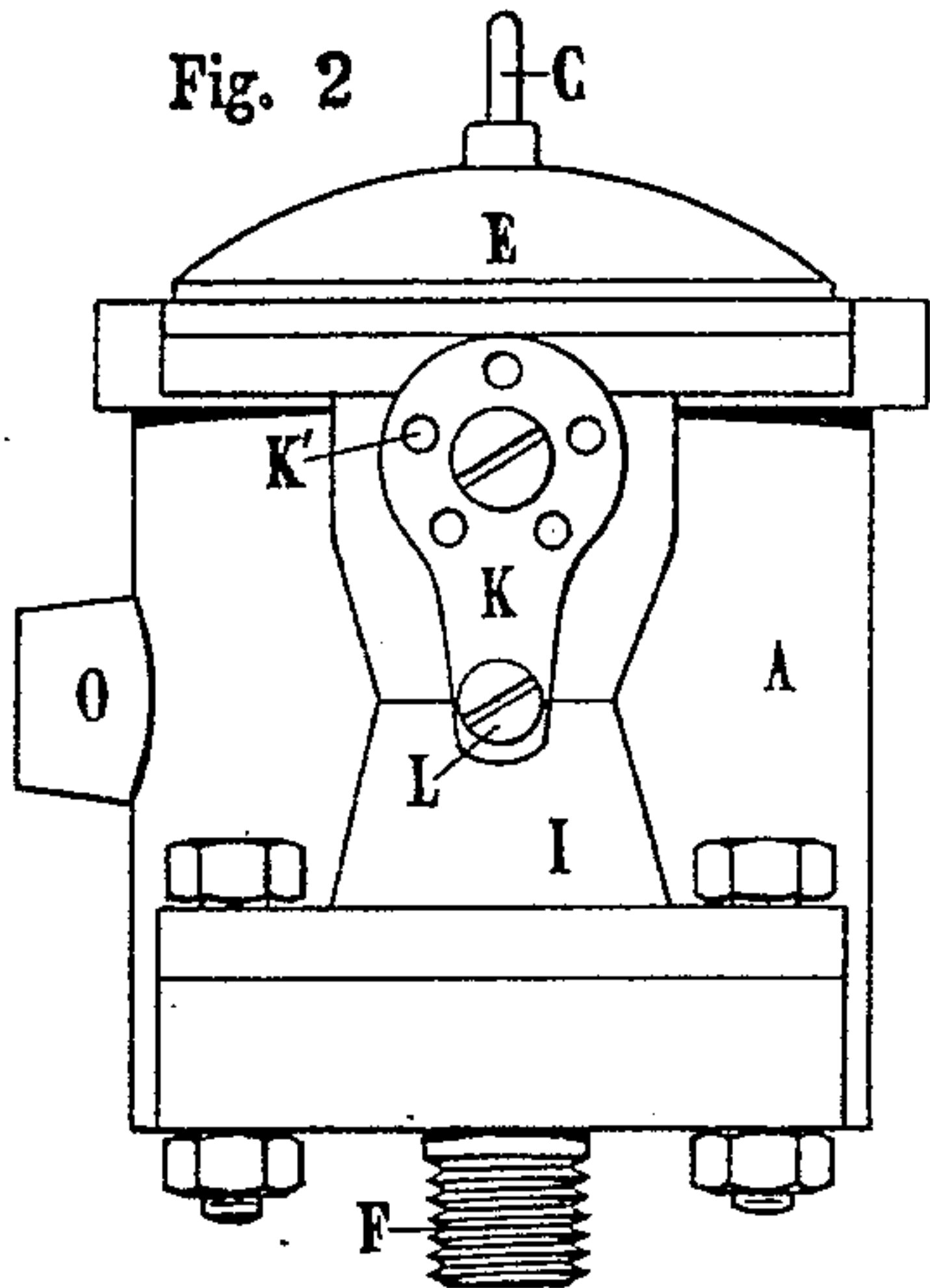


Fig. 4

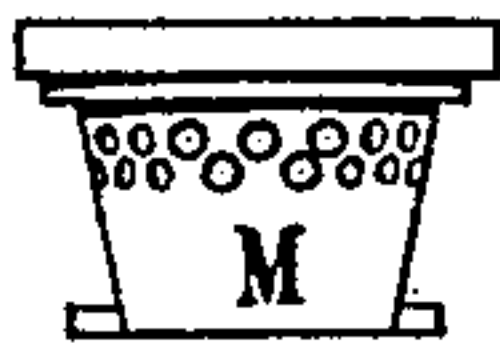


Fig. 5

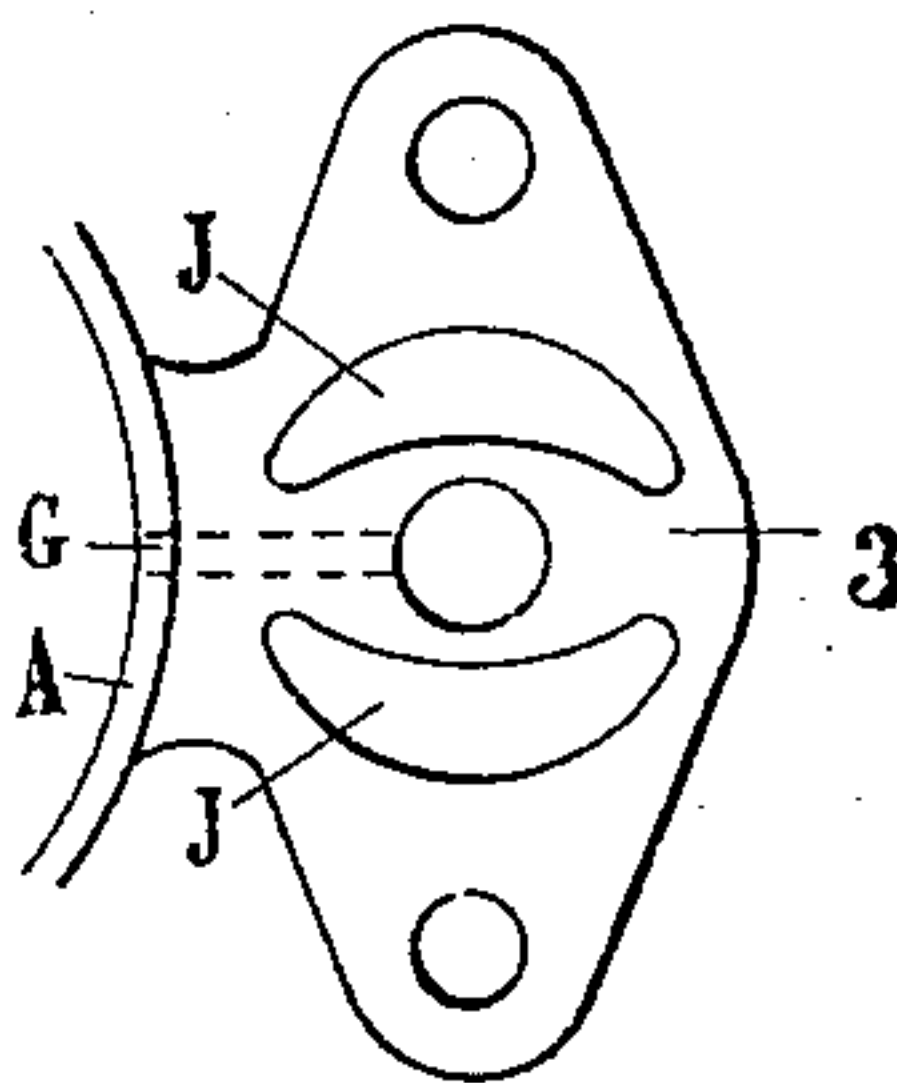
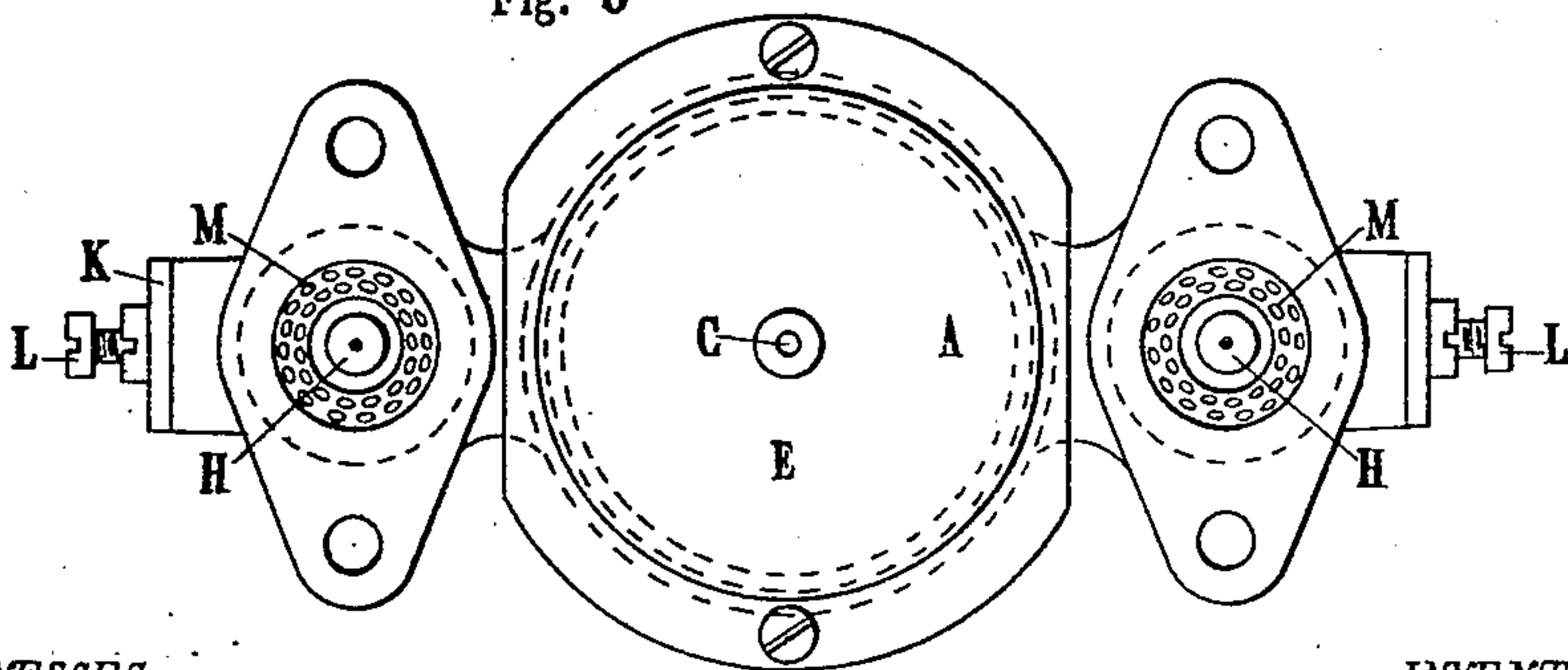


Fig. 3



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2 SHEETS—SHEET 2.

Fig. 6

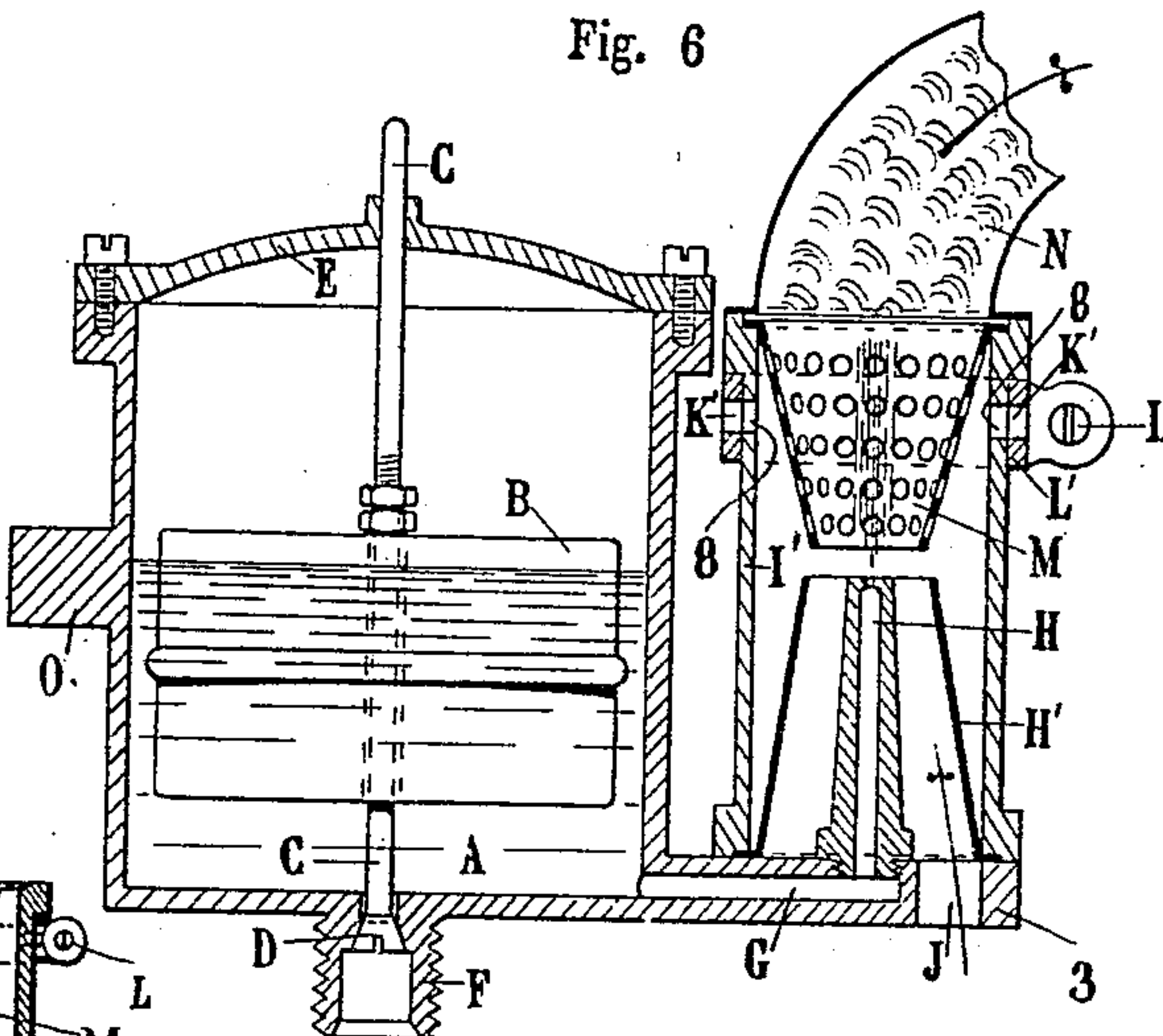
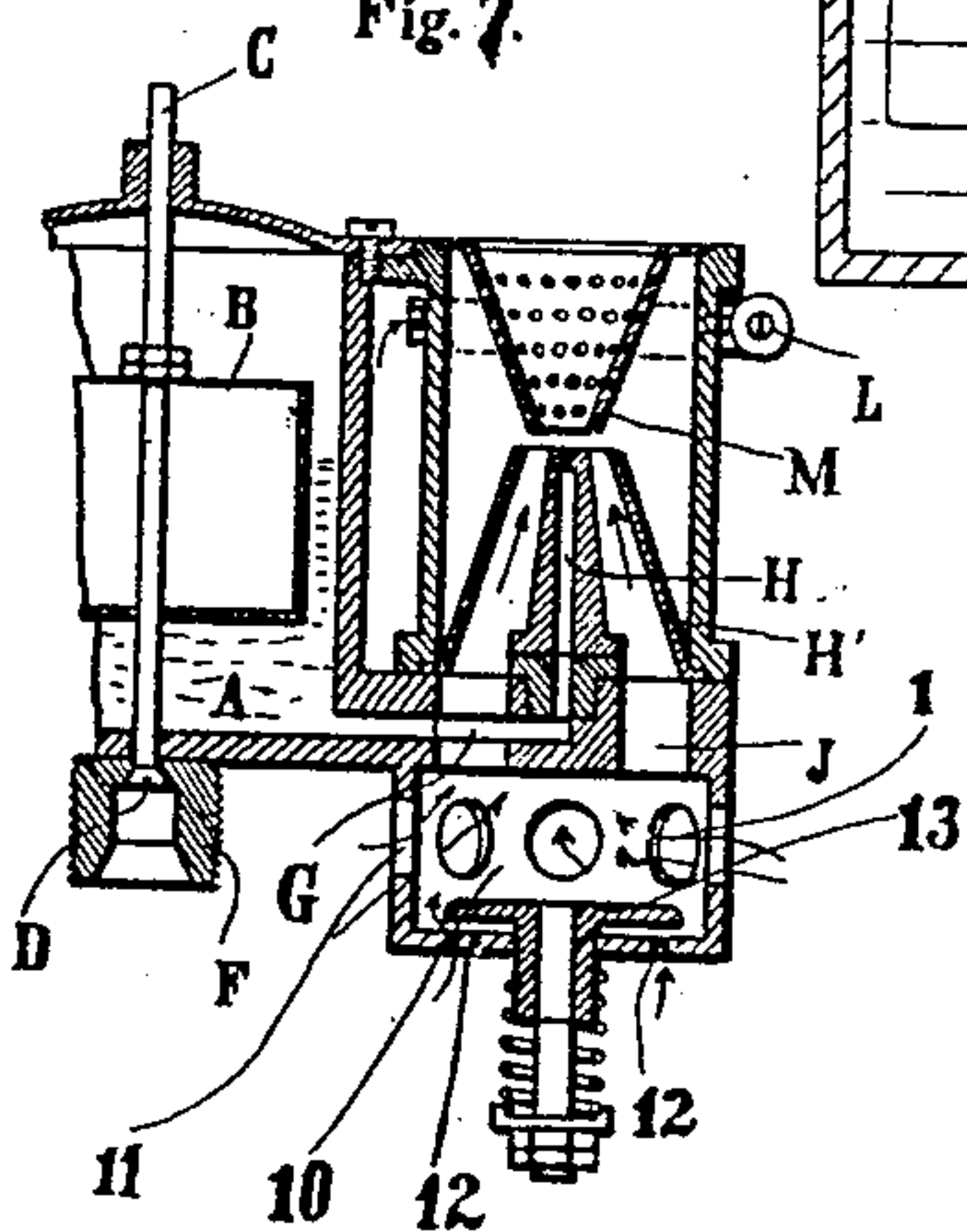


Fig. 7



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UNITED STATES PATENT OFFICE.

JOSEPH GABRIEL PIERRE MARIE MONNIER AND ANTOINE MOISE MORIN, OF BOULOGNE-SUR-SEINE, FRANCE.

CARBURETER.

No. 871,134.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed March 13, 1906. Serial No. 305,839.

To all whom it may concern:

Be it known that we, JOSEPH GABRIEL PIERRE MARIE MONNIER, a citizen of the Republic of France, and ANTOINE MOISE MORIN, a citizen of the Dominion of Canada, and residing at Boulogne-sur-Seine, in the Republic of France, have invented an Improvement in Carbureters, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawings representing like parts.

This invention relates to carbureters, and has for its object to provide a novel construction of carbureter which operates to completely gasify the gasoline or other hydrocarbon, and to thoroughly mix the gasified gasoline or other hydrocarbon with the air.

Some embodiments of my invention will first be described, and then the novel features thereof will be pointed out in the appended claims.

In the drawings, Figure 1 is a vertical central section through a carbureter embodying our invention; Fig. 2 is an end view thereof; Fig. 3 is a top plan view; Fig. 4 is a side view of the mixing cone detached; Fig. 5 is a plan of the portion of the casing on which the atomizing-chamber is supported; Fig. 6 is a central vertical section showing a modified form of our invention; Fig. 7 shows still a third modification.

A designates a tank to contain a quantity of gasoline or other volatile hydrocarbon which is to be fed to the atomizing-chamber. This chamber contains a float B carried on a valve-stem C, said stem having at its lower end a valve D which controls the admission of the gasoline or other hydrocarbon to the chamber A.

F designates a nipple to which the supply-pipe may be connected.

Extending laterally from the tank A are one or more passages or ducts G which lead into an atomizing-chamber I in which the fluid is atomized and gasified.

In the present embodiment of our invention, the casing of the tank A is provided with a lateral foot 3 on which the atomizing-chamber I rests, and said foot has air-ports J therein leading into the atomizing-chamber. In Fig. 1 there are two atomizing-chambers, one at either side of the tank A. Each chamber has the frusto-conical base portion 4 resting on the foot 3 and the in-

verted frusto-conical upper portion 5, to the upper end of which the conduit N leading to the motor is connected.

H designates a nozzle which extends up through the lower conical portion 4 of the atomizing-chamber, and which communicates with the duct G.

During the operation of the motor, the volatile fluid in the tank A is drawn through the nozzle or injector H into the atomizing-chamber where it is atomized and mixed with the air which is drawn through the ports J. In order to more completely gasify the atomized fuel and mix it with the air, we provide the mixing device M which is in the shape of an inverted frustum of a cone which is open at the bottom and is provided with a plurality of lateral apertures 6 through which air enters. The atomizing-chamber is provided with lateral air-ports 7 which admit air to the upper end of the atomizing-chamber, said air being drawn through the lateral apertures 6 and thus completing the gasification of the gasoline and thoroughly mixing therewith.

The amount of air which is admitted through the ports 7 may be regulated by a suitable valve device K which is pivoted to the atomizing-chamber and provided with ports K' adapted to register with the ports 7. This valve K may have secured thereto by screws L a rod or other connection which is operated by the driver of the vehicle according to the speed of the motor.

It will be noted that the lower open end of the cone M is smaller than the upper end of the conical portion 4, and as a result part of the current of air which is drawn in through the ports J passes into the open lower end of the mixing cone M with the stream of gasoline, and part of the air passes up on the outside of said cone and is drawn in through the apertures 6 therein. By thus dividing the air which is drawn in to the mixing chamber through the ports J and causing part of the air to be impinged against the stream of gasoline within the mixing cone M and the rest of the air to be passed up outside of said cone and then through the apertures 6 a better mixture and more complete gasification of the liquid fuel can be secured.

In the embodiment of the invention shown in Fig. 6 the atomizing-chamber is shown as cylindrical and the desired conical shape is

given to that portion through which the nozzle H extends by providing a frusto-conical shell H' within which the nozzle H is situated. In this embodiment of the invention the auxiliary air-ports opposite the mixing cone are designated by 8, and they extend clear around the cylinder I' and are controlled by a valve in the shape of a ring L' provided with ports K'. This valve may be manually controlled by securing thereto any suitable connection, as at L. It will be noted that in this embodiment of my invention also the lower open end of the cone M is smaller than the upper open end of the shell H' and as a result part of the air which is drawn in through the shell H' is delivered directly to the lower open end of the cone, and part is delivered up on the outside of the cone and passes through the apertures therein. I find that by thus dividing the air which is delivered from the shell H' a better mixture can be secured than if all the air were delivered either through the side or through the lower open end. The valves controlling the lateral ports serve to regulate the amount of air which is mixed with the gasified fuel, whereby the richness of the explosive charge may be varied.

We may if desired place below the ports J an inlet-chamber 10 as shown in Fig. 8, which is provided with lateral air-ports 11 and also with other air ports 12 in its bottom which are automatically controlled by a spring-pressed valve 13.

Having fully described some embodiments of our invention, what we claim as new and desire to secure by Letters Patent is:—

1. In a carbureter, an atomizing-chamber having a conical shape at its lower end, and an air-inlet at its bottom, a nozzle extending through the lower conical portion, and an inverted hollow apertured mixing cone having an open lower end situated over the nozzle, said atomizing-chamber having auxiliary air-inlet ports in its side opposite said mixing cone.

2. In a carbureter, a nozzle, an open-ended cone-shaped member surrounding the nozzle and having air inlet ports in its lower end, an inverted apertured hollow mixing cone having an open lower end which is slightly smaller than the upper end of the cone-shaped member and which is situated closely adjacent thereto, a casing surrounding said cone-shaped member and mixing cone, said casing being provided with air inlet ports opposite the mixing cone, and a valve to control the admission of air to said ports.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

JOSEPH GABRIEL PIERRE MARIE MONNIER.

ANTOINE MOISE MORIN.

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