

H. FORD.
CARBURETER.

(Application filed Apr. 7, 1897.)

(No Model.)

Fig. 1.

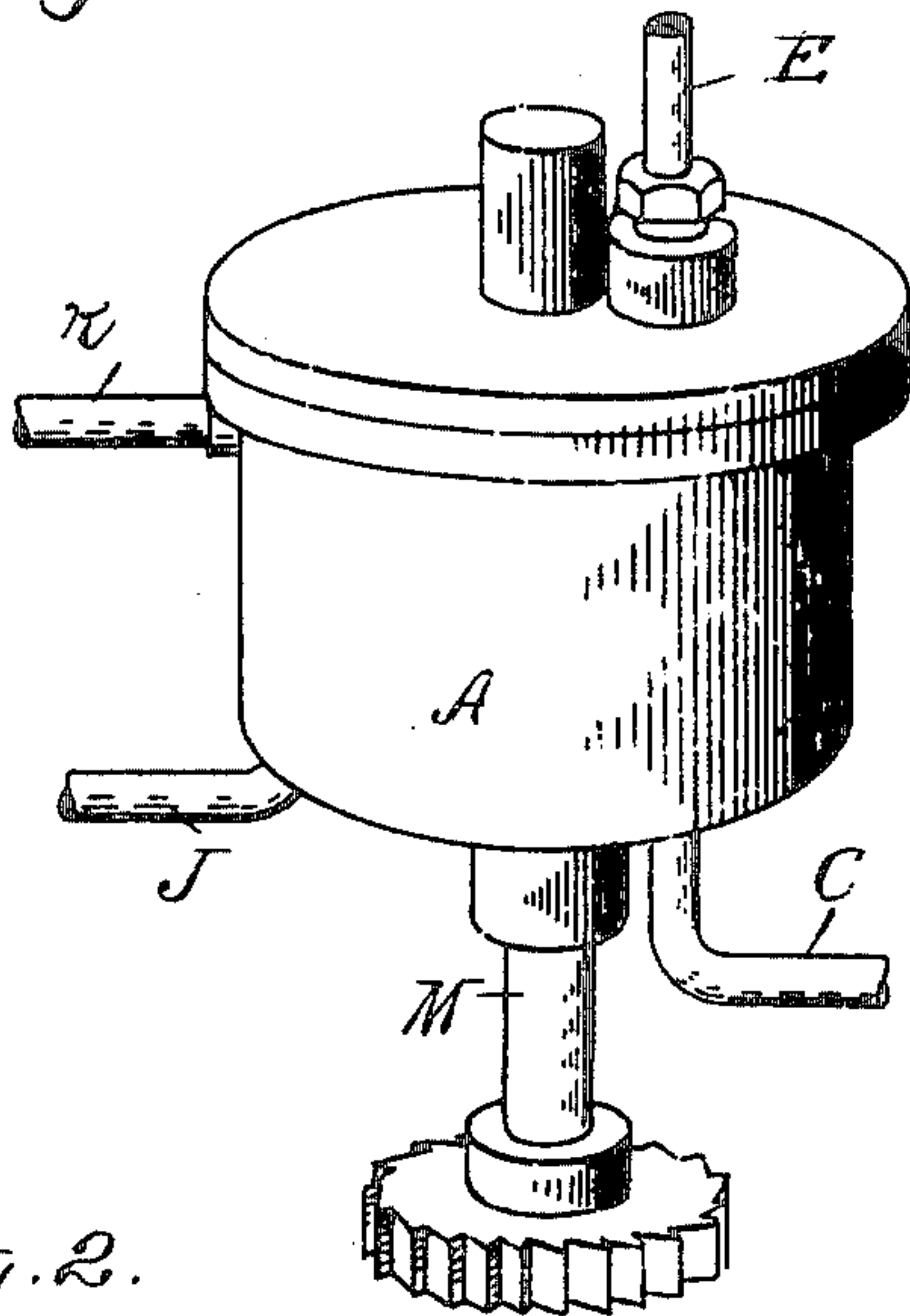


Fig. 2.

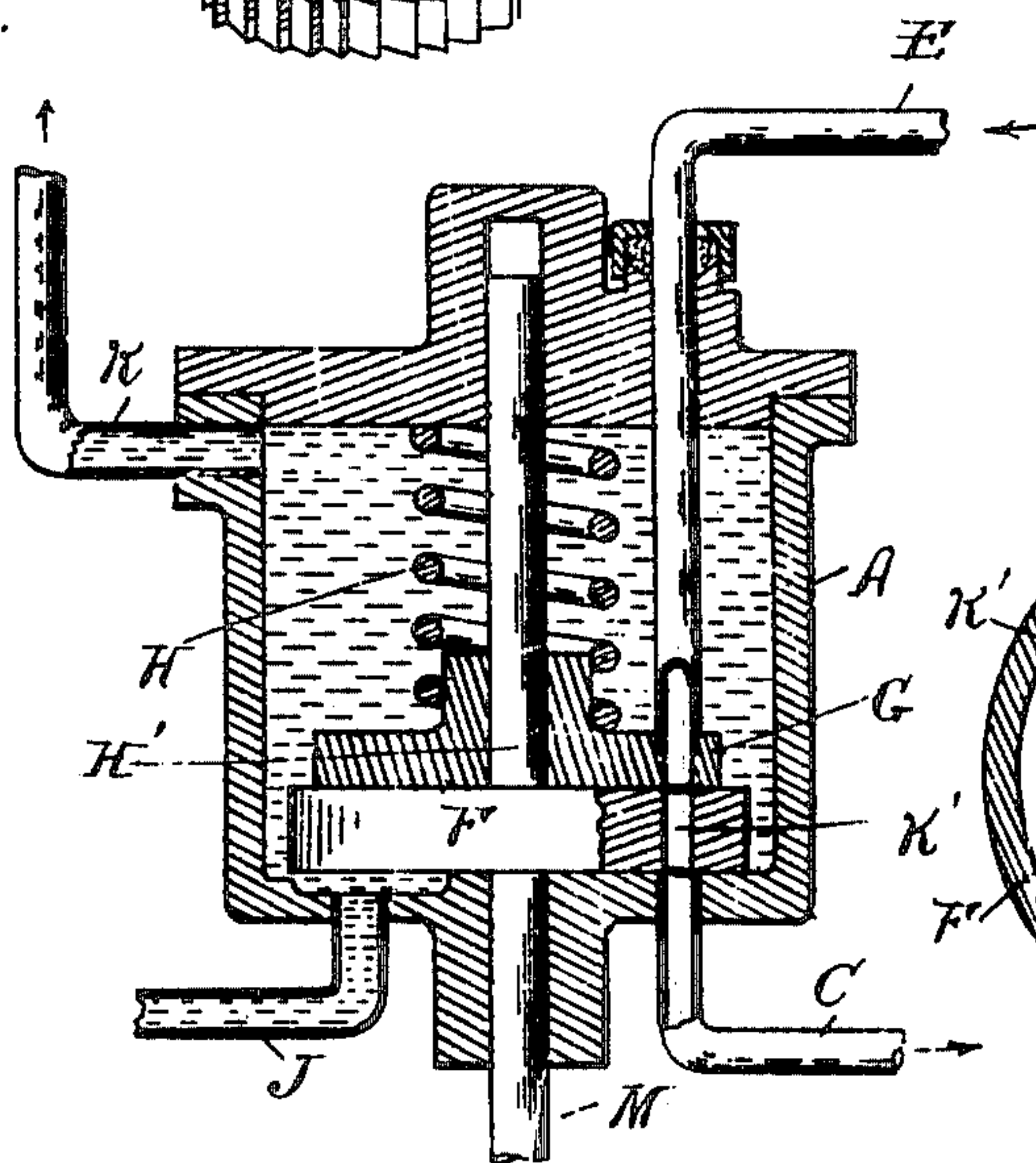


Fig. 4.

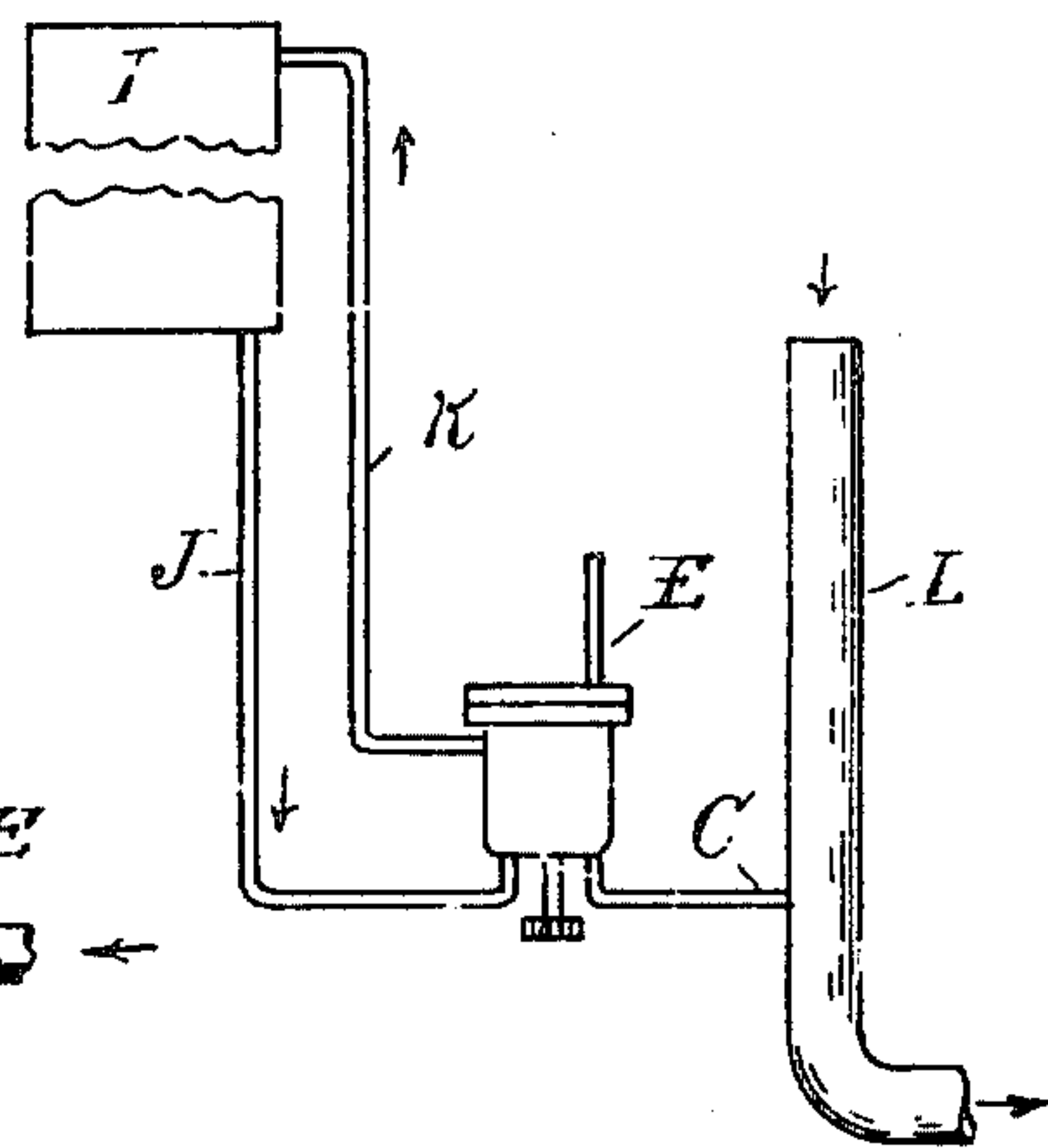
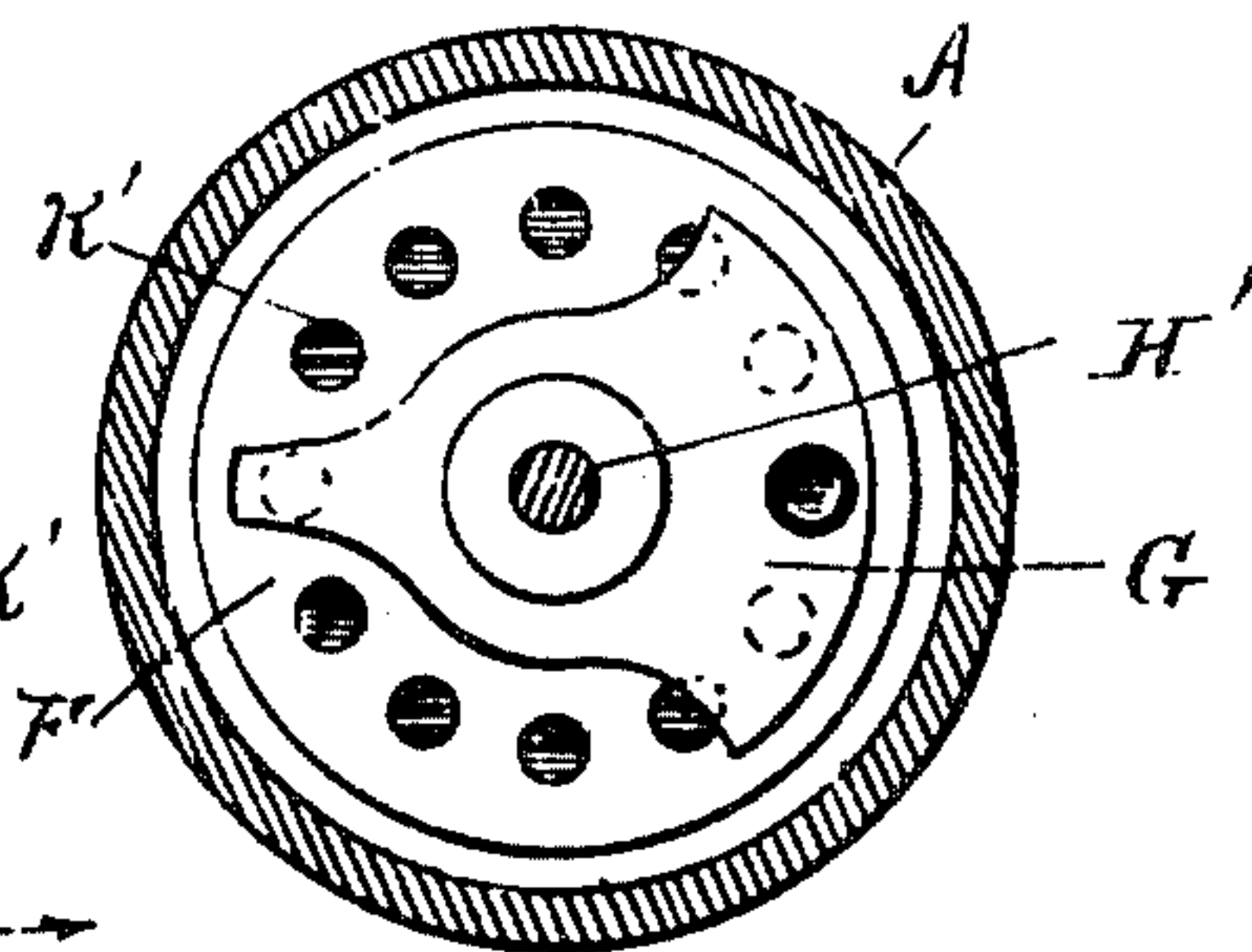


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY FORD, OF DETROIT, MICHIGAN, ASSIGNOR TO WILLIAM C. MAYBURY, TRUSTEE, OF SAME PLACE.

CARBURETER.

SPECIFICATION forming part of Letters Patent No. 610,040, dated August 30, 1898.

Application filed April 7, 1897. Serial No. 631,083. (No model.)

To all whom it may concern:

Be it known that I, HENRY FORD, 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 relates to the construction of a carbureter especially designed for use in connection with gas or vapor engines; and it consists, first, in the construction of a device for feeding a fixed amount of the carbureting fluid; second, in the means for feeding that charge, with a requisite amount of air, into the explosion cylinder or chamber of the engine, and, third, in the construction, arrangement, and combination of the various parts, all as more fully hereinafter described. In the drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a vertical central section therethrough. Fig. 3 is a horizontal section above the feed-disk. Fig. 4 is a diagram elevation showing the connections between the main tank containing the fluid-supply and the cup containing the cut-off as well as the air connections.

A is the cup or receptacle, which is supplied with the carbureting fluid from any suitable source.

The connections which I prefer to employ are shown in Fig. 4, in which I is a tank containing the fluid-supply. J is a pipe connecting from at or near the bottom thereof into the cup A near the bottom and preferably through the bottom, as shown in Fig. 2.

K is a pipe leading from the top of the cup A back to the top of the tank I.

C is a pipe leading from the cup, and E is a pipe leading into the cup. These two pipes C and E are practically a continuous pipe through the cup, with the feed-disk F between the ends thereof. The pipe E preferably has an open end to draw in the atmospheric air, and the pipe C preferably connects into the main air-supply pipe L, which leads to the engine and through which the air is drawn by any suitable means at the proper time to charge the explosion-chamber with the carbureted air in the well-known

manner. This drawing in of the air creates a suction through the pipes C and E when those pipes are opened by the proper movement of the feed-disk F, which has in it one or more apertures, pockets, or cells K', brought into alinement at the proper time with the ends of the pipes C and E, so that the charge of fluid therein will be delivered into the pipes.

The charging of the pocket, aperture, or cell is accomplished while the pocket or cell moves through the cup as the disk is turned, as shown in Fig. 3. As the disk approaches the pipes C and E it is cut off by any suitable cut-off, such as the plate G, which is held stationary in the cup. A tight joint is effected between the parts to prevent leakage, preferably by means of the spring H, which presses down on the cut-off and disk, as plainly shown in Fig. 2. The feed-disk is secured to a shaft M, which is journaled in bearings in the cup.

The operation of the device is as follows: The gasoline or other carbureting fluid will be fed from the tank into the cup and fill those cells or pockets in the feed-disk which are exposed or out from under the cut-off. Suitable mechanism on the engine actuates the shaft M, so as to bring the filled pockets into line with the pipes C and E at the time that the air is being drawn through the pipe L to the explosion-chamber, and the suction of this air will draw through the pipes E and C and with it the fluid in the cell, thus thoroughly spraying it to carburet the air, which carries it to the explosion-chamber in such a manner that when the spark is produced in that chamber the explosion will take place. By this arrangement I get a fixed charge of the carbureting fluid with an exceedingly simple mechanism for feeding it. As the cell thus relieved of its fluid is moved on beneath the cut-off G the air contained therein will rise through the fluid and find exit through the air-escape pipe back into the top of the tank, so that I may use a closed tank I, for just the proper amount of air will be supplied to take the place of the oil displaced.

What I claim as my invention is—

1. In a carbureter, the combination of a fluid-containing receptacle, an exit-pipe lead-

ing therefrom, an air-supply pipe leading into said receptacle in alinement with said exit-pipe, an intermittently-actuated feed-disk working in said receptacle between said pipes
5 and provided with a series of cells adapted to be filled and brought successively into alinement with said pipes, and a cut-off of a shape to cover a portion of the disk adjacent the pipes and to leave exposed a portion of the
10 disk containing one or more of said cells.

2. In a carbureter, the combination of a closed tank and a closed receptacle, connections respectively between the bottoms and the tops of the tank and receptacle, and feed-
15 pockets adapted to be fed alternately with fluid and with air for the purpose described, the connecting-pipes between the tops of the receptacle and tank being adapted to supply
20 at the top of the main tank an amount of air equal to the amount of fluid fed therefrom.

3. In a carbureter, the combination of a closed receptacle, a closed elevated tank, a feed-pipe for the receptacle leading from the bottom of the tank to the bottom of the receptacle, a pipe connecting the upper part of
25 the receptacle with the upper part of the tank, a movable disk in the receptacle provided with cells, an air-pipe leading into the receptacle on one side of said disk, a pipe leading from the receptacle on the other side
30 of said disk with which pipes said cells are adapted to be alined, and a cut-off adjacent said pipes, substantially as described.

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

HENRY FORD.

Witnesses:

M. B. O'DOHERTY,
OTTO. F. BARTHEL.