

No. 670,599.

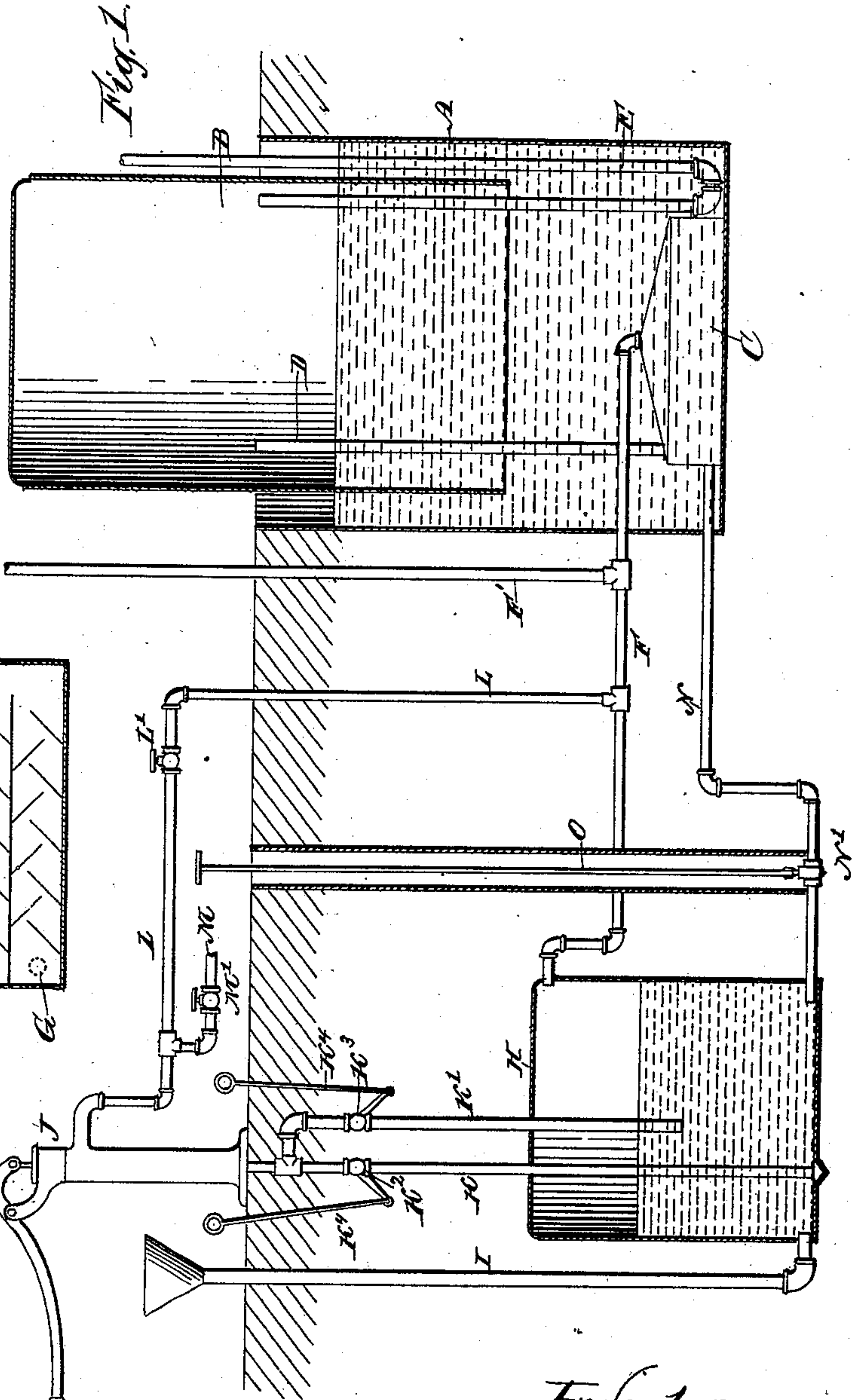
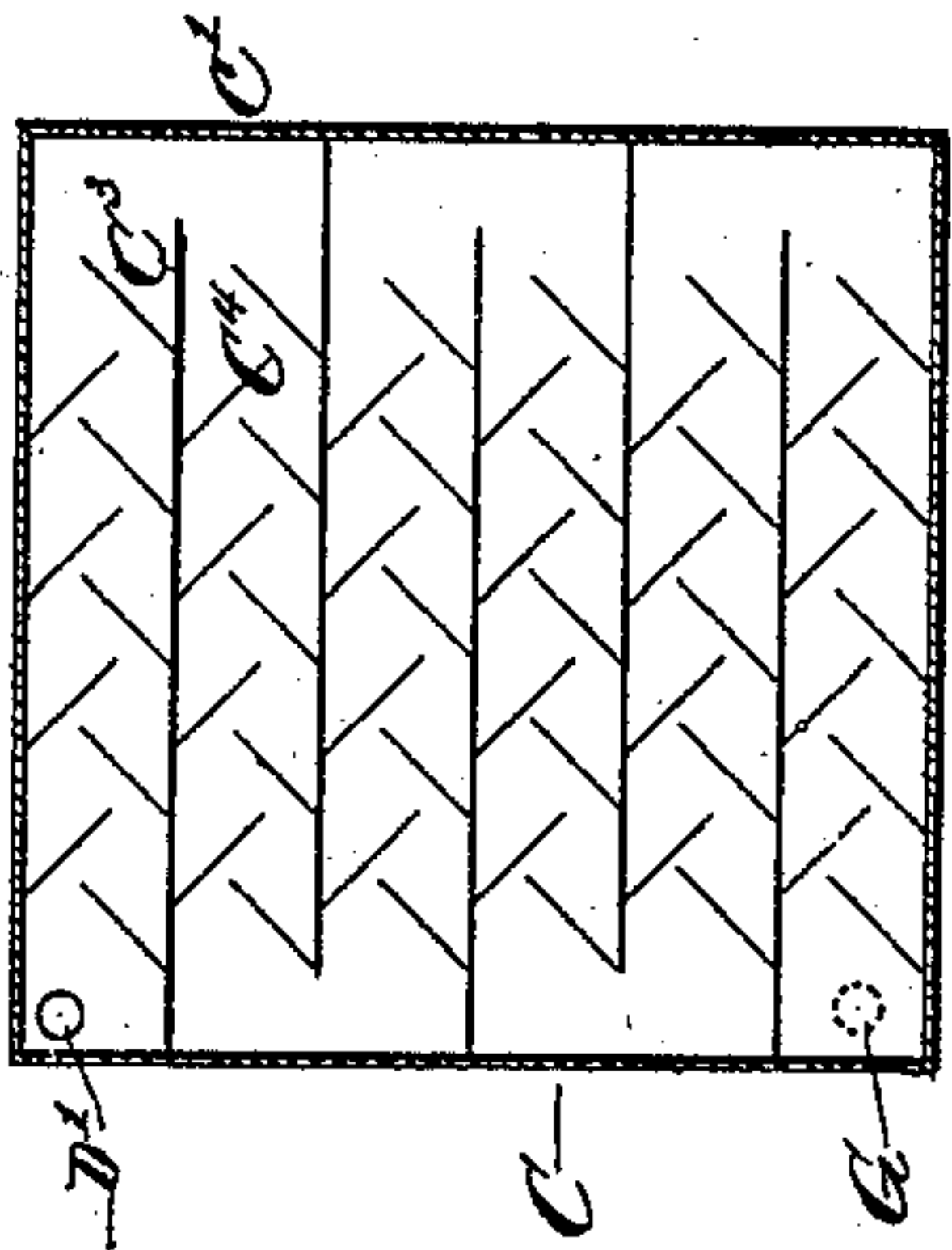
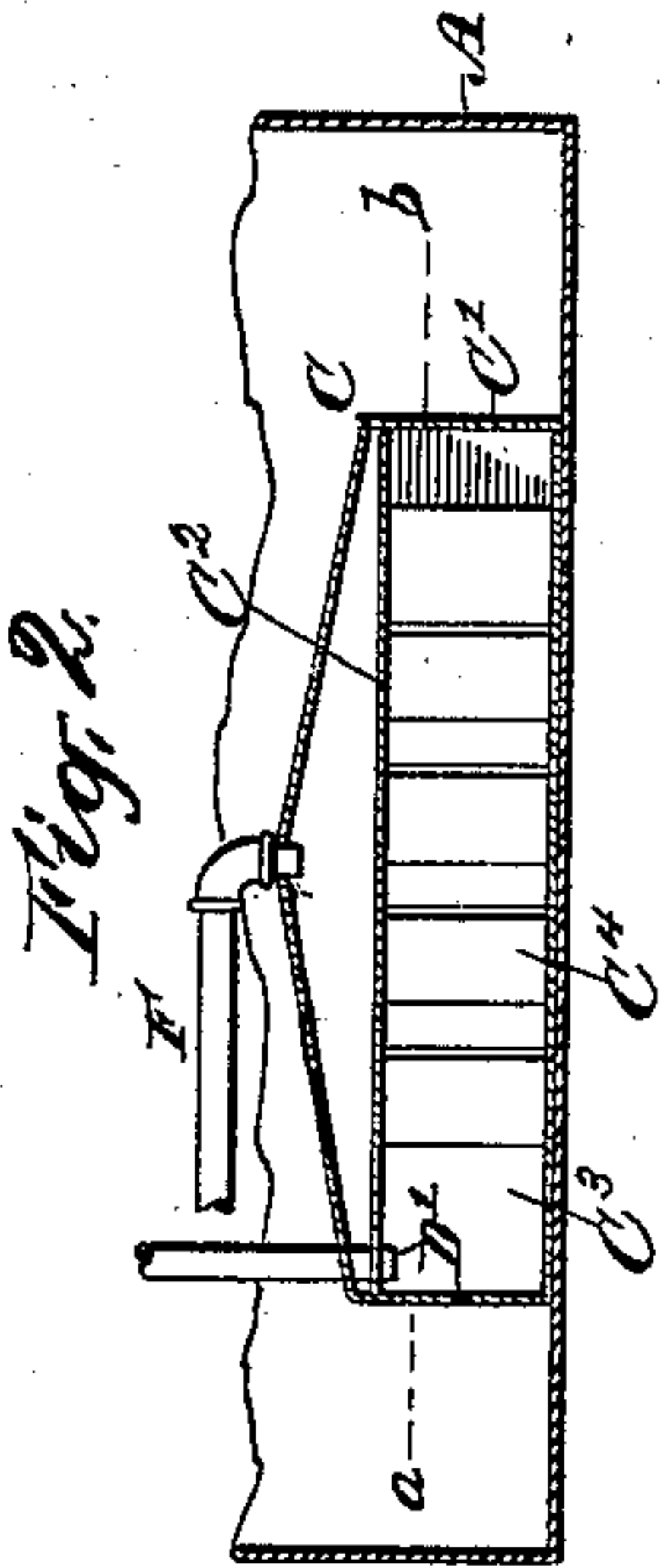
Patented Mar. 26, 1901.

C. I. TENNEY.

CARBURETER.

(Application filed July 19, 1900.)

(No Model.)



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES I. TENNEY, OF MASON CITY, IOWA.

CARBURETER.

SPECIFICATION forming part of Letters Patent No. 670,599, dated March 26, 1901.

Application filed July 19, 1900. Serial No. 24,188. (No model.)

To all whom it may concern:

Be it known that I, CHARLES I. TENNEY, a citizen of the United States, residing at Mason City, in the county of Cerro Gordo and State of Iowa, have invented certain new and useful Improvements in Carbureters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for the production of illuminating-gas from a liquid hydrocarbon, such as gasolene, and has for its object to increase the efficiency of such apparatus and improve the quality of the product.

The nature of the invention will fully appear from the description and claims following, reference being had to the accompanying drawings, in which—

Figure 1 is an ideal section of apparatus embodying my invention. Fig. 2 is a vertical section through the middle of the carbureter, and Fig. 3 is a horizontal section of the carbureter below the line *a b*.

In the drawings, A denotes a cistern or tank supplied with water. B is a bell suitably mounted to rise and fall therein, according to the volume of air within it. In the bottom of the tank is placed a carbureter C, which communicates with the interior of the bell by a stand-pipe D, extending above the surface of the water. By means of a looped pipe E air is forced into the bell and thence into the carbureter by a suitable blower. (Not shown.)

The details of the carbureter are illustrated in Figs. 2 and 3. C' is a shell or case, preferably provided with an inclined top, in the apex of which is attached a pipe F to carry away the gas generated therein. Near the top is a horizontal diaphragm C², and between this and the bottom are alternating partitions C³ to give the air passing through the gasolene in the carbureter a circuitous course, and thus carburize it. The course of the air is further retarded and made more circuitous by providing the partitions with oppositely-projecting and overlapping diagonal baffle-plates C⁴. The air enters the carbureter at

D', and after traversing all the partitions therein passes into the upper part of the carbureter as gas through a suitable hole G. Through pipes F and F' it flows to the service-pipe. (Not shown.)

The tank or cistern A being sunk in the earth and supplied with water, within which the carbureter is submerged, insures a practically uniform temperature in the carbureter without which it is impossible to produce gas of uniform quality.

At a suitable distance from the carbureter and its containing-cistern is placed the gasolene-reservoir H. This is provided with a suitable supply-pipe I, and also with means for drawing out its contents, such as the force-pump J illustrated. In practice the pump is provided with two suction-pipes, the pipe K extending to the bottom of the reservoir, so as to draw out the heavier oil settling to the bottom, and a shorter pipe K', terminating some distance above the bottom of the reservoir and designed to supply a good and practically uniform quality of gasolene to the carbureter, or through a return-pipe L, attached at one end to the pump and the other end communicating with the pipe F. Connecting with the pipe L is a waste-pipe M, provided with a suitable stop-cock M'. Stop-cocks are also provided at L¹, K², and K³, with suitable means for opening and closing the two latter—as, for example, the lift-rods K⁴.

It will be seen that the reservoir H is placed with its bottom below the level of the bottom of the tank A and the carbureter thereon, and its top higher than the top of the carbureter. The pipe F communicates with the upper part of the reservoir. From the bottom of the carbureter a pipe N leads to the bottom of the reservoir and is provided with a stop-cock N', opened and closed by means of a long-stemmed wrench O.

The operation of the apparatus is as follows: The reservoir and carbureter being empty, the reservoir is first filled with gasolene up to a certain predetermined line corresponding with the desired level in the carbureter, (the apparatus for gaging this depth not being shown,) the stop-cock N' being open. At the desired level the stop-cock is closed and the filling of the reservoir con-

tinued as much as may be desired. As the
gasolene in the carbureter is consumed a
new supply is introduced through the pipes
K', L, and F by means of the pump J or
5 equivalent apparatus. In this way the car-
bureter is continually supplied with gasolene
of a suitable quality for service, not the very
lightest, at the top of the reservoir, nor the
heaviest, which is at the bottom, but a good
10 uniform quality. When after long service
the carbureter shows signs of having itself
received a deposit at the bottom of unsuit-
able matter, as is inevitable in all apparatus
of this nature, it may be drained off into the
15 reservoir by opening the stop-cock, the level
of the gasolene in the reservoir being of course
below the bottom of the carbureter. Thence
it may be pumped off through the waste-pipe
by closing the cocks K³ and L'. As the up-
20 per portion of the reservoir is higher than the
top of the carbureter an air-space or rather
a space for gas is provided in such reservoir,
so that as the gasolene is drawn out its place
is occupied by inflowing gas and no vacuum
25 is created. So, on the other hand, when the
reservoir is recharged the gas simply flows out

of the reservoir to make way for the gasolene
poured in.

Having thus described my invention, what
I claim as new, and desire to secure by Letters 30
Patent, is—

In a gas-machine, the combination of a car-
bureter, a gasolene-reservoir lower at the bot-
tom and higher at the top, respectively, than
said carbureter, a pipe connecting the lower 35
portions of both carbureter and reservoir, a
stop-cock for the same, a pipe connecting the
upper portions of both carbureter and reser-
voir, a pump having one suction-pipe termi-
nating near the bottom of the reservoir and 40
another terminating some distance from said
bottom, stop-cocks for said pipes, a supply-
pipe leading from the pump to the carbu-
reter, a waste-pipe communicating also with
said pump, and stop-cocks for both such pipes, 45
substantially as and for the purpose set forth.

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

CHARLES I. TENNEY.

Witnesses:

WILLIAM NETTLETON,
W. J. HUDSON.