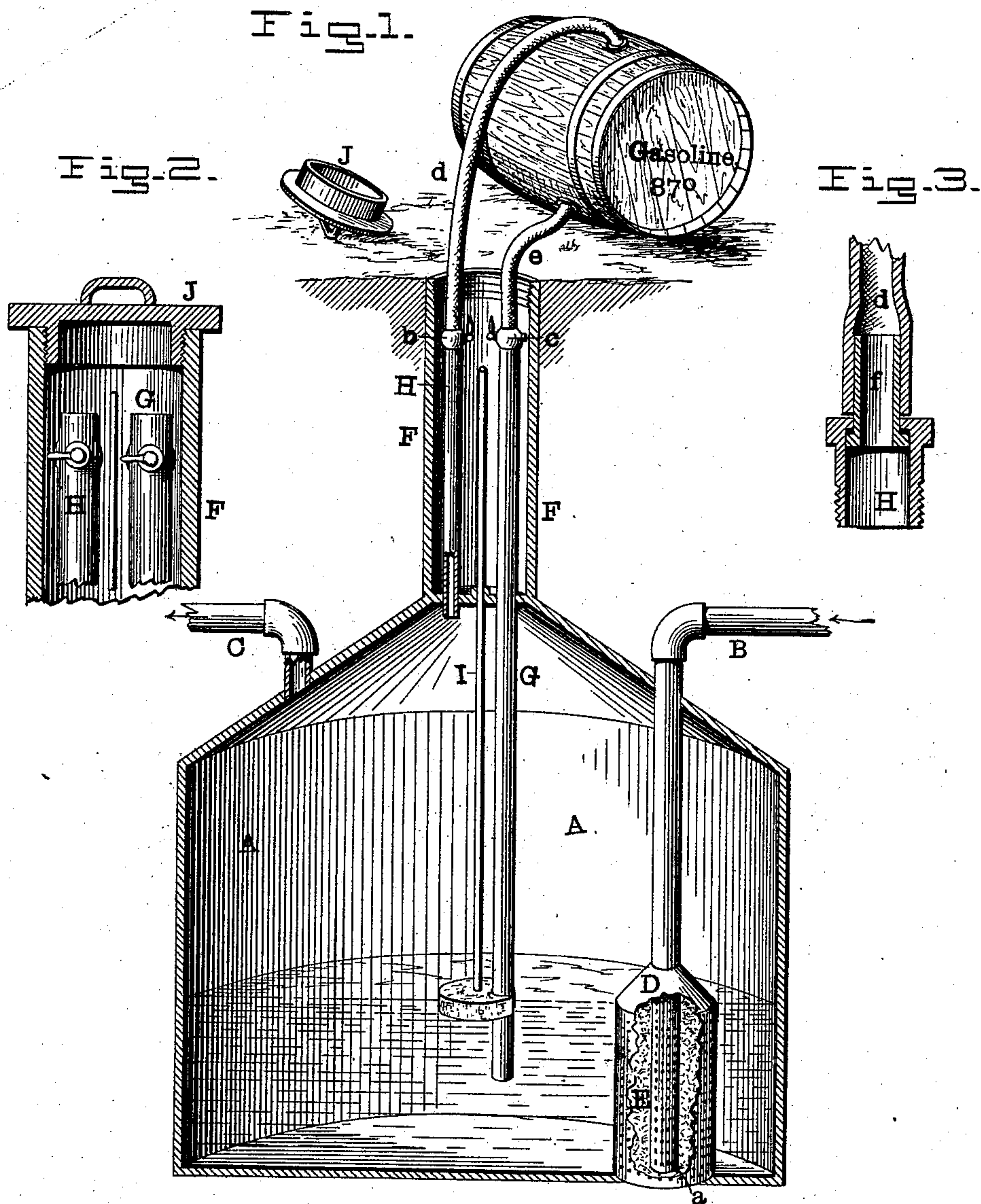


(No Model.)

L. C. BEEBE.
CARBURETOR.

No. 298,058.

Patented May 6, 1884.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LYMAN C. BEEBE, OF VILLISCA, ASSIGNOR OF ONE-HALF TO R. TRUMAN,
OF AFTON, IOWA.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 298,058, dated May 6, 1884.

Application filed November 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, LYMAN C. BEEBE, of Villisca, in the county of Montgomery and State of Iowa, have invented certain Improvements in Carburetors, of which the following is a specification.

This invention relates to apparatus employed in the manufacture of gas; and it consists in an improved construction of the carburetor and in means of supplying gasoline or like oil or liquid thereto without permitting any of the vapor to escape.

In the accompanying drawings, Figure 1 represents a sectional perspective view of a carburetor and its filling apparatus constructed in accordance with my invention; Fig. 2, a sectional view of the upright pipe inclosing the filling and vent tubes; Fig. 3, an enlarged view of the screw-plug for connecting said tubes with a barrel or cask containing the gasoline or oil.

The first feature of my invention consists in surrounding the perforated gas-inlet pipe with a larger perforated pipe and filling the intermediate space with sponge or like material to insure a proper and thorough commingling of the oil or its vapors with the gas. In apparatus of this character requiring to be supplied from time to time with gasoline or like oil or liquid, great danger is involved in the operation of filling or supplying the carburetor with oil, owing to the extremely volatile nature of the oil used, the vapor therefrom rising and permeating the atmosphere for a considerable distance at the imminent risk of being ignited by any flame that may chance to be near by. Moreover, a considerable waste of vapor occurs in this way, which should be supplied to the gas to be enriched.

The second feature of my invention therefore consists in a filling apparatus designed to overcome this difficulty.

Referring again to the drawings, A represents a tank or vessel of any suitable material, form, and dimensions, which is, in practice, buried in the ground to a depth where it will be unaffected by frost. This vessel is designed to contain a quantity of gasoline or like material to enrich the gas which enters the chamber near its bottom and passes therefrom at or near its top.

B indicates the inlet-pipe, and C the outlet-pipe, the former admitting hydrogen gas into the vessel from any suitable generator through its perforated end *a*, which is carried down to or nearly to the bottom of the tank A.

D indicates a jacket or tube larger than tube or pipe A, encircling said pipe, and similarly perforated, and E represents a filling of sponge or like material, which speedily becomes saturated with the gasoline, and through which the gas passes before it can escape into the body of gasoline surrounding the tube or jacket E. In this way the body of gas entering by pipe B is divided into many small streams, and each is exposed to the oil or vapors, and in this way the whole body of gas becomes thoroughly impregnated with the enriching properties of the gasoline.

From the closed top of the tank A there rises a tube or pipe, F, which in practice is made about six inches in diameter, said pipe having no communication with the interior of tank A, but being designed merely to protect the filling-tube G, vent-tube H, and gage-tube I. This pipe F rises to the surface of the ground, and is furnished at its top with a screw cap or cover, J, which is ordinarily applied thereto as in Fig. 2, to protect the pipes G H I from injury, and to keep the cold from affecting the material in tank A. Tube G extends nearly to the bottom of tank A, and tube H merely passes through the top thereof; and said tubes are respectively furnished with stop-cocks *b* and *c*, and with flexible extensions *d* and *e*, each carrying at its end a swiveled screw-plug, *f*, preferably made slightly tapering, as shown.

When it is desired to supply the tank A with gasoline or like material, the barrel or cask is placed close to the upper end of the tube or pipe F, the screw-plug *f* of flexible pipe *d* of the filling-tube G is screwed into a hole at the lower side of the cask, and the plug *f* of flexible section *e* of pipe H is screwed into a hole in the upper side thereof, as shown in Fig. 1. The stop-cocks *b c* are then opened, the gasoline runs out through tube G and into tank A, and air from tank A rises through vent-tube H to supply the vacuum created in the cask by the outflow of the gasoline, thus preserving a normal pressure in each, and preventing any es-

cape of liquid or vapor. When the cask is emptied, the cocks *b c* are closed, so that there can be no possible danger of flame or fire passing to tank A, even if it should reach the cask, which will contain a certain amount of vapor after the gasoline is run out of it. After closing the stop-cocks *b c*, the plugs *f* are unscrewed, the flexible tubes *d e* are dropped into tube or pipe F, and the cover J is applied, as shown.

I am aware that filling-vessels have been provided with two-way cocks or with two independent cocks, and put into communication with a carburetor by flexible tubes; and this I do not broadly claim. My apparatus is, however, different from any heretofore proposed, so far as I am aware, in that it is adapted to be instantly put into communication with an ordinary cask without special preparation of the latter, and thus saves the rehandling incident to the use of cans and vessels filled from casks, and consequently avoids the loss and danger of the escape of vapor, unavoidable when such rehandling is required. Under my plan there is no transfer of the gasoline or like hydrocarbon from the time it is put into casks at the point of supply until it is discharged into the carburetor, and in such discharge the escape of fluid or vapor is wholly prevented, and all communication with the interior of the carburetor is closed before connection is broken between it and the cask.

Having thus described my invention, what I claim is—

1. The herein-described carburetor, consisting of a vessel, A, provided with inlet-pipe B, outlet-pipe C, and upright neck or pipe F, having cover J, filling-tube G, and vent-tube H, both located within pipe F, and each furnished with a stop-cock, and flexible extension provided with a plug adapted to enter the bung-hole of a cask, all substantially as shown and described.

2. In a carburetor, the combination of a tank for containing a hydrocarbon, provided with an inlet and an outlet pipe, a filling-tube and a vent-tube, each provided with a stop-cock, and flexible extensions connected with the filling and vent tubes, and each provided with a screw-plug adapted to be tightly screwed into the bung-hole of a cask, as and for the purpose set forth.

3. In combination with tank A, having inlet and outlet pipes B C, filling-tube G, and vent-tube H, each provided with a flexible extension and with a swiveled screw-plug at the end of said extension adapted to enter the bung-hole of a cask.

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Witnesses:

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