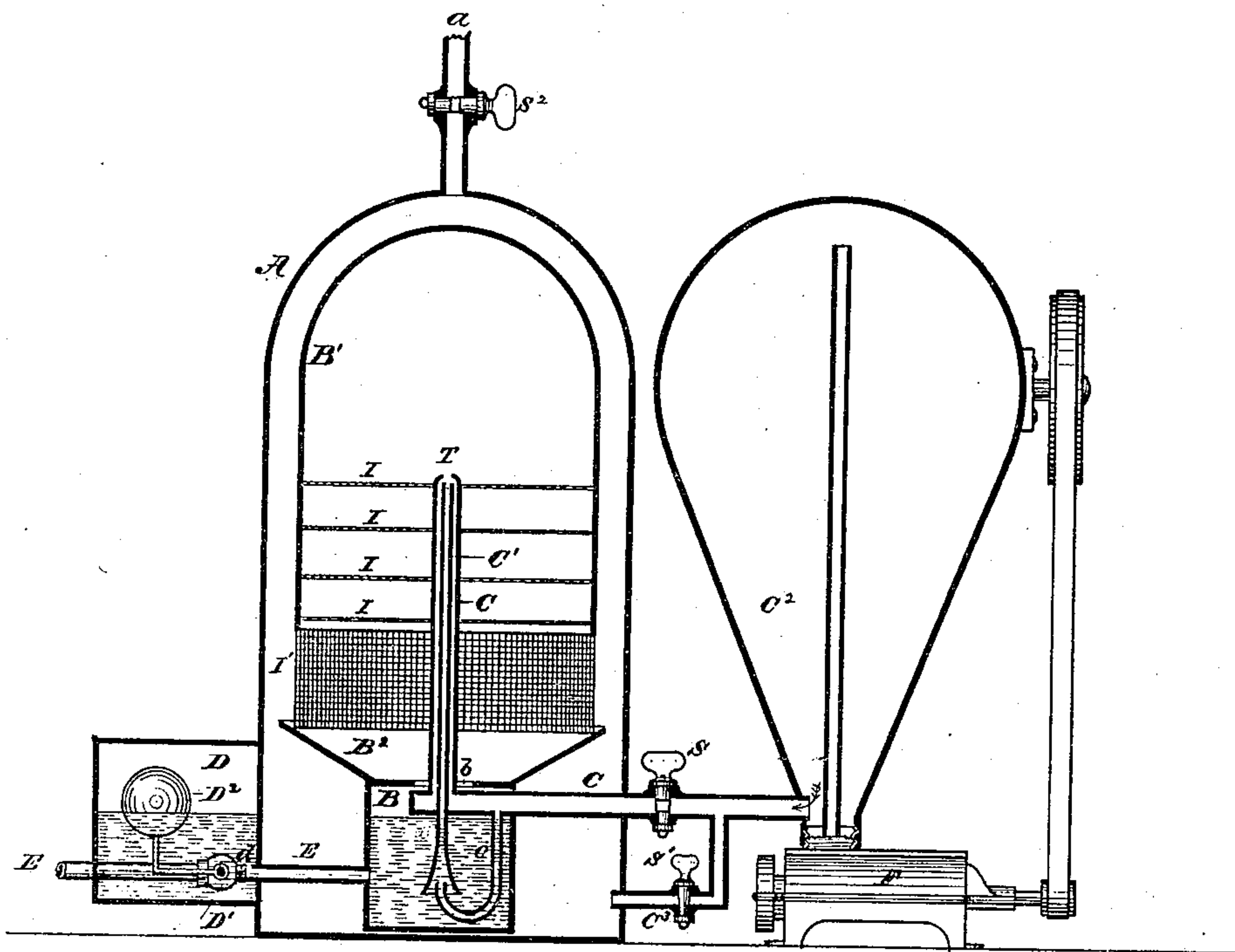


(No Model.)

A. M. BRAINARD.
Carbureter.

No. 238,757.

Patented March 15, 1881.



WITNESSES:

W. L. Baker, -

A. A. Cass.

INVENTOR:

Adelbert M. Brainard,
per M. E. Dayton,
Attorney

UNITED STATES PATENT OFFICE.

ADELBERT M. BRAINARD, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF
TO ALONZO PELTON, OF SAME PLACE.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 238,757, dated March 15, 1881.

Application filed May 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, ADELBERT M. BRAINARD, of Chicago, State of Illinois, have invented certain new and useful Improvements in Carburetors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which forms a part of this specification.

This invention relates to apparatus for carbureting air for illuminating purposes by passing the same through a spray of hydrocarbon, and more especially to that class of carburetors wherein the hydrocarbon fluid is sprayed by the fluid which is to form the vehicle of the illuminant.

It consists in the various novel devices and features of construction in the apparatus hereinafter described and illustrated, and pointed out in the claims.

The drawing shows my apparatus in central vertical section.

A is a vessel, of any desired size, in which is located the small vessel B, intended to contain a limited quantity of hydrocarbon liquid.

C is the main air-inlet pipe, in the vertical portion of which is located the interior pipe, C', opening near the bottom of the vessel B, as shown. The upper open termini, at T, of the pipes C and C' are arranged, as shown, to secure the elevation of the liquid from the vessel B through the pipe C' by a forcible air-current through the pipe C, as in the case of the ordinary pneumatic vaporizer or atomizer. The spray produced at T is confined by the dome B', and falls through the gauze screen or screens I, through which the vapor-laden air is also forced. The latter finds outlet through the annular screen or netting I', and enters the gas-pipes at *a*, while the surplus liquid drips upon the flange B², and is conveyed back into the vessel B through the aperture *b*. The liquid hydrocarbon is supplied through the pipe E, leading from an elevated and desirably remote supply tank or reservoir. (Not here shown.) The depth of liquid is maintained in the vessel B by means of the valve D', controlled by a float, D², in the chamber D. Said chamber is preferably located outside the vessel A, and receives its supply

through the aperture *d*. A uniform level is obviously preserved in the chambers B and D, and the float is so attached to the valve that as the fluid-line is lowered in said vessels the valve is opened, and vice versa. The air is forced through the pipe C by means of the fan F, preferably of the positive construction, and to secure a uniform flow of air, and consequent steadiness of flame at the burners, the air-chamber C² is interposed, as shown. The fan or blower F may be driven from an engine or by weights, as may be most convenient.

As an aid to the elevation of the liquid through the tube C', the branch air-pipe *c* leads from the main pipe C upward into the open end of said tube C'. A second branch, C³, leads from the main air-pipe C and discharges into the outer vessel, A. By means, then, of the cocks S and S', the force of the spraying current and the richness of the product may be varied at pleasure.

By the employment of the air to be carbureted to produce a spray of the hydrocarbon illuminant, the most intimate contact and commingling of the two is effected, and in the use of the screens I and I', which may be of cloth or any other permeable material of suitable texture, arranged in the current of the spray, the air may be charged to its full capacity to take up the illuminant.

Being supplied as its contents are consumed, it is not important that the vessel B shall contain more than a gill or half-pint. The vessel D will also, in practice, be made to contain the least possible quantity to operate a suitable float.

Having thus described my invention, I claim—

1. In combination with the vessel A, having the outlet *a*, and the vessel B, for holding liquid hydrocarbon, the dome B', open at the bottom to discharge into the vessel A, one or more transverse perforated diaphragms or screens, I, extending from side to side of said dome above its opening, and the spraying-tubes C and C', arranged, as shown, to discharge within the dome above the diaphragm or diaphragms I, substantially as and for the purposes set forth.

2. The combination, in a carburetor, with the

vessel A, having the outlet *a*, of the vessel B, for holding hydrocarbon, the dome B', having vertical sides open at the bottom, and a horizontal screen or screens, I, the spraying-tubes 5 CC', and the dishing flange B², discharging into the vessel B, said dome B', flange B², and spraying mechanism being located within the vessel A, and the whole arranged and operating substantially as and for the purposes set forth.

10 3. In combination, the vessel B, air-tube C,

tube C', and branch air-tube *c*, arranged and operating substantially as described, and for the purposes set forth.

In testimony that I claim the foregoing as my invention I affix my signature in presence 15 of two witnesses.

ADELBERT M. BRAINARD.

Witnesses:

M. E. DAYTON,

WILLIAM L. MOSS, Jr.