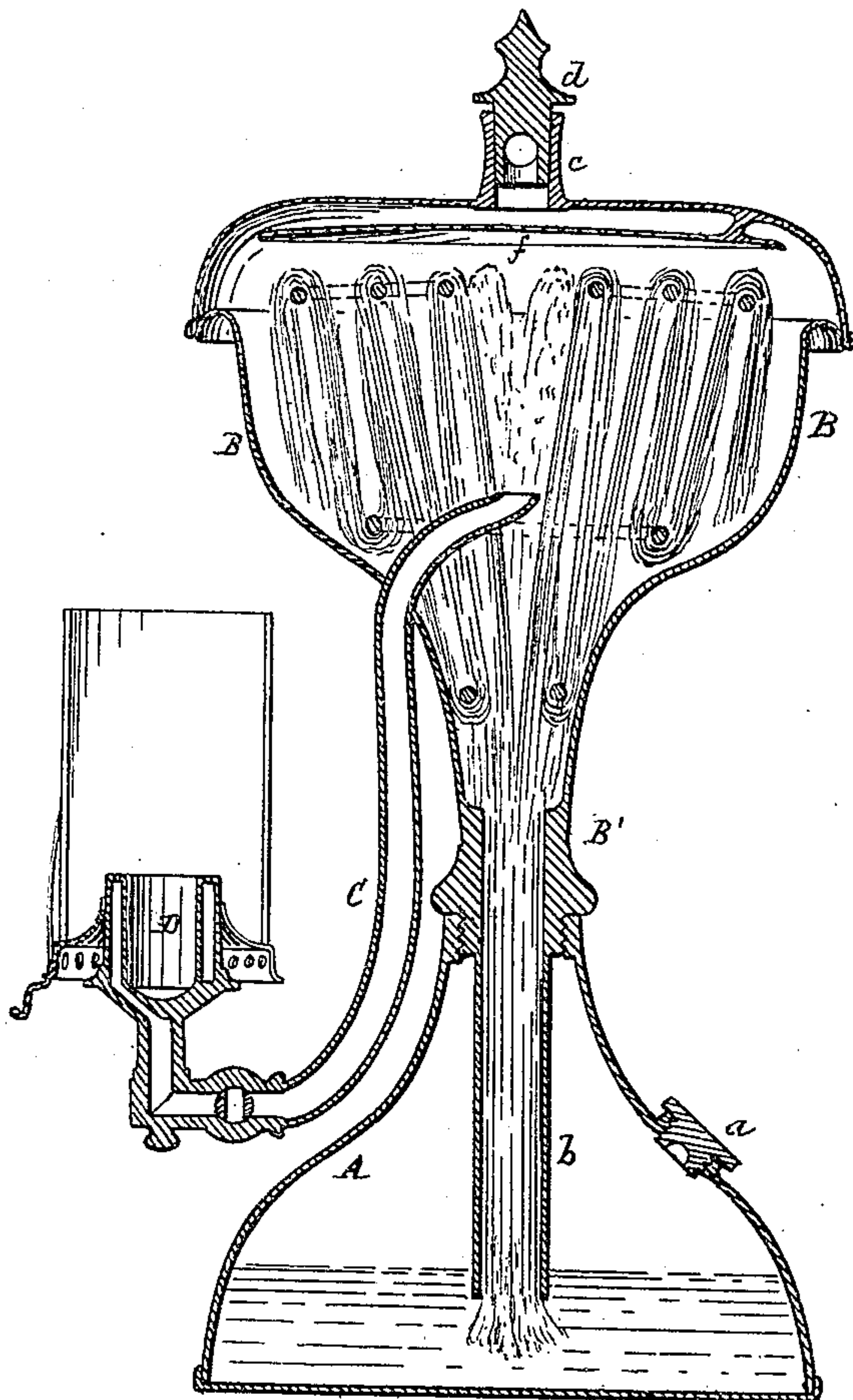


J. W. POST.

Improvement in Carbureting Lamps.

No. 133,118.

Patented Nov. 19, 1872.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN W. POST, OF NEW YORK, N. Y.

IMPROVEMENT IN CARBURETING-LAMPS.

Specification forming part of Letters Patent No. 133,118, dated November 19, 1872.

To all whom it may concern :

Be it known that I, JOHN W. POST, of the city, county, and State of New York, have invented certain new and useful Improvements in Carbureting Apparatus, of which the following is a specification :

My invention is designed with special reference to the production of a portable apparatus or device for carbureting air, which may be used either as a hand-lamp, bracket-lamp, or chandelier for illuminating purposes, or may be employed to generate gas for heating or cooking purposes; or may serve both as a lamp and as a heater, if desired.

In the accompanying drawing I have represented the apparatus made in the general form of a hand-lamp, a service or gas pipe, with an Argand burner attached, being connected with the carbureting or vaporizing chamber; and to this drawing I will now refer to better explain the nature of my invention and the manner in which the same is or may be carried into effect.

The figure represents a vertical central section of an apparatus made in accordance with my invention.

The vessel or reservoir from which the supply of gasoline or other carbureting fluid is drawn constitutes the base of the lamp, and is represented at A. It is supplied with a supply-opening, closed tightly by a screw-cap, *a*, and is soldered or otherwise secured by a hermetically-tight joint to the lower end of the stem B' of the upper carbureting-chamber B, which stem is closed at the end, except at the point where the tube *b* passes through it, to extend down nearly to the bottom of the reservoir A. The stem B' here serves as a handle by which the apparatus may be taken up and carried like an ordinary lamp; and it serves also to elevate the carbureting-chamber B above the reservoir A, the two being at such a distance apart that even if the upper chamber B be heated the heat will not be communicated to any appreciable extent to the reservoir below. By reason of the arrangement of the two chambers the fluid of the lower one is kept cool, and will not rise through the wicking into the upper chamber faster than is required to supply the deficiency caused by the giving off and consumption of the gas from the upper cham-

ber, and thus there is no danger of saturation of the absorbent material in the upper chamber, and the consequent gathering of the liquid in the bottom of the same. I am therefore enabled to locate the service-pipe C at or near the bottom of the carbureting-chamber, and to place its inner open end directly in the midst of the wicking or other absorbent material without possibility of overflowing the pipe, or, in other words, of causing liquid to flow and gather in the pipe, which has heretofore been a source of great annoyance and danger; and, by locating the pipe at or near the bottom of the chamber B, the air-supply opening *c* being in the top of the same, I am enabled to take the gas or charged air from the most advantageous point—that is to say, from a point at which the air is heaviest and most fully charged. The air-supply opening *c* is provided with a valve or stop-cock, *d*, by which the opening can be closed when the gas is not being consumed, in order to prevent any possible escape of gas. When gas is being consumed at the burner D, for instance, it is indispensable that the air valve or cock should be open, as through it passes the air which takes the place of the charged air or gas which has been consumed. No artificial means are needed to produce the inflow of the air, as the burning of the gas at D, and the consequent drawing of the same from the chamber B, causes a partial vacuum in the latter, which is overcome by the air from the outside entering through the open valve. Wicking or some other suitable material is, of course, employed to draw up, by capillary action, the liquid from the lower chamber into the upper one, and the latter should be filled with the absorbent material, in order that the liquid may be held in suspension, and in condition to be taken up by the air passing through the interstices of the material. Any suitable arrangement of the absorbent material may be employed for this purpose. I prefer to wind the wicking in concentric layers upon suitable wire frames which serve to hold the layers somewhat apart. The ends of the several layers are carried down through the bottom of the chamber B and through the tube *b*, from the lower end of which they project some distance into the liquid contained in the lower chamber A. By

this arrangement all the layers can be supplied equally and simultaneously with the liquid, which will thus be diffused equally throughout the absorbent material in the carbureting-chamber B. Under the top of the chamber B is a deflecting-shield, *f*, which serves to direct the air toward and to discharge it at the sides of the chamber, so that it may be fully charged before it can enter the service-pipe.

A lamp made upon the principle described furnishes a strong and very cheap light. In a reservoir of about the size of the base of an ordinary lamp a supply of gasoline may be contained—the price of which will not exceed four cents—which will fully supply gas to an Argand burner for twenty-four hours or even longer.

I have described one construction of the apparatus to carry out my invention, but it is manifest that the same may be varied in many respects without departure from the principle of my invention. The form and construction of the apparatus may be varied to allow it to be used as a bracket or side-light or a chandelier; or it may be made and adapted to be used as a heater for gas-stoves; or it may be used for any other heating or illuminating purposes.

I do not therefore limit myself to the details herein shown and described; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the lower liquid-reservoir with the upper carbureting-chamber, the air opening or valve therein, and one or more gas or service pipes for conducting off the charged air from said carbureting-chamber to the point or points where it is to be consumed,

under the arrangement substantially as shown and described.

2. The arrangement of the hollow stem B' between the lower reservoir and upper carbureting-chamber, serving as the conduit through which the liquid is fed from said lower chamber to the upper chamber, and also as a handle by which the device may be carried.

3. In a gas-lamp or other apparatus in which the liquid-reservoir is below the carbureting-chamber, as described, I claim the service-pipe arranged to take the gas or charged air from the carbureting-chamber at or near the bottom of the same, substantially as specified.

4. In a lamp or heater such as described, the combination with the carbureting-chamber of the air-valve located in the top of the same, and the gas or service pipe located at or near the bottom of the same, and projecting into the body of the wicking or other absorbent material contained in said chamber, substantially as shown and set forth.

5. An air-carbureting lamp, consisting of a liquid-reservoir forming the base of the lamp, surmounted by a carbureting-chamber communicating with the reservoir through an intermediate hollow stem containing wicking or its equivalent for carrying the liquid up to the absorbent material in the carbureting-chamber, the said chamber being provided with an air-valve and a service-pipe leading from the lower part of the chamber and terminating in a burner, substantially as shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

Witnesses:

JOHN W. POST.

W. BAILEY,

EDM. F. BROWN.