

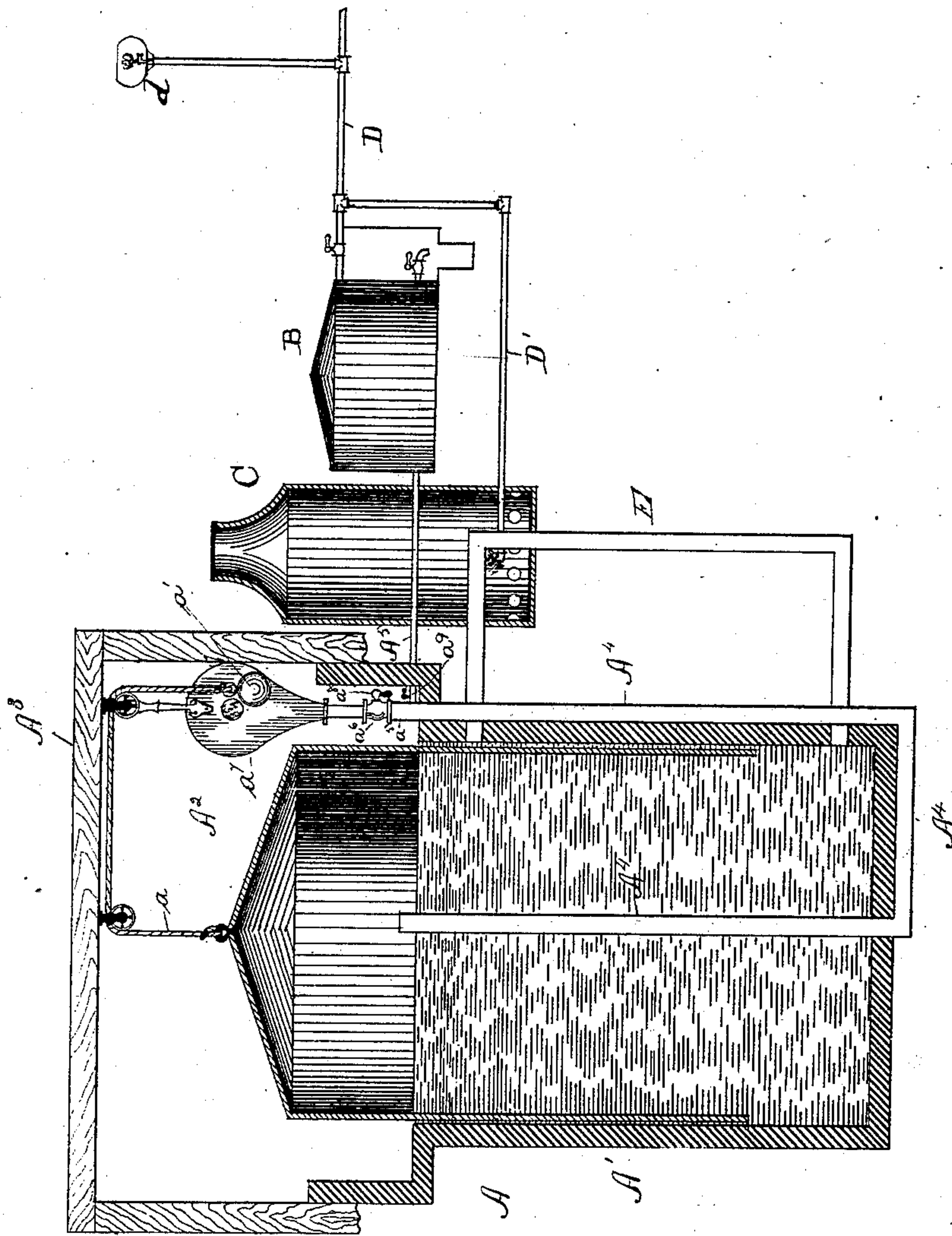
(No Model.)

E. J. VAUGHAN.

CARBURETOR.

No. 312,774.

Patented Feb. 24, 1885.



Witnesses:

J. F. Holden
H. C. Hunteau

Inventor.

E. J. Vaughan
per H. C. Hunteau
Attys

UNITED STATES PATENT OFFICE.

ELBERT JACKSON VAUGHAN, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF
TWO-THIRDS TO THOMAS J. GUTHRIE AND JESSEE P. OWENS, OF SAM
PLACE.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 312,774, dated February 24, 1885.

Application filed June 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, ELBERT J. VAUGHAN, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Carburetors; 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.

My invention relates to that class of carburetors in which the gas or vapor is formed by forcing a current of air over oil in pans connected together by some absorbent material and inclosed within a case having connection with an air-supply and burners.

The invention relates particularly to the means for supplying the air; and it consists of constructions and combinations, all as will hereinafter be described and claimed, reference being had to the accompanying drawings, representing a longitudinal section of my device.

A represents the tank, and B the carburetor, which may be of the usual form. The tank consists of two parts, A' A². The part A' may be of metal, wood, or masonry, and is preferably sunk into the ground to any desired distance. The part A² is made of sheet metal, and fits within the part A', which is filled with water to form a seal. If desired, a frame, A³, may be placed above the tank, and provided with pulleys for a cable, a, attached to the tank, and having upon its free end a counter-weight, a'. The cable may be attached to a windlass, by means of which the part A² may be lifted.

In part A' is a pipe, A⁴, which projects into the chamber formed by part A², and is bent in such a manner that the end a⁵ projects outside the part A' at any desired point. Upon the end a⁵ is a nozzle, a⁶, to which is attached a bellows, a⁷, for forcing air into the tank. When the tank has been filled, stop-cock a⁸ is turned in such a manner as to prevent the air from escaping from the end a⁵. Below the cock a⁸ is a second pipe, A⁵, which connects the pipe A⁴ and the carburetor. This pipe is also supplied with a stop-cock, a⁹, for

cutting off the flow of air to the carburetor. The pipe A⁵ is of smaller bore than pipe A⁴, so that when the air is forced into pipe A⁴, for the purpose of raising the bell of the air-tank while the burners are lighted part of the air will pass into the carburetor without causing the lights to flare, as the pressure upon the carburetor will be the same as that exerted by the bell when the cock in pipe A⁴ is closed, thus giving a uniform pressure upon the burners. The air forced through the carburetor passes over the pan and absorbents containing the oil, and takes therefrom a quantity of gas or vapor, which is led to the burners d by pipe D.

The operation of the device is as follows: Air is forced or drawn into the tank by means of the bellows or other suitable air-forcing devices, and when the tank is filled the supply of air is cut off by means of stop-cock a⁸. Cock a⁹ is now turned, so that the air will be forced into the carburetor by the part A² sinking in part A'. If the supply of air is not sufficient to generate the desired quantity of gas or vapor, a new supply can be added by opening cock a⁸ and forcing air therein by means of the bellows without closing the cock a⁹, thus obviating the necessity of cutting off the gas-supply to the burner, as in former devices. This effect is due to the fact that the supply of air is given under such a pressure that the part A² will be raised and a current of air forced through pipe A⁵ at the same time. If desired, either pipe A⁴ or A⁵ may be passed through a heating-box, C, for the purpose of heating the air passed to the carburetor. The preferred place for this heating-box is between the carburetor and tank, so that the air will not be cooled by contact with the water; or, if desired, the air may be heated before passing it to the tank. In such cases the water will cool the air to a limited extent, or the water will be heated to such an extent as not to interfere with the proper working of the device.

Other means of heating the water may be used, if desired. In the drawings one manner of doing this is shown. It consists of a return-pipe, E, which passes through the heat-

ing-box and the water made to circulate in the usual manner.

Any desired means of heating the box C may be used; but I prefer to bring a branch pipe, D', from pipe D to the box C and burn part of the gas or vapor, thus obviating the expense of an additional heating medium.

I am aware that an air-tank provided with a single pipe provided with an air-valve and connected with a generator having an exit-pipe not connected directly with the pipe from the air-tank, as in my device, is old.

I am also aware that an air-tank having a single pipe provided with a valve for the admission of air and a carburetor having a pipe joined to the pipe from the air-tank at a point above the air-valve is old; but my device differs from that form, in that there are no means provided for keeping up a uniform supply of air to the carburetor when the tank is exhausted. In other words, if the supply of air in the tank is exhausted, the supply of air is cut off from the carburetor until the tank is drawn up by means of the weight. To accomplish this the cock of the pipe leading to the car-

buretor must be closed, whereas in my device the cock in the pipe is left open, so that the air forced into the pipe A⁴ passes into the air-tank and carburetor.

I am also aware that an air-tank has been supplied with an inlet and an outlet pipe, the inlet having an air-pump and the outlet provided with a cock, by means of which the supply of air to the carburetor can be regulated, and this I do not claim; but

What I do claim as new is—

The combination, with an air-tank and a carburetor, of a pipe, A⁴, forming the sole inlet and outlet for said tank, and having a branch pipe, A⁵, of less bore than itself attached below the cock and connecting it with the carburetor, and means, substantially as described, attached to the outer end of pipe A⁴, for the purpose set forth.

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

ELBERT JACKSON VAUGHAN.

Witnesses:

JNO. F. MILBURN,
G. W. MILBURN.