

E. F. VAN HOUTEN.

Apparatus for Carburetting Air.

No. 141,968.

Patented August 19, 1873.

Fig. 1.

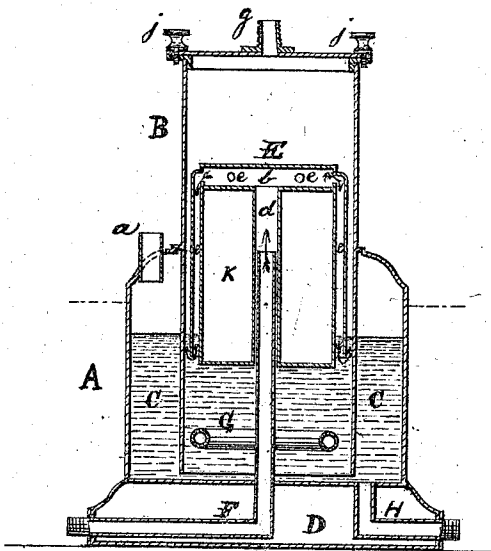


Fig. 2.

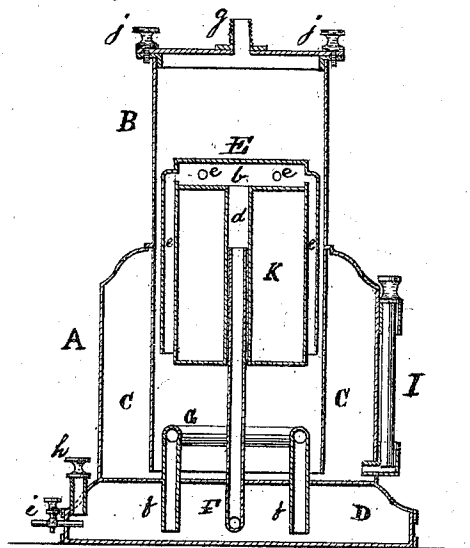


Fig. 3.

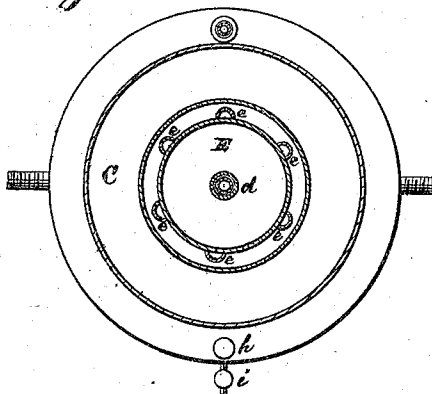
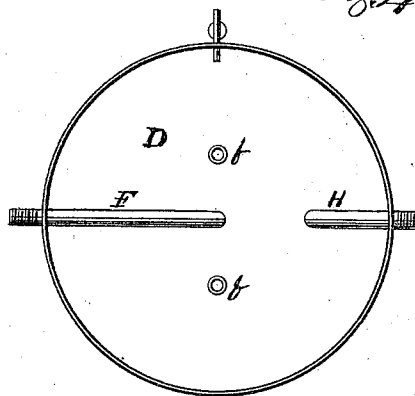


Fig. 4.



Witnesses
Oliver Drake
David Collins.

Inventor
Edwin F. Van Houten
By his Attys, Drake & Co.

UNITED STATES PATENT OFFICE.

EDWIN F. VAN HOUTEN, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF HIS RIGHT TO SAMUEL T. TATE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN APPARATUS FOR CARBURETING AIR.

Specification forming part of Letters Patent No. 141,968, dated August 19, 1873; application filed March 26, 1873.

To all whom it may concern:

Be it known that I, EDWIN F. VAN HOUTEN, of the city of Newark, county of Essex and State of New Jersey, have invented certain Improvements in Machines for Carbureting Air; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon and forming part of this specification, in which—

Figures 1 and 2 are vertical transverse sectional views of my invention taken at right angles with each other. Fig. 3 is a top view of the same. Fig. 4 is a bottom view, showing the pipes, &c., leading into and through the chamber D.

This invention consists in having two cylinders, A and B, one within the other, as shown in Figs. 1 and 2, having an air-tight space, C, between them, in which the gasoline or other fluid is poured through the aperture *a* in the top of said chamber A. At the bottom of the chamber A is arranged an air-tight chamber, D, in which hot water or steam may be introduced for the purpose of imparting to the gasoline sufficient heat to produce the required evaporation. Within the cylinder B is arranged a floating air-distributor, E, which is constructed and operates as follows, viz.: Said distributor consists of an air-tight drum of light metal, having in the top an air-chamber, *b*, connected with which, by apertures *e*, are a series of air-pipes, *c*, leading down nearly to the bottom of the distributor E. In the center of this distributor E is adjusted a pipe, *d*, which extends from the bottom of said float to the air-chamber *b*, all for purposes hereinafter set forth. F is an air-pipe passing through the chamber D and up through the center of the cylinder B, terminating at a point about half way between the bottom and top of said cylinder B. Inside of said cylinder B, at or near the bottom, is arranged a steam-pipe, G, connecting with the chamber D by branch pipes *f*, shown in Fig. 2, for the purpose also of imparting heat to the gasoline when required. H is a discharge-pipe, constructed as shown in Fig. 1.

This invention is designed to operate as follows, viz.: The cylinder A should be filled about half full of gasoline; the floating air-distributor E is adjusted inside of the cylinder B, and should slide freely up and down upon the air-pipe F. It is buoyed up by the gasoline, as shown in Fig. 1, and reacts by its weight against the incoming air. The air is introduced through the air-pipe F into the air-chamber *b* at the top of the float, and is forced by compression down through the series of air-pipes *c* into the fluid, thus becoming thoroughly carbureted, and it passes out at the aperture *g* on the top of the cylinder B into the gas-pipes for consumption.

The discharge-pipe H, shown in Figs. 1 and 3, is for the purpose of drawing off the gasoline when required. I is a gage to indicate the quantity of gasoline in the carbureter, shown in Fig. 2. The aperture *h* is for the purpose of introducing water into the chamber D, and the cock *i* to draw off said water or water of condensation when steam is used alone. Both of these are shown in Fig. 2. The top of the cylinder B is secured by means of thumb-screws *j*.

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

1. In an air-carbureting machine, a floating air-distributor, E, constructed with an upper chamber, *b*, side pipes *c*, and air-chamber K, in the manner substantially as described, and for the purposes set forth.

2. The floating air-distributor E, as above described and claimed, in combination with air-pipe F and cylinders A and B, the whole constructed substantially as described, and for the purposes set forth.

3. In an air-carbureting machine, a hot-water or steam-chamber, D, situated in the bottom thereof, in combination with circulating-pipes G *f* extending into the oil-chamber of said machine, each constructed substantially as described, and for the purposes set forth.

EDWIN F. VAN HOUTEN.

Witnesses:

OLIVER DRAKE,
DAVID COLLINS.