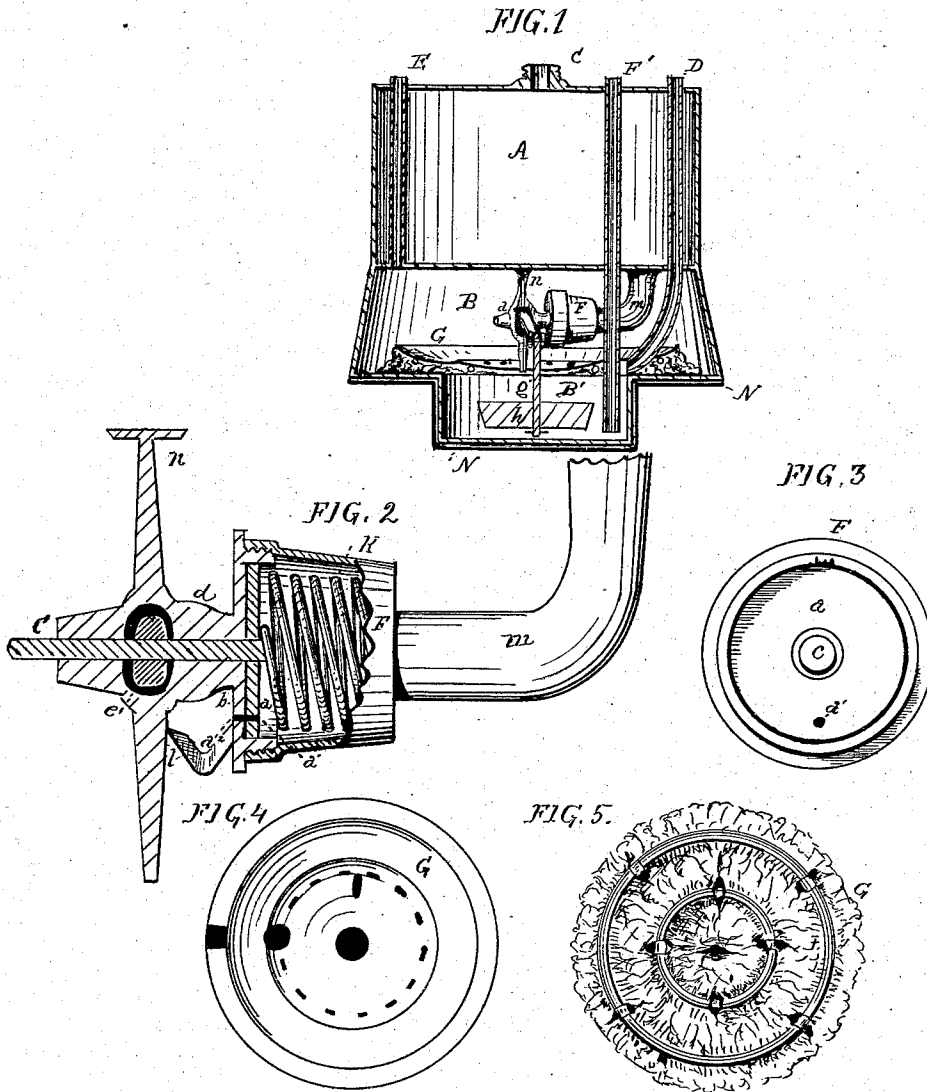


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Apparatus for Carbureting Air and Gas.

No. 158,184.

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IMPROVEMENT IN APPARATUS FOR CARBURETING AIR AND GAS.

[Specification forming part of Letters Patent No. 158,184, dated December 29, 1874; application filed November 9, 1874.]

To all whom it may concern:

Be it known that I, ALONZO W. PORTER, of the city, county, and State of New York, have invented certain Improvements in Apparatus for Carbureting Air and Gas, of which the following is a specification:

My invention relates to certain new and useful improvements in apparatus for carbureting air or gas, of that class in which the liquid hydrocarbon is stored and held in bulk in a tank or reservoir, forming part of the carbureter, and supplied to the carbureter at intervals, as required, to replace said hydrocarbon when consumed or carried off by the air or gas during the process of carbureting, the whole apparatus being buried or set below the ground for convenience and safety.

My invention consists, first, in the combination, with the carbureter and reservoir, of an improved valve-chamber, communicating with the reservoir, and containing a disk-valve operated by a float attached to a lever secured to the valve-stem for supplying the carbureter with hydrocarbon, as will be fully hereinafter described; second, in an improved shower-plate, provided with strands of cotton or other fibrous material on its under side, so arranged that the ends of the same, will hang down around the edge of the plate, forming a circular canopy which entirely covers and surrounds the well in the bottom of the carbureter, as and for the purposes hereinafter set forth; third, in the combination of the reservoir, automatic disk-valve, and valve-chamber, shower-plate with capillary canopy hanging around its edge and well in bottom of the carbureter with flaring sides, substantially as hereinafter described.

In the drawings, Figure 1 represents a vertical section of my improved apparatus. Fig. 2 represents a detached longitudinal section of the valve. Fig. 3 represents a transverse section of the same; and Fig. 4 a detached view of the concavo-convex plate.

A represents the reservoir, forming the upper part of the carbureting apparatus, and B represents the carbureter. Said carbureter is formed with flaring sides, as shown, and is provided with a well, B', at the bottom. Within the enlarged part of the carbureter, formed by the flaring sides, is secured a concavo-convex

plate or disk, G', with the concave side uppermost. Said plate is perforated so as to shower the hydrocarbon down through the carbureter as it is delivered through a pipe and valve, as will be presently described. To the under side of the plate G a series of strands of cotton-wicking, or other equivalent capillary or fibrous material, are attached in such a manner that the ends will hang downward around its edge, and form a canopy over the well, as clearly indicated in the drawings. The strands may be fastened to the plate in any convenient manner, preferably, however, by means of rings secured to the plate at proper intervals, as shown.

The improved device for admitting the hydrocarbon liquid to the carbureter consists of a chamber, F, containing a flat disk, *a*, working against a seat, *b*, formed on the inside of the front end of the chamber F. Said disk is secured to a stem, *c*, passing through a sleeve, *d*, which has an opening through it for the lever *e*, which is attached to the stem *c*, for the purpose of operating the same. To the end of the lever *e* a rod, *g*, is attached, said rod falling downward, and having attached to its lower end a float, *h*. The disk *a* is provided with a small aperture, *a*¹, and a similar one, *a*², is formed through the seat *b*, at the front end of the chamber F. The disk *a* is kept against the seat *b* by means of a spiral spring, *k*, secured within the chamber F. In front of the chamber F, and directly below the opening *a*², is a spout or gutter, *l*, to convey the hydrocarbon to the center of the concavo-convex plate below. The chamber F is secured to one end of a bent pipe, *m*, extending downward from the lower part of the reservoir A, and is supported by an arm, *n*, secured to the bottom of the reservoir in such a position that the rod *g* will fall through the aperture *p* in the concavo-convex plate, and allow the float *h* to hang in the well B'.

The opening for filling the reservoir is represented by the tube C, and the pipe for admitting the air or gas by the tube D. E represents a pipe, through which the carbureted air or gas passes to the burners, and F' a pipe extending downward through the reservoir into the well, and terminating near the bottom of the same, to the upper end of which a pump

