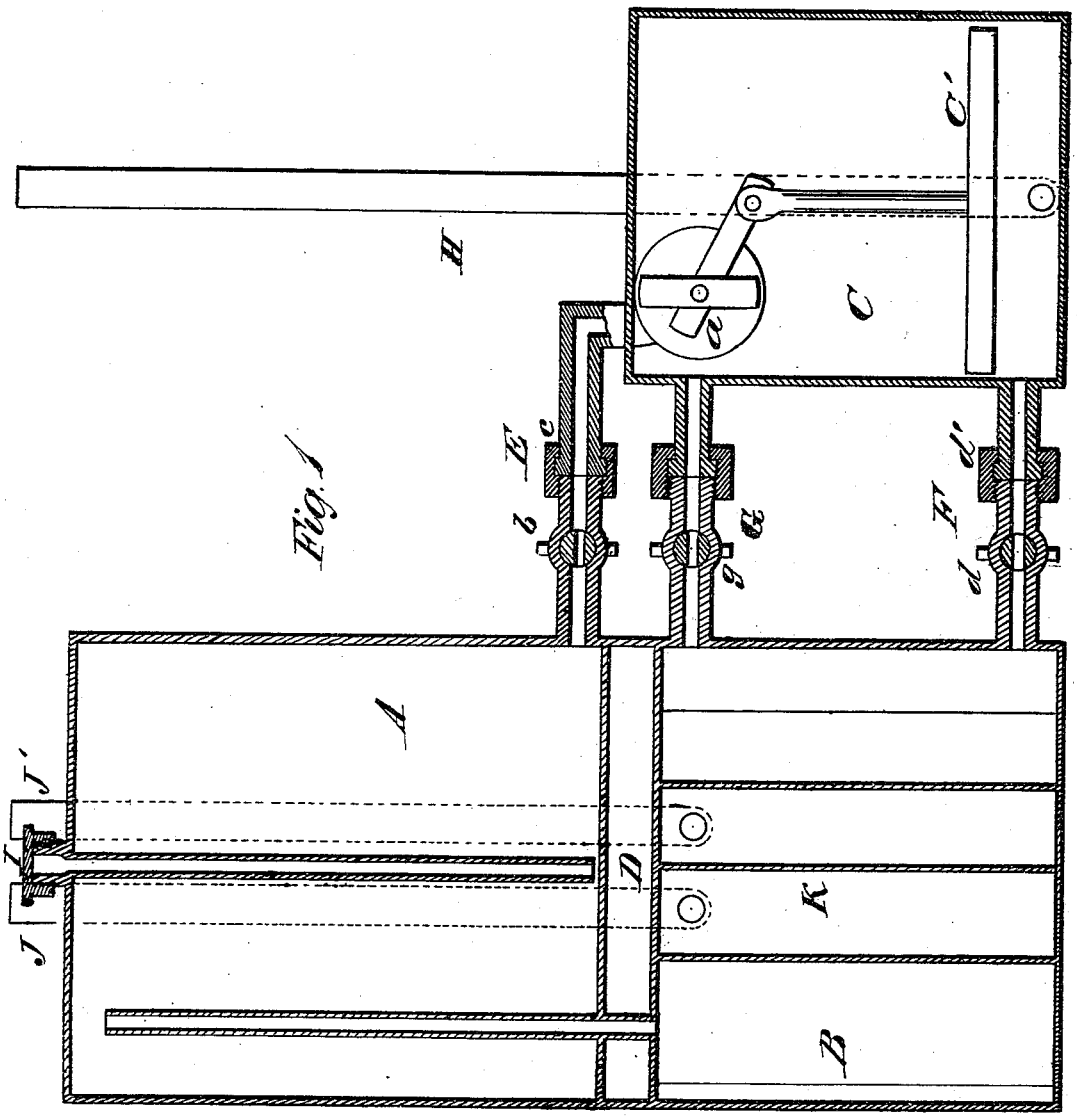
2 Sheets--Sheet 1.

A. W. PORTER.

Gas Carbureters.

No. 166,476. Patented Aug. 10, 1875.



WITNESSES
E. H. Bates
George E. Upham.

INVENTOR
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2 Sheets--Sheet 2.

A. W. PORTER.

Gas Carbureters.

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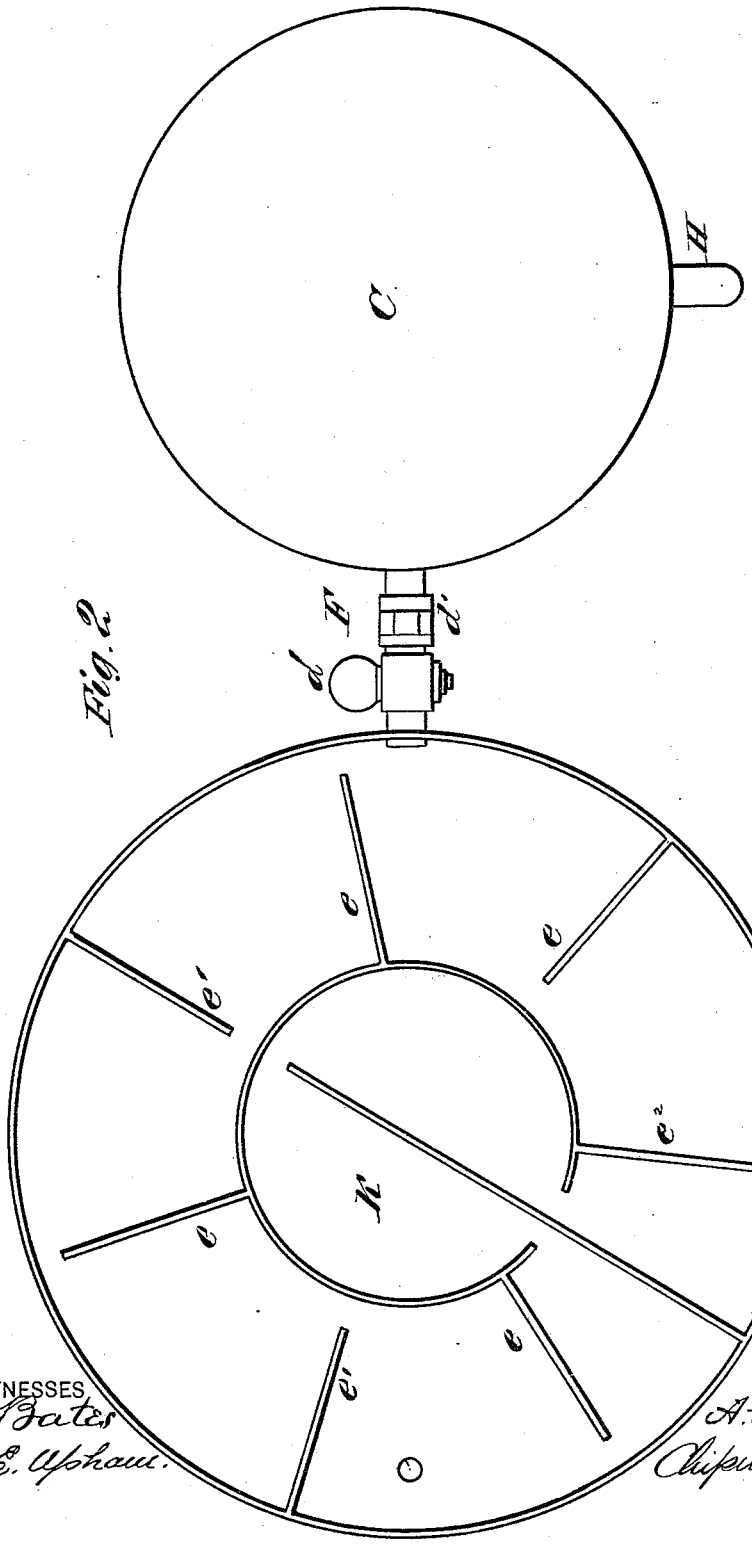

Fig. 2.

WITNESSES
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UNITED STATES PATENT OFFICE

ALONZO W. PORTER, OF NEW YORK, N. Y.

IMPROVEMENT IN GAS-CARBURETERS.

Specification forming part of Letters Patent No. **166,476**, dated August 10, 1875; application filed July 14, 1875.

CASE A.

To all whom it may concern:

Be it known that I, ALONZO W. PORTER, of New York, in the county of New York and State of New York, have invented a new and valuable Improvement in Gas-Carbureters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my carbureter, and Fig. 2 is a plan view of the same.

My invention relates to improvements on carbureters known as "automatic feeders;" and the object of my invention is to attach and so arrange the automatic feed in relation to the reservoir and carbureting-chamber that this feeding device may be removed and repaired without interruption to the passage of gas to the burners. Another object of my invention is to hold the gas longer in contact with the hydrocarbon spirits in its passage to the burners, and to secure an intimate admixture of gas and vapor, and by so doing to utilize all the sensible heat in the gas for effecting a vaporization of the liquid, as will be fully understood from the following description.

In the annexed drawings, A designates the reservoir, and B the carbureting-chamber. C designates the automatic feed box or chamber, in which is placed any suitable valve, *a*, worked by a float, C′, connected to it by means of a rod or a chain, which float is caused to rise and descend by the rise and fall of the liquid in chambers C and B. E designates a pipe, through which the liquid runs from the reservoir to the box containing the automatic feed-valve. In this pipe E is a stop-cock, *b*, and *c* is a union-coupling for this pipe. F is a pipe leading from the chamber C into the carbureting-chamber B, which pipe is provided with a cock, *d*, and a union-coupling, *d′*. G is a small pipe for conducting the gas from the carbureting-chamber B to the chamber C, to equalize the pressure of gas in the two chambers, and *g* is a cock in this pipe.

In practice, the cover of chamber C will be fastened on gas-tight by means of bolts and nuts, so that it can be removed at pleasure.

H designates a pump-pipe, which may be placed at any point running from the bottoms of the chambers B and C, for allowing the heavy part of oil, by evaporation, to be removed therefrom. I is the filling-cap for the reservoir A, and D is a double non-conducting bottom filled with air or any suitable poor conductor of heat. J is the inlet-pipe, through which illuminating-gas enters the chamber B after passing through a meter, and J′ is the outlet-pipe, through which the enriched gas passes out of the carbureting-chamber to be burned. K is a central space in the carbureter, about one-third the capacity thereof, in which the gas has a momentary rest from its windings, and being the coldest point in the apparatus, the gas may there leave a portion of the carbon should there be an excess of it.

From the space K the gas passes off to be burned, and from the annular wall forming this space a number of radial divisions, *e*, are arranged, which, with other divisions e^1, form a number of spaces, in which wire frames are arranged, covered with cotton yarn, or any other suitable absorbent, which will greatly increase the evaporating capacity of the apparatus.

The gas enters the carbureter on one side of a partition, e^2, and, after circulating through the several spaces, enters the space K, and escapes therefrom through the pipe J.

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

1. In combination with a carbureter which is subdivided by partitions *e* e^1 e^2, and the central space or apartment K, the reservoir A and an automatic feed-box, C, containing a valve, *a*, which is actuated by the rise and fall of a float, C′, substantially as described.

2. Pipes E F G, provided with cocks and union-couplings, in combination with reservoir A, carbureting-chamber B, and automatic feed-box C, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALONZO W. PORTER.

Witnesses:
EDWARD L. OWEN,
ANDREW WOELFEL.