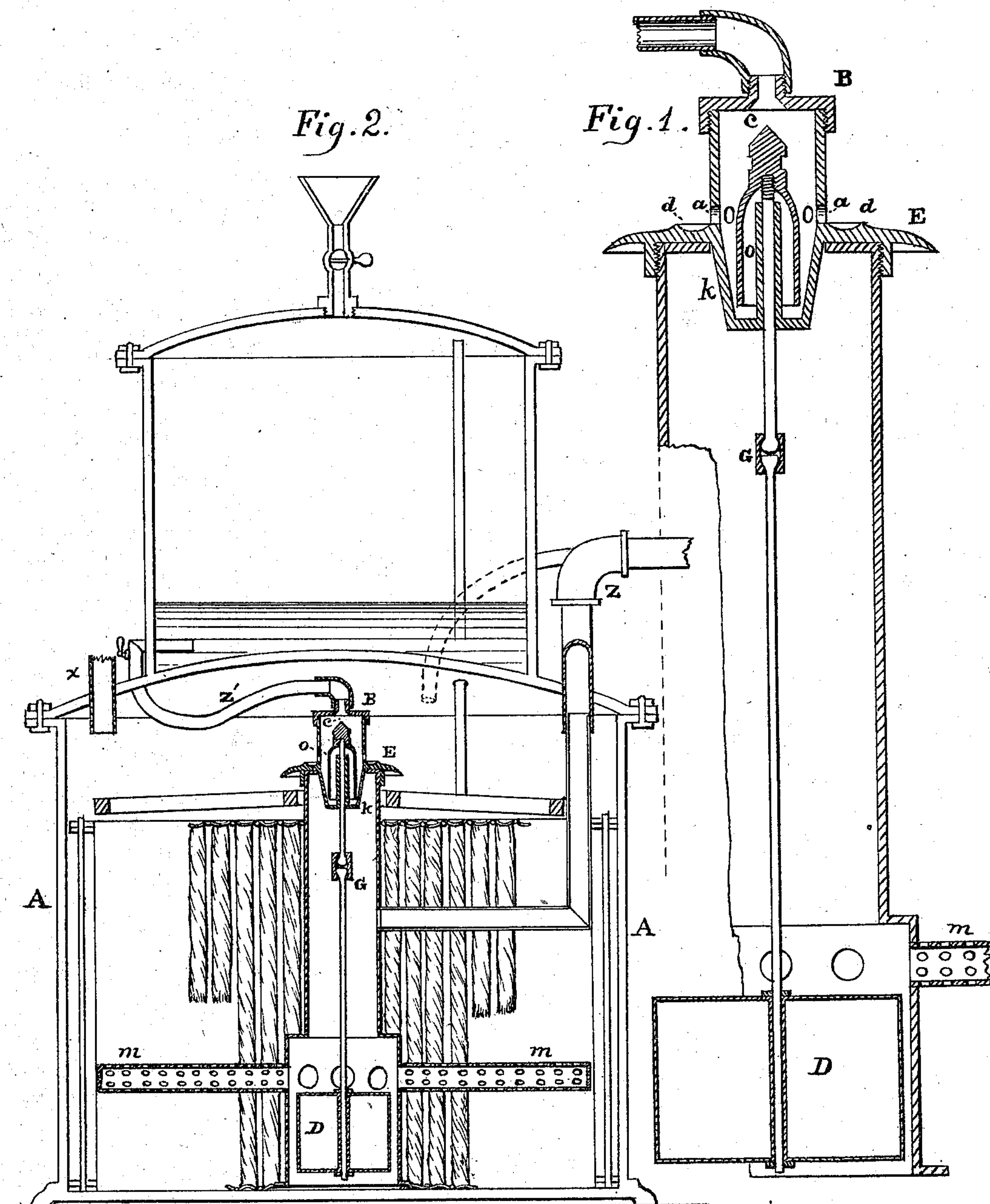


F. A. FISHER.  
Carbureters.

No. 140,998.

Patented July 22, 1873.



Witnesses:

C. B. Shea

H. A. Daniels

Inventor:

Fisher Ames Fisher

per C. D. Gale  
attorney



# UNITED STATES PATENT OFFICE.

FISHER AMES FISHER, OF ELIZABETH, NEW JERSEY.

## IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **140,998**, dated July 22, 1873; application filed January 16, 1873.

*To all whom it may concern:*

Be it known that I, FISHER AMES FISHER, of Elizabeth, in the county of Union and State of New Jersey, have invented an Improvement in Regulators of Feed-Liquid in Gas-Carbureters; and I hereby declare the following to be a full and sufficient description of the same, reference being had to the accompanying drawings and references making part of the same.

In the drawings, let Figure 1 represent a vertical section of the regulator; Fig. 2 represents a vertical section of gas-carbureter with the improved regulator applied thereto.

The invention consists in a new device for controlling the feed-liquid of a gas-carbureter by means of a vertical conic valve through which said liquid passes to the carbureting-chamber.

Directing the eye to the figures, we see the form of a complex cylinder, the upper part being a portion of a smaller cylinder, and the lower part a portion of a larger cylinder. In the upper portion is contained a conic valve, *c*, and in the lower a float, *D*, which, in its normal position, rests on the bottom of the carbureting-chamber. The float and the conic valve are connected together by a swiveled valve-rod or piston having a swivel in its middle part, just above which is located cup *K*, formed by a flanged extension of the under and inner side of the so-called dome *E*, which extension inclines obliquely downward and inward; then horizontally inward; then vertically upward—forming, first, the outside of cup *K*; secondly, the bottom; and thirdly, the inner side of said cup. The inner side of said cup is extended upward to a little above the holes *a* which discharge into groove *d*, and thence over the top of dome *E* into and through the carbureting-chamber. To form the counterpart of cup *K*, the inverted cup *o* is provided, which is attached centrally to the said valve-rod, and plays up and down with it, opening and closing valve *c*, and at the same time shutting off the chamber of the float from that of the carbureter, thus forming a water-joint. In the middle part of the valve-rod is the swivel-joint *G*, which allows a limited side movement, so as to give a free up-and-down movement of the float and conic valve.

To adapt this regulator for working a car-

bureter, a tank of naphtha, or its equivalent, is placed above the carbureting-chamber, and a pipe, *Z'*, communicates from the said tank to the cap *B* of the regulator, and supplies feed-liquid through the conic valve aforesaid; but, besides the complex cylinder, regulator, and tank aforesaid, there is arranged around the regulator an outer vessel, *A*, of any suitable form; a capacious chamber hung around with wicking or other absorbent material, and constituting the carbureting-chamber—that is to say, an opening is made into said chamber large enough to receive said regulator, and the opening thoroughly closed up. A series of perforated tubes, *m*, radiate from the body of the complex cylinder into the carbureting-chamber to equally distribute the gas received by induction-pipe *Z*, and discharge the same by eduction-pipe *X*.

The distributing-liquid is operated as follows: As stated above, the liquid, after leaving cap *B* and passing through conic valve *c*, (see Fig. 2,) passes downward to cup *K*, filling it and emptying its contents through holes *a* into the circular groove *d*, whence it flows over the dome *E*, and is spread through the wicking of the carbureting-chamber, through which the gas is constantly passing to be carbureted, and from which it is finally discharged from the machine. Now, if an excess of feed-liquid accumulates in the lower part of the carbureter, the float rises up and pushes up conic valve *c* into its recess, and stops the flow through the valve until the wicking absorbs up the excess and the float sinks, opening conic valve *c*, and the liquid flows as before. Thus the apparatus described constitutes the combination of an automatic feed-liquid regulator with a gas-carbureter.

This invention does not consist in the mere controlling of the feed-liquid through the conic valve by means of the float, irrespective of the manner in which it is distributed to or through the carbureter. If the feed-liquid has been allowed to fall into the float-chamber without being distributed through the upper part of the distributing-carbureter, (as is done in the carbureter referred to by the Office,) the carbureting-chamber would have been without effect and valueless; but when the double cup *K* is interposed, acting as a water-joint to sep-

arate the carbureting from the valve-float chamber, new effects are produced. The feed-liquid of the conic valve, falling into cup K, is distributed through the holes *a* upon the dome E, and so through the carbureting-chamber hung with wicking.

Having stated the nature of my invention, and the mode of using the same, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the cup K for receiving

the feed-liquid and discharging it through the wicking or carbureting-chamber with the inverted cup O for forming, with said cup K, a water-joint that shuts off the liquid from the float-chamber, substantially as and for the purpose specified.

FISHER AMES FISHER.

Witnesses:

I. N. FISHER,

L. W. FISHER.