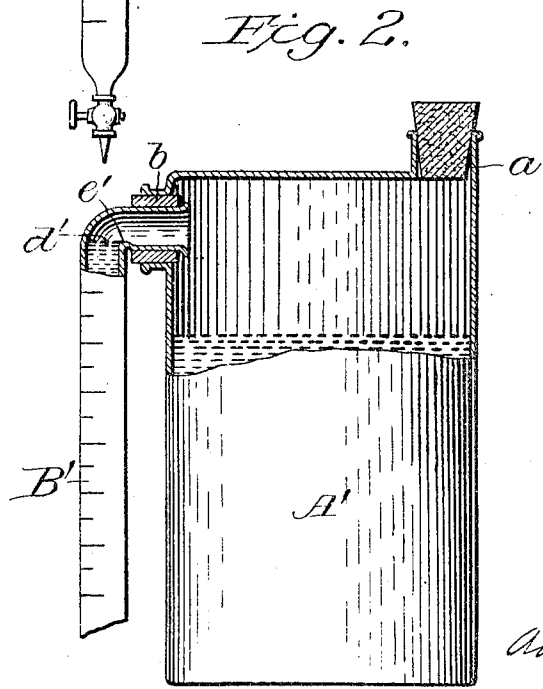
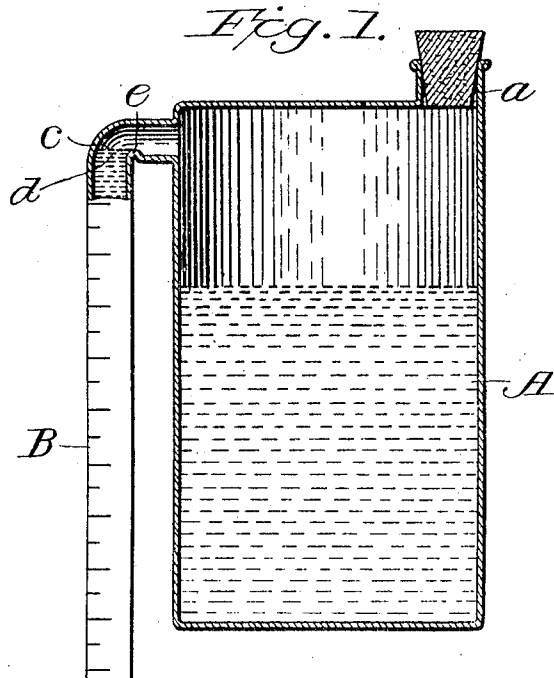


No. 844,686.

PATENTED FEB. 19, 1907.

A. J. MARSCHALL.
AUTOMATIC BURETTE.
APPLICATION FILED OCT. 19, 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

ADOLF J. MARSCHALL, OF LITTLE FALLS, NEW YORK.

AUTOMATIC BURETTE.

No. 844,686.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed October 19, 1904. Serial No. 229,072.

To all whom it may concern:

Be it known that I, ADOLF J. MARSCHALL, a citizen of the United States, residing at Little Falls, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Automatic Burettes, of which the following is a specification.

This invention relates to automatic burettes, and has for its object to provide a burette simple in construction, durable, and inexpensive of manufacture.

With the above and other objects in view the present invention consists in the combination and arrangement of parts hereinafter fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view, partly in section and partly in elevation, illustrating one form of my invention; and Fig. 2 is a similar view of a modified form of the invention.

Referring now more particularly to the accompanying drawings, and especially to Fig. 1, I illustrate an automatic burette consisting of a bottle or receptacle A, connected at its upper end with a burette-tube B. This tube is so arranged with respect to the bottle that when the latter is filled with liquid through the neck *a* to a point below where the burette-tube is attached the tube can be filled with liquid by tilting the bottle. The surplus liquid in the burette-tube will run back into the bottle when the bottle is placed upon a level, and in the construction shown in Fig. 1 the burette-tube will be filled to the point *c* when the bottle is placed upon a level, and this point *c* aligns with the zero-mark of the tube.

The burette-tube is provided on its inside with a lip *e*, and this lip *e* is designed to produce a sharp level in the burette-tube when the bottle is in vertical position. I prefer to place the zero-mark a little below the bend of the tube and substantially opposite the lip *e*, as at *d*, and, if desired, I may draw out

enough liquid through the faucet at the lower end of the tube to bring the level to the zero-point.

It may be desired to have the burette-tube detachable with respect to the bottle or vessel, so that in the event of breakage a new tube may be substituted for the broken one. For instance, in Fig. 2 I illustrate a structure wherein the bottle or receptacle A' has the burette-tube B' attached thereto by a perforated stopper *b*. In this modified form of the invention the zero-mark of the tube will be substantially adjacent the lip *e'*, as indicated at *d'*.

I am fully aware that it would be difficult, if not impossible, to fill the burette-tube in the way described if the inside diameter is small; but with the standard size of burette-tubes there will be no difficulty in this respect.

I do not limit myself to any special shape, size, or construction of the bottle or receptacle nor to any special construction of burette-tube; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. An instrument of the character described, comprising a reservoir having an inlet and an outlet near its upper end, a perforated stopper fitted in the outlet-opening, a graduated burette-tube fitted in the perforation of the stopper and provided with a valve at its free end and a lip adjacent the stopper.

2. An instrument of the character described comprising a reservoir, a graduated burette-tube having a bent portion communicating with the reservoir and provided in said bent portion with an integral lip.

In testimony whereof I have signed my name to this specification in the presence of two witnesses.

ADOLF J. MARSCHALL.

Witnesses:

C. J. LUNDSTROM,
JAMES H. WATTS.