

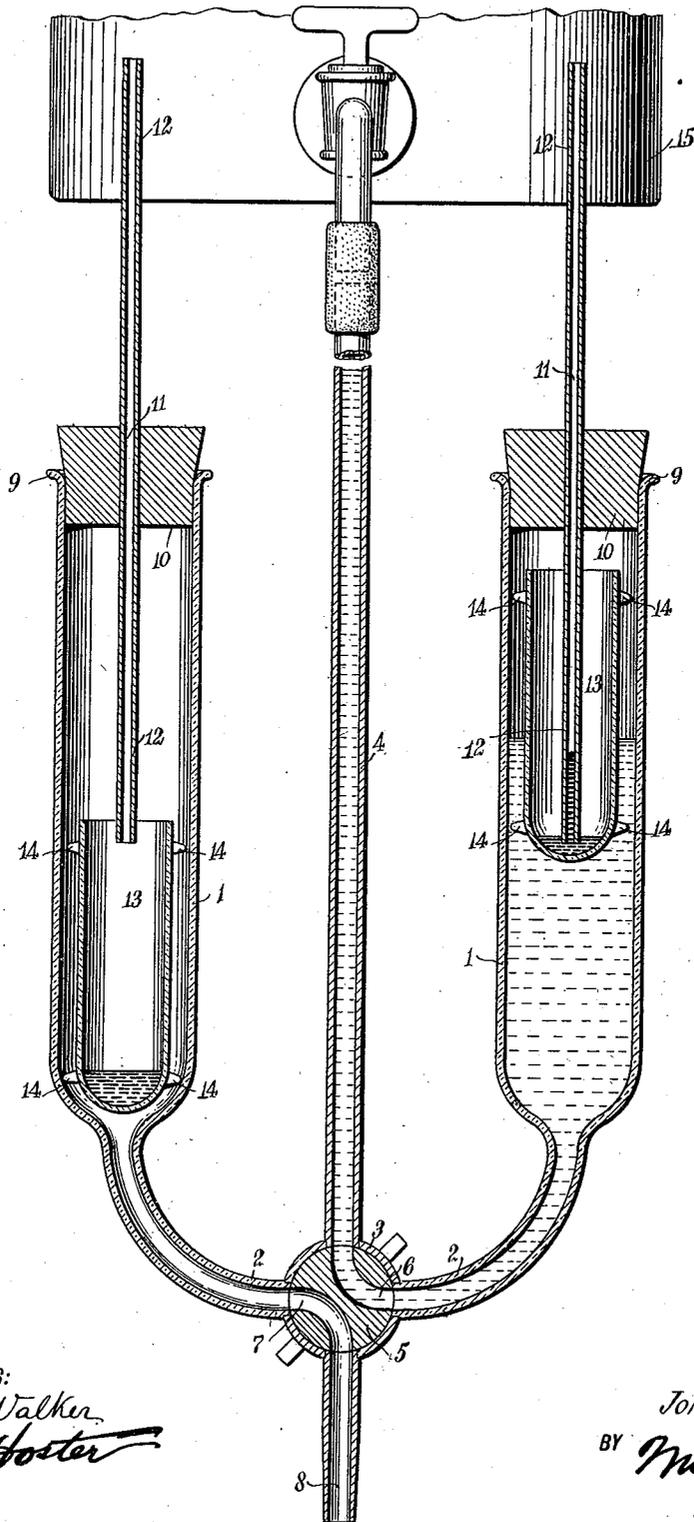
J. DE C. ROSE.

BURETTE.

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1,013,448.

Patented Jan. 2, 1912.



WITNESSES:

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BURETTE.

1,013,448.

Specification of Letters Patent.

Patented Jan. 2, 1912.

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To all whom it may concern:

Be it known that I, JOHN D. ROSE, a citizen of the United States, and a resident of Berkeley, in the county of Alameda and State of California, have invented a new and Improved Burette, of which the following is a full, clear, and exact description.

This invention relates to burettes used for the purpose of measuring quantities of liquids.

The object of the invention is to produce a burette of simple construction, which will operate quickly and accurately to measure the desired quantity of the liquid.

The invention is especially useful in laboratories and similar institutions.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claim.

Reference is to be had to the accompanying drawing forming a part of this specification, and to the characters of reference thereon.

The figure is a vertical central section through a burette constructed according to my invention.

Referring more particularly to the parts, 1, 1 represent a pair of oppositely disposed tubular vessels which are connected by integral necks 2 with a stop cock 3. Connected with this stop cock in a vertical position between the vessels 1, 1, I provide a supply or feed pipe 4. The plug 5 of the stop cock 3 is provided with two ports, 6 and 7, as shown, and from the stop cock 3 a delivery tube 8 extends downwardly, said tube being in axial alinement with the feed pipe 4. The ports 6 and 7 are arranged so that the port 6 may connect the feed pipe with the right-hand neck 2, while the port 7 connects the left-hand neck 2 with the delivery tube 8, and vice versa.

The upper ends of the vessels 1, 1, are formed with outwardly bent lips 9 which constitute seats for stoppers 10. These stoppers are formed with movable vertically disposed vents 11, which extend upwardly and downwardly and terminate in nipples 12 formed at the upper and lower ends of the stoppers as shown. The upper ends of the nipples are of such length as to control the head of liquid in a supply vessel, and to admit of easy adjustment. The stoppers are of rubber or other suitable material to allow the adjustment of the nipples 12, which con-

trol the calibration of the burette, and the adjustment of the said nipples is done by the hand or a suitable mechanical device. In each of the vessels, 1, I provide a valve 13 in the form of a float, and these floats, like the other parts of the device, except the stoppers, are formed of glass and are open at the upper end. Each float contains a small quantity of mercury or other suitable fluid to seal the lower ends of the nipples 12, the quantity of mercury or other fluid necessary being governed by the head of the supply. The outer sides of the walls of the floats are formed with guide nibs 14 which maintain the floats in a central position in the vessels. The lower set of nibs is placed near enough to the bottom of the float to prevent said float from resting on the walls of the burette, and it should be observed that the floats or valves 13 are preferably of cylindrical form and of slightly less diameter than the vessels 1, 1, which are, of course, tubular.

The upper end of the feed tube 4 is connected to a supply vessel 15 of large volume.

The operation of the device is substantially as follows: The liquid to be measured is admitted through the cock 3 into either of the vessels 1, such as the vessel at the right, as indicated in the figure. As the liquid rises in the vessel 1, the float 13 also rises until it touches the lower end of the nipple 12, when the mercury will rise and close the vent 11. In this way the vessel can be accurately filled, and as soon as it is filled the plug 5 of the stop cock can be rotated into its opposite position so that the liquid in the right-hand vessel will flow out through the delivery nipple, while the left-hand vessel will be put in communication with the feed tube 4 so as to be filled in the same manner described. The vessels should be measured so that the contents will be accurately known. In this way a convenient burette can be constructed, which can be quickly operated, and which will accurately measure the liquid.

It will be seen that aside from performing the duty of vents, the members 11 constitute primary measuring standards for by raising and lowering the members 11, the desired standard of liquid can be easily maintained at all times.

Although for the purpose of describing my device I have shown a particular construction of the same, it will be understood

that the scope of my invention is defined in the appended claim.

Having thus described my invention, I claim as new and desire to secure by Letters
5 Patent:

10 A burette comprising a pair of measuring vessels, a stop cock connecting the same and adapted for filling the vessels and discharging therefrom, a hollow float valve in each
of the said vessels and adapted to rise with the level of the fluid received in the vessels, a stopper in each of the vessels, a vent mounted in each stopper and extending into the vessel, suitable material carried in each

valve and into which the end of the vent is adapted to extend whereby the vent may be
15 sealed, each of the said vents being vertically adjustable whereby the amount of fluid received in the vessel may be varied before the
end of the vent is sealed. 20

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

JOHN DE CEW ROSE.

Witnesses:

W. T. CLARKE,
EDWARD J. HOFF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
