No. 764,834. PATENTED JULY 12, 1904.

W. F., A. E. & H. C. VROOMAN.

SIPHON GAGED LIQUID MEASURER.

APPLICATION FILED SEPT. 2, 1903.

NO MODEL.

Fig 1.

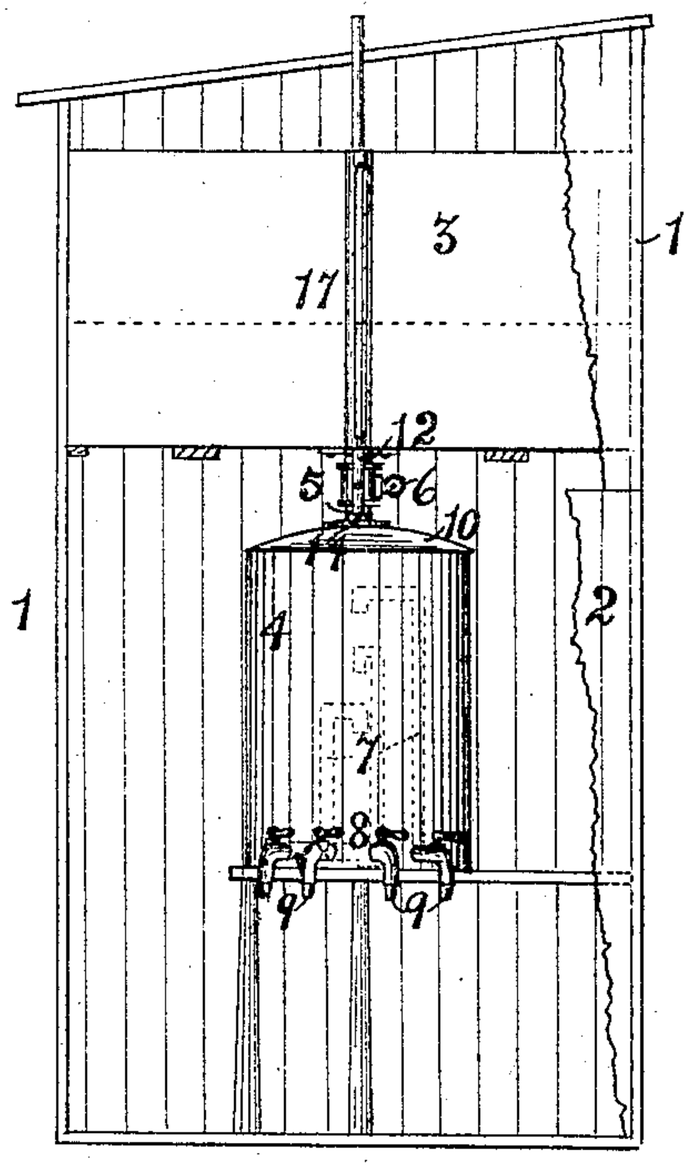


Fig 2.

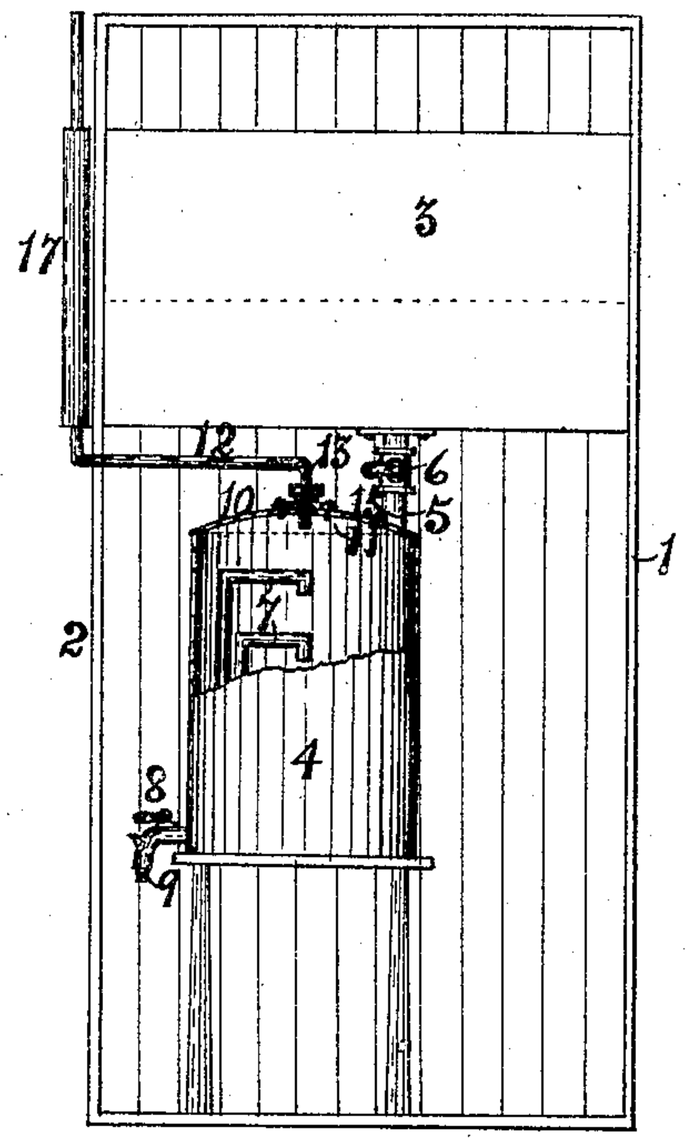
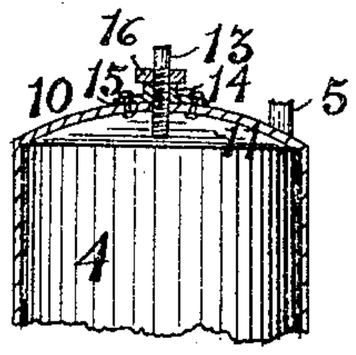


Fig 3.



WITNESSES:

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No. 764,834. Patented July 12, 1904.

UNITED STATES PATENT OFFICE.

WARREN F. VROOMAN, OF MADISON, ARBA E. VROOMAN, OF PAINESVILLE, AND HARRY C. VROOMAN, OF MADISON, OHIO.

SIPHON-GAGED LIQUID-MEASURER.

SPECIFICATION forming part of Letters Patent No. 764,834, dated July 12, 1904.

Application filed September 2, 1903. Serial No. 171,629. (No model.)

To all whom it may concern:

Be it known that we, WARREN F. VROOMAN, a resident of Madison, ARBA E. VROOMAN, a resident of Painesville, and HARRY C. VROOMAN, a resident of Madison, in the county of Lake and State of Ohio, citizens of the United States, have invented certain new and useful Improvements in Siphon-Gaged Liquid-Measurers, of which the following is a specification.

Our invention relates to improvements in siphon-gaged liquid-measurers; and it has for its primary object the provision of a generally improved device of this class which will be exceedingly simple in construction, efficient in operation, and better suited to its intended purposes than any other device of the same class with which we are acquainted.

The paramount object of this invention is to produce a device of this class capable of accurately measuring out known quantities of liquid by the aid of siphons placed at known positions in the measuring vessel and of varying the amount of liquid which will be drawn by each siphon by means of an adjustably-mounted "vent-pipe and gage," to be hereinafter more fully described.

With these ends in view the invention consists in the novel construction, arrangement, and combination of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

Referring to the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of our improved device mounted in a cabinet. Fig. 2 is a side elevation of the same, showing the liquid-measuring vessel partly in section. Fig. 3 is a sectional view of the upper portion of the liquid-measuring vessel, showing a more detailed view of the lower connecting portion of the adjustably-mounted vent-pipe and gage.

Similar numerals of reference indicate like parts throughout all the figures of the drawings.

Referring now to the drawings, 1 designates the walls of the cabinet provided at its front with a door 2 and having mounted in the upper portion thereof a suitable reservoir 3.

4 designates our improved siphon-gaged liquid-measuring vessel, mounted in the present instance upon a stand in the lower portion of the cabinet and immediately beneath the reservoir 3 and connected to said reservoir 3 by means of a pipe 5, provided with a suitable stop-cock 6.

7 designates four siphons, designed in the present instance to draw, respectively, one, two, three, and five gallons each, commencing with the first faucet to the right. The siphons 7 are positioned in the interior of the measuring vessel 4, as shown, and have their intake ends turned downward, and the intake ends of the siphons 7 are positioned at the center of the measuring vessel and at known distances from the interior top of the measuring vessel and also at known distances from each other, so that each siphon will draw from the measuring vessel a known quantity of liquid. By placing the intake ends of the siphons 7 at the center of the measuring vessel accurate measurement is insured, even though the measuring vessel may be out of a perpendicular position. The siphons 7 pass out through the side of the measuring vessel, and faucets 8, provided with choke-bored discharge ends 9, are connected to each siphon. This has been found necessary in order to provide for a solid stream of liquid passing out of the discharge ends of the faucets 8, and thus insure accurate measurement.

We have shown in the present instance a convex-shaped top 10 for the measuring vessel 4, providing an air-chamber 11. It will be understood, however, that any other suitable and convenient top may be used for this purpose. Adjustably mounted in the center of the convex-shaped top 10 of said measuring vessel and connecting with said air-chamber 11 is a vent-pipe and gage 12, having its lower connecting portion 13 threaded and secured to said convex-shaped top 10 by means of a ferrule 14, provided with a flange 15, secured to said convex-shaped top in any suit-

able and convenient manner. In order to securely lock said vent-pipe and gage 12 in any position to which it may be adjusted, a lock-nut 16 is provided and mounted thereon, as shown. To the upper end of said vent-pipe 12 is provided a gage 17, which is designed to indicate the amount of fluid contained in the reservoir 3.

It will be seen that by raising and lowering the adjustably-mounted vent-pipe and gage 12 the capacity of the air-chamber 11 may be regulated, thus regulating the amount of liquid which will be contained in the measuring vessel 4, and consequently varying slightly the amount of liquid which will flow through each of the siphons 7. In this way the amount of liquid measured by the various siphons may be conveniently regulated and accurate measurement to any desired standard insured.

To operate our siphon-gaged liquid-measure, first see that the reservoir-tank has a sufficient supply of the liquid, then see that all the faucets are closed and open the stop-cock 6 until the liquid flows in and entirely fills the measuring vessel 4, which will be indicated by the fluid rising in vent-pipe and gage to level of liquid in reservoir, and then close the stop-cock 6. You may then open the faucet over the receptacle that is to receive the liquid and the quantity which the connected siphon is calculated to draw will flow into the receptacle. In leaving the measuring vessel the stop-cock 6 should always be left open, and in coming to the measuring vessel it should be first closed, after which the faucet of any desired siphon may be opened.

Having thus explained the nature of our invention and described a way of constructing and using the same, although without having attempted to set forth all the forms in which it may be made or all the modes of its use, we declare that what we claim, and desire to secure by Letters Patent, is—

1. A siphon-gaged liquid-measure, consisting of a measuring vessel provided at its top with an air-chamber, a reservoir mounted above said measuring vessel, a receiving-pipe connecting said measuring vessel with the reservoir, an adjustably-mounted vent-pipe and gage secured to the top of said measuring vessel and communicating with said air-chamber, a series of siphons mounted therein and having their intake ends in the center of the vessel, and stop-faucets, provided with choke-bored discharge ends, connected to the outer ends of said siphons.

2. In a siphon-gaged liquid-measure, the combination with a measuring vessel provided with a series of siphons, and an air-chamber; of an adjustably-mounted vent-pipe and gage secured to said measuring vessel and communicating with said air-chamber whereby the amount of liquid to be measured may be regulated.

3. A siphon-gaged liquid-measure, consisting of a measuring vessel provided with an air-chamber, a reservoir, a receiving-pipe connecting said measuring vessel with the reservoir, a vent-pipe and gage adjustably secured to the top of said measuring vessel and communicating with said air-chamber, a series of siphons mounted in said measuring vessel, and stop-faucets, having their discharge ends choke-bored, connected to the outer ends of said siphons.

4. In a siphon-gaged liquid-measure, the combination with a measuring vessel provided at its top with an air-chamber and a receiving-pipe connecting said measuring vessel with a reservoir; of an adjustably-mounted vent-pipe and gage secured to said measuring vessel, a series of siphons mounted therein and having their intake ends in the center of the vessel, and stop-faucets provided with choke-bored discharge ends, connected to the outer ends of said siphons.

5. In a siphon-gaged liquid-measure, the combination with a measuring vessel provided with a convex-shaped top, a reservoir, and a receiving-pipe connecting said measuring vessel with the reservoir; of a vent-pipe and gage adjustably secured to said convex-shaped top, a series of siphons mounted therein and having their intake ends in the center of the vessel, and stop-faucets, provided with choke-bored discharge ends, connected to the outer ends of said siphons.

In testimony whereof we have hereunto affixed our signatures in the presence of two witnesses.

WARREN F. VROOMAN.
ARBA E. VROOMAN.
HARRY C. VROOMAN.

Witnesses:
HENRY MEANS,
ORLANDO GLEASON.