

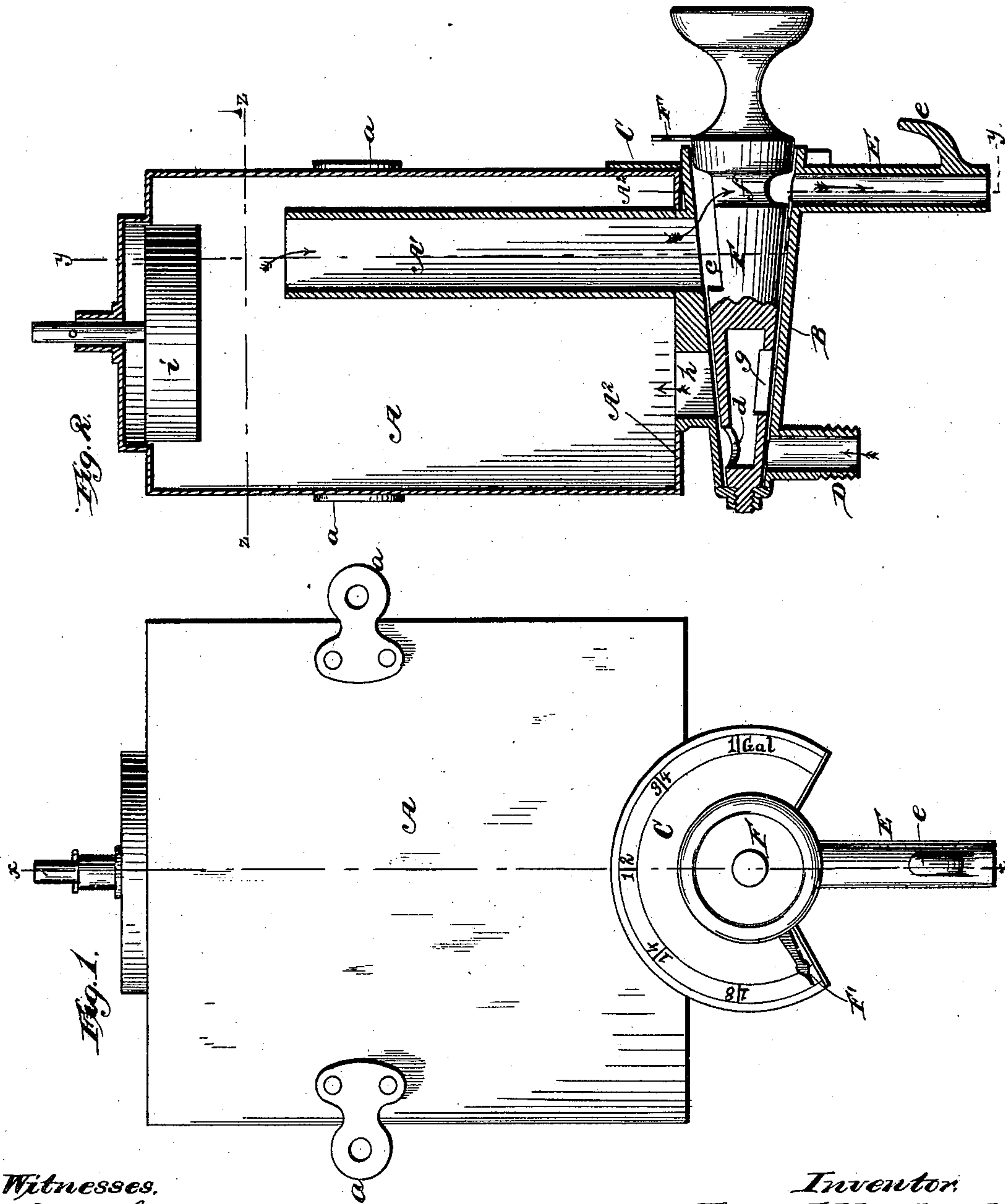
(No Model.)

2 Sheets—Sheet 1.

H. E. MARCHAND.
AUTOMATIC LIQUID MEASURE.

No. 245,528.

Patented Aug: 9, 1881.



Witnesses.

Robert Everett,

J. A. Rutherford,

Inventor
Henry E. Marchand.

By James L. Norris
Atty.

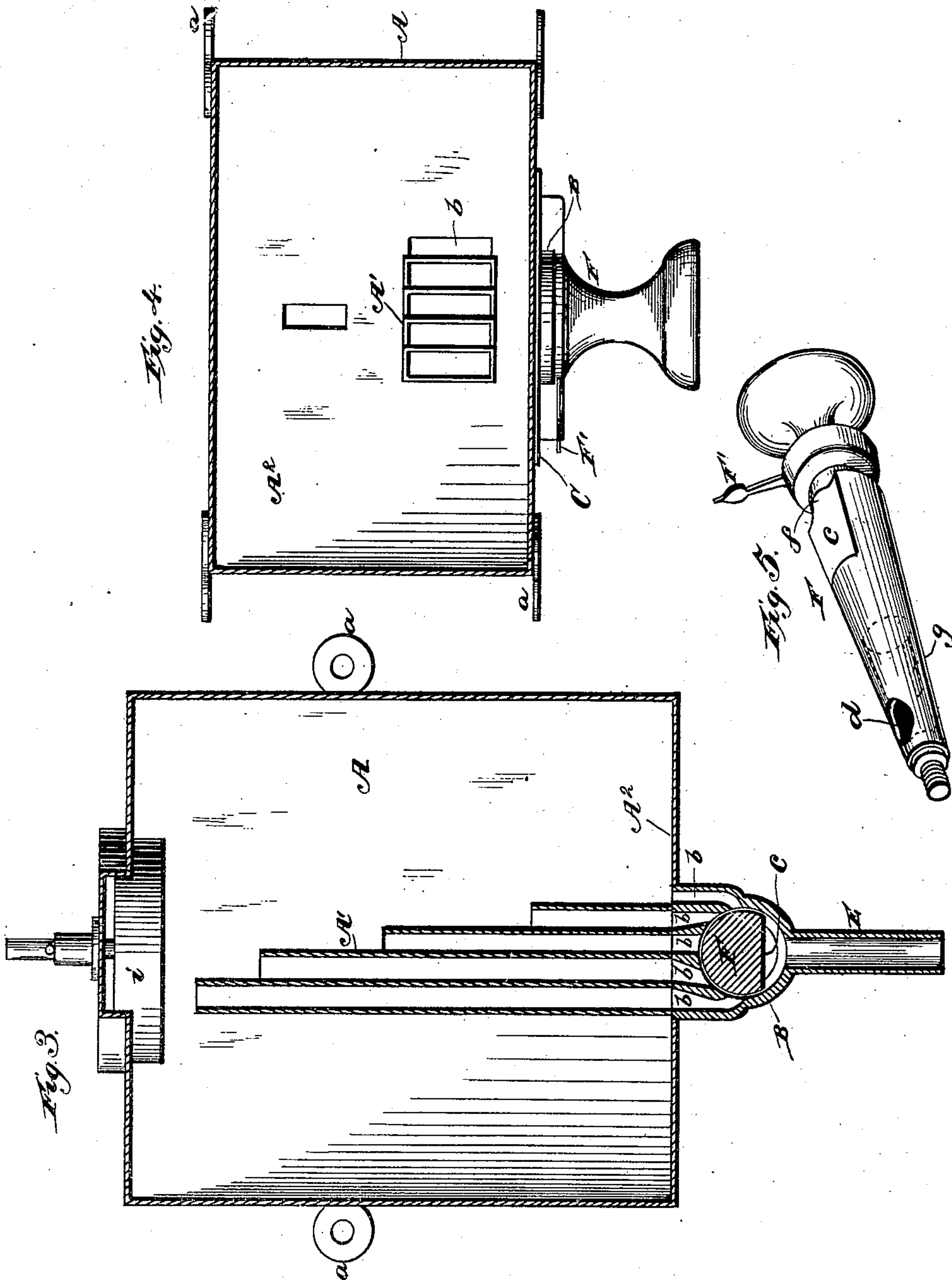
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UNITED STATES PATENT OFFICE.

HENRY E. MARCHAND, OF ALLEGHENY CITY, PENNSYLVANIA, ASSIGNOR
OF TWO-THIRDS TO WILLIAM J. BECKFELD AND JACOB C. LANGE, SR.,
BOTH OF SAME PLACE.

AUTOMATIC LIQUID-MEASURE.

SPECIFICATION forming part of Letters Patent No. 245,528, dated August 9, 1881.

Application filed May 7, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. MARCHAND, a citizen of the United States, residing at Allegheny City, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Automatic Liquid-Measures, of which the following is a specification.

This invention has for its object to provide a simple and efficient measure for oil and other liquid.

The invention relates to improvements in that class of liquid-measures in which a series of graduated tubes are arranged within a reservoir and their discharge controlled by a single cock, whereby the contents of the several tubes can be successively drawn off by properly manipulating the cock.

My invention consists in novel constructions and arrangements of parts, which will be fully hereinafter described, and specifically pointed out in the claims.

In the accompanying drawings, which fully illustrate the invention, Figure 1 is a front elevation. Fig. 2 is a vertical section through the line *xx*. Fig. 3 is a horizontal section through the line *yy*. Fig. 4 is a horizontal section through the line *zz*, and Fig. 5 a view of the key-plug.

Like letters indicate like parts in the several views.

A indicates a reservoir, which is made of any suitable material or form, and provided with lugs *a a* for its attachment in the desired position. This reservoir contains a series of vertical tubes or cells, *A'*, extending to various heights, and each arranged to draw off a definite quantity of liquid, the lower ends of the said tubes opening directly through the bottom wall, *A²*, of the reservoir.

Attached horizontally below the reservoir *A*, and communicating therewith through suitable openings, is a faucet comprising a cylindrical casing, *B*, having at its front end a segmental flange, *C*, which, being marked or graduated to indicate different quantities of liquid-measure, serves as a dial, as hereinafter described. The casing *B* is provided with inlet and outlet tubes *D E*, the outlet-tube hav-

ing a hook, *e*, for suspending the vessel or pail into which the liquid is to be drawn. The horizontal casing *B* is constructed with a series of vertical cells, *b b*, all but one of which communicate with the lower ends of the tubes *A'*, the other cell leading directly to the reservoir, so as to discharge its remaining contents after the tubes have successively performed their functions.

A horizontal tapering cylindrical key-plug, *F*, is provided, that fits within the horizontal faucet-casing *B*, and is provided at its outer end with a hand or index, *F'*, by which the quantity of liquid desired can be indicated upon the dial. This key-plug is also provided with an annular groove or channel, *f*, and with a flattened portion or plane surface, *c*, that adjoins the channel *f* on one side of the plug, said groove and plane surface constituting valve-ports for controlling the discharge of the liquid from the several tubes. Near the smaller end of the plug, on the same side, and in line with the plane *c*, is a circular opening, *d*, which communicates with an elongated slot, *g*, on the other side of the plug, but not directly opposite, the said opening and slot constituting valve-ports for controlling the inlet of liquid to the reservoir. When the plug *F* is turned so as to cause the circular opening *d* to register with the upper end of the inlet-tube *D* a liquid supplied by that tube will pass through the opening *d* into the hollow portion of the plug *F*, and thence to the reservoir through the elongated slot *g* and a similar opening, *h*, in the bottom of the reservoir, which now corresponds with the slot *g* in position. After the reservoir is filled in this manner the plug may be turned so as to remove its ports or openings *d g* from registering with those of the reservoir and inlet-tube, thus preventing the further entrance of liquid to the reservoir. The annular channel *f* and plane *c*, in connection with opening in the ends of the measuring tubes or cells, form the outlet of the reservoir. At the top of the reservoir is an air-vent, governed by a float-valve, *i*, that regulates the atmospheric pressure and prevents an overflow when the can is filled.

It will be observed that when the inlet to

the reservoir is open the plug F is in such position that its plane surface *c* is turned down, and the openings leading from the measuring tubes or cells A' are therefore closed. By turning the hand of the key F from left to right until it indicates the mark one-eighth of a gallon on the dial C the lower opening of the first or highest tube on the left will be uncovered and brought into connection with the plane surface *c* and groove *f*, so as to allow the liquid to discharge to the level of the highest tube, the remainder of the liquid in the reservoir being shut off from discharging by the rounded portion of the plug F, which still closes the other outlets. The quantity of liquid thus discharged will depend upon the capacity of the reservoir above the level of and within the first tube, which in this instance, for example, is one pint. If the plug is turned still farther to the right, so as to uncover the lower openings of the remaining tubes, they will immediately discharge the liquid until it descends in the reservoir below the respective levels of their upper ends, and when the outlets of the tubes or cells have all been left uncovered for a sufficient length of time the entire contents of the reservoirs will be withdrawn. While either one or all of the series of tubes A' are discharging the inlet to the reservoir remains closed; but upon turning the plug F so that the outlets of the measuring-tubes are closed the inlet will be immediately opened and the liquid will enter the reservoir until it is filled.

It is obvious that the reservoir may be made of any desired capacity, and that the series of measuring-tubes may be arranged to comprise any number necessary for discharging the liquid successively by definite parts, so that a larger or smaller quantity, as indicated upon the dial, may be withdrawn at pleasure.

I am aware that liquid-measures have been provided with a series of discharge-pipes terminating within the measuring vessel or can, and adapted to be controlled by a rotating stop-cock, and also that a dial and pointer have been employed to indicate the position of the stop-cock with relation to said pipes.

What I claim is—

1. In a liquid-measure, the combination, with

a reservoir provided with a series of upright graduated tubes having their lower ends opening directly through the bottom wall of the reservoir, of a casing arranged horizontally under and connected with the bottom of the reservoir, and provided with a depending outlet, and a key arranged horizontally within said casing, and provided with ports for controlling the discharge of the liquid from the several tubes, substantially as described.

2. In a liquid-measure, a reservoir provided with an inlet-port in the bottom wall and a series of graduated tubes having their lower ends opening directly through the bottom wall of the reservoir, of a casing arranged horizontally beneath and attached to the reservoir and in communication with the inlet and the said tubes, and a horizontal key arranged in said casing, and having at its inner portion ports for controlling the inlet to the reservoir, and at its outer portion ports controlling the discharge of the several tubes, substantially as described.

3. The combination, with the reservoir having the series of graduated tubes opening at their lower ends directly through the bottom wall of the reservoir, of a casing arranged horizontally beneath the reservoir, and provided with a series of vertical cells, one of which opens directly into the reservoir and the others into the tubes, and a horizontal key arranged in said casing and controlling all of said cells, substantially as described.

4. The upright graduated pipes having their lower ends opening directly through the bottom wall of the reservoir into a horizontally-arranged casing having an inlet-pipe, D, for communicating with the vessel through an opening in the bottom wall of the reservoir, in combination with a horizontal cock having ports at its rear end controlling the inlet, the ports of its forward portion controlling the graduated tubes, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

H. E. MARCHAND.

Witnesses:

JNO. C. CONCH,
JAS. W. DRAPE.