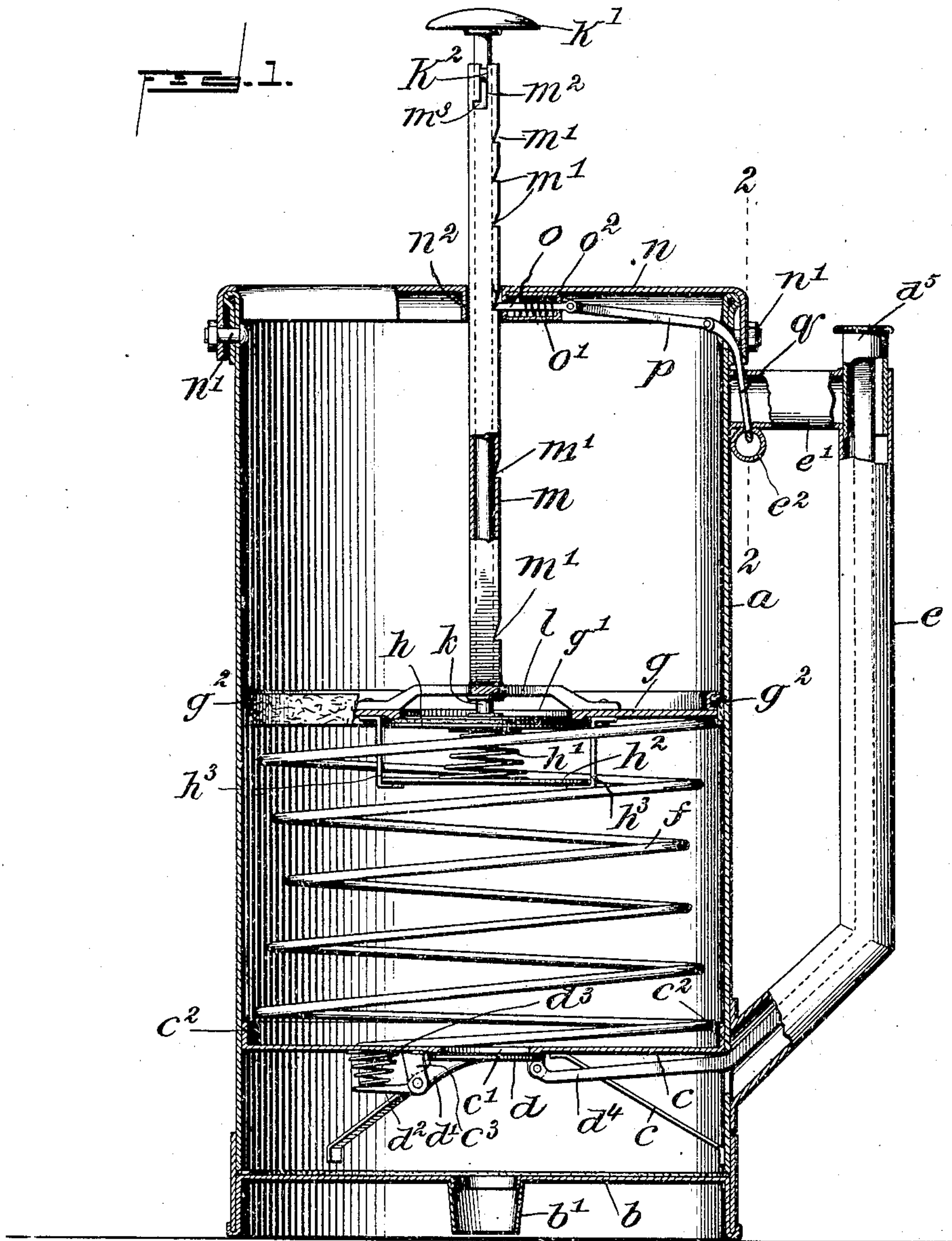


No. 792,380.

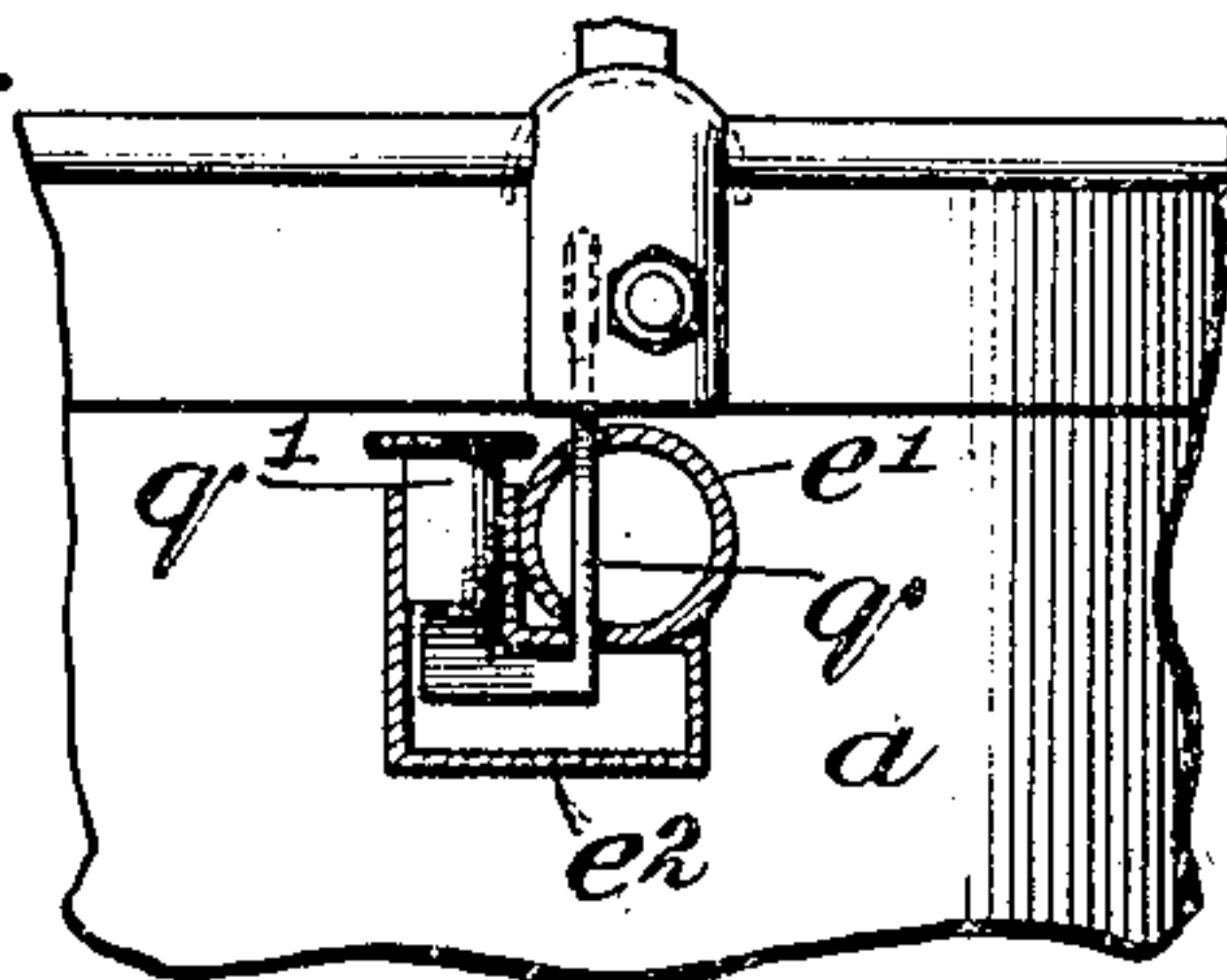
PATENTED JUNE 13, 1905.

F. ALBO.  
MEASURING VESSEL.  
APPLICATION FILED AUG. 2, 1904.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FRANK ALBO, OF PUEBLO, COLORADO.

## MEASURING VESSEL.

SPECIFICATION forming part of Letters Patent No. 792,380, dated June 13, 1905.

Application filed August 2, 1904. Serial No. 219,180.

*To all whom it may concern:*

Be it known that I, FRANK ALBO, a citizen of the United States, and a resident of Pueblo, in the county of Pueblo and State of Colorado, have invented a new and Improved Measuring Vessel, of which the following is a full, clear, and exact description.

My invention relates to a device for measuring and delivering liquids.

The principal object of the invention is to provide a vessel which may be filled or partially filled with a liquid and from which a known quantity or a succession of known quantities may be delivered.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a central vertical sectional view of a preferred form of my invention, and Fig. 2 is a sectional view on the line 2 2 of Fig. 1.

In the drawings, *a* represents a measuring vessel, which may be of any desired kind, character, and size. It is shown as provided with a bottom *b*, having an outlet *b'*, and with a stationary partition *c* located above the bottom. This partition is provided with an opening *c'* for the discharge of liquid therethrough, and it may be secured to the sides of the vessel in any desired manner—as, for instance, by means of stays *c''*.

*d* is a valve adapted for closing the opening *c'*. This valve is shown as mounted upon a support *d'*, pivoted to a projection *c''* upon the partition *c*. This support is provided with a backward extension *d''*, which is normally pressed, by means of a spring *d'''*, into such a position as to keep the valve closed unless acted upon by force imparted to a rod *d''''*, which is preferably pivotally attached to the valve. This rod *d''''* may conveniently extend through a hollow handle *e* and terminate in a movable button *d''''''*, which may be pressed down in order to open the valve.

Above the stationary partition *c* is placed a strong spring *f*, bearing upon the stationary partition and upon a movable partition *g*. The latter is provided with an opening *g'* and a packing *g''*. The opening is closed by means of a valve *h*, which is normally pressed into

position against its seat by means of a spring *h'*, supported upon a plate *h''*, which is connected to the partition *g* by means of hangers *h'''*. The valve is also designed to be operated from the exterior of the vessel by means of a valve-rod *h''''*, having a button *h''''''* at its top and also provided with a lug *h''''''''*. A yoke *l*, extending from the top of the movable partition *g*, is designed to support a hollow element *m*, by means of which the partition *g* may be operated.

*n* is a bar or rod secured to the top of the vessel by any desired means—as, for example, the bolts *n'*—and having an opening *n''* for guiding the element *m*. The latter is provided with a series of notches *m'*, located at any required distance apart in order to provide for the measurement of the liquid, as will be explained later. These notches are designed to be engaged by a bolt *o*, the end of which is beveled in the same direction as the notches, so as to hold the partition from passing upwardly, but to allow it to be forced downwardly by pressure upon the top of the element *m*. The bolt is yieldingly held in this position by means of a spring *o'*, located in a cylinder *o''*. For withdrawing the bolt and allowing the spring *f* to force the partition *g* upwardly I provide devices designed to be operated from the exterior of the vessel. As shown, these comprise levers *p* and *q*, connected together in any desired manner, one of them being connected to the bolt *o*. The lever *q* extends from the wall of the vessel through the tube *e'*, which connects with the handle *e* and forms a part thereof, and also through the tube *e''* and terminates in an upwardly-projecting movable button *q'*. The upper end of the hollow element *m* is provided with a slot having a vertical portion *m''* and a horizontal portion *m'''*, in which slot the lug *h''''''''* is located.

One embodiment of my invention having now been described, I will proceed to describe the operation thereof.

It will of course be understood that the invention may be embodied in many other forms and that I do not wish to be limited to the construction illustrated in the drawings.

Assuming that the partition *g* is at its low-



est possible point and the bolt *o* is in the highest notch *m'*, the space between the partition *g* and the stationary partition *c* is intended to be of just the capacity of a desired  
 5 measure. That is, let us assume that this space would hold exactly a quart of liquid, allowing for the space taken up by the spring *f* and other objects between the two partitions. The valve *h* should now be opened  
 10 by pressing downwardly upon the button *k'* until the lug *k<sup>2</sup>* is at the bottom of the slot *m<sup>2</sup>* and then turning the same so as to catch the lug in the horizontal portion *m<sup>3</sup>* of the slot. This will permit liquid to flow freely  
 15 through the opening *g'*. If liquid is now introduced into the top of the vessel at the side of the bar *n*, it will be obvious that a quart of it will flow below the partition *g* and be held between the two partitions and that the  
 20 remainder will be above the partition *g*. If a quart is all that is needed, the valve *h* is closed by turning the button *k'* and allowing the spring *k'* to force the valve *h* to its seat. This will effectually divide the quart of liquid below  
 25 the partition *g* from the remainder of liquid above it, and pressure upon the button *d<sup>5</sup>* will open the valve *d* and allow the liquid below the partition *g* to escape through the passage *b'*. If, however, it is desired to secure a larger  
 30 amount of liquid than one quart, this operation is not performed, but the button *q'* is quickly pressed down and then released. This operation temporarily removes the bolt *o* from the top notch *m'*, and thus allows the element  
 35 *m* and the partition *g*, together with the valve *h*, to ascend. The release of the button *q'*, however, will place the parts in such a position that the spring *o'* will force the bolt *o* into the next notch *m'* when it reaches a point  
 40 opposite the bolt. The distance between the two notches *m'* being such that the volume of space passed over by the partition *g* in moving that distance will be equal to a half-pint, it will be obvious that the motion of the par-  
 45 tition described will have the effect of introducing an additional half-pint of liquid below the partition *g*, thus measuring out five half-pints of liquid. If it is desired to obtain this quantity, the valve *h* is seated, as  
 50 before described, and the valve *d* unseated, so as to discharge the two quarts of liquid through the opening *b'*, as before. The element *m* is represented as being divided into quarts and one of the divisions into pints and  
 55 half-pints. It will be apparent that any amount—as one, two, three, or four quarts, as in the present instance—may thus be measured out and discharged by performing the above-mentioned operations. For measuring  
 60 out each additional quart a quick pressure on the button *q'* and release thereof will be all that is required.

It will of course be understood that the advantages of this invention can be obtained by  
 65 the employment of other constructions than

that illustrated in the drawings and that the invention is capable of embodiment in many other forms than that shown within the scope of the claims.

Having thus described my invention, I claim 70 as new and desire to secure by Letters Patent—

1. A measuring vessel, comprising a stationary partition having an opening therein, a valve for said opening, manually-operable means for opening the valve and a movable 75 partition having a valved opening and adjustable toward and away from said stationary partition.

2. A measuring vessel, comprising a pair of partitions one adjustable toward the other 80 and each having an opening therethrough, a valve for each opening, means for operating one of said valves, and separate means for operating the other valve in a direction parallel to the direction of movement of the adjust- 85 able partition.

3. A measuring vessel, comprising a pair of partitions one adjustable toward the other longitudinally of the vessel and each having an opening therethrough, a valve for each 90 opening, one being movable longitudinally of the vessel, manually-operated means for opening each valve, and yielding means for closing the valves.

4. A measuring vessel, comprising a movable partition having an opening therein, a valve for said opening movable in a direction substantially parallel with the direction of motion of the partition, means connected with said valve for opening and closing it, means 100 for retaining the valve in closed position, and means for retaining the valve in opened position.

5. A measuring vessel, comprising a pair of partitions one adjustable toward the other and 105 each having an opening therethrough, a valve for each opening, separate manually-operable means for operating each valve from the outside of the vessel, and means bearing on both partitions for forcing them apart. 110

6. A measuring vessel, comprising a pair of partitions one adjustable toward the other and each having an opening therethrough, a valve for each opening, separate manually-operable means for operating each valve from the out- 115 side of the vessel, and a spring between the partitions and bearing upon both of them for forcing the adjustable one away from the other.

7. A measuring vessel, comprising a stationary partition having a valved opening therein, a movable partition having an opening therein, a valve for closing said last-men- 120 tioned opening, means connected to said valve for opening and closing it, and means for retaining the valve in either opened or closed position. 125

8. A measuring vessel, comprising a movable partition having an opening therein, a valve for said opening, yielding means for 130



closing said valve, a hollow element attached to said movable partition, having a slot therein, a rod attached to said valve and extending through said hollow element, and provided with a lug adapted to work in said slot, and with an operating-button.

9. A measuring vessel, comprising a movable partition having an opening therein, a hollow member attached to said movable partition and having notches, a catch for said notches, means for operating said catch from the outside of the vessel, a valve for the opening, and a valve-stem passing through said hollow member.

10. A measuring vessel, comprising a stationary partition having a valved opening therein, a movable partition having an opening and adjustable toward and from said stationary partition, a member attached to said movable partition and having notches, a catch for said notches, means for operating said catch from the outside of the vessel, a valve for the last-named opening, and a valve-stem passing through said hollow member.

11. A measuring vessel, comprising a movable partition adjustable to and from, a member attached to said movable partition and having notches, a catch for said notches, and means for operating said catch from the outside of the vessel; said means comprising a tube, links partly in said tube, and a movable button connected to one of said links and projecting from said tube.

12. A measuring vessel, comprising a stationary partition having a valved opening therein, a movable partition, having an opening, a spring for forcing the movable partition away from the stationary partition, a valve for said last-named opening, means for holding said valve closed when the partition moves away from the stationary partition, a member attached to the movable partition and having a series of notches equally spaced apart, a catch for said notches, a spring for forcing said catch into said notches, and means for withdrawing the catch therefrom.

13. A measuring vessel, comprising a sta-

tionary partition having a valved opening therein, a valve for said opening, means for operating said valve, a second partition having an opening and movable to and from said stationary partition, yielding means for forcing said second partition away from said stationary partition, a hollow member attached to said second partition and having notches thereon, means engaging with said notches for retaining said second partition in any desired position against the force of said means for moving said second partition, a valve for the opening of said second partition, a rod attached to said valve and extending through said hollow member, means for closing said valve, and means on said rod for opening said valve and retaining it in opened position.

14. A measuring vessel, comprising a movable partition having an opening, a spring for forcing the movable partition in one direction, a valve for the opening, means for holding said valve closed when the partition moves in one direction, a member attached to the partition and having a series of notches spaced apart, a catch for said notches, means for forcing said catch into said notches, and means for withdrawing the catch therefrom.

15. A measuring vessel, comprising a partition having an opening and movable to and from, yielding means for forcing said partition in one direction, a hollow member attached to said partition and having notches thereon, means engaging with said notches for retaining the partition in any desired position, a valve for the opening in the partition, a rod connected with said valve and extending through the hollow member, means for closing said valve, and means on the rod for opening said valve and retaining it in open position.

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

FRANK ALBO.

Witnesses:

W. M. MAHIN,  
JOSEPH ALBO.