No. 661,546. Patented Nov. 13, 1900.

W. I. MYERS & W. BASHLINE.

LIQUID DISPENSING VESSEL.

(Application filed Mar. 20, 1899.)

(No Model.) 2 Sheets—Sheet 1.

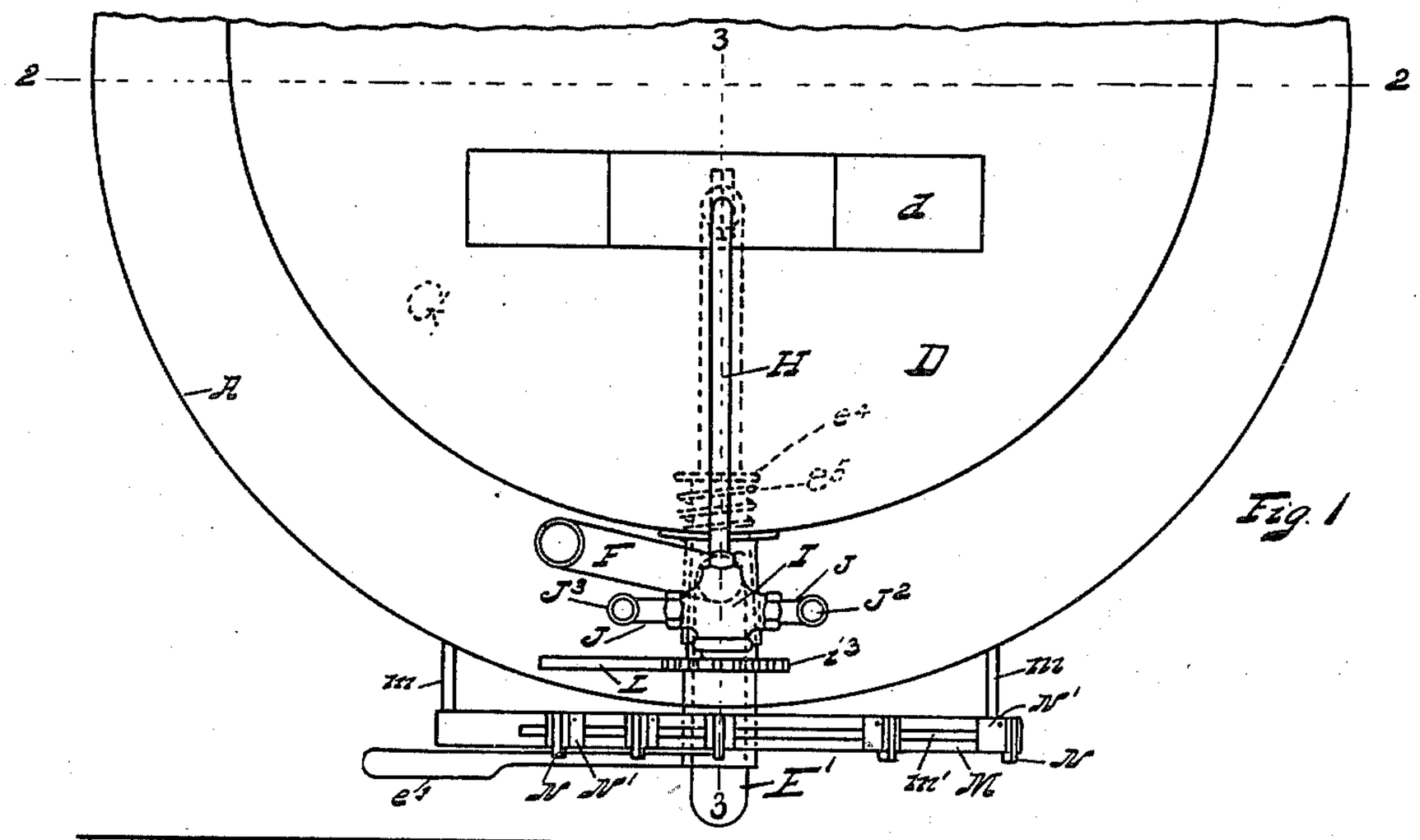

Fig. 1

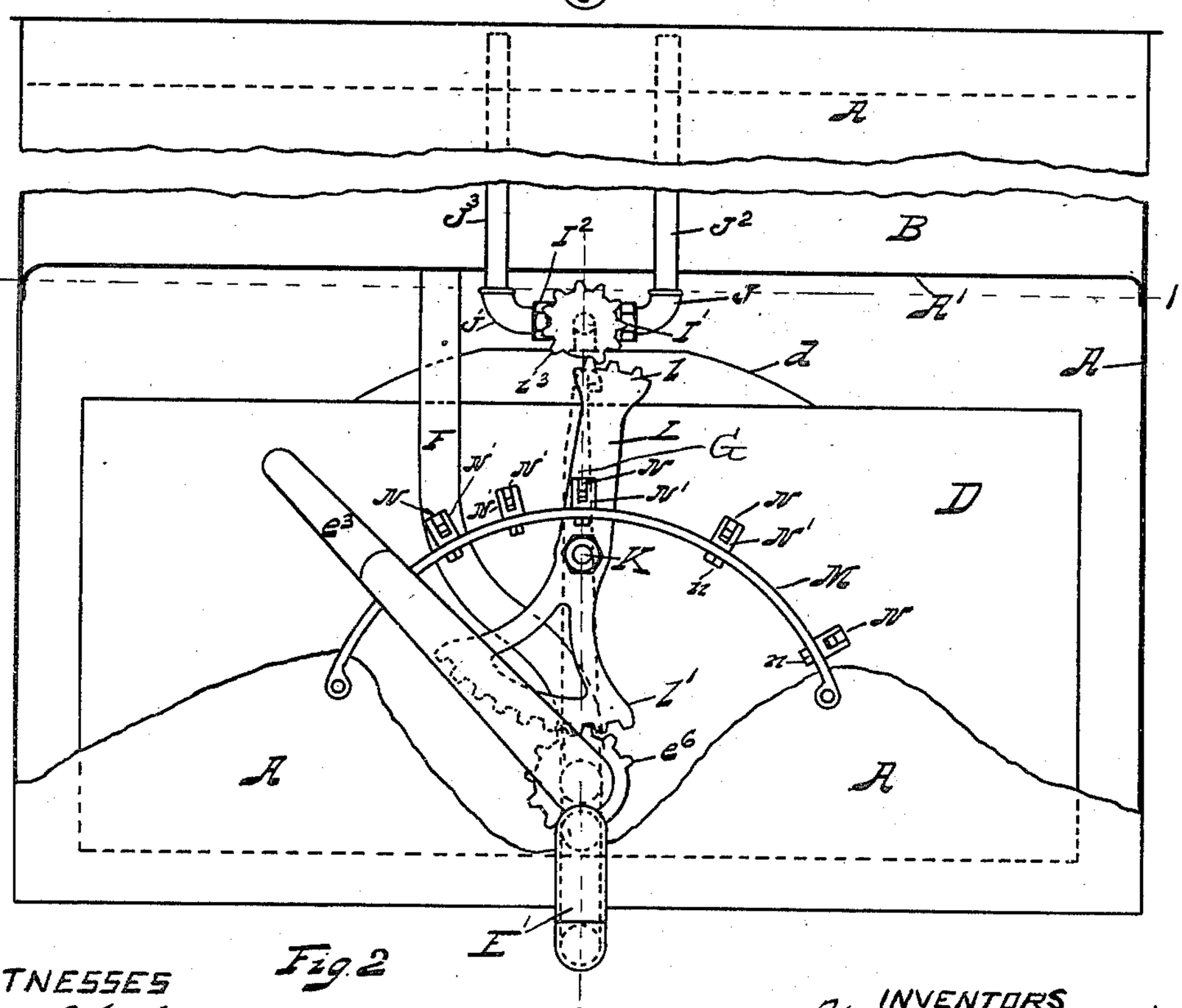

Fig. 2

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Fig. 3

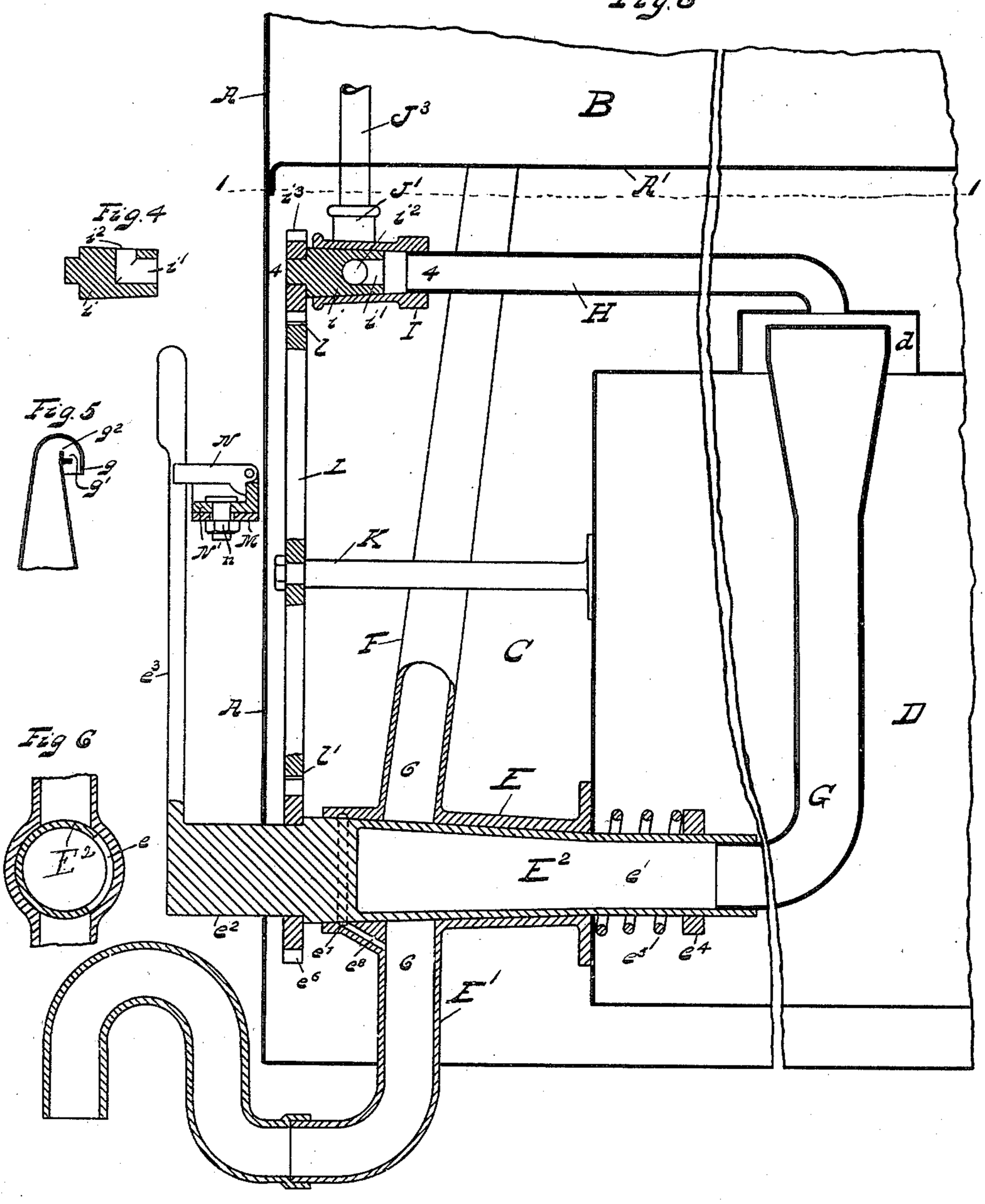

Fig. 4

Fig. 5

Fig 6

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UNITED STATES PATENT OFFICE.

WILLIAM I. MYERS AND WILLIAM BASHLINE, OF MEADVILLE, PENNSYLVANIA.

LIQUID-DISPENSING VESSEL.

SPECIFICATION forming part of Letters Patent No. 661,546, dated November 13, 1900.

Application filed March 20, 1899. Serial No. 709,822. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM I. MYERS and WILLIAM BASHLINE, citizens of the United States, residing at Meadville, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Liquid-Dispensing Vessels; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to liquid-dispensing vessels; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

More particularly, the invention relates to that class of dispensing vessels wherein certain quantities of liquid are measured and dispensed—that is, where the dispensing vessel is also a fluid-measuring tank.

The invention is illustrated in the accompanying drawings, as follows:

Figure 1 shows a section on the lines 1 1 in Figs. 2 and 3. Fig. 2 shows a side elevation of the device, a part of the outer case being broken away to a section on the lines 2 2 in Fig. 1. Fig. 3 shows a section on the lines 3 3 in Figs. 1 and 2. Fig. 4 shows a section of the air-valve. Fig. 5 shows a section, on the lines 5 5 in Fig. 3, of the measuring-spout. Fig. 6 shows a section, on the lines 6 6 in Fig. 3, of the dispensing-valve.

A marks the outer case, which is provided with a partition A′, above which is the storage-tank B and below which is a case C, in which is placed the measuring-tank D. A cock-chamber E is secured to the measuring-tank D. It is connected with the storage-tank B by a pipe F, which connects with the chamber E. The chamber also has the outlet-port E′. A conically-shaped plug E^2 is placed in the chamber E. It has a way *e*, which opens into a central way E′ in the plug. The shank e^2 extends from the outer end of the plug E^2 through the case A, and the handle e^3 is secured to this shank. A collar e^4 is placed on the inner end of the plug within the dispensing-tank D. A spring e^5 is tensioned between the shoulder e^4 and the side of the measuring-tank D, so as to draw the plug E^2 to its seat in the chamber E. Within the outer end of the chamber E is an annular groove e^7, from the bottom of which runs a way e^8 into the discharge-way E′. The purpose of this groove e^7 and way e^8 is to conduct any leakage there may be from the valve to the discharge-tube E′.

Secured to the inner end of the plug E^2 is a measuring-spout G, which has the upper turned-over end *g*. The purpose of this construction of the end of the spout is to give a siphon effect, so that liquid is discharged until it is drawn below the level of the point g^2, so that drip may be prevented. In order to give greater efficiency to this part of the device, a lip *g*′ extends from the upper inner edge of the spout toward the turned part *g*. This lip gives to the spout a siphon effect at the turned-over end until the spout is nearly to the bottom of the measuring-tank, so that drip is prevented at all angles at which the spout G is placed. In explanation of this it may be stated that there is a siphoning effect at the turned-over end until the line indicating the surface of the liquid coincides with the line extending from the end of the turn *g* to the end of the lip *g*′. It will be noticed that this line is more nearly parallel to the spout than a line extending from the end of the turn *g* to the point g^2. For this reason the lip *g*′ continues the siphoning effect of the spout until it is turned to a more nearly level position than the spout would otherwise do. In the operation of this part of the device the handle e^3 is operated to bring the way *e* in register with the pipe F. This fills the tank D from the reservoir B. The handle is then turned, carrying the way *e* out of register with the pipe F and the spout G to an upright position, as shown in Fig. 2. As the handle e^3 is turned farther the way *e* is brought into register with the way E′, so that liquid is discharged from the measuring-tank D. The way *e* is of sufficient annular length to allow the spout to be turned down to the bottom of the measuring-tank while the way *e* remains in register with the discharge-pipe E′, so that the entire contents of the measuring-tank may be dispensed, if desired. By giving to the spout G different inclinations its end is brought to the different levels, so that different amounts of liquid

may be dispensed with different positions of the handle e^3.

In the ordinary use of these tanks they are usually placed in rather dark places, so that it is desirable to form some means by which the position of the handle e^3 and the spout G may be accurately ascertained without a sight-scale or other similar device. We have provided for this purpose a series of stops against which the handle e^3 may be placed to give the necessary inclinations to the spout G to dispense certain predetermined amounts of liquid, as follows: A curved plate M is secured to the case A by studs m. The plate M is provided with a slot m'. The stops N are pivoted in a bracket N', which is secured to the plate M by the bolts n. The bolts n are passed through the slots m', so that when loosened the bracket N' may be moved along on the plate M to a position which will exactly dispense the desired amount of liquid. By placing a series of the stops N in the line of the movement of the handle e^3 and making these stops movable, so that they can be thrown out of the path of the arm e^3, any desired amount of liquid can be dispensed by bringing it to the stop, which will give the proper inclination to effect this result. The other stops in the path of the arm e^3 may be thrown up on their pivots out of the path of said arm e^3.

In order to prevent the air which might be imprisoned in the measuring-tank D from affecting the amount of liquid dispensed therefrom, we have provided the following mechanism: Extending from the top of the tank D is a pipe H, on which is secured a valve-chamber I. A plug i is arranged in this valve-chamber. This plug has the ways i' i^2 therein. (See the section of Fig. 4 on the lines 4 4 in Fig. 3.) Extending from the opposite side of the chamber I are the ways I' and I^2, on which are secured elbows J J', respectively. Pipes J^2 and J^3 connect with the elbows J and J', respectively, and extend to the top of the tank B. A gear-segment i^3 is fixed on the shank of the plug i. A similar gear-segment e^6 is secured to the shank of the plug E^2. A post K extends from the tank D and has pivoted on its end the lever L, carrying at its ends the gear-segment l, which meshes with the gear-segments i^3 and the gear-segment l', which meshes with the gear-segments e^6. These gear-segments are so arranged that starting with the spout G at the extreme end of its stroke toward the left—that is, on the bottom of the tank (the filling position of the apparatus)—the gear-segment e^6, operating through the lever L upon the gear-segment i^3, turns the plug i so that the way i^2 is carried from the way I' to the way I^2. At this point the gear-segment has completed its traverse and does not affect the movement of the valve i until the handle e^3 is moved backward on its return movement. The purpose of the construction is as follows: The way i^2, and consequently the tank D, is placed in communication with the pipe J^2 while the tank D is being filled from the reservoir B. This allows the air to escape from the tank D into the tank B as the liquid passes from the tank B to the tank D. The liquid continues running until it reaches a level in the pipe J^2 equal to the level of the liquid in the tank B. If a constant level of liquid were maintained in the tank B, a single pipe would suffice, because this liquid in the pipe could readily be compensated for in the inclination of the spout G to effect the first discharge of liquid; but as the level of liquid in the tank B as ordinarily used varies it is necessary, if accurate measurement is desired, to cut off the liquid in the pipe J^2 during the discharge of liquid from the measuring-tank. This is done by turning the valve i, as before described. The pipe J^3 during the filling movement of the liquid is cut off from the tank D, so that no liquid enters this pipe. By turning the way i^2 into the pipe G an air communication is established between the top of the tank B and the tank D, so that air may pass from the top of the tank B to the tank D as liquid is discharged from the tank B, so as to take the place of the liquid discharged. The tank B should have a vent to the open air. When the handle is returned for a refilling of the tank D, the gear-segments operate to reverse the valve i, so that the pipe J^2 is brought into communication with the tank D and the pipe J^3 cut off from said communication, so that the liquid in the pipe J^2 may run into the tank D at the same time the pipe J^3 is maintained free from any liquid, so that when the discharge is desired from the measuring-tank accurate measuring of the liquid is not interfered with by a varying level of liquid in the pipe communicating with the reservoir-tank.

What we claim as new is—

1. In a dispensing apparatus, the combination of a plug-valve for controlling the discharge of liquid therefrom; a siphon-spout, G, carried by said plug, said spout having the turned end, g, into which the opposite side of the spout extends; and the lip g', extending from the inside of the spout toward the lip, as described.

2. In a dispensing apparatus, the combination with the measuring-tank, D; a plug-valve arranged on said tank; a spout G, carried by the plug, and arranged to vary the amount of liquid discharged by a variation of the inclination of said spout; a handle on said plug; and a series of stops adjustable in the direction of movement of said handle and arranged in the path of said handle.

3. In a dispensing apparatus the combination with the measuring-tank, D; a plug-valve arranged on said tank; a spout, G, carried by the plug and arranged to vary the amount of liquid discharged by a variation of the inclination of said spout; a handle on said plug; a plate; brackets movably secured to said plate; pivoted stops arranged in said

bracket; said stops being arranged to be thrown into and out of the path of the said arm.

4. In a dispensing apparatus, the combination with the measuring-tank, D; a plug-valve arranged on said tank; a spout, G, carried by the plug and arranged to vary the amount of liquid discharged by a variation of the inclination of said spout; a handle on said plug; a curved plate, M, having the slots, m', therein; the brackets, N', secured to the plate, M, by bolts, n; and the pivoted stops, N, arranged to be moved into and out of the path of said arm.

5. In a liquid-dispensing apparatus, the combination with the casing, A, having a partition, A', therein forming the reservoir-chamber, B, and the chamber, C; the measuring-tank, D, in said chamber, C; a plug-valve device secured to the chamber, D; a pipe, F, connecting the valve device with the chamber, B, said pipe, F, being in the chamber, C; a spout, G, carried by the plug of the valve device and arranged to vary the discharge of liquid from the tank, D, by a variation of the inclination thereof; the handle, e^3, secured to the shank of the plug without the casing, A; the plate, M, having the slots, m', therein; studs, m, for securing said plate to the casing, A; stops secured to said plate, and arranged in the path of the arm, e^3.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM I. MYERS.
WILLIAM BASHLINE.

Witnesses:
CHARLES DIETER,
LEON L. THEURET.