(No Model.)

S. L. BAKER.

AUTOMATIC MEASURING TANK.

No. 389,132. Patented Sept. 4, 1888.

Fig. 1.

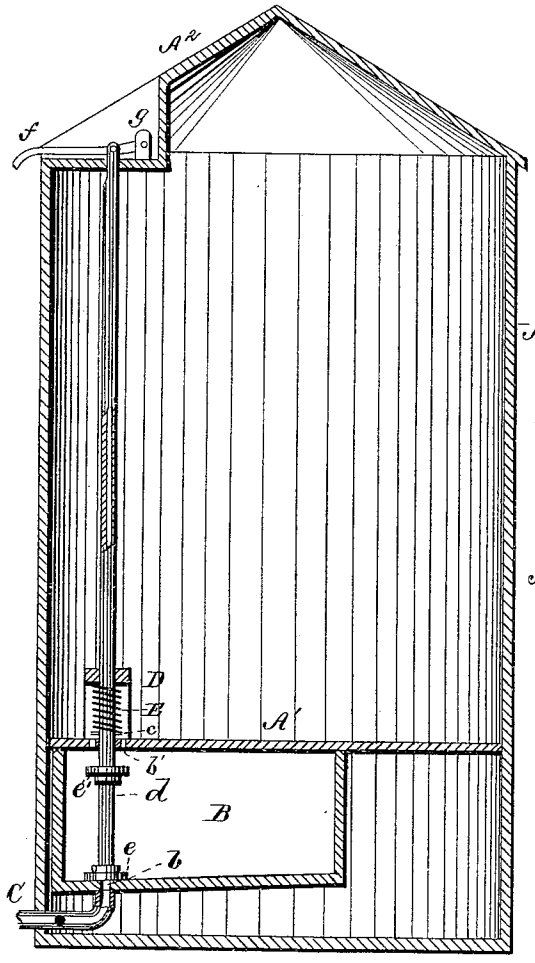
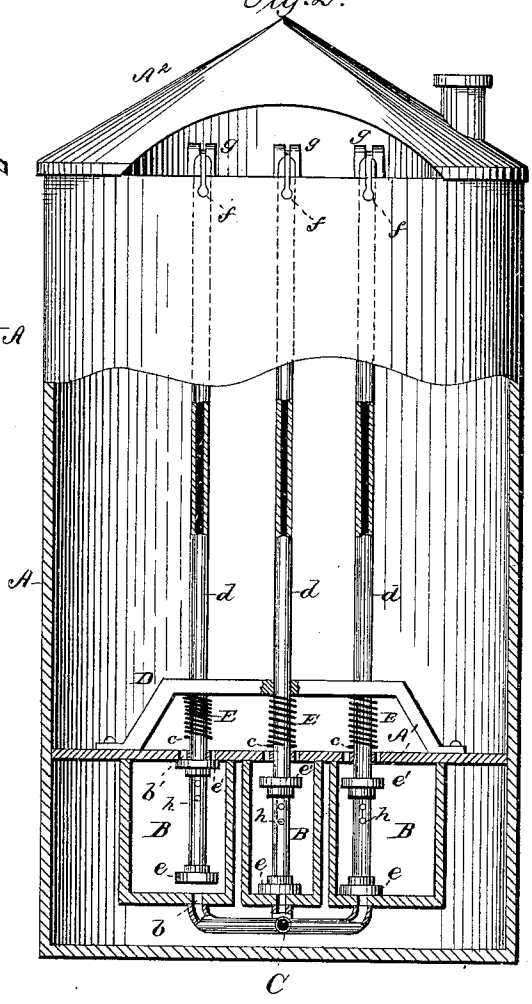


Fig. 2.



WITNESSES.

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SETH LLEWELLYN BAKER, OF CHICAGO, ILLINOIS.

AUTOMATIC MEASURING-TANK.

SPECIFICATION forming part of Letters Patent No. 389,132, dated September 4, 1888.

Application filed August 6, 1888. Serial No. 282,024. (No model.)

To all whom it may concern:

Be it known that I, SETH LLEWELLYN BAKER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic Measuring-Tanks; and I 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.

My invention relates to the class of measuring attachments for liquid-tanks; and it consists in certain details of construction and arrangement of parts, more specifically described in the specification, pointed out in the claim, and illustrated in the drawings, in which—

Figure 1 is a vertical section of an oil-tank, from front to rear, embodying my invention, showing the slant bottom and bridge in cross-section and one of the tubes broken away. Fig. 2 is a front elevation of my improved tank, partly broken away and showing measuring vessels and tubes in section.

The object of my invention is to provide an automatic measuring device in connection with the tank containing liquids, whereby any exact or given quantity desired may be drawn from the cock at pleasure. This object I accomplish by means of a series of compartments of varying capacities communicating with the interior of the tank and forming a part thereof, preferably arranged beneath its bottom, and each provided with an inlet from the interior of the tank and a single discharge-port communicating with the discharge-cock; a series of vertically-arranged hollow rods adapted by means of levers for vertical movement extending through the tank and inlet into these compartments, and provided at their bottom with a valve for normally closing the outlet-port, a valve for closing the inlet when the rods are raised and the outlet-port opened, and perforations between the valves for admitting air into the compartment when the discharge-port is opened and the contents of the compartment are being withdrawn.

Referring more particularly to the drawings, A represents the exterior walls of the tank, and A′ its bottom. B B B are a series of measuring-compartments arranged beneath and secured to the bottom, and having outlets *b*, communicating with the discharge-pipe C. These compartments may be of any desired number that can be accommodated by the space beneath the bottom proper of the tank, and of varying capacities. The bottoms of these compartments are preferably made to incline toward the front or in the direction of the discharge-port, as shown in Fig. 1, in order to facilitate the free discharge of the fluid.

d d d represent a series of hollow vertical rods or pipes extending downward through the interior of the tank at the front, through the several openings in its bottom, to the respective compartments, and each is provided at its bottom with a valve, *e*, which normally closes the discharge-port *b* at the bottom of the compartments. The inlet-opening *b′* through the bottom of the tank is of a diameter larger than the rod or pipe, so as to afford a free communication between the tank and compartment. Surrounding each rod, slightly beneath the opening between the tank and compartment, is a valve, *e′*, which serves to close said opening when the rod is raised. These rods project up through the cover A^2 of the tank, and are capable of vertical movement, each having pivoted to its upper end a lever, *f*, fulcrumed to a standard, *g*, on the edge of the tank, whereby they may be operated. These rods are provided at a point between the valves *e e′* within the compartment with openings or perforations *h*, communicating with the interior of the pipes, which are open at the top for the purpose of admitting air into the compartment when the liquid is being withdrawn.

Upon the bottom A′ of the tank, and immediately over the openings into the measuring-compartments, is arranged the bridge D, having openings of a suitable size, through which the rods *d* pass; and interposed between this bridge and the bottom of the tank, and surrounding each rod, is a spiral spring, E, resting upon a pin or flange, *c*, at the bottom, by means of which spring the rod is normally forced downward and immediately returned to its normal position after being raised, when the pressure upon the lifting-lever is removed.

The levers *f* at the top of the tank are preferably marked with the capacity of the re-

spective compartments with which its pipe communicates, thereby enabling the operator to determine at a glance the proper lever to be operated in order to discharge a given quantity—as, for instance, when it is desired to draw two gallons of the liquid from the tank, the operator seizes the lever marked "two" and raises the pipe. This operation opens the valve *e* of the discharge-port *b* in that compartment and closes the inlet *b'* by means of the valve *e'*. The lever is held until the contents of the compartment are discharged, ventilation being afforded by means of the hollow rod, open at the top, and the apertures *h* therein between the valves within the measuring-chambers. When the liquid in the compartment is discharged, the lever is released, when the force of the spring E causes the rod to instantly resume its normal position, closing the discharge-port and automatically opening the inlet, and the compartment is at once automatically refilled.

It is obvious that two or more of the compartments may be emptied simultaneously in the same manner.

I hereby disclaim so much as is covered by the general claims in my pending application, Serial No. 272,459, filed May 1, 1888.

I am aware that measuring-tanks provided with measuring-chambers adapted to be separately discharged have been heretofore constructed; also, that means have been provided for admitting air through the spigot or through a separate pipe, and I do not claim this, broadly; but

What I claim, and desire to secure by Letters Patent, is—

In an automatic measuring device for liquids, the main tank, the series of measuring-chambers secured to and arranged beneath the bottom, each provided with an inlet, *b*, communicating with the interior of the tank, and an outlet, *b'*, communicating with the discharge-cock, the series of vertical pipes *d*, having valves *e* and *e'*, for closing, respectively, the outlet and inlet to the measuring-chambers, and perforations *h*, intermediate of the valves, for admitting air, said pipes extending upward from the bottom of the measuring-chamber through its inlet and the main tank to a point above the cover, and pivoted at their upper end to the lever *f*, fulcrumed in a standard, *g*, the bridge D on the bottom of the tank over the measuring-chambers, provided with openings for the pipes *d*, and the spiral spring E, surrounding the pipe beneath the bridge, and resting upon a pin or flange of said pipe, all combined and operating substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

SETH LLEWELLYN BAKER.

Witnesses:
BENJ. BURTON,
EDWIN A. GILES.