

T. L. SMITH & E. W. MEYER.
LIQUID MEASURING TANK.
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940,206.

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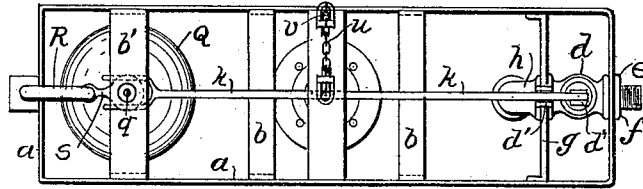


Fig. 1.

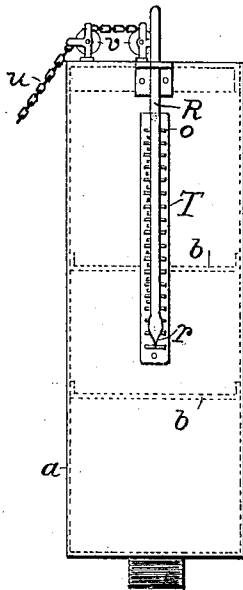


Fig. 3.

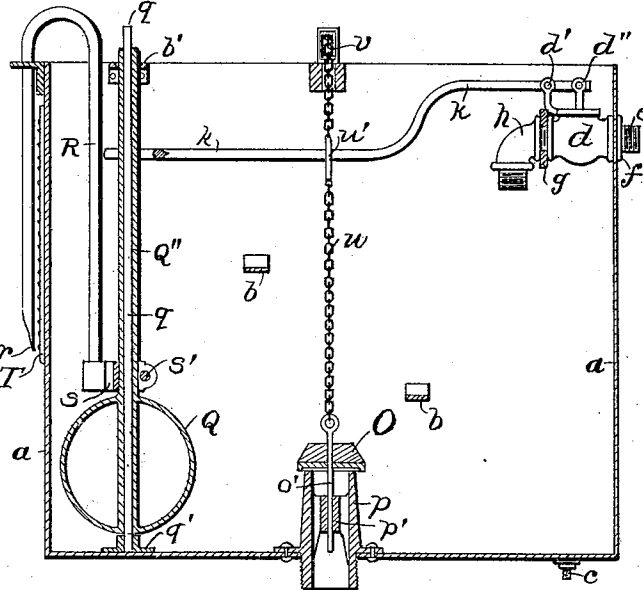


Fig. 2.

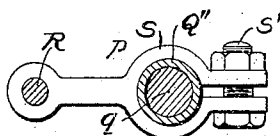


Fig. 4.

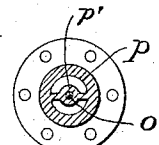


Fig. 5.

Witnesses
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334

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LIQUID-MEASURING TANK.

940,206.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, THOMAS L. SMITH and EDWARD W. MEYER, citizens of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Liquid-Measuring Tanks, of which the following is a description, reference being had to the accompanying drawings, which form part of this specification.

The object of our invention is to provide a tank from which the water may be readily discharged in any quantity desired up to the capacity of the tank, and the quantity so discharged is accurately indicated. In mixing concrete a certain quantity of water is needed for each batch generally, which must be accurately measured, but occasionally a larger or smaller quantity is needed for special purposes, and one object of our invention is to provide a tank from which varying quantities of water may be drawn without the trouble of making adjustments, but all withdrawals will be accurately measured.

In the accompanying drawing, which forms a part of this specification, Figure 1 is a top plan view of the tank, Fig. 2 is a central vertical section through the length thereof, and Fig. 3 is an end elevation of the same. Fig. 4 is a plan view of the clamp which attaches the indicator rod to the float, and Fig. 5 is a plan view of the discharge valve tube.

Referring more in detail to the drawing, *a a* are the walls of the tank, which is preferably made of galvanized iron.

b b are merely braces strengthening the sides of the tank.

c is an opening to which a drain cock is attached.

d is the inlet valve which is preferably a balanced valve automatically operated by a float. The inlet valve is secured to the wall of the tank by the nipple *e* and the lock nut *f*. The hose or pipe of the water supply is attached to *e*. Valve *d* is also attached to a cross brace *g* of the tank by means of a nipple and the elbow *h*. The valve proper of *d* is operated by the lever *k* which is pivoted to the valve casing at *d'* and to the valve stem at *d''*.

O is the outlet or discharge valve which seats on the discharge tube *p* which is secured to the bottom of the tank. The part of *p* which protrudes through the bottom of

the tank, is threaded to receive the discharge hose or pipe. A central guide *p'* is provided in *p* to guide the valve stem *o'*.

Secured to the bottom of the tank by a flange *q'* is the vertical guide rod *q*, which serves to guide the float *Q* and its attached pipe *Q''*. Pipe *Q''* passes loosely through a hole in the brace *b'*.

The index rod *R* is attached to the float and pipe, *Q* and *Q''*, by the clamp *s* and its bolt *s'*. The point *r* of index rod *R* indicates on the scale *T* the position of the float and consequently the level of water in the tank. When the tank has its full charge of water the float is, of course, in its top position, and the point *r* is at *o* on the scale, indicating that no water has been withdrawn.

The discharge valve *O* is operated by the chain *u* which passes up over the small sheaves *v* and down outside the tank to the operator. This chain has a long link *u'* so placed and is of such a length that the bottom of the link will engage the lever *k* and hold the valve *d* closed as long as the chain is holding the valve *O* open and the tank is discharging.

As the tank is being discharged, the float sinks with the water level, and the index point *r* passes down over the scale *T*, indicating the quantity of water that has been withdrawn. When the chain *u* is released, the valve *O* closes by gravity, the bottom of link *u'* releases lever *k* which falls by gravity, opening the inlet valve *d*. As the tank fills to its full charge, the clamp *s* attached to the pipe *q''* and the float rises against the end of lever *k* and closes the inlet valve *d*.

In operation it is clear that the operator can run his regular quantity of water, 10 gallons or 15 gallons, out of the tank with certainty, and he can also, without the trouble of making any adjustments, discharge either a greater or smaller quantity, and know exactly how much he is taking.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A liquid measuring tank comprising an inlet valve having a lever for operating the same, a vertically guided float to engage said lever to close the inlet valve when the water level is at its maximum desired height, a discharge valve having a connection for opening said valve by hand, a part on said connection positioned to engage the inlet valve lever and hold said valve closed when—

ever the discharge valve is open, a scale on the outside of the tank of a length equal to the rise and fall of the water level, an index rod attached to said float extending outside
5 of the tank, and operating over said scale to show the volume of the tank vacated as the water flows out.

2. In a liquid measuring tank, an inlet valve a gravity operated lever engaging said
10 valve to open it, a vertical guide rod attached to the tank, a float having a pipe extending therethrough adapted to slide on said guide rod, said float adapted to engage
15 said lever to close said inlet valve, and means for discharging the tank.

3. A liquid measuring tank, having an inlet valve, a gravity operated lever engaging said valve to open the same, a discharge
20 valve having a hand operated connection for opening same, adapted to engage said lever,

and thereby hold the inlet valve closed while the outlet valve is open, and a float having an attached indicator showing the quantity of water discharged at one continuous opening of the discharge valve, said float engaging said lever to close the inlet valve. 25

4. A liquid measuring tank having an inlet valve, a lever for operating the same, a float guided vertically, a clamp on the float vertically adjustable to engage said lever to
30 close the inlet valve at any determined level of the water, an outlet valve and means engaging the lever to hold the inlet valve closed while the outlet valve is open.

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