E. A. SMEAD.

Self-Measuring Oil-Tank.

No. 196,394. Patented Oct. 23, 1877.

Fig. 1.

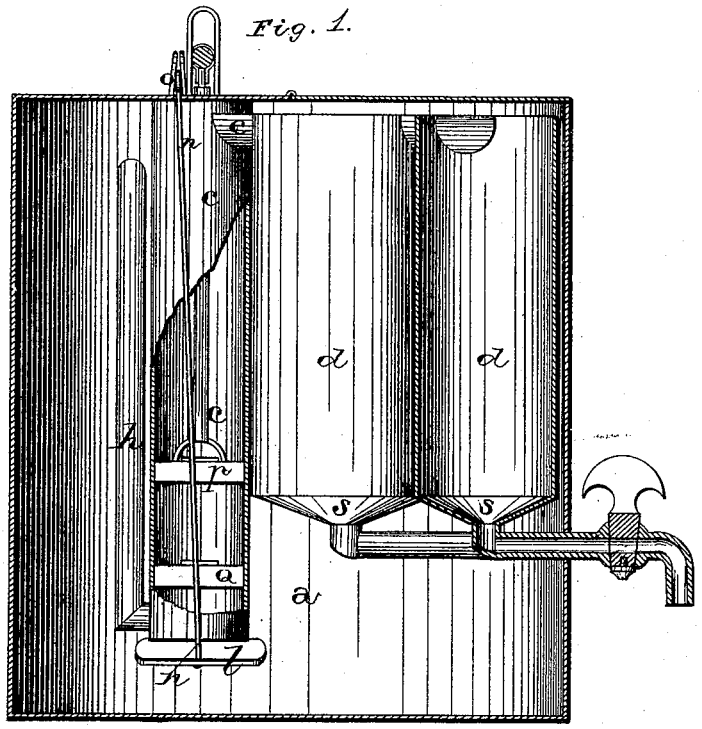
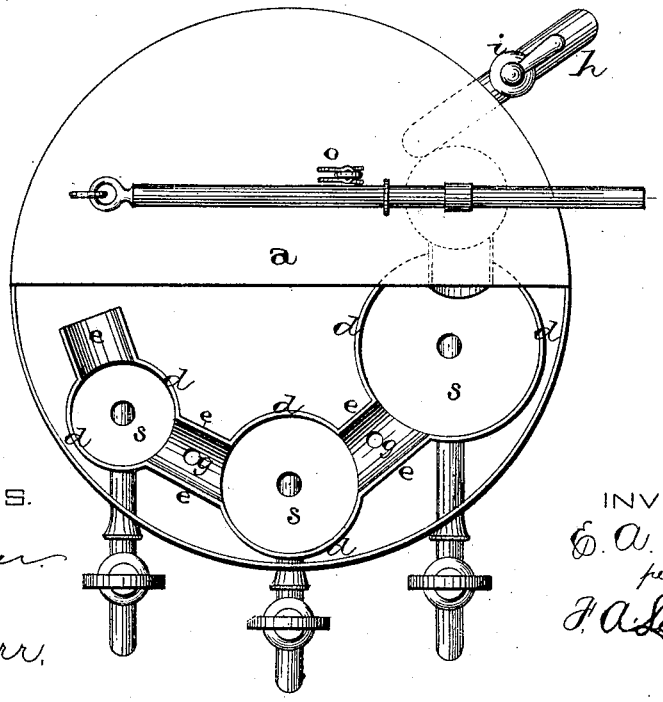


Fig. 2.



WITNESSES.

J. Wm. Garner

R. M. Barr.

INVENTOR.

E. A. Smead

per

F. A. Lehmann

Atty.

UNITED STATES PATENT OFFICE.

EPHRAIM A. SMEAD, OF TIOGA, PENNSYLVANIA.

IMPROVEMENT IN SELF-MEASURING OIL-TANKS.

Specification forming part of Letters Patent No. **196,394**, dated October 23, 1877; application filed September 7, 1877.

To all whom it may concern:

Be it known that I, EPHRAIM A. SMEAD, of Tioga, in the county of Tioga and State of Pennsylvania, have invented certain new and useful Improvements in Self-Measuring Oil-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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in self-measuring oil-tanks; and it consists in the combination of parts that will be more fully described hereinafter, whereby I am enabled to pump the oil from a barrel, or other vessel, directly into the tank, and with the same pump that I pump into the tank I fill all of the measures located in the top of the tank. Under the bottom of the pump is located a valve, that is operated by a rod from above, by which the pump is cut off from the oil in the tank, and connected with the oil in the barrel, thus enabling the operator to fill the measures directly from the barrel or tank, as may be preferred.

Figure 1 is a vertical section of my invention, and Fig. 2 is a plan view of the same.

a represents an oil-tank, of any desired shape or size, and in which is placed the pump *c*, and a number of different-sized measures, *d*. These measures are located in the upper part of the tank, and are all connected, not only together but with the pump, by means of a trough, *e*, so that when the pump is operated the oil flows into the nearest or gallon measure, and as soon as that is full the surplus oil flows along through the trough and fills the half-gallon measure, and when that overflows the succeeding smaller measures are filled in the same way. When all are full the surplus oil runs out of the end of the trough back into the tank, so that, no matter how much you pump, the measures are merely kept full. In order to cause the surplus oil to run off as quickly as possible, so that a person can draw off the oil at once from any one of the measures without giving over quantity, the trough has a number of holes, *g*, made through it, between the measures, so that the surplus oil runs off both at the end of the trough and through the holes *g*.

Passing from near the bottom of the pump *c*, up through the side of the tank, near the tank, is the pipe *h*, which is provided with a valve, *i*, at its highest point outside of the tank. The outer end of the pipe projects downward into a barrel of oil, or any other vessel from which the tank is to be filled. Under the lower end of the pump is placed a valve, *l*, of any suitable construction, which has one edge fastened to one side of the pump, and the other edge left free to move up and down. To this movable edge of the valve is fastened a rod, *n*, that passes up through the top of the tank, and has a small lever, *o*, fastened to its upper end, of such a shape that it can be moved so as to support the valve, when raised up against the lower end of the pump, or hold it forced downward. When the valve is held up against the lower end of the pump, the pump can no longer raise the oil from the tank, but will then draw the oil from the barrel to fill the measures and tank, provided the valve *i* is open. When the valve *l* is depressed, the pump draws the oil directly from the bottom of the tank. When the valve *l* is closed and the pump-piston *p* is worked, the oil is drawn by the piston *p* up through the pipe *h*, through the lower valve Q, and through the valve in the piston itself. After the flow has once been established, the pipe *h* forms a siphon, so that by opening the valve *l* the oil will then continue to run from the tank into the barrel until the level of the liquid in the tank is too low to run any longer. It will thus be seen that there are three valves in the pump, and that the pipe *h* is connected to it between the two lower valves, whereby I am enabled to pump the oil into the measures from two different sources, and to either fill, or nearly empty, the tank through the same source.

Each one of the measures having a conical bottom, *s*, the oil rushes out so rapidly that the drip ceases almost as soon as the body of the oil is done running out.

There is no more effort required to fill the measures or tank from the barrel than there

is to pump from the tank itself, with the exception of closing the valve *l* and opening the stop-cock *i*.

Having thus described my invention, I claim—

1. The trough *e*, for connecting the measures together, and having the holes *g* through it, substantially as shown.

2. In a self-measuring oil-tank, the combination of the pump *c*, located inside of the tank, and adapted to raise the oil from the bottom of the tank into the measures, with the tube *h* connected therewith, whereby the tank may be filled or emptied through the tube, substantially as shown.

3. The combination of the pump, a valve that is operated from the outside of the tank, and a tube, *h*, substantially as specified.

4. The combination of the pump *c*, having the valves *l* Q, the pipe or tube *h*, with the measures *d*, whereby the measures and tank may be filled from the barrel, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of September, 1877.

EPHRAIM A. SMEAD.

Witnesses:

FRANK GALT,

WILL H. KERN.