

T. SCANTLIN.
LIQUID MEASURE.

No. 177,357.

Patented May 16, 1876.

Fig. 1.

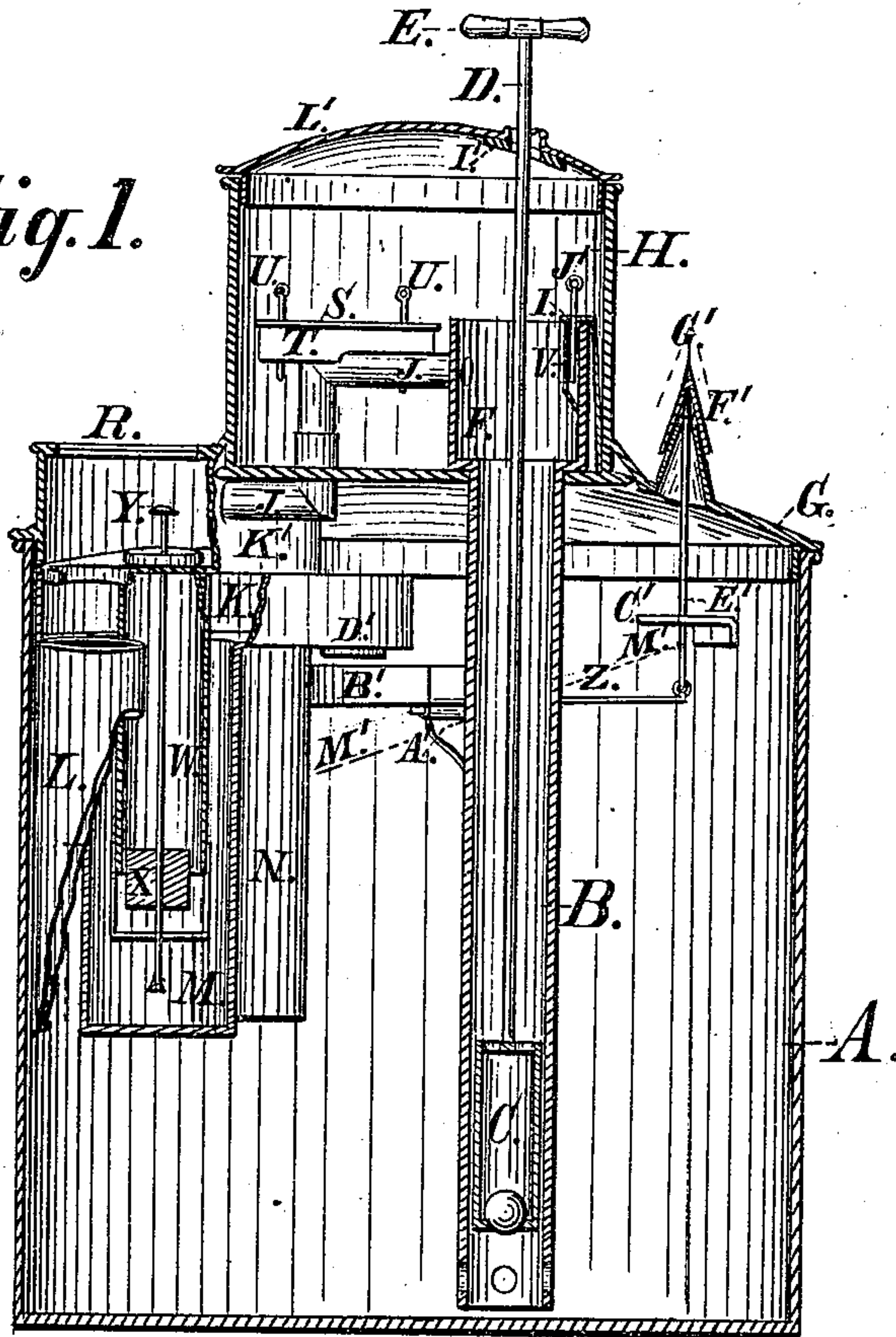
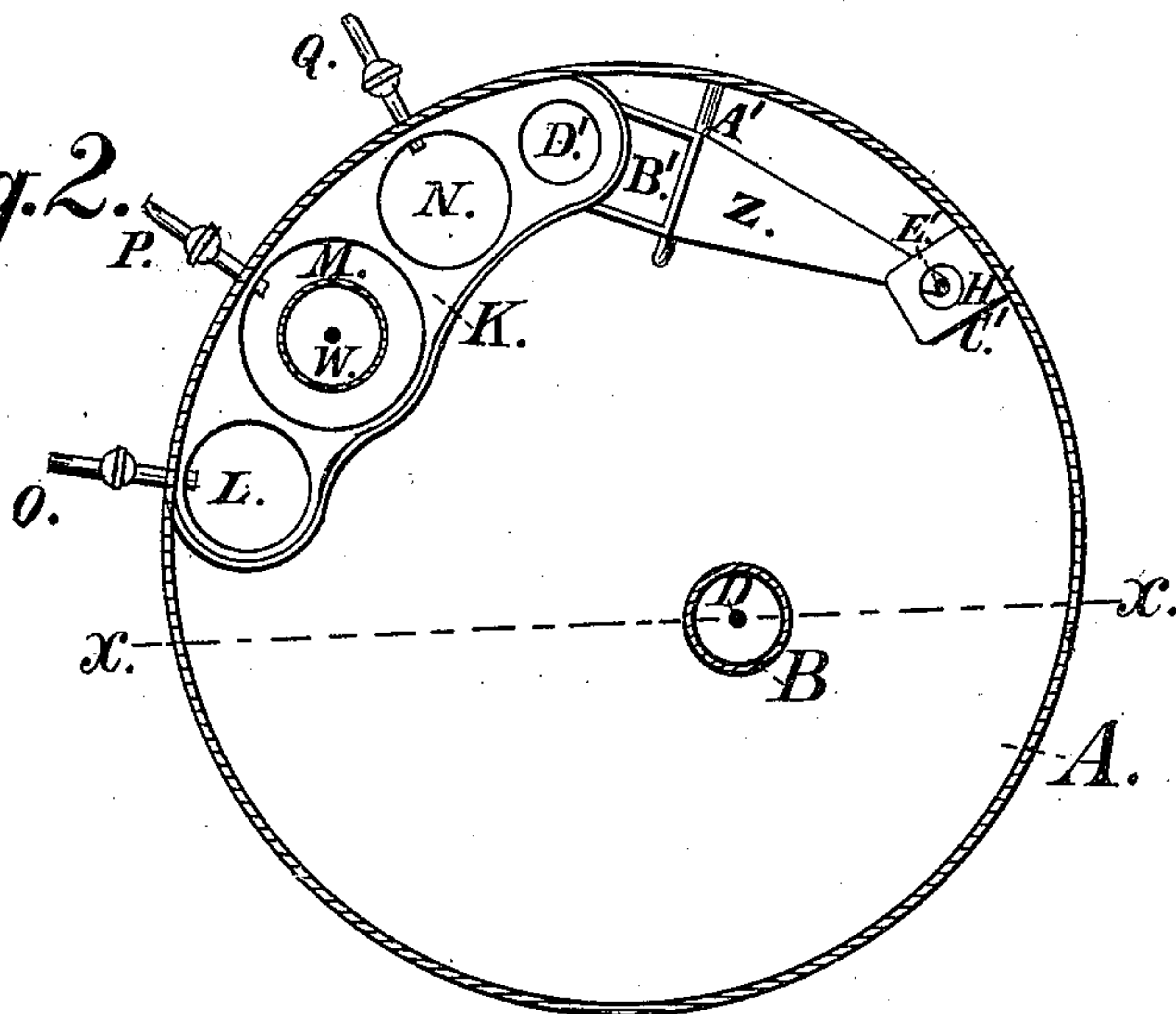


Fig. 2.



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UNITED STATES PATENT OFFICE.

THOMAS SCANTLIN, OF EVANSVILLE, INDIANA.

IMPROVEMENT IN LIQUID-MEASURES.

Specification forming part of Letters Patent No. **177,357**, dated May 16, 1876; application filed February 29, 1876.

To all whom it may concern:

Be it known that I, THOMAS SCANTLIN, of Evansville, county of Vanderburg and State of Indiana, have invented a new and useful Improvement in Safety Oil-Reservoirs, of which the following is a specification:

The object of this invention is to provide means for the safe keeping, storing, and measuring in the dark or dim light, illuminating-oils and burning-fluids, such as gasoline, naphtha, camphene, kerosene, &c., when stored and kept to be sold by retail, and is an improvement of, and contains new matter in addition to, my Letters Patent for an improvement in safety oil-reservoirs, dated October 11, 1875, No. 168,676. The new additions consist, mainly, first, in a better method of securing the head F of the pump in the compartment H, which compartment is attached to and forms a part of the cap G, so that the pump may be easily taken out and replaced when it is wanted to pump oil from the cask or barrel into the reservoir; second, of provision of sure methods, by sight and touch, of ascertaining when the measuring-tubes L, M, and N are full.

In the accompanying drawing, Figure 1 represents a vertical section of the reservoir, showing its construction, taken on the section-line *xx*, with sectional views taken vertically of internal parts of the reservoir. Fig. 2 is a horizontal section of Fig. 1, showing the discharge-faucets of the measuring-tubes, and the indicator, whose several parts are shown at A', B', C', E', and F', and a plan view of the measuring-tubes L, M, and N, and the inner tube W in the inside of the measuring-tube M.

Similar letters of reference indicate corresponding parts.

A is the reservoir. B is a pump for pumping the oil from the reservoir up into the head F and out through the spout J into the filling-compartment K', from whence it flows out into the measuring-tube L below. C is the pump-piston. D is the piston-rod. E is the handle of the piston-rod. F is the head of the pump, upon the shoulder of which head the pump hangs in position. G is the lid of the reservoir. H is a compartment, with a bottom, on top of the lid G, through which bottom, as well as through the lid G, the pump extends down into the reservoir. The spout

of the pump, coming horizontally from the head of the pump, turns downward and passes through the bottom of the compartment H and on the under side of the lid G out into the filling-compartment K', from whence the fluid is conducted to the measuring-tubes. I is a fastener, which assists in holding the head of the pump down to its bearing on the bottom of the compartment H, through the top of which fastener is a hole corresponding to the socket V on the inside of the head F, through which hole and socket the pin J' passes. S is an edge view of a horizontal metallic plate, but which may be made of wood, permanently attached by its other edge to the inside of the wall of the compartment H, and having holes corresponding with other holes in the movable wooden plate immediately underneath it. T is the wooden plate underneath the upper plate S, and wedged between the plate S and the top of the spout J, and so adjusted that by withdrawing the pins U U the wooden plate may be taken out. Its purpose there is to act in conjunction with the fastener I, the socket V, and the pin J', in holding the head of the pump to its place, and permitting it to be withdrawn when the pump is needed for use in filling the reservoir from the cask.

U U are pins passing through holes, perpendicularly pierced through the plates S and T, and so inserted as to be withdrawn at will. I' is a leather washer, fitted to the hole, through which the piston-rod D passes, in the lid L' of the compartment H. The leather washer forms a stuffing-box in the lid L' for the piston, preventing evaporation of oil around the piston-rod, where it passes through said lid, and enabling the piston-rod to work without the creaking sound peculiar to working in sheet metal. R is a glass in the cover of the upper filling compartment K', through which glass may be seen the top of the wire Y, usually ornamented by being surmounted by a red star, but any plainly seen device will answer instead of the star, which rises to or near the glass as soon as the measuring-tubes L and M are full. K is the lower filling compartment, its bottom being perforated with four holes, three of which are entered by the open tops of the three measuring-tubes, so as

to communicate directly with said tubes, the fourth hole being directly over the receiver of the indicator. L, M, and N, respectively, are measuring-tubes. O, P, and Q, respectively, are faucets, with which to draw the fluid from the measuring-tubes when full. V is the socket in the inside of the wall of the head of the pump. I is a fastener, with an elbow at the top, with a hole in the horizontal part of the elbow, which hole corresponds with the socket V and fits directly over it. J' is a pin, passing through said last-named hole and socket. X is a float, usually made of cork, through which the wire Y passes. W is a tube, open at its lower end with a cap perforated with a small hole of the diameter of the wire Y at its upper end. This tube serves as a guide for the said wire and float to keep them in a vertical position, for the purpose of indicating by the rising of the device on the top end of the wire when the measuring-tubes L and M are full. A' is a rest or fulcrum attached to the inner wall of the reservoir, on which fulcrum is balanced and supported, and on which freely plays, the apparatus which indicates in the dark to the retailer when all three of the measuring-tubes are full. This apparatus I term an indicator. B', Z, E', and F' are different parts of the indicator last named. The dotted lines M', M', and G' indicate the space through which the indicator plays when it tilts after all three of the measuring tubes are full and run over into the receiver B' of the indicator, filling that receiver and causing it, by the accumulated weight of the fluid therein, to overbalance the weight of that portion of the indicator on the other side of the fulcrum. C' is a guide, through which the wire E of the indicator passes; and this guide, attached to the wall of the reservoir, serves also as a stop to prevent the receiver B' from dropping entirely down when filled with fluid from the overflow through the hole D' after the measuring-tubes are full. The hole D' is in the bottom of the lower filling compartment, and immediately over the receiver of the indicator.

The vertically-placed wire E' of the indicator plays freely up and down through the top of the hollow cone on the outside of the lid G, and is surmounted by the cap F', which raises in the direction of the dotted lines above it whenever its weight is overbalanced by filling the receiver B' with fluid. The finger of the operator, being held at or about the position of G', is struck by the point of the conical-shaped cap F' rising upward whenever all three of the measuring-tubes are full of fluid, and he is thus admonished, without the aid of light, that all three of the tubes are full.

Any number of tubes, each gaged to any measure, may be used in like manner with my indicator.

In the bottom of the receiver B' of the indicator are holes, through which the fluid leaks from said receiver back into the reser-

voir, after which, the receiver being relieved of its weight of fluid, and being, with all that part of the indicator, on the same side of the fulcrum with itself, lighter than the portions of the indicator on the other side of the fulcrum, which have been tilted upward, the cap F' drops back to its place on the cone, and the indicator resumes its place and natural balance.

The mode of operation of the different parts of my invention is as follows: The oil, on being pumped, flows through the spout J into the upper filling-compartment K', and from thence through the single hole in that compartment into the measuring-tube L, filling that tube first. That tube being full, and the pumping continued, the fluid overflows into the lower filling-compartment K, and the mouth of the tube M (being the next tube in the row) is filled, when the float X causes the wire Y, with a plainly seen cap on its top end, to rise to the glass cover R, indicating, by looking through the glass cover, that the two tubes L and M are full. The operation of pumping being still continued, the next tube, N, is, in like manner, filled by the overflow, and, when so filled, one or two more strokes of the pump cause an overflow through the hole D' into the receiver B', causing it to drop and raise the cap F', as before described.

As there can be no overflow from the filling-compartment into the receiver B' until all three of the measuring-tubes are filled, the rising of the cap F' is a sure indication of their being full to overflowing, thus giving in properly-gaged tubes an exact measurement. The principal advantage, however, of this part of my invention is, that it enables the retailer that stores his oil or other burning-fluids in a dark cellar or room to measure it to his customers without bringing a candle or burning a light in the neighborhood of the oil or burning-fluid, which often catches fire from a burning light at a distance.

The object of the inner tube W, wire Y, with the star or other plainly seen device on its top, and the float X, is to enable the retailer, when he may deem it inconvenient to use his finger over the cap F', to ascertain when two of the tubes, L and M, are full in a light too dim to tell with certainty by looking through the glass cover, as constructed in the reservoirs made according to the Letters Patent heretofore granted me, as aforesaid, whether the measuring-tubes are full or not.

In this improvement the device on top of the wire rises so as nearly or quite to touch the under surface of the glass, and thus be seen in a dim light not bright enough by which to discover oil at the mouths of the tubes.

The indicator having the receiver B' may be used on the outside of my reservoir by obvious changes, conducting the fluid to said receiver.

My improvement is adapted to the use of other fluids than burning-fluids. The reser-

voir, by removing the pump from its fastenings, heretofore described, and using it to pump from the cask in which the oil is purchased into the reservoir, may be filled either through the hole left by the pump in the compartment H, or by pumping into the filling-compartment K' with the same or another pump, access being had to the filling-compartment K' by removing the lid with glass cover R.

I claim as my invention—

1. The indicator B', Z, E', and F', with the

guide and stopper C', as and for the purposes specified.

2. The stationary plate S, in combination with the movable plate T, the pins U U, the fastener I, the socket V, and the pin J', as and for the purposes specified.

THOMAS SCANTLIN.

Witnesses:

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