J. B. EVANS.

APPARATUS FOR DISPENSING HYDROCARBON LIQUIDS.

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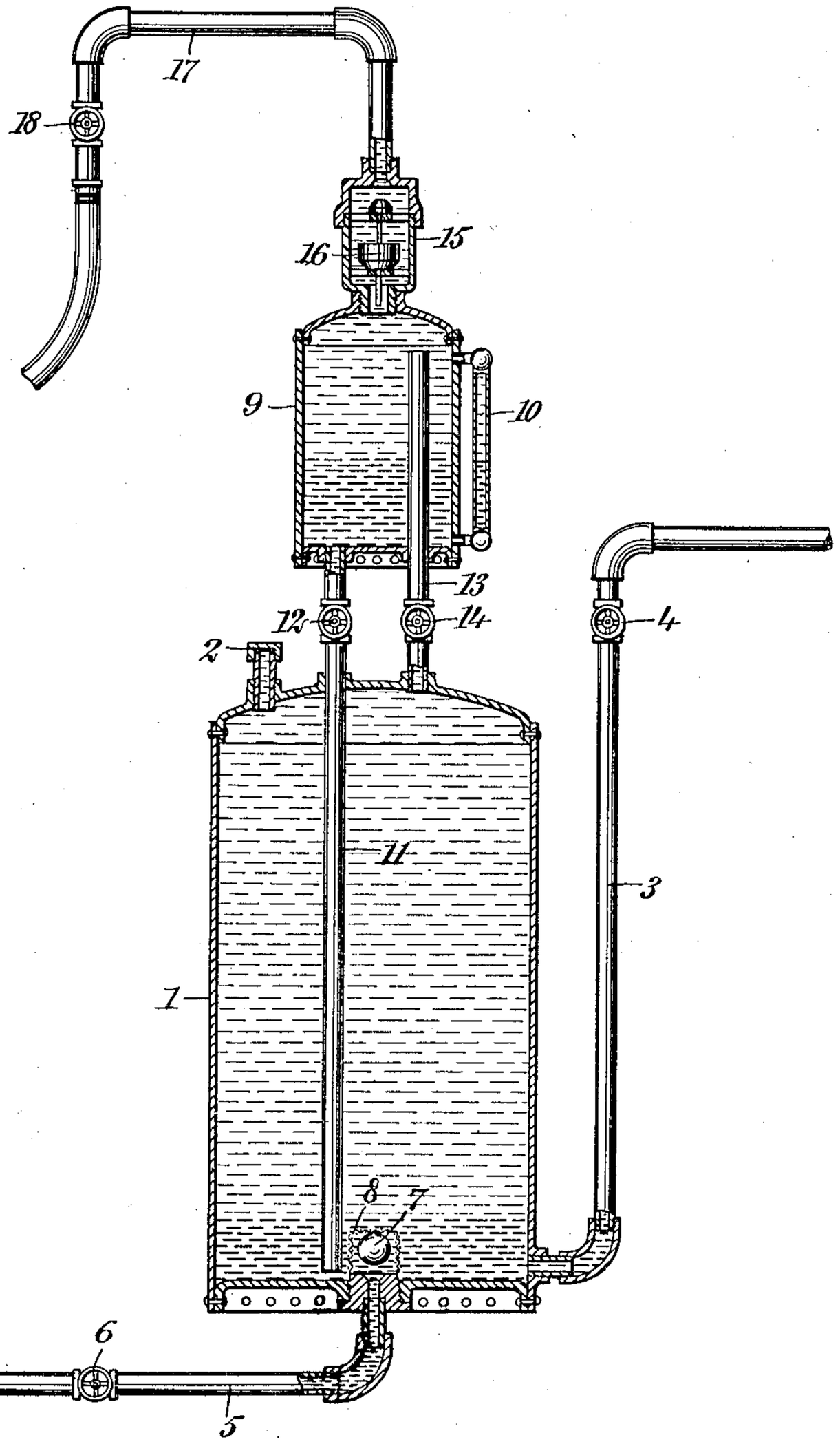
916,132. Patented Mar. 23, 1909.



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JOSEPH B. EVANS, OF SELMA, ALABAMA.

APPARATUS FOR DISPENSING HYDROCARBON LIQUIDS.

No. 916,132. Specification of Letters Patent. Patented March 23, 1909.

Application filed December 10, 1907. Serial No. 405,851.

To all whom it may concern:

Be it known that I, JOSEPH B. EVANS, a citizen of the United States, and a resident of Selma, in the county of Dallas and State of Alabama, have invented a new and Improved Apparatus for Dispensing Hydrocarbon Liquids, of which the following is a full, clear, and exact description.

This invention is an improvement in dispensing apparatuses for hydrocarbon liquids, of the character set forth in my co-pending applications Serially Numbered 395,497 and 395,498, filed October 2, 1907.

The object of the present invention is to provide, in connection with a suitable reservoir or tank supplied with a liquid pressure, as water, a gasolene tank for measuring off and discharging a predetermined quantity of the hydrocarbon liquid, the same being introduced into the measuring tank by the passage of the water therefrom into the reservoir, and being expelled by the water pressure in the reservoir.

Reference is to be had to the accompanying drawings forming a part of this specification, and wherein is represented in central vertical section, one embodiment of my improved dispensing apparatus.

The apparatus includes a reservoir 1 of suitable capacity, provided with a filling-plug 2, to which a hose may be attached for introducing gasolene or other hydrocarbon liquid into the reservoir. Leading into the reservoir at or near its bottom is a water pressure supply pipe 3, ordinarily connected with the city water mains, and having a controlling-valve 4 by which the water pressure may be cut off from the reservoir when desired. The introduction of the water into the reservoir maintains it at all times in a filled condition, whereby a free surface of the gasolene will not be presented, which avoids evaporation and the accumulation of gas in the upper portion of the reservoir, and thus minimizes the waste from this source, and the danger of explosion.

Leading from or near the bottom of the reservoir to the sewer or other suitable point of discharge, is a pipe 5, having a controlling-valve 6; the passage of the liquid from the reservoir into this pipe being controlled by a float-valve 7, inclosed by a cage 8, the valve being of such specific gravity as to buoyantly rise from its seat in water but readily sink to its seat in gasolene or other like liquid, and prevent its flow through the pipe 5; this valve also forming a feature of my inventions hereinbefore referred to.

Preferably arranged above the reservoir 1 is a measuring tank 9, having the graduated transparent gage 10 located at the side thereof, and provided with a communication at or near its bottom, with the lower portion of the reservoir, through the pipe 11; this communication being controlled by a valve 12. A second communication between the reservoir and the measuring tank is effected by a pipe 13 leading from the top or upper portion of the reservoir to a point near the top of the measuring tank; this pipe also having a valve 14 for controlling the communication between the reservoir and measuring tank of these points.

Connecting with the upper portion of the measuring tank is a valve-casing 15, of the character embodied in my co-pending applications referred to, the said casing inclosing a float-actuated valve 16, which sinks and unseats in such liquids as gasolene but rises and cuts off the flow through any suitable discharge pipe 17, of such liquids as water; the discharge pipe 17 being provided with a controlling-valve 18.

The operation is preferably carried out as follows: Assuming the reservoir to be empty, the valves 6, 12 and 14 cut off and the filling-plug open. On now opening the valve 4, the water passes into the reservoir, filling the same up to the filling-plug, at which time the water is cut off. The barrel or other receptacle from which the gasolene or other hydrocarbon liquid is supplied to the reservoir is connected to the filling opening by the attachment of a hose or other suitable conduit. By then opening the valve 6 the water will flow to the sewer and draw the gasolene into the filling-plug until the level of the gasolene reaches the valve 7, which will automatically cut off and prevent the further flow through the pipe 5. The valve 6 is then closed, and the valves 4 and 18 opened, permitting the water to pass into the reservoir up through the pipe 11 into the measuring tank, which when filled, the said valves 4 and 18 are again cut off. The apparatus is, at this time, in condition for measuring off and dispensing the hydrocarbon liquid, this being performed by opening the valve 14, which permits the flow of the gasolene through the pipe 13 into the measuring tank as the water flows therefrom under the action of gravity through the pipe

11 into the lower portion of the reservoir. When the required amount of gasolene registers on the gage 10, the valve 14 is closed, and the valves 4 and 18 opened, permitting the flow of the gasolene in the measuring tank through the discharge pipe 17 under the water pressure, the water again passing back into the measuring tank to take the place of the gasolene expelled. In this manner the dispensing of the hydrocarbon liquid may be repeatedly carried on while both the reservoir and the measuring tank are kept in a filled condition.

The arrangement and construction of the apparatus while being the preferred practical embodiment of my invention, the same may nevertheless be modified in particulars without departing from the nature of the invention as defined in the claims annexed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination of a reservoir adapted to contain a hydrocarbon liquid, a tank, means for introducing under pressure into the reservoir, a liquid of higher specific gravity than the hydrocarbon liquid, means providing communication between the reservoir and tank for the passage of the hydrocarbon liquid, and means for forcing the hydrocarbon liquid from the tank by the pressure in the reservoir.

2. The combination of a reservoir, a tank, a pipe leading from the upper portion of the reservoir to the upper portion of the tank, having a controlling valve, a pipe leading from the lower portion of the reservoir to the lower portion of the tank, having a controlling valve independent of the first mentioned controlling valve, and a water pressure supply leading into the lower portion of the reservoir independent of said tank.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH B. EVANS.

Witnesses:
C. P. MORRISON,
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