

April 15, 1924.

1,490,133

A. J. SIMMONS

OIL DISPENSER

Filed March 18, 1922

2 Sheets-Sheet 1

Fig. 1.

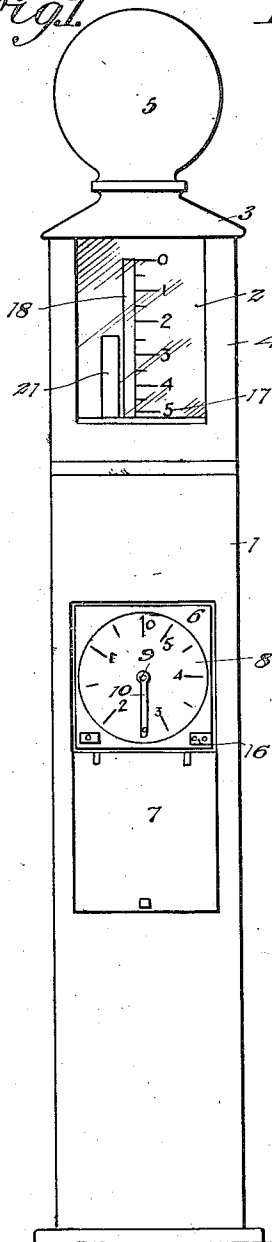


Fig. 2.

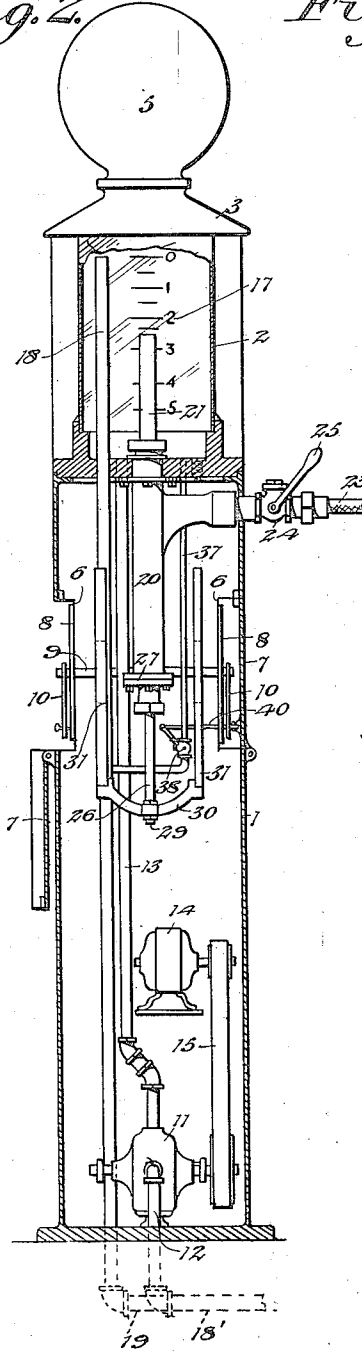
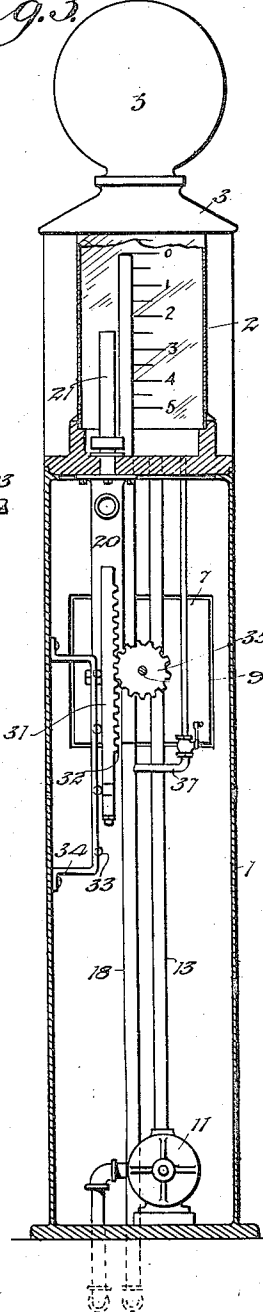


Fig. 3.



WITNESSES

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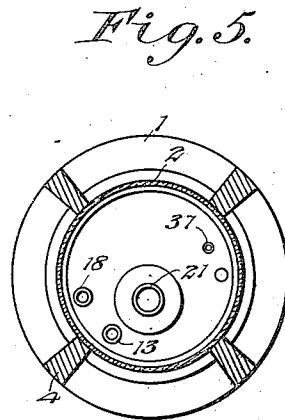
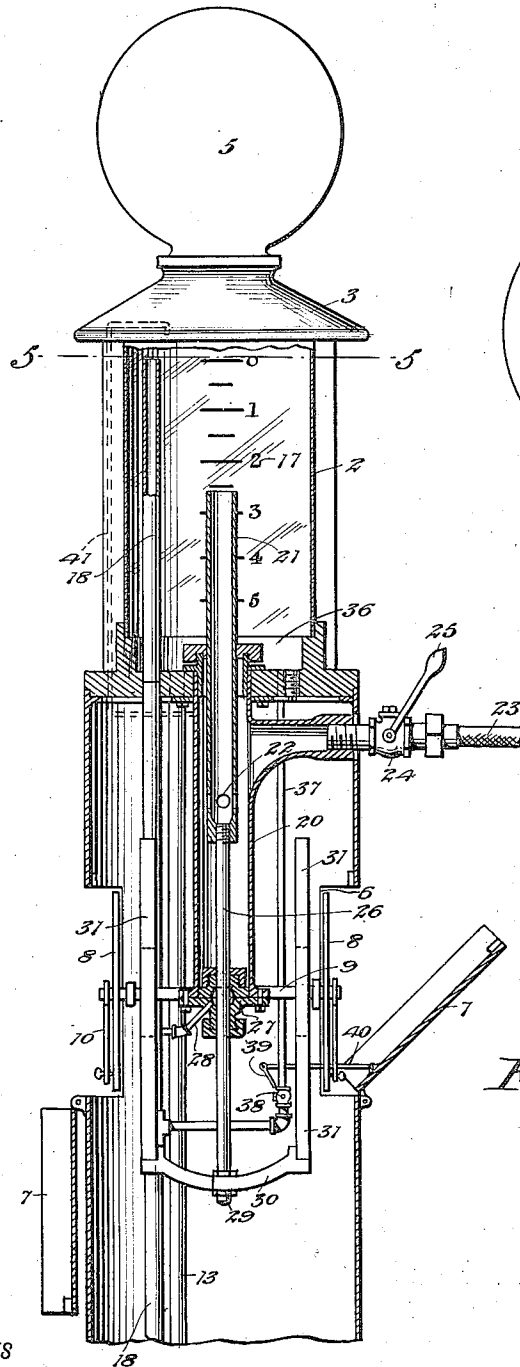


Fig. 4.

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UNITED STATES PATENT OFFICE.

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OIL DISPENSER.

Application filed March 18, 1922. Serial No. 544,743.

To all whom it may concern:

Be it known that I, ARCHIE J. SIMMONS, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Oil Dispenser, of which the following is a full, clear, and exact description.

This invention relates to improvements in oil dispensing devices of the character generally used by garages and other oiling stations for dispensing oil in liquid measure.

An object of this invention is to provide a dispensing device of this character, from which the oil is adapted to be delivered by gravity, and to provide novel means for automatically stopping the flow of oil after any predetermined amount has been dispensed.

Another object is to provide a novel means for automatically stopping the flow of oil after the desired amount has been dispensed, which means does away entirely with the use of manually operated valves and similar devices for stopping the flow.

Still another object is to provide an oil dispensing device, in which there are a plurality of visible indicating means which may be seen by the customer, and which serve as a check upon each other and upon the vendor of the oil to insure delivery of a full measure.

Other objects are to provide a device of this character, which will be simple and practical in construction, neat and attractive in appearance, durable and efficient in use, comparatively inexpensive to install and operate, and occupying a very small amount of space.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings:—

Figure 1 is a view in side elevation of my improved dispensing device, one of the side doors being swung open to expose the indicating means;

Figure 2 is a view in longitudinal section therethrough;

Figure 3 is another view in longitudinal section taken at right angles to Figure 2;

Figure 4 is a fragmentary detail longitudinal sectional view through the upper end of the device; and

Figure 5 is a view in transverse section on the line 5—5 of Figure 4.

Referring in detail to the drawings, my improved dispensing device includes a hollow standard or casing 1, surmounted by a transparent container 2, preferably of glass. A cap 3 rests upon the top of the container, or rather upon the top of upright supporting arms 4 rising around the glass container and serving to support the cap in position to close the upper end of the container. The cap provides mounting for a relatively large lamp globe 5 which is adapted to advertise at night the location of the dispensing device or oiling station.

A pair of depressions or pockets 6 in the opposite side walls of the standard 1 are normally concealed by a pair of doors 7 hinged at their lower edges. Indicating dials 8 are mounted in the pockets and a transverse crank shaft 9 extending through the casing carries indicating fingers 10 simultaneously movable over the faces of the dials.

A pump 11 located in the bottom of the standard is adapted to pump oil from a supply line 12 connected to any suitable source of supply up into the container 2 through a delivering pipe or inlet pipe 13 which opens into the bottom of this container. Any suitable type of motor 14 operatively connected to the pump through the medium of a power transmitting device 15, is utilized for operating the pump, and the switch 16 which controls the operation of the motor is preferably located within one of the pockets 6, so that it may be concealed and protected when the associated door 7 is closed and locked.

The glass container 2 is provided with graduations 17, ranging from zero adjacent its upper end to any number of gallons adjacent the lower end of the container in accordance with its capacity. These graduations of course correspond to the graduations upon the faces of the dials 8. An overflow pipe 18 extends into the tank having its upper end located at the zero graduation. This pipe is adapted to deliver oil back to the source of supply which may be located of course at any distance from the

dispensing device and connected thereto by the underground supply and return pipes 18' and 19 respectively.

Directly below the container 2, I provide an oil discharge chamber 20. Oil is adapted to flow from the container into the discharge chamber through a hollow piston 21 slidably mounted in the chamber having its open upper end located in the container and having outlet ports 22 in its lower end providing communication, or rather passage for the oil from the piston to the discharge chamber. A hose 23 is connected to the discharge chamber and flow from the discharge chamber through the hose is normally prevented by a valve 24 in the hose line controlled by a hand lever 25 and adapted to be manually opened to permit a flow of oil from the discharge chamber through the hose.

A piston rod 26 operatively connected to the lower end of the piston 21 is slidable through a stuffing box 27 at the lower end of the discharge chamber 20. Any oil which may leak into the stuffing box is delivered to the overflow pipe 18 through the medium of the drain pipe 28 extending into the stuffing box. The lower end of the piston rod 26 is adjustably connected, as indicated at 29, to the intermediate portion of a yoke 30. This yoke is of U shape, the upstanding arms 31 of the yoke being provided with rack teeth 32. The racks or arms slide vertically on roller bearings 33 mounted in brackets 34 fixed to the inside of the casing or standard 1. Pinions 35 fixed to the shaft 9 mesh with the rack teeth so that turning of the fingers 10 operates through the medium of the pinions and racks to raise or lower the piston 21. Thus the reading of the upper end of the piston upon the graduations 17 is always the same as the readings upon the faces of the dials 8.

The upper end of the piston 21 is located a few inches above the bottom of the container 2, even when the piston is at its lowest position so that a trap 36 is provided in the bottom of the container 2 which receives the sediment and foreign matter in the oil. A drain pipe 37 delivers oil from the trap back to the overflow pipe 18. A valve 38 in this drain pipe normally closes the same, but is operatively connected through the medium of a lever 39 and link 40 to one of the doors 7 so that closing of this door opens the valve 38 and permits the sediment to drain from the trap.

Assuming the container 2 to be empty and the indicator fingers 10 in zero position, with the piston 21 raised to its fullest extent, or in other words, also at zero position, the operation of the device is as follows:—

The door 7 which conceals the switch button 16 is opened; the switch button is pressed to start the motor for the pump;

oil is pumped into the container until it reaches the top of the overflow pipe, after which the motor is again shut off. Excess oil flows back through the overflow pipe 18 to the source of supply. The lower end of the discharge chamber 20 is of course always full of oil. Assuming that it is desired to dispense approximately two and three-quarter gallons of oil, the finger 10 is moved to indicate two and three-quarter gallons on the dial 8, as seen in Figure 1, operating through the medium of the pinions and racks to lower the piston to the two and three-quarter gallon mark, thereby flooding the discharge chamber and piston. The hand lever 25 is thrown to open the valve 24 and the desired amount of oil will be delivered by gravity through the hose 23. As soon as the oil level in the container reaches the level of the top of the piston, flow will automatically cease. The valve 24 is again closed, the finger 10 and piston restored to their normal position and the filling operation repeated. In draining the trap it is merely necessary to close the door 7.

It will be seen from the foregoing description that I provide a device for gravitationally dispensing any desired amount of oil, and provide automatic means for stopping the flow after the predetermined amount has been dispensed. An equalizing air pipe, indicated in dotted lines at 41, insures a rapid filling and emptying of the container.

It is to be understood, however, that although I have illustrated one of the preferred embodiments of my invention, numerous slight changes and alterations might be made in the general form and arrangement of the parts described without departing from the invention, and hence I do not wish to limit myself to the precise details set forth, but shall consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. A liquid dispenser comprising a transparent container having calibrations, a well connected to the lower portion of said container, a tubular discharge member slidable through said well and having an open upper portion located in said transparent container to receive liquid to be dispensed and being adapted to cooperate with the calibrations on said container to form a visible indicator, the lower portion of said tubular member being formed with an opening establishing communication between the container and said well, a rod connected to said tubular member and movable through the lower portion of said well, a U-shaped yoke connected to said rod and having toothed arms on opposite sides of said well, a transversely extending shaft having pinions engaged by said arms and having its ends provided with

hands, and oppositely arranged dials over which the said hands play whereby to provide a pair of indicators to indicate the quantity of liquid to be dispensed and to check the action of the first named indicator, said hands being manually controlled and constituting the sole means for positioning the tubular discharge member in the desired liquid receiving position in said container, the lower portion of said well being provided with a stuffing box receiving said rod and having an annular liquid receiving chamber, and a drain pipe communicating with said annular chamber.

2. A liquid dispenser comprising a transparent container having calibrations, a well connected to the lower portion of said container, a tubular discharge member slidable through said well and having an open upper portion located in said transparent container to receive liquid to be dispensed and being adapted to cooperate with the calibrations on said container to form a visible indicator, the lower portion of said tubular member being formed with an opening establishing communication between the container and said well, a rod connected to said tubular member and movable through the lower portion of said well, a yoke connected to said rod and having toothed arms on opposite sides of said well, a transversely extending shaft having pinions engaged by said arms and having its ends provided with hands, and oppositely arranged dials over which said hands play whereby to provide a pair of indicators to indicate the quantity of liquid to be dispensed and to check the action of the first named indicator, said hands being manually controlled and constituting the sole means for positioning the tubular discharge member in the desired liquid receiving position in said container, the lower portion of said well being provided with a stuffing box receiving said rod and having an annular liquid receiving chamber, and a drain pipe communicating with said annular chamber.

3. A liquid dispenser comprising a transparent container having calibrations, a well mounted beneath the container, a vertically movable tubular discharge member slidable through said well and having an open upper portion in said transparent container to receive liquid to be dispensed and being adapted to cooperate with the container calibrations to form a visible indicator, a manually operated indicator hand having connection with said discharge member and constituting the sole means for positioning the discharge member and for controlling the discharge of fluid from the dispenser, a discharge conduit having constant communication with said well and forming the sole means for discharging liquid from the well,

and means operated independently of the dispensing means for causing filling of the container.

4. A liquid dispenser comprising a transparent container having calibrations, a well mounted beneath the container, a vertically movable tubular discharge member slidable through said well and having an open upper portion in said transparent container to receive liquid to be dispensed and being adapted to cooperate with the container calibrations to form a visible indicator, a yoke connected to said discharge member, a shaft operatively connected to said yoke and having a manually operated hand constituting the sole means for positioning the discharge member and means for controlling the discharge of liquid from the dispenser, a discharge conduit having constant communication with said well and forming the sole means for discharging liquid from the well, and means operated independently of the dispensing means for causing filling of the container.

5. A liquid dispenser comprising a transparent container having calibrations, a well mounted beneath the container, a vertically movable tubular discharge member slidable through said well and having an open upper portion in said transparent container to receive liquid to be dispensed and being adapted to cooperate with the container calibrations to form a visible indicator, a U-shaped yoke connected to said discharge member and having toothed arms, a transversely extending shaft having pinions engaged with the teeth on said arms and having its ends provided with manually operated indicator hands constituting the sole means for positioning the discharge member and for controlling the discharge of liquid from the dispenser, a discharge conduit having constant communication with said well and forming the sole means for discharging liquid from the well, and means operated independently of the dispensing means for causing filling of the container.

6. A liquid dispenser comprising a transparent container, a well mounted beneath the container, a vertically movable tubular discharge member slidable through said well and having an open upper end in said transparent container to receive liquid to be dispensed, a manually operated indicator hand having connection with said discharge member and constituting the sole means for positioning the discharge member, and for controlling the discharge of liquid from the dispenser, a discharge conduit in constant communication with said well, and means operated independently of the dispensing means for causing filling of the container.

ARCHIE J. SIMMONS.