

1,280,855.

Fig: 1.

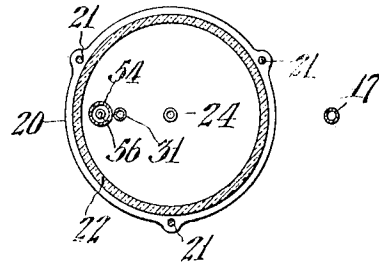
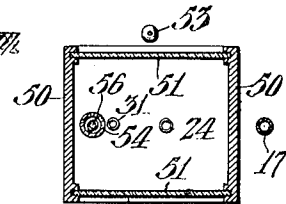


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES W. ROWLAND AND THOMAS H. LAMBERT, OF EL MONTE, CALIFORNIA.

TRANSPARENT GRAVITY PROTECTION-TANK.

1,280,855.

Specification of Letters Patent.

Patented Oct. 8, 1918.

Application filed May 23, 1916. Serial No. 99,466.

To all whom it may concern:

Be it known that we, CHARLES W. ROWLAND and THOMAS H. LAMBERT, both citizens of the United States, residing at El Monte, in the county of Los Angeles and State of California, have invented a new and useful Transparent Gravity Protection-Tank, of which the following is a specification.

Our invention relates to the distribution and sale of gasoline, and similar fuels, for use in automobiles. The distribution of gasoline is very general throughout the country, and is usually accomplished from filling or service stations, located at convenient intervals, to which the owner of the automobile drives, for the purpose of having the tank on his machine refilled.

It is common practice to provide such service stations with a large bulk supply tank which is buried in the ground and from which the gasoline is pumped as it is needed. Various forms of measuring devices have been developed so that any required quantity of gasoline may be delivered.

Our invention is an improvement on the present methods of handling gasoline, and it has for its principal object the provision of a novel form of measuring tank in which the gasoline to be sold is exhibited so that the prospective buyer can see exactly what he is getting.

A further object of the invention is to provide means for indicating plainly the presence of water, dirt or other impurities in the gasoline, and for removing any water which may become mixed with the gasoline, this water being removed before the gasoline is sold.

A further object of the invention is to provide, in combination with the measuring tank, means for indicating the specific gravity of the gasoline to be sold.

Referring to the drawings, which are somewhat diagrammatic:—

Figure 1 is a side elevation of our invention, portions thereof being broken away to better illustrate the internal structure.

Fig. 2 is a section on a plane represented by the line x^2-x^2 of Fig. 1, this plane being viewed in the direction of the arrows.

Fig. 3 is a similar view to Fig. 2, showing an alternate form of tank.

In the form of the invention illustrated in Figs. 1 and 2, 11 is a bulk supply tank

which is buried in the ground at a suitable location near the service station, and which may be filled through a filling pipe 12 provided with a screw cap 13. A suction pipe 14 extends down to the bottom of the tank and is connected into the suction side of a pump 15 which is operated by a handle 16, the pressure side of this pump being connected through a pipe 17 with the top of an exhibiting tank 18. The exhibiting tank 18 consists of a metal bottom 20 and a metal top 19 which are held together by three rods 21, a glass cylinder 22 being embedded in grooves 23 in the parts 19 and 20 and being cemented or otherwise secured therein.

Secured in the bottom 20 is a gasoline supply pipe 24, this pipe extending to a point $a-a$ above the bottom of the tank, and being connected through a valve 25 with a flexible hose 26 which is provided with a filling nozzle 27. A valve 28 may be furnished at the filling nozzle 27 as a matter of convenience. Marked on the exterior of the glass cylinder 18 are calibration marks 29, these marks indicating the number of gallons in the tank above the ends of the pipe 24, this end being indicated by the line $a-a$ which is marked zero, and the marks 29 being successively numbered thereabove. A pet-cock 30 is secured in the bottom 20 of the tank 18 for the purpose of drawing off water or sediment therefrom. A return pipe 31 is connected into the bottom 20 and is connected into the top of the tank 11, being provided with a valve 32. A pet-cock 33 is provided in the top 19, and a compressed air supply pipe 34 is also connected to the top 19, being provided with a valve 35. A compressed air supply pipe 36 is connected into the top of the tank 11, being provided with a valve 37.

The form of tank illustrated in Fig. 1, consisting of a glass cylinder with metal ends, is a preferable one, but a tank may be constructed similar to that shown in Fig. 3, this tank having metal sides 50 and glass panels 51 set therein. An incandescent lamp 53 or other source of artificial light may be placed behind either form of tank for the purpose of better illuminating the contents thereof.

Secured in the bottom 20 is a glass tube 54, this tube having perforations 55 near the bottom thereof, and containing a hydrometer 56, this hydrometer being of standard form and being provided with markings for

indicating the specific gravity of the liquid in the tank in which it floats.

The method of operation of our invention is as follows:

- 5 The tank 18 is preferably kept filled with gasoline, and being calibrated up to twenty gallons, holds enough to supply the ordinary type of automobile. The tank being full, the prospective purchaser can inspect the
- 10 gasoline which he is to get, can observe whether or not it contains water or dirt, and can readily read the specific gravity on the hydrometer 56. If he is satisfied with the gasoline and desires to purchase it, it may
- 15 be run into the storage tank of his automobile through the flexible hose 26, the valves 25 and 28 being opened for the purpose. The gasoline may be allowed to flow by gravity, the valve 28 being closed as soon as
- 20 the required number of gallons have run out of the tank 18, as can readily be determined by observing the calibration marks. If desired, the valve 35 may be opened, and compressed air admitted to the top of the tank
- 25 18 for the purpose of accelerating the flow of gasoline therefrom.

- Gasoline may be readily pumped from the tank 11 to the tank 18 by means of the pump 15, and this action can be assisted by admitting compressed air to the top of the tank 11
- 30 through the pipe 36, the valve 37 being used to control the air pressure in the tank 11.

- Any water or sediment in the gasoline will settle to the bottom of the tank 18, and
- 35 the pipe 24 is extended up so that there will be plenty of space for such settling below the intake to the pipe 24. This water and sediment is readily drawn off through the pet-cock 30. Any air entrapped in the top of
- 40 the tank 18 can be readily released through the pet-cock 33.

If it is desired to remove the gasoline from the tank 18 it can be readily done by opening the valve 32 and allowing the gasoline

to flow through the pipe 31 back into the tank 11.

We claim as our invention:—

1. A gasoline dispensing device comprising a gas tight measuring tank with transparent walls, means for forcing gasoline into said gas tight tank, a vertical glass tube inside said gas tight measuring tank, said tube being in open communication with the bottom of the gas tight measuring tank, a hydrometer floating in the gasoline inside said vertical glass tube, an outlet pipe secured in the bottom of said gas tight measuring tank and projecting to a point considerably above the bottom of that tank, markings on the gas tight measuring tank arranged to indicate quantities of gasoline, a flexible pipe connected to said outlet pipe, and a valve for controlling the flow of gasoline through said flexible pipe.

2. A gasoline dispensing device comprising a gas tight measuring tank with transparent walls, a bulk supply tank buried in the ground, means for forcing gasoline from said bulk supply tank into said gas tight measuring tank, a vertical glass tube inside said gas tight measuring tank, said tube being in open communication with the bottom of the gas tight measuring tank, a hydrometer floating in the gasoline inside said vertical glass tube, an outlet pipe secured in the bottom of said gas tight measuring tank and projecting to a point considerably above the bottom of that tank, markings on the gas tight measuring tank arranged to indicate quantities of gasoline, a flexible pipe connected to said outlet pipe, and a valve for controlling the flow of gasoline through said flexible pipe.

In testimony whereof, we have hereunto set our hands at Los Angeles, California, this 18th day of May, 1916.

CHARLES W. ROWLAND.
THOMAS H. LAMBERT.