Jan. 7, 1936. W. H. BONNEY 2,026,818

LIQUID DISPENSING DEVICE

Filed May 14, 1935 2 Sheets-Sheet 1

Fig. 2

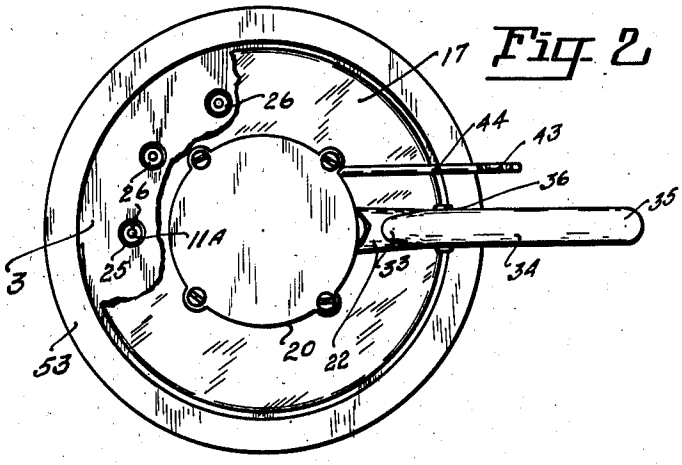


Fig. 1

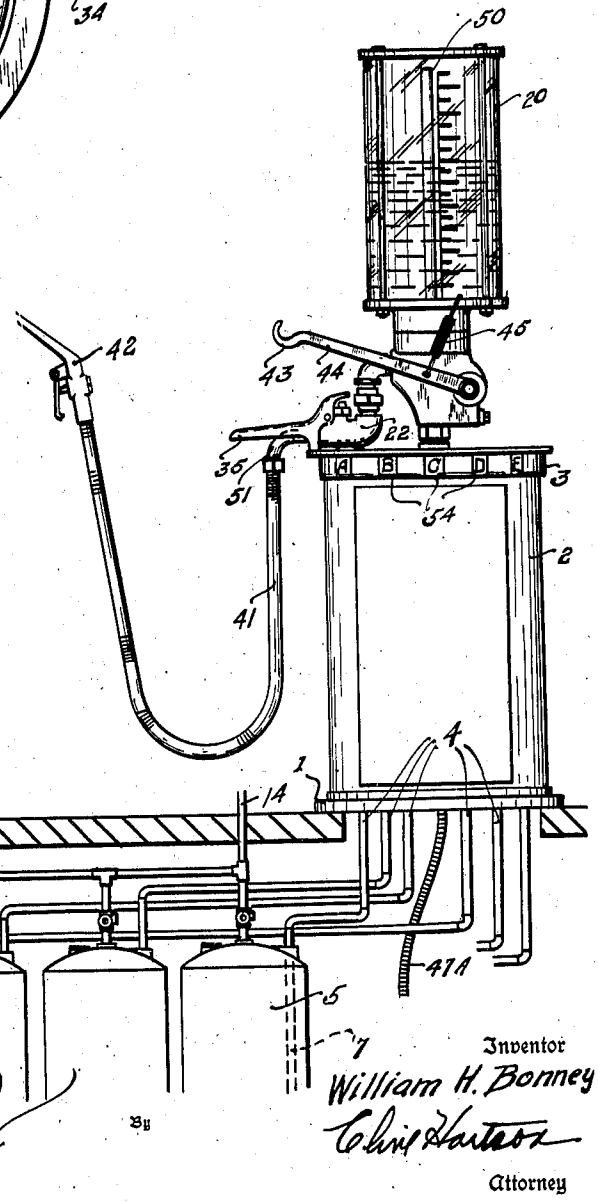
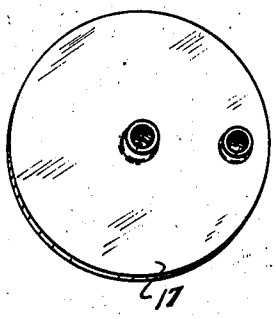


Fig. 3



Inventor

William H. Bonney

By Chris Hartson

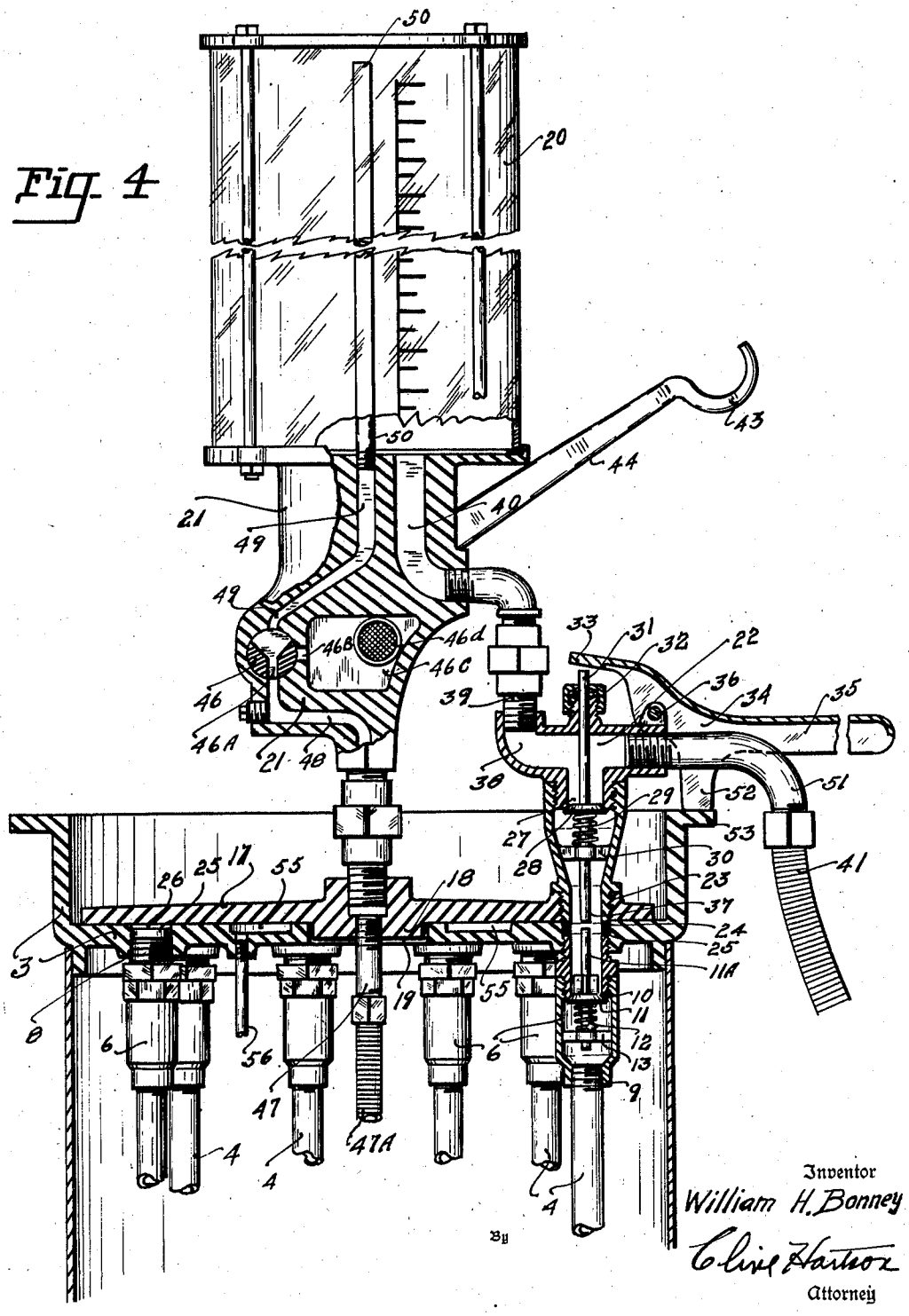
Attorney

Jan. 7, 1936. W. H. BONNEY 2,026,818

LIQUID DISPENSING DEVICE

Filed May 14, 1935 2 Sheets-Sheet 2

Fig. 4



Inventor

William H. Bonney

Clive Harrison

Attorney

Patented Jan. 7, 1936 2,026,818

UNITED STATES PATENT OFFICE

2,026,818

LIQUID DISPENSING DEVICE

William H. Bonney, Oregon City, Oreg.

Application May 14, 1935, Serial No. 21,302

7 Claims. (Cl. 221—100)

My invention relates to liquid dispensing devices and is particularly adapted to the dispensing of heavy oils, gasoline and the like.

The primary object of this invention is to rapidly dispense liquids under pressure. Heretofore it required considerable time for heavy liquids to flow, especially in cold weather, but with my new and improved dispensing device they are forced by high pressure from the containers into the visible measuring tank out through the delivery port.

A further object of my invention is to readily select and dispense the different grades or brands of liquids through one mechanism including the visible measuring tank and the delivery valve and hose.

A still further object of the invention is the thorough cleansing or draining of the measuring tank and delivery lines.

Other and incidental objects will be apparent upon reading the following specification.

Referring to the drawings:

Figure 1 is a side elevation of my assembled dispensing device including part of the storage tanks and pipe lines connected thereto.

Figure 2 is a plan view of the dispenser with parts broken away for convenience of illustration.

Figure 3 is a perspective plan view of the revolving base plate support for the valve and the visible measuring tank.

Figure 4 is a sectional side elevation of the assembled dispensing device.

In the drawings:

A base 1 is provided having a body portion 2, superposed thereabove for supporting the distributor head 3. A plurality of pipes 4, leading from the supply tanks 5, connect to the underside of the distributor head 3 through the valves 6. The ends 7 of the pipes 4 extend to the bottom of the supply tanks. The valves 6 are tapped into the distributor heads at 8 and receive the pipes 4 at their opposite ends 9. A valve port 10 is maintained in closed position by the valve 11, seating thereon by the action of spring 12, resting upon valve stem guide 13. Air pressure is maintained within the tanks 5 through the lead line 14 and valves 15. The valves 15 may be closed to the lead line 14 and opened to the atmosphere through the port 16 for relieving the air pressure within the tank, for refilling purposes. A revolving base support 17, having a boss 18 working within the guide bearing 19 supports the measuring tank 20, valve body 21 and the valve mechanism 22. The valve mechanism 22 is tapped into the base plate at 23, the end of the lower part of the valve 24 rests upon a gasket 25 within the opening 26 when in alignment with one of the valves 6. The valve 22 has a port 27 and a valve 28, said valve 28 is maintained in closed position by the spring 29 resting on the valve guide 30. A stem 31 extends upwardly through the stuffing box 32, and is manipulated by the end 33 of the hand lever 34, when the end of the lever 35 is raised. The lever 34 is pivotally mounted to the valve at 36. The raising of the handle 35 pivots the lever 34 about the pivot 36, lowering the end 33 against the valve stem 31 opening the valve 28, causing the lower end of the valve stem 37 to contact the upper end of the valve stem 11A, opening the valve 11 allowing the liquid from one of the preselected tanks 5 to pass through valve 11, valve 28, passage 38 of the valve 22, pipe 39, port 40 of the valve body 21 and into the measuring tank 20.

When it is desired to dispense the liquid from the tank 20 the hose 41 and dispensing valve 42 are removed from the hook 43 of the lever 44. This allows the spring 45 to raise the lever 44 revolving the valve 46 opening the passage 46A to port 48 and to port 49. Air passes from the pipe 47, port 48, through valve 46, port 49 out through the upper end of the pipe 50 causing a pressure on the surface of the liquid within the tank 20. When the valve 42 is opened the liquid within the tank 20 is forced down through the port 40, pipe assembly 39, port 38 of the valve 22, out pipe 51 into the dispensing hose 41 and valve 42. From the foregoing description it can be seen that the valve 22 receiving the liquid from the tanks 5, when the handle 34 is manipulated and delivers the liquid into the visible measuring tank 20, after which the handle 34 is released, shutting off the supply from the tank 5, when the hose 41 is removed from the hook 43, the valve 46 is opened permitting air pressure to force the liquid out through the valve 22 to its destination.

When the liquids are being transferred into the dispensing tank 20 the dispensing valve 42 is resting on the hook 43 holding the lever 44 down at which time the valve 46 registers with the port 46B, and port 49. The port 46B communicates with the exhaust chamber 46C which acts as a muffler, the air escaping out through the screen 46D. The port 46A is in closed position in reference to port 48. When the port 49, pipe 50 are open to the port 46B through the valve 46 atmospheric pressure is maintained within the tank 20 allowing the liquids to be received into the tank 20.

In order to select the different grades or brands of liquids, a downwardly extending portion 52, forming part of the handle 34 rests upon the upper ledge 53 of the distributing head. The pushing downward on the outer end 35 of the handle 34 transfers the weight of the valve 22 upon the upper surface of the ledge 53 at the same time raising the same including the base plate 17 a sufficient distance to remove the lower end 24 of the valve 22 out of engagement

with the gasket 25 and the opening 26, permitting the operator to rotate the base 17, including the valve 22, in either direction into registry with another of the valves 6, the location of which is indicated by the indicator characters 54. A trough 55 formed within the upper surface of the distributor head catches the surplus liquids which are then drained off through the drain pipe 56.

In the use of my new and improved dispensing device the handle 35 is pressed downward raising the valve mechanism 22 and the base support 17 out of engagement with the distributing valves 6, the same is then revolved to the position indicated by the indicators 54. The handle 35 is then released allowing the valve mechanism to drop down into registry with the desired dispensing valve. The handle is then raised opening the valve within the valve assembly 22 and the valve within the distributor head 6 allowing the selected liquids to be transferred from the storage tank into the measuring tank. When the handle 35 is released this transfer of liquid is stopped. The next operation is to remove the dispensing valve 42 from the hook 43 which allows air to be transferred from the air supply through the tube 41, through valve 46, port 49 and pipe 50, placing a pressure upon the liquid forcing it out through port 40, valve mechanism 42, dispensing hose 41 and valve 42, this completes a cycle of operation.

I do not wish to be limited to this particular form of construction as my invention is susceptible to other forms of embodiment still coming within the scope of my invention as hereinafter claimed.

Having described my invention, I claim:—

1. A device for selectively dispensing a plurality of liquids, the combination of liquid retention means, a plurality of secondary valves arranged in a common path and each connected to a fluid retention means, a movable supporting element, a primary valve carried thereby and movable to engagement with either of the secondary valves for the passage of liquid through both, operating mechanism for operating the primary and selected secondary valve simultaneously, a liquid measuring and dispensing receptacle connected to the primary valve, and compressible fluid means for ejecting liquids from such receptacle when the primary and its cooperating secondary valve are closed.

2. A device for selectively dispensing a plurality of liquids, the combination of liquid retention means, a plurality of secondary valves arranged in a common path and each connected to a fluid retention means, a primary valve movable in such path to a position of mutual conductivity with a selected one of the secondary valves, means carried by the primary valve for opening it and the selected secondary valve, a liquid measuring and dispensing receptacle connected to the primary valve, and compressible fluid means for ejecting liquid from such receptacle when the primary valve and selected secondary valve are closed.

3. In a dispenser for selectively dispensing a plurality of liquids, the combination of liquid retainers, a plurality of secondary valves arranged in a circular path and each connected to a retainer, a rotatable body, a primary valve carried by such body and movable to a position of mutual conductivity with a selected secondary valve, valve operating means carried by the primary valve for opening it and a selected secondary valve simultaneously so that liquid may flow through them, a liquid measuring and dispensing receptacle connected to the primary valve, and means for dispensing the liquid from such receptacle.

4. In a cooperating valve structure for dispensing liquids from a plurality of containers, a self closing valve connected to each container, said valves each being provided with a manipulative stem, a self closing control valve likewise provided with a manipulative stem and movable to liquid dispensing association with a selected of the first mentioned valves, the stem of the control valve when operated operating the stem of the selected valve for the purpose of opening both valves so liquids can flow therethrough simultaneously, and mechanism for manipulating the stem of the control valve.

5. In a cooperating valve structure for dispensing liquids from a plurality of containers, a self closing valve connected to each container, said valves each being provided with a manipulative stem, a self closing control valve likewise provided with a manipulative stem and movable to liquid dispensing association with a selected of the first mentioned valves, the stem of the control valve when operated operating the stem of the selected valve for the purpose of opening both valves simultaneously so liquids can flow therethrough simultaneously, mechanism for manipulating the stem of the control valve, a liquid measuring and dispensing receptacle connected to the control valve, and means for dispensing the liquid from such receptacle.

6. In a cooperating valve structure for dispensing a plurality of different liquids each contained in a separate container, a self closing valve connected to each container, each valve being provided with means manipulative to open such valve, a self closing control valve likewise provided with means manipulative to open it and movable to liquid dispensing association with a selected of the first mentioned valves, the means manipulative to open the control valve operable to operate the like means on the selected valve for the purpose of opening both valves simultaneously so that liquids can flow therethrough simultaneously, and mechanism for operating the means manipulative aforesaid.

7. In a cooperating valve structure for dispensing a plurality of different liquids each contained in a separate container, a self closing valve connected to each container, each valve being provided with means manipulative to open such valve, a self closing control valve likewise provided with means manipulative to open it and movable to liquid dispensing association with a selected of the first mentioned valves, the means manipulative to open the control valve operable to operate the like means on the selected valve for the purpose of opening both valves simultaneously so that the liquids can flow therethrough simultaneously, mechanism for operating the means manipulative aforesaid, a liquid measuring and dispensing receptacle connected to the control valve and receiving liquids therefrom, a dispensing means connected to the control valve, and compressible fluid means operable to eject liquids from the container for dispensing through the dispensing means.

WILLIAM H. BONNEY.