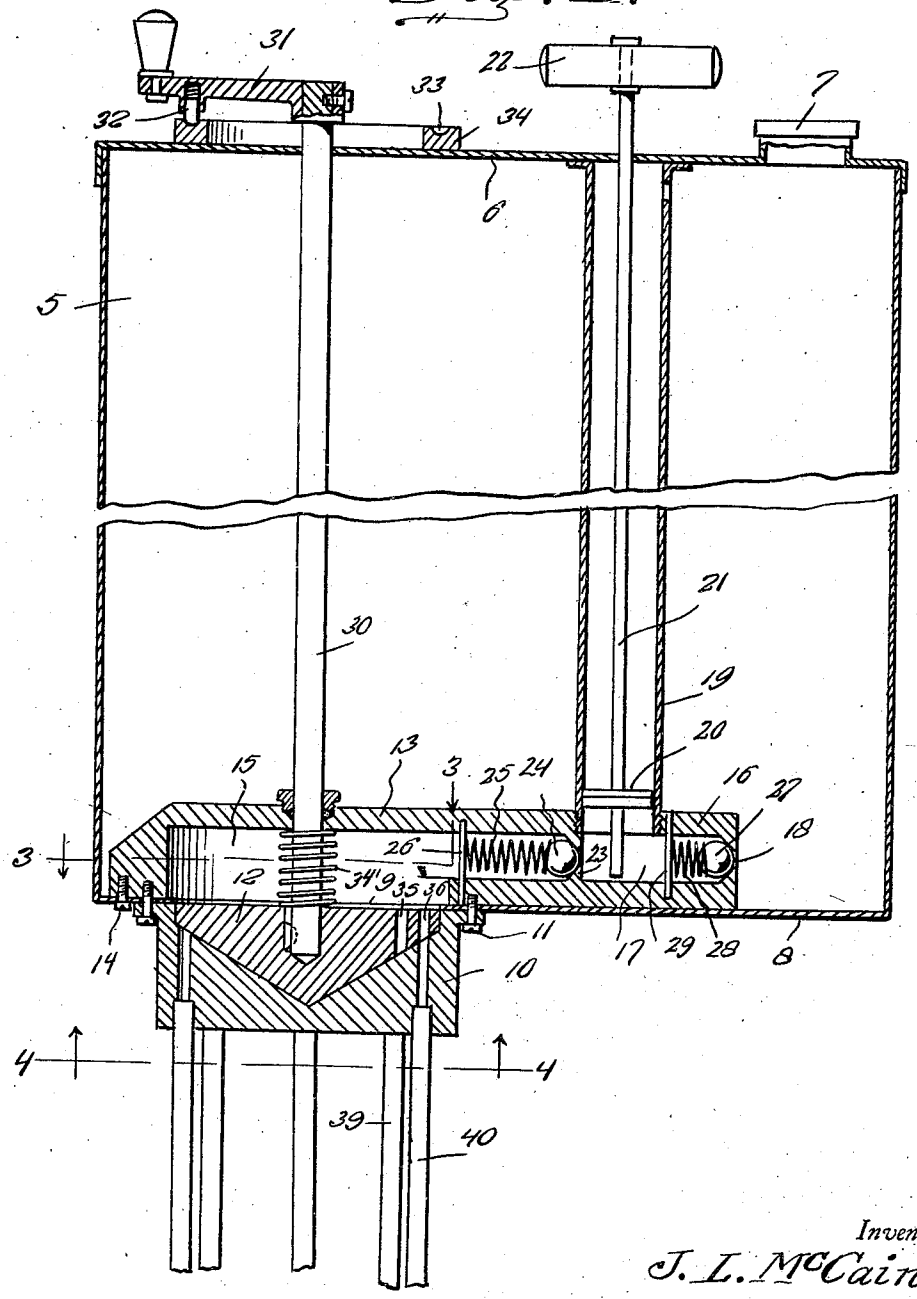
June 24, 1930. J. L. McCAIN 1,768,129

MULTIPLE VALVE DISPENSER

Filed May 11, 1928 2 Sheets-Sheet 1

Fig. 1.



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Filed May 11, 1928 2 Sheets-Sheet 2

Fig. 2.

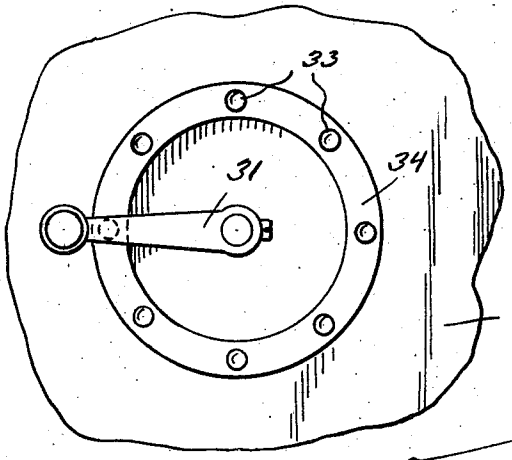
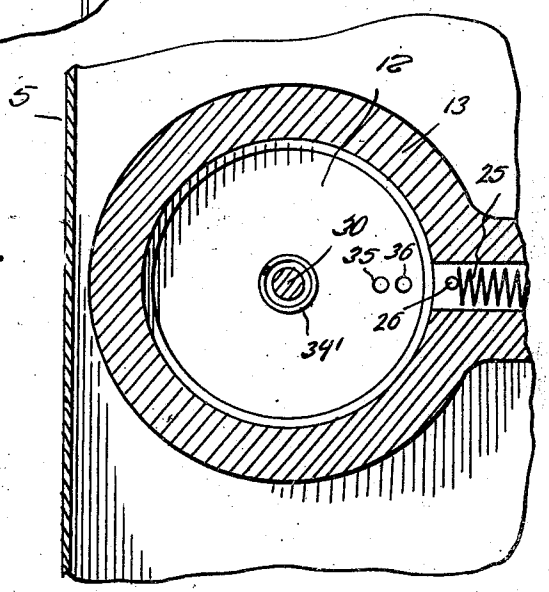


Fig. 3.



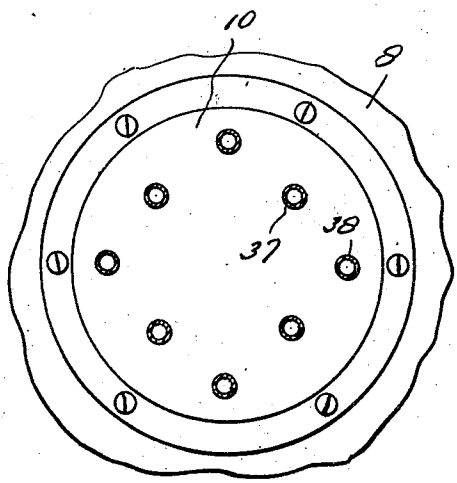


Fig. 4.

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UNITED STATES PATENT OFFICE

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MULTIPLE-VALVE DISPENSER

Application filed May 11, 1928. Serial No. 276,975.

The present invention relates to dispensing devices adapted generally for the dispensing of fluid substances in predetermined amounts and has for an important object to provide a discharge valve for the apparatus having a discharge pipe extending therefrom and arranged for the selective discharge of the fluid therethrough.

A further object of the invention is to provide four mains in operation with the dispenser and adapted upon the operation thereof to discharge a predetermined amount of the fluid through one of the discharge pipes.

A still further object is to provide a dispensing apparatus of this character adapted particularly for the dispensing of grease or lubricating oils to the various working parts of an engine, machine or other apparatus to which the dispenser is attached.

An additional object is to provide an apparatus of this character of a simple and practical construction, which is efficient and reliable in performance, relatively inexpensive to manufacture and maintain in operative position and otherwise well adapted to the purposes for which the same is intended.

Other objects and advantages reside in the special construction, combination and arrangement of the various elements forming the invention as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

In the drawings:

Figure 1 is vertical sectional view through the dispenser,

Figure 2 is a fragmentary top plan view of the valve control,

Figure 3 is a fragmentary transverse sectional view taken substantially along a line 3—3 of Figure 1, and showing the top plan view of the control valve, and

Figure 4 is a transverse sectional view through the series of discharge pipe, taken along a line 4—4 of Figure 1 and looking in a direction toward the bottom of the discharge valve, as indicated by the arrows.

Referring now to the drawing in detail, the invention comprises a dispensing container 5 having a top 6 provided with a filler cap 7. The bottom 8 of the container is provided with a relatively large opening 9, about which, on the outside of the container is arranged a valve seat 10 secured to the bottom by bolts or screws 11.

The upper surface of the valve seat 10 is formed with a conical recess in which is fitted a complementary shaped circular valve 12, the upper surface of the valve being disposed on a horizontal plane with the bottom 8 of the container.

Arranged within the container is a valve housing 13, secured to the bottom 8 by means of bolts or screws 14, said housing being provided with an annular compartment 15 disposed above the opening 9 in the bottom of the container.

The housing 13 includes a lateral extension 16 having a passage 17 formed therein and provided with an opening 18 in the end of the extension and communicating with the interior of the container. The upper portion of the extension 16 is provided with an opening within which is threaded the lower end of the pump cylinder 19, the upper end of the cylinder being secured to the under side of the top 6.

A piston 20 is operatively arranged in the pump cylinder to which is attached a piston rod 21 extending outwardly through an opening in the top 6 and to its outer end provided with an operating handle 22. As clearly illustrated in Figure 1 of the drawings the lower end of the pump cylinder 19 communicates with the passage 17 of the housing and arranged in said passage between the cylinder and the compartment 15 is a partition 23 having an opening formed therein and constituting a valve seat with which is associated a small valve 24 disposed on the far side of the partition with respect to the pump cylinder and retained in closed position with respect to the opening of the partition by means of a coil spring 25 arranged in the passage 17 and retained in position by a rod 26 extending transversely of the passage.

Communication through the opening at the end of the extension of the housing is also controlled by a ball valve 27 likewise

normally retained in closed position by a coil spring 28 arranged in the passage and retained in position by a transversely extending rod 29.

It will thus be apparent that upon the suction stroke of the piston 20 the grease or other fluid in the container will be drawn into the passage 17 by the opening of the valve 27 and upon the pressure stroke of the piston such valve will be closed and the opposite valve 24 will be forced open thereby discharging the fluid into the compartment 15.

A shaft 30 is keyed to the upper surface of the valve 12 and extends vertically to the housing 13 and upwardly through the top 6 of the container with its outer end provided with an operating handle 31. Carried by the handle 31 is a spring pressed retaining pin 32 adapted to selectively seat within a series of recesses 33 formed in the upper surface of an annular plate 34 secured upon the top 6.

The upper end of the shaft 30 is concentrically disposed with respect to the plate 34 so that upon the operation of the handle for rotating the shaft a pin 32 may seat within the recesses 33 for retaining the handle in a predetermined position.

Arranged on the lower end of the shaft 30 within the compartment 15 is a coil spring 34 yieldably urging the valve 12 downwardly so as to cause the same to fit snugly within the conical seat of the valve seat 10. Extending vertically through the valve 12, adjacent the outer edge thereof is an inwardly disposed opening 35 and an outer opening 36 adapted to register respectively with openings 37 and 38 extending vertically through the valve seat 10.

To the openings of the valve seat are connected a series of discharge pipes 39 and 40 respectively, said openings 37 and 38 and their associated discharge pipes being concentrically arranged with respect to the valve seat and adapted for conveying the grease or lubricating oil to separate working parts of an engine or other machinery to which the dispenser is attached.

By arranging the recesses 33 of the plate 34 at the top of the container in the proper position for receiving the pin 32 during the registering of the opening 35 and 36 of the valves with their associated openings in the valve seat, the grease or lubricating oil from the compartment may be thus selectively fed into the various discharge pipes.

The quantity of grease or lubricating oil fed into the compartment 15 for discharge through a desired pipe will depend upon the capacity of the pump mechanism. Through the provision of a grease or lubricating oil dispensing apparatus of this character it will be apparent that the working parts of an engine or other machine may be suitably lubricated by the operator without necessitating an interruption in the operation thereof.

It is obvious that my invention is susceptible to various changes and modifications in construction without departing from the spirit ot the invention or the scope of the appended claims, and I accordingly claim all such forms of the device to which I am entitled.

Having thus described my invention, what I claim as new is:

A grease dispenser of the character described comprising a container having a discharge opening formed therein, a pressure compartment forming housing mounted in the container and communicating with the discharge opening, a lateral extension on the housing having a longitudinal bore therethrough communicating with the pressure compartment and the interior of the container, check valves mounted in the bore in longitudinally spaced relation, said valves opening toward the pressure compartment, a manually operated pump associated with the extension intermediate the check valves and adapted to draw grease thereinto from the container and eject the grease therefrom into the pressure compartment and manually operable valve means associated with the opening in the container for controlling the discharge of the grease therefrom.

In testimony whereof I affix my signature.

JOHN L. McCAIN.