W. F. HATCH.

SOAP DISPENSER.

APPLICATION FILED DEC. 17, 1915.

1,246,916.

Patented Nov. 20, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

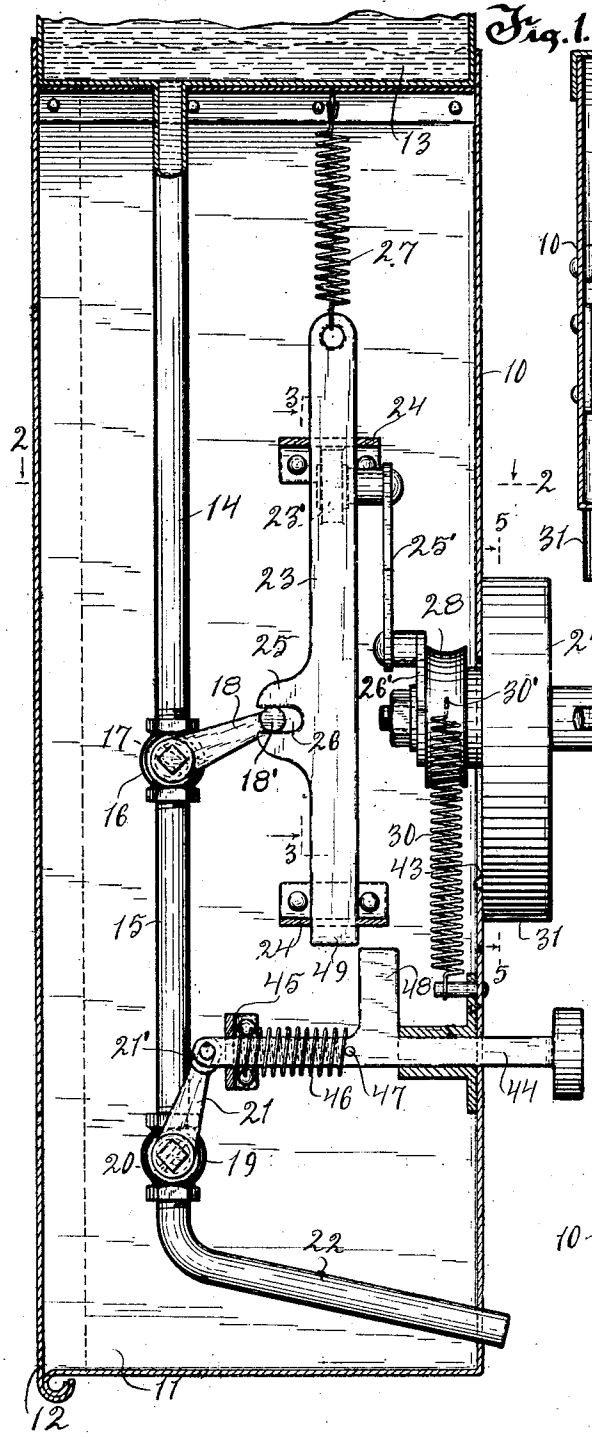


Fig. 2.

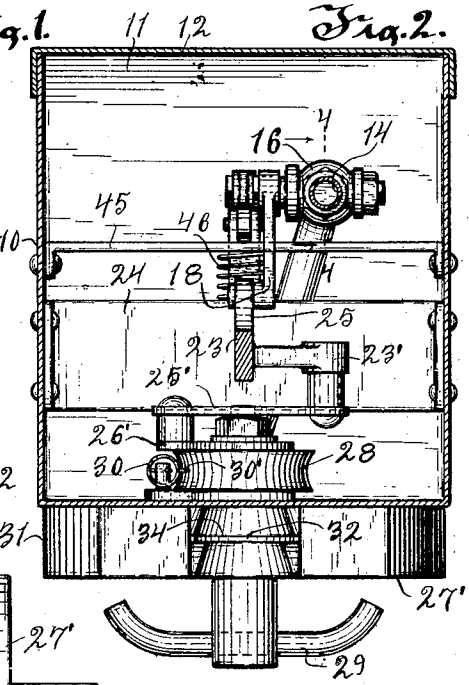
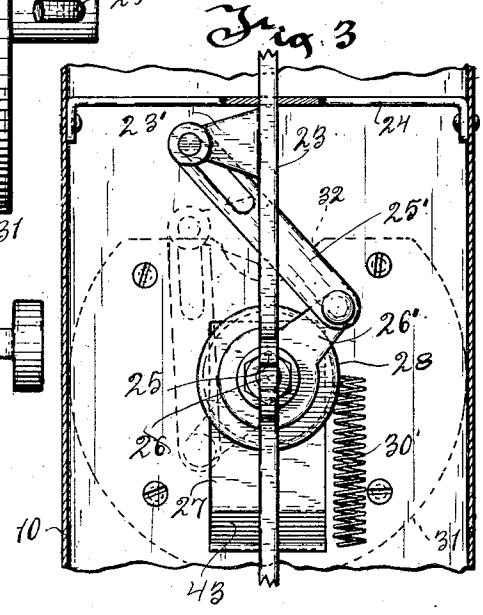


Fig. 3



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2 SHEETS—SHEET 2.

Fig. 7.

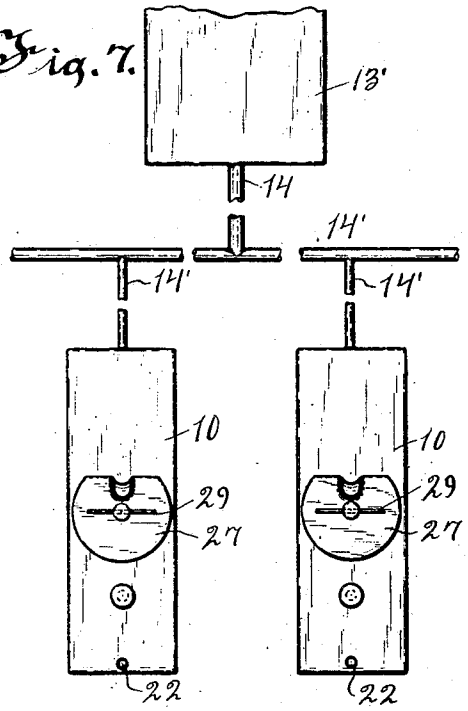


Fig. 6.

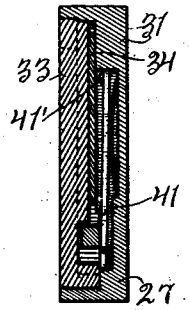


Fig. 4.

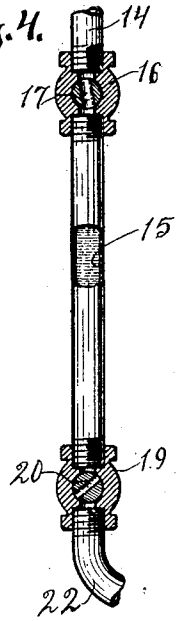
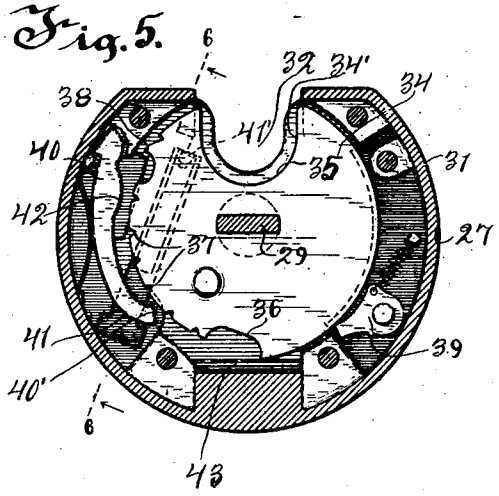


Fig. 5.



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WILLIAM F. HATCH, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO B. J. JOHNSON SOAP CO., OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN.

SOAP-DISPENSER.

1,246,916. Specification of Letters Patent. Patented Nov. 20, 1917.

Application filed December 17, 1915. Serial No. 67,309.

To all whom it may concern:

Be it known that I, WILLIAM F. HATCH, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Soap-Dispensers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in soap dispensers more particularly adapted for dispensing liquid soap.

It is one of the objects of the present invention to provide a soap dispenser which will supply or measure out a limited quantity of soap for immediate use in hotels and on trains or in public or other places where it is desired to maintain the soap in a perfectly sanitary condition, and which is also serviceable in effecting an economical use of soap.

A further object of the invention is to provide a soap dispenser which will measure a predetermined quantity of soap and hold the measured quantity of soap in an inclosure and permit the patron to use as much of the measured quantity as desired thus saving the unused portion.

A further object of the invention is to provide a soap receptacle having means for measuring a predetermined quantity of soap in an inclosure constructed to prevent the discharge of soap therefrom until the quantity has been measured therein and also constructed to prevent the charging of said inclosure while soap is being discharged therefrom.

A further object of the invention is to provide a soap dispenser which is of simple construction, is strong and durable and is well adapted for the purpose desired.

With the above and other objects in view the invention relates to the improved soap dispenser and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawings in which the same reference characters indicate the same parts in all of the views:

Figure 1 is a vertical sectional view of the improved soap dispenser, the upper portion being broken away;

Fig. 2 is a transverse sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a sectional detail view taken on line 3—3 of Fig. 1; the view also indicating by dotted lines the valve opening position of some of the parts;

Fig. 4 is a sectional detail view of the soap measuring and controlling means, one of the valves being shown in open position;

Fig. 5 is a sectional detail view of the coin controlled mechanism taken on line 5—5 of Fig. 1;

Fig. 6 is a detail sectional view taken on line 6—6 of Fig. 5; and

Fig. 7 is a front view of a plurality of soap dispensers connected to a remote source of soap supply.

Referring to the drawings the numeral 10 indicates a casing within which the improved soap dispensing machine is mounted. The casing is of rectangular form and has an open back 11 provided with a cover 12 for permitting access to the interior mechanism. A liquid soap reservoir 13 is preferably mounted in the upper portion of the casing and is provided with a downwardly extending discharge pipe 14 to feed the soap by gravity to the measuring tube 15 connected to the lower end of the discharge pipe and extending downwardly therefrom. A controlling valve 16 having comparatively a large port 17 is interposed between the discharge pipe 14 and the measuring tube 15 and is provided with a cranked handle 18 for opening and closing the same. The lower end of the measuring tube 15 is also provided with a valve 19 having comparatively a small port 20 and a controlling cranked arm 21. A discharge pipe or nozzle 22 extends from the lower or discharge valve 19 to a point outside of the casing 10.

Positioned adjacent to the controlling valve 16 is a reciprocal valve bar 23 which slides in transversely extending guide plates 24 which are connected to the opposite sides of the casing 10. The valve bar is provided on one edge with a projecting lug 25 having a horizontally extending slot 26 through

which extends the cranked pin 18′ of the cranked handle 18. A coiled spring 27 connected to the upper portion of the casing 10 and to the upper end of the valve bar 23 serves to normally hold the bar in its upper position and the controlling valve in closed position. The valve bar is also provided with a lug 23′ projecting from one of its side portions to which is pivotally and slidably connected a slotted link 25′ and the lower end of the link is pivoted to a lever arm 26′ forming part of the coin controlled mechanism 27′ which is mounted on the casing and has a portion extending therein into. The lever arm 26′ forms part of a revoluble drum 28 which is turned manually in one direction by a connected and outwardly projecting handle 29 and is retrieved in the opposite direction by a coiled spring 30. One end of the spring is connected to the casing 10 and the opposite upper end 30′ is connected to and winds around the drum 28 when said drum is turned manually by the handle.

The coin controlled mechanism comprises the outer shell 31 having a coin receiving slot 32, the back plate 33 and a revoluble coin disk 34 mounted therebetween. The coin disk is provided with a coin recess 35 which is in register with the slot 32 when said disk is in normal coin receiving position and also with peripheral locking notches 36, 37 and 38 which are engaged by locking dogs 39 and 40 yieldingly and pivotally mounted in the shell 31. Another yielding dog 41 is yieldingly pivotally mounted in a side recessed portion of the shell and its shouldered end portion 41′ is positioned to swing into the coin disk 34 and engage the edge portion 34′ thereof and stop movement of said disk in the event that the handle is turned without inserting a coin in the coin slot. The lower hooked end 40′ of the dog 40 engages the shoulder of the notch 38 and stops further progress of said disk in case a coin or slug of less diameter than the proper coin is inserted in the slot.

When a coin of the proper diameter is inserted in the slot the said coin will engage the cam edge portion 42 of the locking dog 40 and swing the hooked end portion 40′ out of the path of movement of the shoulder of the notch 38. The dog 39 is swung upwardly by its spring when in register with the disk recess 36 and the said dog then enters the notches 37 and prevents retrograde movement of the disk until it has completed its required movement. When the disk has been turned to its full extent the coin will drop out of the disk recess through the shell opening 43 and into the casing 10 and the dog 39 will swing into the recess 38 and when the disk is retrieved by its spring the said dog will be swung to the position shown in Fig. 5. The disk 34 is mounted upon and turns with the portion of the handle 29 which extends through the shell and is connected to the drum 28 and to the lever arm 26.

From the description thus far given it will be seen that when the proper coin is deposited in the slot of the coin controlled mechanism and the handle thereof is turned the valve rod 23 will be pulled down and the controlling valve 16 opened to discharge the liquid soap from the soap reservoir into the measuring tube 15. As the port of the controlling valve is comparatively large the said measuring tube will be quickly filled with the soap during the turning of coin mechanism handle.

The discharge of the soap from the measuring tube 15 is controlled by the discharge valve 19, before mentioned by means of a push member 44 which projects through the casing and at its inner end is connected to the cranked arm 21 by a slotted connection 21′. The said push member 44 extends into the casing horizontally and through and is guided by a transversely extending guide plate 45 which is attached to the opposite sides of the casing 10. A coiled spring 46 surrounds the push member 44 and is interposed between the guide plate 45 and a transverse pin 47 extending through the push member to normally hold the discharge valve in closed position so that as the push member is pushed inwardly the valve will be opened to discharge the desired quantity of liquid soap through the discharge nozzle tube up to the extent of the measured quantity within the measuring tube.

As the port of the discharge valve is comparatively small the soap will flow therethrough at a slower rate of speed than the other valve and the user may hold the push member in its inner position until all of the soap is discharged or the push member may be controlled to discharge the soap in quantities less than the whole amount until the full amount of the measured quantity of soap is used, and in case the measured quantity is not used the remaining portion will be a gain for the machine as it will not require as much soap to fill up the measuring tube for the next patron.

In order to prevent the user from opening both valves at the same time and surreptitiously drawing out a greater quantity of soap than the measured quantity, the push member is provided with an upstanding stop lug 48 which is positioned just in front of the lower end portion 49 of the reciprocal member 23 so that when the reciprocal member is in its lowermost valve opening position, the lower end portion 49 will be in the path of movement of the lug

48 of the push member, and conversely, when the push member is pushed inwardly the lug 48 will be immediately beneath and in the path of movement of the reciprocal member and prevent movement of said member until the push member has been retrieved by its spring to its outer normal position.

In the modified form shown in Fig. 7 a plurality of dispensing devices are connected to a soap reservoir 13′ by pipes 14′ for use in hotels or other places requiring a number of the devices to supply all of the devices with soap from the one tank or reservoir.

From the foregoing description it will be seen that the soap dispenser is of simple construction and is well adapted for the purpose described.

What I claim as my invention is:

1. A fluid dispenser, comprising a source of fluid supply, a fluid measuring means connected to said source of supply, means for controlling the flow of the fluid into the measuring means, a normally closed valve controlling the discharge of fluid from the measuring means, and a manually operable means for opening the last mentioned valve and for preventing the opening of both valves at the same time.

2. A soap dispenser, comprising a reservoir for holding a fluid soap, a tubular measuring means connected thereto, a valve for controlling the flow of the soap into the measuring means, a normally closed discharge valve controlling the discharge of the soap from the measuring means, and a push member for opening the discharge valve and for preventing the opening of the controlling valve while the discharge valve is in open position.

3. A soap dispenser, comprising a reservoir for holding a fluid soap, a tubular measuring means connected thereto, a controlling valve controlling the flow of soap into the measuring means, a normally closed discharge valve controlling the discharge of the soap from the measuring means, a reciprocal member for actuating the controlling valve, and a push member for moving the discharge valve to open position.

4. A soap dispenser, comprising a reservoir for holding a fluid soap, a tubular measuring means connected thereto, a controlling valve controlling the flow of soap into the measuring means, a normally closed discharge valve controlling the discharge of the soap from the measuring means, a reciprocal member for actuating the controlling valve, and a push member for moving the discharge valve to open position and for preventing the opening of the controlling valve while the discharge valve is in open position.

5. A soap dispenser, comprising a reservoir for holding a fluid soap, a casing adjacent thereto, a measuring tube positioned in the casing and connected to the reservoir, a controlling valve controlling the flow of soap into the measuring tube, a discharge nozzle connected to the measuring tube and extending out of the casing, a discharge valve controlling the flow of soap from said measuring tube, a reciprocal member normally holding the controlling valve in closed position, means for moving said valve to open position, and a member normally holding the discharge valve in closed position but movable to a position to open said valve.

6. A soap dispenser, comprising a reservoir for holding a fluid soap, a casing adjacent thereto, a measuring tube positioned in the casing and connected to the reservoir, a controlling valve controlling the flow of soap into the measuring tube, a discharge nozzle connected to the measuring tube and extending out of the casing, a discharge valve controlling the flow of soap from said measuring tube, a reciprocal member normally holding the controlling valve in closed position, means for moving said valve to open position, and a member normally holding the discharge valve in closed position but movable to a position to open said valve, said valve controlling members co-acting with each other to prevent the opening of one of the valves while the other valve is in open position.

7. A soap dispenser, comprising a reservoir for holding a fluid soap, a casing adjacent thereto, a measuring tube positioned in the casing and connected to the reservoir, a controlling valve for controlling the flow of soap into the measuring tube, a discharge nozzle connected to the measuring tube and extending out of the casing, a discharge valve controlling the flow of soap from said measuring tube, a reciprocal member normally holding the controlling valve in closed position, means for moving said valve to open position, and a member normally holding the discharge valve in closed position but movable to a position to open said valve, said valve controlling members having portions which are movable to positions in the paths of movement of each other to prevent the opening of one of the valves while the other valve is in open position.

8. A soap dispenser, comprising a reservoir for holding a fluid soap, a casing adjacent thereto, a measuring tube positioned in the casing and connected to the reservoir, a controlling valve for controlling the flow of soap into the measuring tube and having an arm projecting therefrom, a discharge nozzle connected to the measuring tube and extending out of the casing, a discharge valve for controlling the flow of soap from the measuring tube and having an arm project-

ing therefrom, a spring retrieved reciprocal member mounted in the casing and connected to the controlling valve arm, means for actuating the reciprocal member, and a spring retrieved push member connected to the discharge valve arm and having a portion which co-acts with the reciprocal member for preventing the opening of one of the valves while the other valve is in open position.

In testimony whereof I affix my signature.

WILLIAM F. HATCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."