Feb. 13, 1934. N. S. HILLYARD 1,947,086

SOAP DISPENSER

Filed Feb. 15, 1932

Fig. 1.

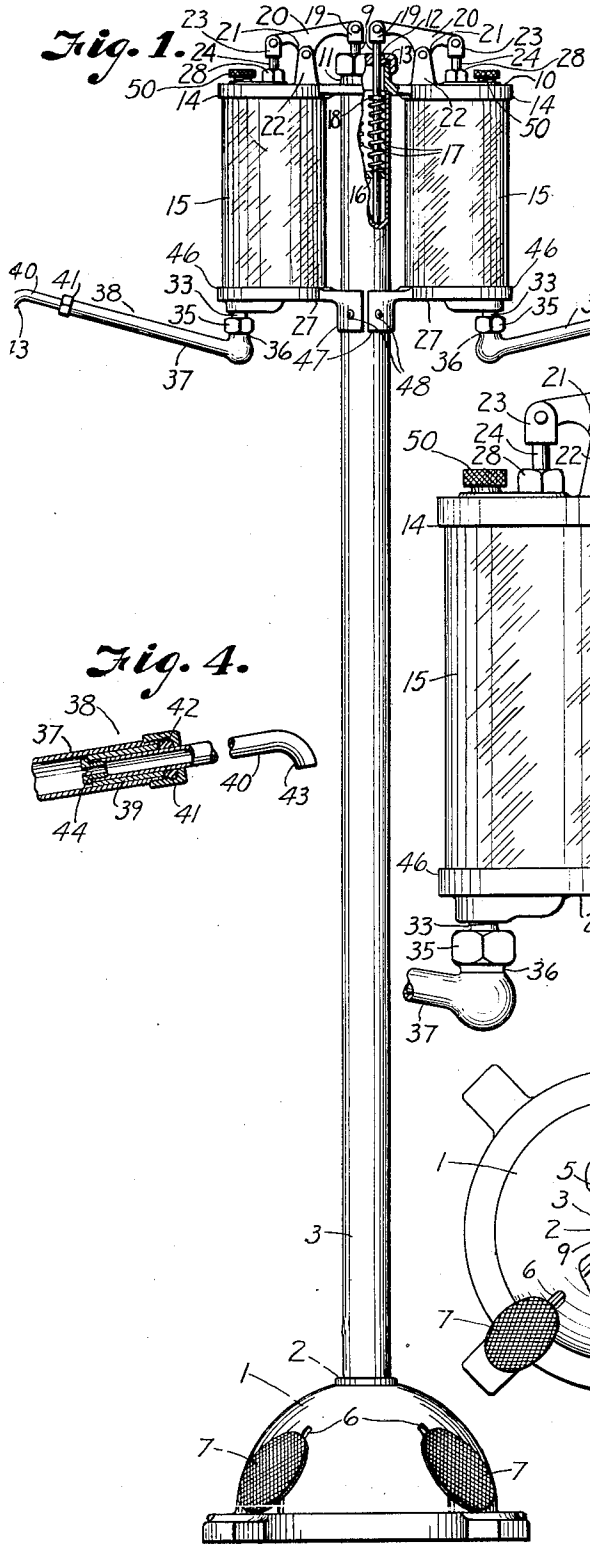


Fig. 2.

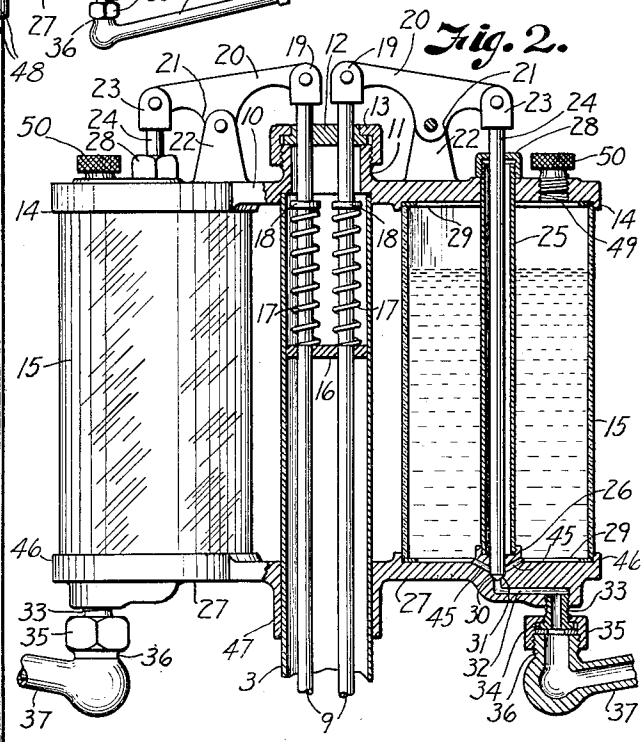
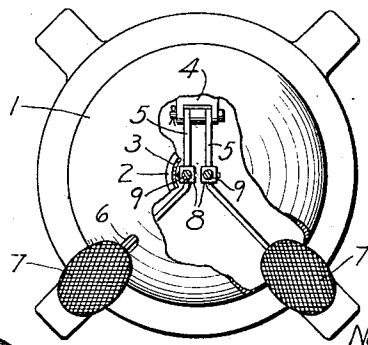


Fig. 4.

Fig. 3.



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SOAP DISPENSER

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13 Claims. (Cl. 221—94)

This invention relates to soap dispensers, and more particularly to a portable type of dispenser which can be readily moved from place to place.

The device is equipped with two containers arranged on a single support and operable independently of each other, making it especially adaptable for hospital use since it can be readily moved to a desired location, and, having two containers, it can be supplied with liquid soap and a germicide, or drying fluid, such as alcohol.

An important feature is that the flow of fluid from the containers is controlled by foot-operated valves so that no portion of the device need be touched by the hands of the person using the device, and as much fluid can be taken at a time from a container as the user desires, the amount being limited only by the capacity of the containers.

Among other useful features of the device are the telescopic swiveling dispensing tubes which permit the user to position the delivery end of the tubes to suit his convenience, and to so swing the tubes that the contents of either container can be dispensed without the user changing positions, or changing the position of the dispenser as would be the case were the dispensing tubes rigidly mounted.

The upward inclination of the tube also precludes dripping of the fluid after the valve is closed.

In accomplishing these and other objects of the invention, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawing, wherein:

Fig. 1 is a side elevation of my device with parts broken away and in section.

Fig. 2 is an enlarged view of the upper portion of the device with parts broken away and in section, showing the valve operating means.

Fig. 3 is a top plan view of the base, showing the manner of mounting the treadles.

Fig. 4 is a fragmental view with parts in section, showing the telescopic arrangement of the dispensing tubes.

Referring to the drawing in detail:

1 represents a base which is preferably hollow and which is preferably provided with a boss 2 at its top in which one end of a tube or standard 3 is secured.

Within the base 1 is a lug 4 to which levers 5 are pivotally secured. These levers are bent and extend through slots 6 in the base, and carry plates 7 at their outer ends. My purpose in bending the levers 5 is to give them a relatively wide spacing at their outer ends and prevent accidental operation of both levers at the same time.

Pivotally secured to the levers 5 are yokes or bifurcated ends 8 of rods 9 which extend upwardly through the standard 3.

Carried by the upper end of the standard 3 is a top or plate 10 provided with a central boss 11 carrying a plate 12 through which the rods 9 extend, the plate being held in position by a cap or nut 13.

Formed on the under face of the plate 10 are circular ribs 14 which surround translucent or transparent members 15 which form the containers.

A web 16 is located in the standard 3 near its top and serves as an abutment for one end of a coil spring or resilient member 17 surrounding each of the rods 9. The upper ends of the members 17 contact collars 18 carried by the rods 9 and thus impart an upward thrust to these rods.

Located on the upper ends of the rods 9 are bifurcated members 19 to which one end of rocker arms 20 are pivotally secured. The rocker arms are provided intermediate their ends with an ear 21 which is pivotally mounted between ears 22 carried by the cap or plate 10 and which are located on opposite sides of the boss 11. The opposite ends of the rocker arms 20 are pivotally connected to the upper ends 23 of valve rods 24.

Extending through the top 10 and centrally of each container is a tube 25 which has its lower end secured in a boss 26 carried by the bottoms 27 of the container. A nut 28 is secured to the top of the pipe 25 and, upon being tightened, clamps the member 15 between the top and bottom. In order to assure leak-proof sealing between the ends of the member 15 and the top and bottom of each container, gaskets 29 are employed.

The valve rod 24 extends through the nut 28 and pipe 25, and has its lower end made conical as at 30, which normally rests on a valve seat 31 formed in the bottom 27 of each receptacle and from which a passage 32 leads. Secured in the bottom 27 and communicating with the passage 32 is a downwardly extending nipple 33 having a flange 34 on its lower end on which a coupling nut 35 is rotatably carried. The nut 35 is secured to the end 36 of one portion 37 of a dispensing tube 38. A sleeve 39 is located in the front end of the portion 37 and slidably receives the tube 40. A packing nut 41 is carried

by the front end of the tube 37 and, together with the packing 42, prevents leakage of fluid at this point. The outer end of the tube 40 is bent downwardly to form a spout 43 and prevent fluid from running back along the outside of the dispensing tube 38. A metering jet 44 having a head is secured in the inner end and not only regulates the flow of fluid through the tube 40 but also acts as a stop by having its head contact one end of the sleeve 39, which will prevent the tube 40 from being entirely withdrawn from the tube 37.

Attention is directed to the fact that the dispensing tubes 38 incline upwardly from the containers. The purpose of this is to halt the discharge of fluid from these tubes as soon as the valves close. The bottoms are provided with passages 45 which are normally closed by the valve rod 24, but when the valve is unseated these passages permit fluid from the container to flow to the passage 32 and in this way the fluid reaches a dispensing tube. The passages 45 and 32 constitute an outlet port for the container controlled by the valve 24.

The bottoms 27 are also provided with circular upstanding flanges 46 which surround the members 15 and with brackets 47 which partially encircle the standard 3, and are secured thereto by any suitable means such as screws 48. My purpose in having individual bottoms for each container is that should one of the members 15 be damaged it can be replaced without disturbing the remaining container, and again, this construction permits the clamping of the members between their respective bottoms and the top regardless of any slight variation in their length, which could not be done if both the top and bottom were of one piece, as either the top or bottom would be sprung in the tightening and a leak-proof contact could not be made between it and the members 15.

The top is provided with a filler opening 49 which is closed by a plug 50.

When it is desired to use the contents of either receptacle the proper plate 7 on one of the levers 5 is depressed with the foot which moves the lever 5 thus selected downwardly, moving the rod 9 carried thereby in the same direction. This will swing the rocker arm 20 on its pivot, raise the valve rod 24 and uncover the passages 45, permitting fluid to flow from the container to the passage 32 and through this passage to the dispensing tube 38. The flow of fluid will continue as long as the plate 7 is depressed, and, on removal of the foot from the plate, the spring 17 will return all of the parts previously moved to their normal position, thus closing off the passages 45 which will halt the further delivery of fluid from the dispensing tube almost instantly and thus prevent waste of the fluid.

When using the device it is first placed so that one of the dispensing tubes is over the lavatory; then the other dispensing tube is swiveled and arranged so that it will also extend over the same lavatory. All of this arranging is done by the surgeon before he commences to wash his hands. One of the containers contains liquid surgical soap and the other a germicide, such as alcohol. The surgeon can now wash his hands and use either soap or alcohol without touching the dispenser with his hands, as all of the dispensing is controlled by the foot levers, and the surgeon can pass to the operating room with the assurance that his hands are as sterile as it is humanly possible to make them because nothing but water, soap and the germicide have been in contact with them during the washing period.

The dispenser, being portable, can be readily carried to a desired location by an orderly and can therefore serve several operating rooms in a hospital.

An important feature of my device is that the fluid flows in a steady stream as long as the foot lever is depressed and no pumping action, resulting in a series of squirts of fluid, is necessary.

What I claim and desire to secure by Letters Patent is:

1. A soap dispenser comprising a base, a hollow standard carried thereby, a pair of containers carried by the upper end of said standard, an outlet port for each container, an independently operable valve for each of said ports, and means including a pair of rods extending longitudinally through the standard and operatively connected to the respective valves for actuating said valves.

2. A soap dispenser comprising a base, a hollow standard carried by said base, fluid containers carried by the upper end of said standard, an outlet port formed in the bottom of each of said containers, downwardly seating valves extending through the containers for closing said outlet ports, means for normally holding said valves in closed position, and means including rods extending longitudinally through said standard and operatively connected with the valves for opening said valves.

3. A soap dispenser comprising a base, a hollow standard carried by said base, fluid containers carried by said standard, an outlet port in each of said containers, a valve for closing each of said outlet ports, means for normally holding said valves in closed position, means including rods extending through the standard and operatively connected with said valves for opening said valves, and outwardly and upwardly extending dispensing tubes carried by each of said containers and communicating with said outlet ports.

4. A soap dispenser comprising a base, a standard carried by said base, fluid containers carried by said standard, an outlet port in each of said containers, a separate valve for each of said outlet ports, means for normally holding said valves in closed position, foot-operated means for opening said valves, and outwardly and upwardly extending dispensing tubes communicating with said outlet ports and swivelly connected to said fluid containers for swinging in a substantially horizontal plane.

5. A soap dispenser comprising a base, a hollow standard carried thereby, fluid containers carried by said standard, an outlet port in the bottom of each of said containers, valves including stems extended through the containers for controlling the flow of fluid through said outlet ports, means for normally holding said valves in closed position, means including rods extended through said standard and rocker arms operatively connecting the rods with said valve stems for opening said valves, and outwardly and upwardly extending telescopic dispensing tubes in communication with said outlet ports carried by said containers.

6. A soap dispenser comprising a base, a standard carried thereby, fluid containers each having a top and a bottom carried by said standard, an outlet port formed in said bottom, an upwardly and outwardly extending telescopic dispensing tube communicating with said outlet swivelly carried by said bottom, a valve extending through said top for opening and closing said outlet port,

a rocker arm pivotally carried intermediate its ends by said top and having one of its ends pivotally connected to said valve, a rod extending through said standard pivotally secured at its upper end to the remaining end of the rocker arm, a lever pivotally mounted at one end in said base and projecting therefrom, a pivotal connection between said lever and the lower end of said rod, and resilient means for urging said rod upwardly, whereby said valve is normally held in closed position.

7. In a device of the character described, a base, a hollow standard on the base, a closed fluid container carried by the standard having an outlet port, a downwardly closing valve in the port having a stem projecting through the top of the container, a rocker arm rockingly mounted on the container and having one end pivotally connected to the valve stem, a rod extended through said standard and pivotally connected to the other end of the rocker arm, and means for actuating said rod to operate the valve.

8. In a device of the character described, a base, a hollow standard on the base having a web, a closed fluid container carried by the standard having an outlet port, a downwardly closing valve in the port having a stem projecting through the top of the container and having one end pivotally connected to the valve stem, a rod extended through said standard and web and pivotally connected to the other end of the rocker arm, a stop member on the rod above said web, resilient means between the stop member and web for moving the rod in one direction to close the valve, and treadle mechanism operatively connected to the rod for moving the rod in the opposite direction to open the valve.

9. In a device of the character described, a base, a hollow standard on the base, a closed fluid container carried by the standard having an outlet port in its bottom, an annular boss surrounding said port and having a lateral branch communicating the container with the support, a tube concentric with the container sealingly engaging the boss and extending upwardly through the top of the container, a downwardly closing valve in the port having a stem projecting through said tube, an arm rockingly mounted on the container having one end pivotally connected to the valve stem, a rod extended through said standard and pivotally connected to the other end of the arm, and means for actuating the rod to operate the valve.

10. In a device of the character described, a container having a fluid outlet port, a valve in said container for normally closing said port, means associated with the container for operating said valve to allow fluid to flow from the container through said port, a dispensing tube communicating with the port and extending radially from the container, and a nozzle telescopingly slidable relatively to the dispensing tube and having an outlet end located above the horizontal level of the valve to prevent flow therefrom when the valve is closed.

11. In a device of the character described, a container having a fluid outlet port, a valve in said container normally closing said port, means associated with the container for operating said valve to allow fluid to flow from the container through said port, a dispensing tube communicating with the port and extending radially from the container, a nozzle telescopingly slidable relatively to the dispensing tube and having an outlet end located above the horizontal level of the valve to prevent flow therefrom when the valve is closed, and means for swingingly supporting said dispensing tube on the container whereby the nozzle is movable in a horizontal direction.

12. In a fluid dispenser of the character described, a base, a standard carried by the base, a bottom member fixed to the upper end of the standard having an annular flange forming a seat and having a fluid outlet port therein, a cylindrical transparent tube having its lower end supported on said seat, a cap member having an annular flange engaging the upper end of said cylindrical member, means for securing the cap member to the bottom member to retain said cylindrical tube in sealing relation with said seat to form a fluid container, a valve controlling said port, and means for operating the valve to dispense fluid from the container through said port.

13. A fluid dispenser of the character described comprising a base, a tubular standard carried by the base, a fluid container supported on the upper end of the standard and having an outlet port, a valve normally closing said port, a reciprocable member operable in said standard, means for directly connecting the upper end of the reciprocable member to said valve, a foot pedal pivotally supported on the base, and means operably connecting the foot pedal with the lower end of said reciprocable member so that operation of the foot pedal directly opens said valve to allow fluid to flow through said port.

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