April 28, 1953 F. T. HILLIKER 2,636,501

WASHBASIN AND FLUID DISPENSER THEREFOR

Filed May 2, 1949 2 SHEETS—SHEET 1

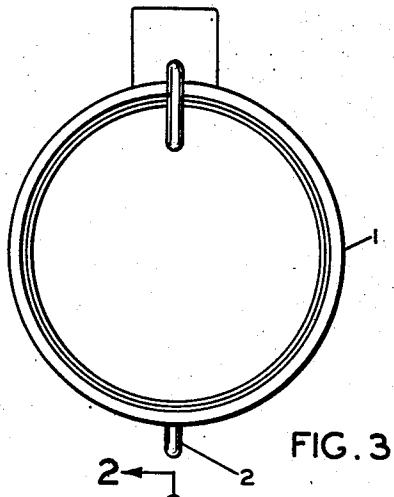


FIG. 3

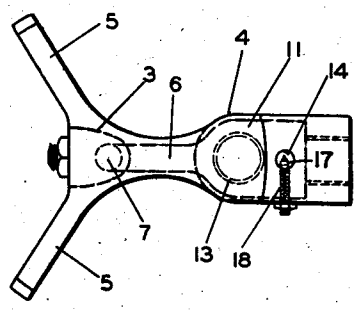


FIG. 4

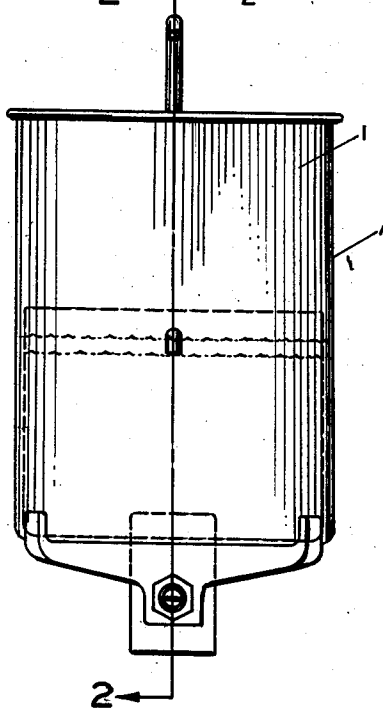


FIG. 1

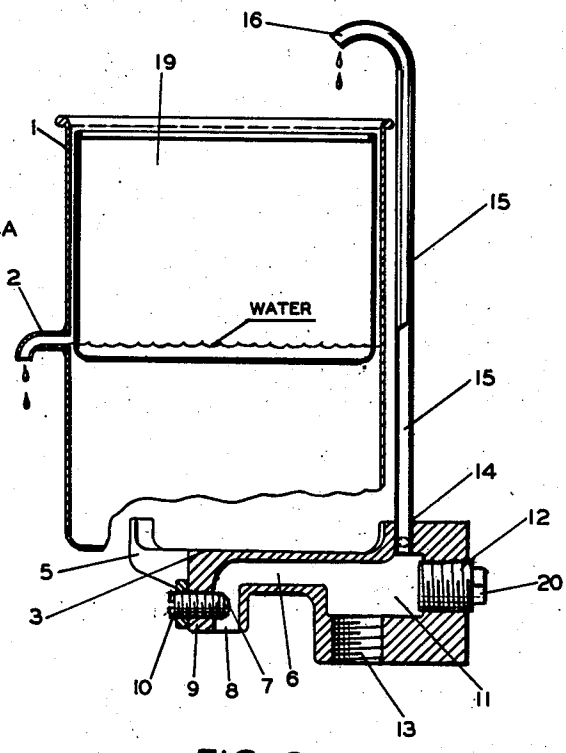


FIG. 2

INVENTOR.
FRANK T. HILLIKER
BY Alfred W. Peterson
ATTORNEY

April 28, 1953 F. T. HILLIKER 2,636,501

WASHBASIN AND FLUID DISPENSER THEREFOR

Filed May 2, 1949 2 SHEETS—SHEET 2

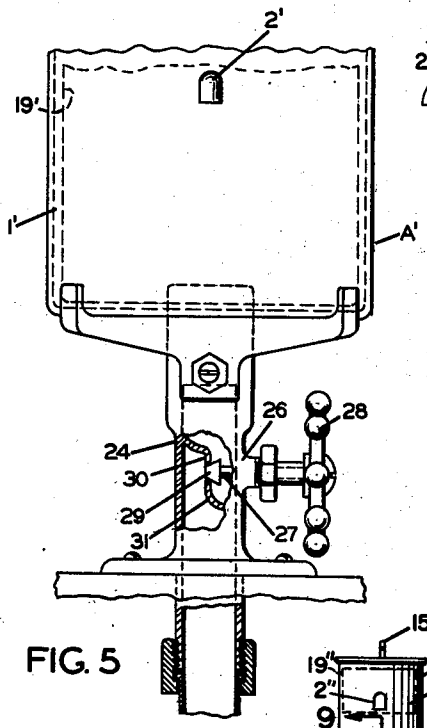


FIG. 5

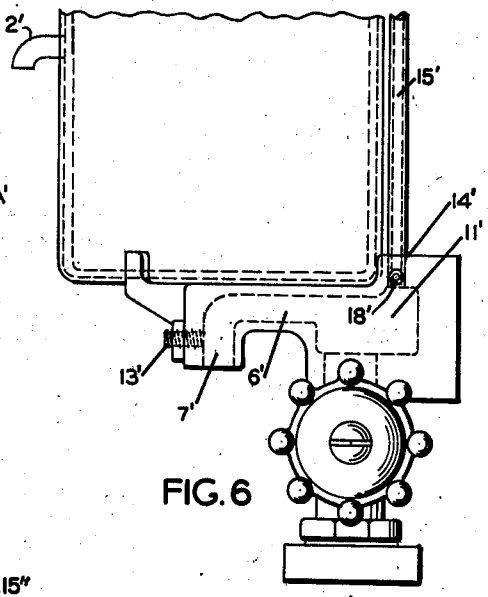


FIG. 6

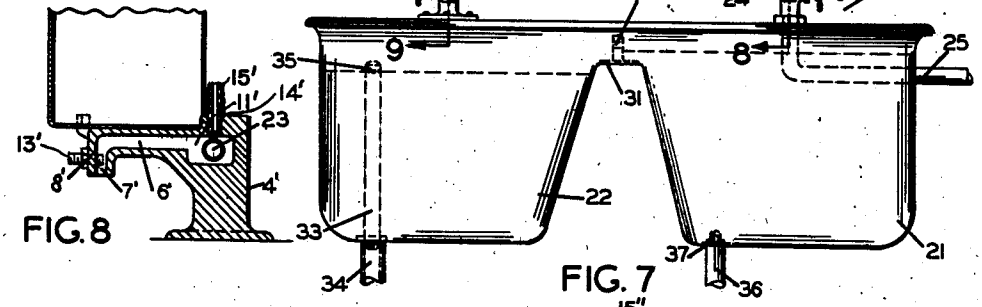


FIG. 8

FIG. 7

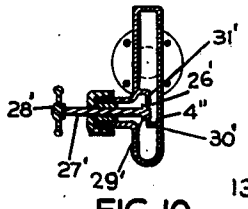


FIG. 10

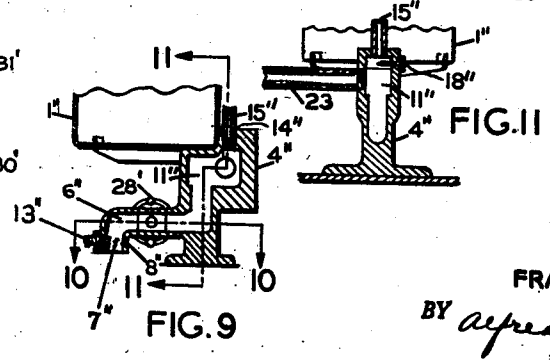


FIG. 11

FIG. 9

INVENTOR.
FRANK T. HILLIKER
BY Alfred W. Barker
ATTORNEY.

Patented Apr. 28, 1953 2,636,501

UNITED STATES PATENT OFFICE

2,636,501

WASHBASIN AND FLUID DISPENSER THEREFOR

Frank T. Hilliker, St. Louis, Mo.

Application May 2, 1949, Serial No. 90,970

7 Claims. (Cl. 134—56)

1

In commercial eating establishments such as restaurants, hotels, and the like, it is imperative for maintenance of public health that all dishes and utensils be rinsed in germicidally treated water. Such treatment is generally mandatory by local ordinance and State law. In the actual usage, there is necessity to assure that the proper amount of germicide is used for the particular quantity of water. Despite the fact that there can be rather broad limits of tolerance, the measuring out of the minimum amount of such germicidal agent has presented some difficulty. The normal personnel engaged in dishwashing operations are generally unskilled and, ordinarily, having small appreciation of the need for the germicide, perfunctorily pour in unmeasured amounts. Thus, with great frequency, less than the minimum amount of germicidal solution is used causing the wash water to be unhygienic, and with equal frequency an excessive amount is used which constitutes a marked waste in view of the relatively high cost of such agents.

Therefore, it is the primary object of the present invention to provide a wash basin having a fluid dispenser for germicidal solutions which is adapted to discharge an amount of germicidal solution in proper proportion to the water to be treated in order effectively to create an antiseptic rinsing solution.

It is a further object of the present invention to provide a fluid dispenser of the type above stated, having flow adjusting means for decreasing or increasing the germicidal potency of the rinse water.

It is a further object of the present invention to provide a dispenser of the type stated which may be adapted for joint use with another such dispenser for the simultaneous discharge of different materials, each in defined relation to the water to be treated thereby, in the creation of separate washing and rinsing solutions.

It is an additional object of the present invention to provide a dispenser of the type stated having a simplicity of parts and which may be economically manufactured, installed, and maintained.

With the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawings (two sheets)—

Figure 1 is a front elevational view of a fluid dispenser constructed in accordance with and embodying the present invention;

2

Figure 2 is a transverse sectional view taken along line 2—2 of Figure 1;

Figure 3 is a top plan view of the dispenser;

Figure 4 is a top plan view of the supporting casting;

Figure 5 is a fragmental front elevational view of a modified type fluid dispenser constructed in accordance with and embodying the present invention;

Figure 6 is a side elevational view of the modified type of fluid dispenser shown in Figure 5;

Figure 7 is a front elevational view of a pair of connected fluid dispensers mounted for usage upon adjoining basins;

Figures 8 and 9 are transverse sectional views taken along lines 8—8 and 9—9, respectively, of Figure 7; and

Figures 10 and 11 are transverse sectional views taken along lines 10—10 and 11—11, respectively, of Figure 9.

Referring now to the drawings which illustrate practical embodiments of my invention, A designates a dispenser unit comprising a container 1 having a spout 2 welded thereto approximately midway between the top and bottom. The container 1 is supported on its under surface within a cradle 3 formed by a portion of the upper surface of a casting 4 and a pair of arms 5 integral therewith and diverging outwardly therefrom. The casting 4 is internally provided with a passageway 6 having at is forward end a vertical offtake opening downwardly in the provision of a discharge spout 8. The forward end wall of the casting 4 is provided with an internally threaded aperture 9 for receiving a throttling screw 10 which projects therethrough into the vertical passageway 7. The passage 6 opens at its other end into a relatively enlarged chamber 11 having internally threaded apertures 12, 13, in its rearward and lower walls, respectively, for optionally receiving a water line (not shown) by which it is conventionally connected to a source of water.

Provided in the upper surface of the casting 4 adjacent the cradle 3 is a vertically extending passage 14 opening at its lower end into the chamber 11. Sweated into the passage is an upwardly projecting, narrow-bore tube or bleeder means 15 which is bent at its upper end to provide a downwardly directed discharge spout 16 projecting over and above the container 1. Extending into the lower end of the aperture 14 is a throttling screw 17 threadedly engaged in an aperture 18 in the casting 4. Sized for loose-fitting disposition within the container 1, for purposes more fully described hereinafter, is an

open-topped, relatively light catch-bucket 19 having a volumetric capacity somewhat less than half that of the container 1.

In usage the dispenser unit A is suitably disposed over a basin, tub, or sink (not shown) with the discharge spout 8 and the spout 2 directed for discharging thereinto and a water line is connected to the casting 4 through either of the apertures 12 or 13, depending upon whichever may be convenient under the particular circumstances, with the aperture 12 or 13 not so used, being closed by a suitable plug 20. A concentrated germicidal solution is then poured into the container 1 to a level which when the catch-bucket 19 is floated on the surface thereof will come to a point just below overflowing through the spout 2. This particular point may be appropriately marked on the inner face of the container 1. However, if the container 1 is used for various germicide solutions having different specific gravities it is apparent that one marking will not suffice.

The water, when turned on, flows through the chamber 11, the passageways 6 and 7, and thence outwardly through the spout 8 into the basin. During such flow, a proportioned amount of water will flow upwardly through the tube 15 and discharge from the spout 16 into the container 19. By proper setting of the throttling screws 16, 17, the relative rates of flow through the offtake 7 and tube 15 can be adjusted so that a predetermined number of drops of water will fall into the catch-bucket 19 for each gallon of water flowing through the spout 8. As water drips into the catch-bucket 19, the latter will become heavier and displace a proportionate amount of the germicidal solution in the container 1, causing said solution to overflow through the spout 2 and into the basin (not shown). Once the operation has fully commenced, the germicidal solution will drip out of the spout 2 drop for drop as the water drips from the spout 16. It will thus be seen that the germicidal solution so discharged is, in effect, metered in a defined proportion to the amount of water entering the basin through the spout 8, and the relationship, between the respective amounts will be constant since both are responsive to the same line pressure. In the event it is desired to increase the germicidal potency of the rinse water collecting in the basin the throttling screw 16 may be threaded inwardly to restrict the vertical offtake 7 of water whereupon the flow of water through the spout 8 will be decreased while the amount of germicidal solution discharged at that particular line pressure will continue unaffected. Conversely, if it is desired, to decrease the germicidal potency of the wash water collecting in the basin, the adjustment screw 17 may be threaded inwardly to restrict the tube 15 and thus reduce the amount of water flowing therethrough with a consequent diminution of the amount of germicidal solution discharged through the spout 2. Since in the latter instance the flow of water through the spout 8 remains constant, the resultant rinse water will obviously be weaker germicidally.

If desired, a comprehensive washing unit B may be provided comprising a pair of spaced dispensers A', A'', each having a container 1', 1'', with spouts 2', 2'', and castings 4', 4'', and are suitably disposed over connected basins 21, 22, respectively. The container 1' of the dispenser A' is filled to the appropriate level with germicidal solution for discharge into the basin 21 which will thus contain properly treated rinse water, and the container 1'' is appropriately filled with soap solution in order to create a satisfactory dishwashing solution in the basin 22. Thus, dishes and utensils may be washed in the basin 22 and then rinsed in the basin 21, being subjected to the germicidal action of the rinse water.

Each casting 4', 4'', is respectively provided with passageways 6', 6'', vertical passageways 7', 7'', spouts 8', 8'', throttling screws 13', 13'', chambers 11', 11'', vertical apertures 14', 14'', throttling screws 18', 18'', and tubes 15', 15'', each of said elements being in every respect similar to the corresponding part of the dispenser A above described.

Horizontally extending between the dispensers A', A'', and threadedly secured at its ends in suitable apertures in the walls of the chambers 11', 11'', of the castings 4', 4'', is a conduit member 23.

Opening at its upper end into the chamber 11'' of the casting 4'' and integrally formed therewith is a tubular portion 24, externally threaded at its lower end for suitable connection to a pipe 25 leading from the source of water (not shown). Provided in the tubular portion 24 is a valve member 26 having a stem 27 with a handle 28 on its outer end and a plug 29 on its inner end for removable disposition in a valve seat 30 formed in a partition 31 positioned within the tubular portion 24. Similarly, the passageway 7' is provided with a valve member 26', having a stem 27', with a handle 28' on its outer end and a valve plug 29' on its inner end for removable disposition in a valve seat 30' formed in a partition 31' integrally formed across the passageway 7'. It will thus be seen that as the handle 28 is turned to withdraw the plug 29 from its seat 30, water will flow from its source through the pipe 25, upwardly into the tubular portion 24 and into the chamber 11', of the casting 4', thence through the conduit 23 into the chamber 11' of the casting 4'' with water being discharged through the spouts 8', 8'', and into the basins 21, 22, respectively, assuming, of course, that the valve member 26' is also opened. Simultaneously, a portion of the water, the amount depending upon the line pressure, will flow through the tubes 15', 15'' of each dispenser A', A'', for discharge into containers, 19', 19'', floating on the surfaces of the germicidal and soap solutions, respectively, in the containers 1', 1'', which solutions will be metered into the basins 21, 22, respectively.

The basins 21, 22, are connected on their inner surfaces near their upper ends by a dividing wall 34 having a weir 32. Disposed within the washing basin 22 is an upstanding discharge pipe 33 suitably connected at its lower end to a sewer pipe 34 and having, at its upper end, a series of radially disposed apertures 35, which are below the wall for maintaining a liquid level in the wash water basin 22 substantially below the level in the rinse water basin 21. The rinse water basin 21 is also suitably connected to a sewer pipe 36, the upper end of which may be plugged during operation by a conventional stopper 37. Since the apertures 35 of the discharge pipe 33 are below the passageway 31 there is no danger of the water flowing from the basin 22 into the rinse water basin 21 to contaminate or weaken the germicidal content of the rinse water. By means of the adjustment screws 13', 13'', 18', 18'', the specific concentration of germicide or soap in rinse water and wash

water, respectively, may be precisely regulated, in the manner above-described in connection with the dispenser A.

In usage, it will thus be seen, that the basins 21, 22, are filled with germicidally treated rinse water and wash water of adequate detergent strength, respectively. Once the basins 21, 22, have been filled, as above described, the valve member 26' is closed and the flow of fresh hot water through the spout 8'' may be reduced so that a small amount of fresh water is always flowing into the rinse water basin 21 and the rinse water in the basin 21 will overflow through the weir 32 into the basin 22 to refresh the wash water. Since water stills flows in proportioned amounts through the tubes 15', 15'', and drops very slowly into the catch-buckets 19', 19'', soap solution and germicidal solution will continue to be dispensed at a properly reduced proportionate rate so that the respective strength of wash water and rinse water will be maintained in spite of the continuous influx of refreshing water. It may be noted that as rinse water overflows into the wash water basin 22 it will have some germicidal content but this is not detrimental to the wash water as such, although, in the presence of most soaps and detergents, the commonly used germicidal agents lose their potency and hence the wash water is not materially effective as a sterilizing agent per se.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the fluid dispenser may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention what I now claim and desire to secure by Letters Patent is:

1. A dispenser comprising an outer container, a discharge spout on said container located at a predetermined distance above the bottom thereof so that the container may be filled only up to the level of the spout with the liquid to be dispensed and will thereupon contain a predetermined volume of such liquid, an inner container disposed for substantially free movement up and down within the outer container and being adapted to float upon the surface of the liquid in the outer container, water discharging means adapted to be connected to a source of water, throttling means for restricting the rate of discharge of water from the water discharging means, and a tube connected to the water discharging means and having an open mouth located above the inner container for admitting water into said inner container and in proportion to the amount of water passing through said water discharging means, whereby the water entering the inner container will cause corresponding displacement of the liquid.

2. For use with a wash basin and a source of water, a dispenser comprising an open-topped container adapted to receive a defined quantity of fluid, an overflow spout on said container located a predetermined distance above the bottom of the container, support means for said container, said support means having a passageway adapted for communication at one end to the source of water and at its other end to the basin, a catch bucket disposed within the container and being adapted to float on the fluid therein, bleeder means connected at one end to said passageway and opening at its other end into the catch bucket for discharging water into the catch bucket in proportion to the amount of water entering said passageway, and throttling means for restricting the rate of flow of water through said passageway whereby to build up water pressure in the bleeder means.

3. For use with a wash basin and a source of water, a dispenser comprising a container adapted to receive a defined quantity of fluid at atmospheric pressure, an overflow spout on said container located a predetermined distance above the bottom thereof, support means for said container, said support means having a passageway for connection at one end into an enclosed chamber and at its other end to a discharge spout, throttling means for said discharge spout, said chamber being connected to a source of water, a catch bucket disposed within the container and being adapted to float on the fluid therein, a conduit member leading from said chamber for discharging water into the catch bucket in proportion to the amount of water entering said chamber.

4. For use with a wash basin and a source of water, a dispenser comprising an open-topped container adapted to receive a defined quantity of fluid, an overflow spout on said container located a predetermined distance above the bottom thereof, support means for said container, said support means having a passageway for connection at one end into an enclosed chamber and at its other end to a discharge spout, said chamber being connected to a source of water, a catch bucket disposed within the container and being adapted to float on the fluid therein, a vertically disposed conduit member opening at its lower end into said chamber and terminating at its upper end in elevated relation to the catch bucket for discharging water into the catch bucket in proportion to the amount of water entering said chamber, and throttling means adjustably mounted in the discharge spout and being adapted to extend into the discharge spout for throttling the flow of liquid through the discharge spout whereby to build up sufficient pressure within the chamber to cause water to flow through the vertically disposed conduit member.

5. For use with a wash basin and a source of water, a dispenser comprising a container adapted to receive a defined quantity of fluid at atmospheric pressure, an overflow spout on said container located a predetermined distance above the bottom thereof, support means for said container, said support means having a passageway for connection at one end into an enclosed chamber and at its other end to a discharge spout, said chamber being connected to a source of water, a catch bucket disposed within the container and being adapted to float on the fluid therein, a vertically disposed conduit member opening at its lower end into said chamber and terminating at its upper end in elevated relation to the catch bucket for discharging water into the catch bucket in proportion to the amount of water entering said chamber, and throttling means provided in said support means for controlling flow within the conduit member.

6. For use with a wash basin and a source of water, a dispenser comprising a first container, adapted to receive a defined quantity of fluid, a drip spout on said first container extending over the basin so that fluid flowing through the drip-spout will fall freely into the basin, said drip-spout being located a predetermined distance above the bottom of the container, support means for said first container, said support means having a passageway for connection at one end

to an enclosed chamber and at its other end to a discharge spout, said chamber being connected to the source of water, a second container disposed floatingly upon the surface of the fluid in the first container, a vertically disposed conduit member opening at its lower end into said chamber and terminating at its upper end in elevated relation to said second container for discharging water into said second container in order to displace fluid in the first container through the spout into the wash basin in proportion to the amount of water entering said chamber, throttling means for restricting the rate of discharge from the discharge spout to build up a predetermined amount of water pressure within the chamber.

7. For use with a wash basin and a source of water, a dispenser comprising a first container adapted to receive a defined quantity of fluid, a drip spout on said container extending over the basin so that fluid flowing through the drip-spout will fall freely into the basin, said drip-spout being located a predetermined distance above the bottom of the container, a casting supporting said first container, said casting having a passageway for connection at one end to an enclosed chamber and at its other end to a discharge spout in elevated relation to the wash basin, said chamber

being connected to a source of water, a second container disposed within the first container and being adapted to float on the fluid therein, a vertically disposed bleeder member opening at its lower end into said chamber and terminating at its upper end in elevated relation to said second container for discharging water into said second container whereby fluid in the first container is displaced through the spout into the wash basin in proportion to the amount of water entering said chamber, and independent adjusting members for throttling the discharge spout and the bleeder member for regulating a proportionate relationship between the fluid discharged from the first container and water discharged through the discharge spout.

FRANK T. HILLIKER.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
240,404	Gibbs	Apr. 19, 1881
1,719,410	Webb	July 2, 1929
1,946,474	Banks et al.	Feb. 13, 1934
2,302,097	Beckman	Nov. 17, 1942