H. A. CLIFFORD.

ANTISEPTIC DISPENSER.

APPLICATION FILED MAR. 23, 1917.

1,227,997. Patented May 29, 1917.

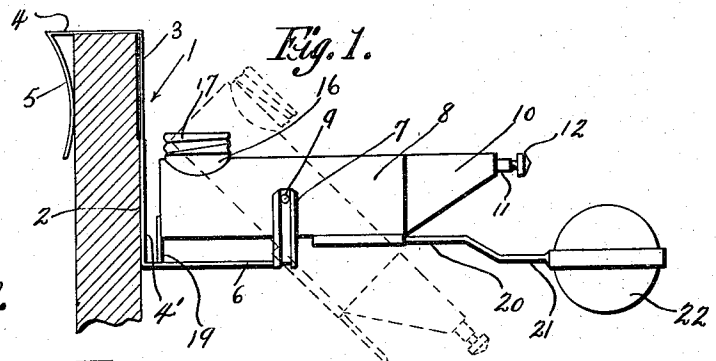


Fig. 1.

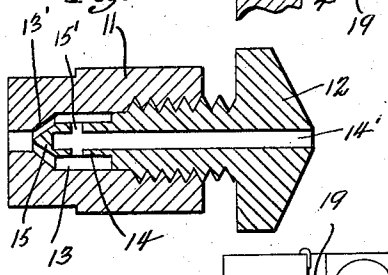


Fig. 6.

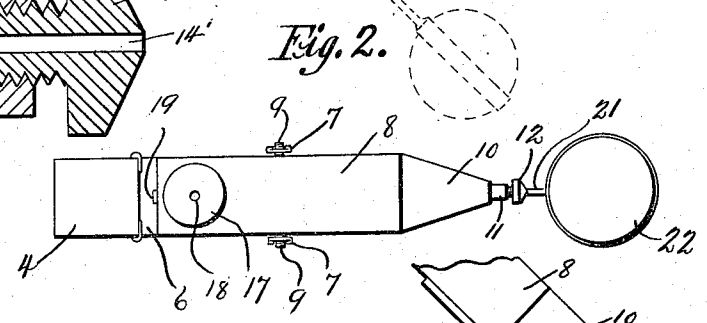


Fig. 2.

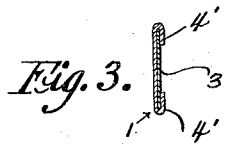


Fig. 3.

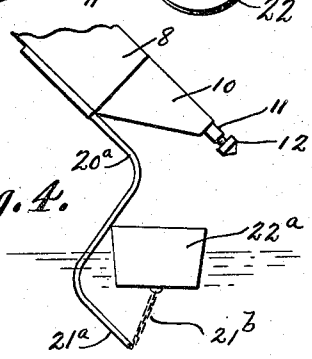


Fig. 4.

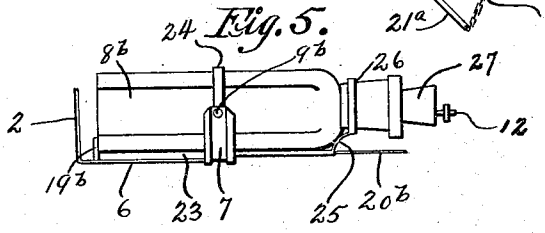


Fig. 5.

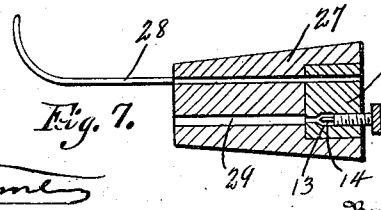


Fig. 7.

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UNITED STATES PATENT OFFICE.

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ANTISEPTIC-DISPENSER.

1,227,997. Specification of Letters Patent. Patented May 29, 1917.

Application filed March 23, 1917. Serial No. 156,963.

To all whom it may concern:

Be it known that I, HARLON ASHLEY CLIFFORD, a citizen of the United States, residing at Greenfield, in the county of Franklin and State of Massachusetts, have invented a new and useful Antiseptic-Dispenser, of which the following is a specification.

The present invention relates to a device for dispensing a deodorizing, disinfecting and antiseptic solution or powder, and aims to provide a novel and improved appliance of that character applicable to flushing tanks and operable automatically for discharging a small charge of the solution or powder into the water during the flushing operation, whereby to accomplish the desired deodorizing, disinfecting and antiseptic function.

It is the object of the invention to provide a simple, compact and inexpensive device of the character indicated which can be readily applied to various flushing tanks, and which is practical and efficient in use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:—

Figure 1 is a side elevation of one form of the invention.

Fig. 2 is a plan view thereof.

Fig. 3 is cross section of the hanger.

Fig. 4 is a fragmental side elevation illustrating a modification.

Fig. 5 is a fragmental side elevation illustrating another variation.

Fig. 6 is an enlarged sectional detail showing the structure of the discharge valve.

Fig. 7 is a similar view illustrating the discharge means of the modified form shown in Fig. 5.

In carrying out the invention, there is provided a hanger 1 for suspending the device within the flushing tank and this hanger embodies the lower and upper sheet metal sections 2 and 3 overlapping each other. The vertical side edges of the lower hanger section 2 are provided with bent back flanges 4′ providing means for slidably receiving the upper hanger section 3, whereby the hanger is extensible. The lower hanger section frictionally engages the upper hanger section, and can be adjusted to different positions, according to the normal water level of the flushing tank. The upper end of the hanger section 3 has a portion 4 extending angularly outward to rest upon the upper edge of the corresponding side wall of the flushing tank, and the portion 4 has a depending curved spring tongue or leaf spring 5 to bear inwardly against the side wall of the tank, whereby to firmly hold the hanger in position. The portion 4 and tongue 5 provide a hook engaging over and seating upon the side wall of the tank, whereby the device can be readily applied thereto. The lower end of the hanger section 2 has an inwardly projecting shelf or bracket 6 provided at its end with a pair of upstanding standards 7.

The hanger is used for suspending a cylindrical or elongated reservoir 8 within the flushing tank, this reservoir being normally in a horizontal position with one end above the bracket 6 and said reservoir is provided at its opposite sides between its ends with outstanding trunnions 9 journaled in the standards 7, whereby the reservoir 8 is tiltable about a transverse horizontal axis. That end of the reservoir 8 farthest remote from the hanger is of tapered or hopper-shape and has its axis disposed obliquely relative to the reservoir, so that the hopper-end portion 10 is flush with the top of the reservoir 8 when the reservoir is horizontal, as seen in Fig. 1 in full lines. The end portion 10 of the reservoir is provided at its apex with a longitudinally projecting outstanding nipple 11 into which a suitable discharge valve is fitted or threaded to permit only a few drops of the liquid or powder to be discharged when the reservoir is tilted, as seen in dotted lines in Fig. 1.

The nipple 11 has a passage or outlet 13 into which a discharge tip 12 is threaded, said tip 12 having the reduced extension 14 and an outlet duct or bore 14′ extending into the extension 14. The extension 14 has an aperture 15′ at one side establishing communication between the passage 13 and duct

14′. The extension 14 is provided at its end with a conical or needle valve 15 coöperable with a bevel valve seat 13′ with which the nipple 11 is provided within the passage 13. By adjusting the tip 12, this regulates the flow of liquid from the reservoir into the passage 13, whereby the desired number of drops of the liquid are discharged when the reservoir is tilted.

The reservoir 8 is provided adjacent to that end thereof which overhangs the bracket 6 with an upstanding filling neck 16 upon which a removable cap 17 is threaded, said cap being readily removed for filling the reservoir with the solution or powder, and the cap 17 having a vent aperture 18. A depending stop 19 is carried by said end of the reservoir 8 to bear upon the bracket 6 when the reservoir is swung to horizontal position, thereby to limit the movement of the reservoir.

As a means for automatically tilting and restoring the reservoir, an arm 20 is secured to the bottom of the reservoir 8 adjacent to the hopper portion 10 and projects longitudinally away from the bracket 6. The free end of the arm 20 is offset downwardly, as at 21, and has attached thereto a suitable float 22.

In operation, after the device is applied to the flushing tank, the bracket 6 is adjusted vertically so that when the tank is normally filled, the water level is adjacent to the bracket 6, in order that the float 22 will hold the reservoir 8 in horizontal position, as seen in full lines in Fig. 1, without the water entering the reservoir. Now, when the water is discharged from the tank, the float 22 will follow the water level downwardly, thereby causing the reservoir 8 to tilt, as seen in dotted lines in Fig. 1, and a small charge of the solution or powder will be discharged through the valve 12, and will mix with the outflowing water to accomplish the desired result. When the tank is again filled, the float 22 is rising with the water level, will restore the reservoir 8 to normal horizontal position ready for the subsequent operation. Due to the position of the hopper portion 10, the solution cannot be drained from the reservoir when it is horizontal, and the reservoir can be almost completely filled, and at the same time when the reservoir is tilted, all of the solution can be discharged after the repeated operation of the device. The reservoir can hold a sufficient supply of the solution for a considerable period of time.

In the modification illustrated in Fig. 4, the arm 20^a which is secured to the under side of the reservoir 8 has its free end offset downwardly to a considerable extent, as at 21^a, and the float 22^a is movable loosely above the offset end 21^a and is connected thereto by means of a chain or other flexible element 21^b. When the water is discharged from the tank, the float 22^a can drop below and hang from the end 21^a of the arm 20^a, and when the tank is filled, the float 22^a can move above said downwardly offset end, as seen in Fig. 4, whereby to pull the arm 20^a upwardly to restore the reservoir to horizontal position.

In the variation shown in Fig. 5, a bottle 8^b is used for the reservoir and is normally in a horizontal position with its closed end adjacent to the hanger. The bottle is seated on a tilting platform 23 provided between its ends with a portion 24 having the trunnions 9^b journaled to the standards 7, and the platform is provided at that end farthest remote from the hanger with an arcuate spring 25 having the upstanding clip 26 for receiving the neck of the bottle. The float arm 20^b is attached to that end of the platform 23 farthest remote from the hanger, and the opposite end of the platform has a stop 19^b engaging the closed end of the bottle to assist in holding the bottle in place. The bottle can be readily placed on the platform 23 within the clips or holding members 24 and 26, and can be readily removed for filling it. A stopper 27 is fitted within the neck of the bottle and is provided with an inset plug 11^a corresponding with the nipple 11 above described, and an air inlet tube 28 extends through the stopper 27 and plug 11^a to enter the bottle and permit the air to flow thereinto when the bottle is tilted downwardly. The plug 11^a has a passage 13 the same as the nipple 11, in which the tip 12 is threaded to regulate the discharge of the liquid from the bottle, the stopper 27 having a passage 29 communicating with the passage 13 for the flow of liquid.

Having thus described the invention, what is claimed as new is:—

1. A device of the character described, embodying a reservoir having discharge means at one end for the discharge of a small quantity of the contents when the reservoir is tilted, means for supporting said reservoir for tilting movement within a flushing tank, and a float connected to the reservoir for raising the discharge end thereof to non-discharging position when the tank is filled.

2. A device of the character described, embodying a normally horizontal reservoir having discharge means at one end for the discharge of a small quantity of the contents when the reservoir is tilted, means for supporting the reservoir for tilting movement within a flushing tank, an arm connected to the reservoir and projecting beyond said end thereof, and a float connected to said arm for raising the discharge end of the reservoir to non-discharging position when the tank is filled.

3. A device of the character described,

embodying a reservoir having discharge means at one end, a hanger adapted to be suspended from one wall of a flushing tank and having an inwardly projecting bracket to which said reservoir is pivotally connected, and a float connected to said reservoir for raising said end thereof when the tank is filled.

4. A device of the character described, embodying an extensible hanger having a hook at its upper end to engage over one wall of a flushing tank and having an inwardly projecting bracket at its lower end, a reservoir pivotally connected with said bracket and having discharge means at one end, and a float connected to the reservoir for raising said end thereof when the tank is filled.

5. A device of the character described, embodying a hanger having means at its upper end for engaging the upper edge of a flushing tank and having a bracket at its lower end provided with standards, a reservoir disposed between and trunnioned to said standards with one end overhanging the bracket, the other end of the reservoir having discharge means, an arm connected to the reservoir and projecting beyond the last mentioned end thereof, and a float connected to said arm.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARLON ASHLEY CLIFFORD.

Witnesses:

HARRY E. WARD,

DORA E. NELSON.

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