Jan. 14, 1941. A. L. LOWE 2,228,573

FOUNTAIN LIQUID APPLICATOR

Filed March 4, 1938

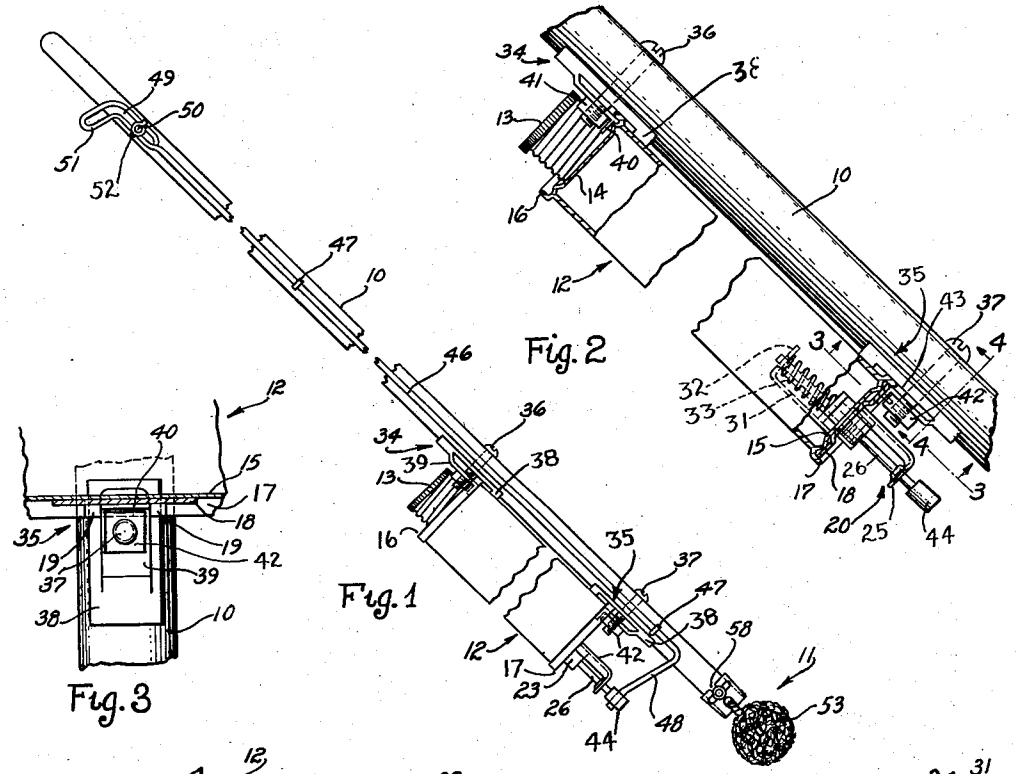


Fig. 1

Fig. 2

Fig. 3

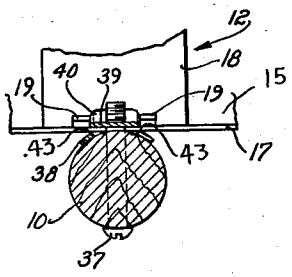


Fig. 4

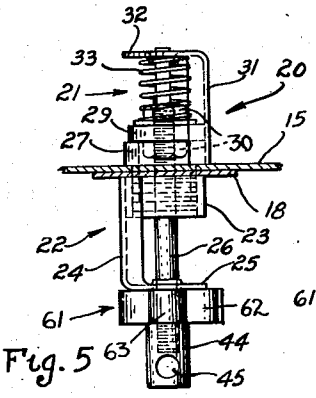


Fig. 5

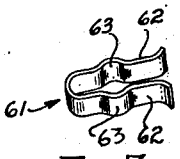


Fig. 7

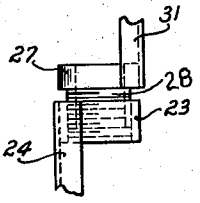


Fig. 6

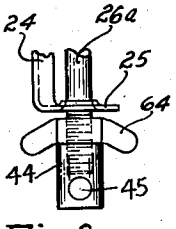


Fig. 8

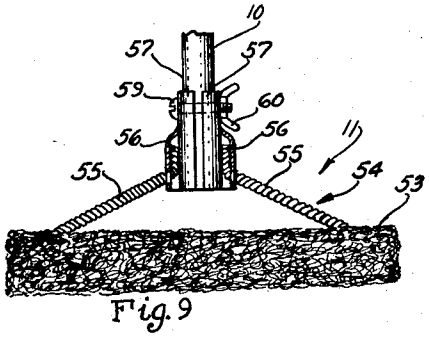


Fig. 9

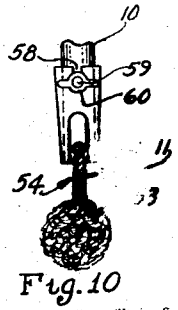


Fig. 10

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FOUNTAIN LIQUID APPLICATOR

Arthur L. Lowe, Southport, Conn.

Application March 4, 1938, Serial No. 193,855

13 Claims. (Cl. 91—25)

This invention relates to new and useful improvements in applicators and has particular relation to fountain liquid applicators.

The objects and advantages of the invention will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing wherein a satisfactory embodiment of the invention is shown. However, it is to be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawing—

Fig. 1 is a side elevational view showing the complete applicator of the invention;

Fig. 2 is a view partly in elevation and partly in section showing, on an enlarged scale, the mounting of the container for the liquid to be applied;

Fig. 3 is a vertical sectional view as along the line 3—3 of Fig. 2;

Fig. 4 is a sectional view as along the line 4—4 of Fig. 2;

Fig. 5 is an enlarged view partly in elevation and partly in section of the valve employed;

Fig. 6 is an elevational view showing the valve parts slightly separated;

Fig. 7 is a perspective view of a locking clip employed;

Fig. 8 is a detail view showing another locking means which may be employed;

Fig. 9 is a front elevational view of the head of the applicator; and

Fig. 10 is an elevational view at right angles to Fig. 9.

Referring in detail to the drawing the improved applicator includes a relatively long handle 10 the lower end of which carries a head 11. Preferably handle 10 is of such length that while standing erect and grasping the upper portion of the handle an operator may manipulate the same to use the head 11 for spreading on any desired surface a suitable wax, polish, oil, cleanser, varnish, etc. Mounted on the under side of the handle toward the lower end thereof is a container 12 for the liquid wax, polish, oil, cleanser, varnish, etc., as is to be applied and spread.

As here shown container 12 is provided with a filling opening in its upper end normally tightly closed as by a screw cap 13. Projecting above the container's upper wall 14 and below its lower wall 15 are beads or seams 16 and 17 respectively. Across the bottom wall of the container is a reenforcing plate 18 embossed so as to fit uneven or paneled can bottoms. This plate adjacent its end toward the handle 10 is provided with a pair of spaced upstanding lugs 19 the purpose of which will later be set forth.

Plate 18 assists in the mounting of a discharge control valve 20 comprising a two part construction including an inner part 21 and an outer part 22. The latter includes a ring-like portion 23 internally threaded and having secured thereto as by welding or the like a bracket 24 the lower arm 25 of which is provided with an opening to act as a guide for a valve stem 26 and to perform other functions as will appear.

The inner valve part 21 includes a ring-like portion 27 having an externally threaded extension 28 designed to thread into the portion 23. Portions 27 and 23 are of about the same external diameter and as will appear are adapted to clamp the bottom wall 15 of the container and the reenforcing plate 18 between them. Valve stem 26 extends through both the valve parts 21 and 22 and at the upper side of portion 27 carries a valve 29 held to the stem as by being clamped between the nuts 30.

A bracket 31 of the construction of bracket 24 is fixed to the portion 27 as by being welded thereto and has its arm 32 provided with an opening for the passage of the inner portion of the valve stem whereby the latter in its movements is guided by the brackets 24 and 31. About the inner portion of the valve stem is a coil spring 33 bearing at one end against the inner side of bracket arm 32 and at its other end against the valve 29 whereby the spring normally maintains the valve seated against the inner end of valve portion 27.

The container bottom wall 15 and the reenforcing plate 18 are provided with aligned openings and in assembling the valve 20 on the container the inner valve part 21 is inserted through the filling opening in the top of the container and its threaded extension 28 passed through the above mentioned aligned openings. Then the outer valve part 22 is threaded onto such extension and the portions 23 and 27 threaded up tight so as to clamp wall 15 and plate 18 together to make a liquid tight joint. Obviously the threading of the valve portions 23 and 27 together serves to secure the plate 18 in place.

Container 12 is secured to the handle 10 by means of similar upper and lower clips 34 and 35. These clips are duplicates and are secured to the handle by means of screws or bolts 36 and 37 respectively. Each clip includes a body

portion 38 having a tongue 39 partly lanced and pressed therefrom and at its free end provided with an outwardly directed portion 40. Preferably the body portions 38 are bent to partly embrace the handle 10 and the tongues 39 are of appreciable length. The distance between the screws 36 and 37 is such that when the clips are attached to the handle they are spaced apart to receive the container 12 with the beads 16 and 17 of the latter between the free end portions of the tongues 39 and the bodies 38 of the clips.

Bolts or screws 36 and 37 pass through the handle 10 and the tongues of the clips and at the outer sides of said tongues thread into nuts 41 and 42 respectively. Portions 40 of the tongues prevent turning of the nuts on the bolts and the portion 40 of the lower clip is located between the lugs 19 of plate 18 whereby lateral movement of the container is prevented. As the bolts 36 and 37 are tightened the beads of the container are clamped in a vise-like manner and are caused to press against the sharp corners 43 formed by the lancing of the tongues from the bodies of the clips whereby the container is further held against any casual lateral movement. Additionally it is clear that the bolts passing through the handle have fixed centers and there can be no movement of the container longitudinally of the handle.

To the lower or outer end of the valve stem 26 there is attached as by screw threads or the like, a member 44 having an opening 45 therethrough. A control rod 46 for the valve 20 is mounted on the handle and extends longitudinally thereof being guided by screw eyes or the like 47. The lower portion of the control rod is bent to provide a laterally extending portion 48 passing through the opening 45 in the member 44 whereby on movement of the rod longitudinally of the handle the valve 20 may be manipulated.

The upper portion of rod 46 is bent or formed to provide a portion 49 looped about a screw 50 and a trigger-like portion 51 located for convenient operation by a user. Obviously by drawing upwardly on the trigger 51 the rod 46 will be drawn longitudinally of the handle and the valve 29 will be moved off its seat so as to permit the contents of the container to run therefrom. On release of the trigger the spring 33 returns all parts to their normal positions seating the valve 29 to cut off the flow of liquid from the container. A wing-nut 52 or the like on the screw 50 may be tightened to lock the rod 46 against casual movement and thus secure valve 20 in closed position to prevent any possibility of casual opening of the valve during shipment or storage of the applicator.

The size of the opening through the valve 20 is such that the liquid will flow out of the container without any other venting thereof. As the liquid flows from the container on opening of the valve it is baffled by the arm 25 of the bracket 24 and directed downwardly and prevented from directly engaging the spreading portion 53 of the head 11.

In addition to the portion 53 the head 11 includes a twisted wire mounting portion 54 carrying the fibrous material making up portion 53. The twisted wires are bent back over the portion 53 in the form of a pair of arms 55 having their free ends 56 passing to the inner sides of clips 57. Such clips are duplicates of one another and the wire arms 55 may be welded or otherwise secured to the clips but in addition being carried through openings to the inner sides of the clips and there bent to extend in the direction of the lengths of the clips it will be apparent that in the event of failure of the weld or other connection the wire arms will remain attached to the clips.

Clips 57 are transversely curved whereby to be applicable to handles 10 of varying diameters and each clip adjacent its upper end is provided with a slot 58 opening through such upper end. A bolt 59 passes through the lower end portion of handle 10 and the head 11 is applied to the handle by a movement of the head longitudinally of the handle whereby to have the slots 58 receive the projecting ends of the bolt 59 at each side of the handle. On the bolt 59 is a wing nut 60 adapted to be tightened against the inner or upper portion of the clip 57 whereby the head of the bolt is drawn against one clip as the wing nut is tightened against the other and the head 11 is secured to the handle 10. Obviously on loosening of nut 60 head 11 may be removed for cleaning or replacement or the like.

Attention is directed to the fact that the clips 57 at each side of the handle are duplicates of one another and are attached as by welding, soldering, brazing, clinching or the like to be rigid parts of the arms 55 and that the entire head 11 may be easily removed from the handle when desired. The portion 53 of the head is of soft and flexible material whereby when spreading wax or other liquid the said portion will conform to any depressions, etc., in the surface whereby the liquid will be evenly distributed.

In Fig. 5 a clip 61 (shown alone in Fig. 7) is inserted between the lower side of bracket arm 25 and the upper end of member 44. Clip 61 is of sheet metal and preferably is of such width that it has a tight fit between member 44 and arm 25 whereby the valve stem 26 is drawn downwardly securing the valve 29 on its seat so that the container is sealed for shipment. The clip includes a pair of arms 62 each off-set intermediate its ends to provide portions 63 embracing the valve stem whereby the clip will not casually become disengaged therefrom. When the applicator is first to be used clip 61 is removed and discarded.

Fig. 8 shows another arrangement for locking valve 29 on its seat during shipment. There a nut 64 is threaded on the valve stem 26*a* above the member 44 and obviously on threading said nut up into engagement with the underside of arm 25 the valve stem is locked down with the valve tight on its seat. When the applicator is to be used the nut 64 is threaded down to the position of Fig. 8 wherein it is spaced from arm 25 a sufficient distance so that on upward movement of the valve stem the nut will not engage arm 25 until after the valve 29 is unseated.

Clips 34 and 35 are duplicates of one another and are so constructed and mounted that the container 12 is held rigidly against any casual movement on the handle 10. The portions 40 of the clips prevent casual turning of the nuts 41 and 42 and the tongues 39 are of such lengths that their free ends may be tightly clamped against the beads of the container with a vise-like action. Reenforcing plate 18 serves to strengthen the bottom of the container otherwise too flimsy to support the valve 20. The lugs 19 on the reenforcing plate engaging with the tongue portion 40 and/or the nut 42 serve to center the plate and the container and prevent lateral movement of the latter relative to the

handle. The plate 18 being a separate piece may be cheaply manufactured and permits of the use of commercial containers as it strengthens the bottoms thereof making them strong enough to be practical.

It is also noted that the valve member 29 and its seat as well as the coil spring 33 are all within the container where the contents is in liquid condition. Thus the valve and spring will not be made ineffective due to hardening or setting up of some of the liquid on them as the container is always sealed when the valve is closed as when the applicator is not in use. The valve stem working through the opening for the discharge of the liquid maintains such opening clear.

The discharge opening through the valve 20 is of such size that when the applicator is in use the cap 13 is screwed tight so that there is no splashing or leakage of the contents of the container through the filling opening thereof. The discharge opening permits of a steady flow of liquid from the container each time the valve is opened until the desired amount of the liquid is discharged. Then the valve is permitted to close and the liquid is spread evenly by the applicator head 11.

Having thus set forth the nature of my invention, what I claim is:

1. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on the handle and having a discharge opening, a valve normally closing said discharge opening, a spring seating said valve, an operating rod extending along said handle and connected at its lower end with said valve, means on said rod for manipulating the same to cause opening of said valve, and means associated with said rod and operable to lock the valve on its seat.

2. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on the handle and having a discharge opening, a valve normally closing said discharge opening, a spring for seating said valve, an operating rod extending along said handle and connected at its lower end with said valve, means at the upper end of the rod for manipulating the same to cause opening of said valve, means to lock the valve on its seat, and said means being manually adjustable to and from valve locking position.

3. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on said handle and having a discharge opening, a reenforcing plate across the portion of said container having such discharge opening and said plate having an opening aligning with said discharge opening, a separable valve including a part within said container and a part at the outer side thereof, said parts connected through said aligned openings and clamping the reenforcing plate against the wall of the container, spring means normally closing the valve, and means operable to open said valve to permit of the discharge of the contents of the container.

4. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on said handle and having a discharge opening, a separable valve including a part within said container and a part at the outer side thereof, said parts connected through said discharge opening, manual means for opening said valve, said valve including a stem projecting at the outer side of the container, and a bracket-like member on said valve at the outer side of the container and including a portion comprising a guide for the projecting valve stem and a baffle for liquid discharged from the container.

5. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on the handle and having a discharge opening, a separable valve including a part within said container and a part at the outer side thereof, said parts connected through said discharge opening, a spring for causing seating of said valve to close said discharge opening, manual means for opening said valve, a bracket on each of the valve parts and comprising an arm in spaced relation to but extending across the ends thereof, a valve stem extending through said parts and guided by said arms, and said arm associated with one of said valve parts also forming a stop for said spring.

6. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on the handle and having a discharge opening, a separable valve including a part within said container and a part at the outer side thereof, said parts connected through said opening, a spring within said container for causing closing of said valve to close said opening, manual means for opening said valve, a bracket on each of said valve parts and comprising an arm in spaced relation to but extending across the ends of such parts, said valve including a stem extending through said parts and guided by said arms, and said arm associated with the inner of said valve parts forming a stop for said spring.

7. In a liquid applicator, a handle, a container on the handle, said container having a discharge opening, a valve normally closing said discharge opening, means for unseating the valve, said valve including a stem, a removable clip embracing said stem and preventing unseating of the valve, and a spreader head on the lower end of said handle.

8. In a liquid applicator, a handle, a container on said handle and having a discharging opening, a valve normally closing said opening, means for unseating said valve, said valve including a stem, a nut threaded on said stem and threadable thereon to and from positions locking the stem and thus the valve against movement in a direction to unseat the valve, and a spreader head on the lower end of said handle.

9. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on said handle and having a discharge opening, a valve normally closing said opening, means for unseating said valve, and a screw threaded means for locking said valve against movement in a direction to unseat it.

10. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on said handle and having a discharge opening, a valve including separable parts connected through said opening and clamping between them portions of said wall about said opening whereby the valve is mounted on the container, said valve parts located one within and the other without said container, said valve part within the container including a spring normally acting to move the valve in one direction, and means at the outer side of said container and connected to operate said valve against the action of said spring.

11. In a liquid applicator comprising a handle

adapted to have a spreader head applied to one end thereof, a container on said handle and having a discharge opening, a valve normally closing said discharge opening, said valve including a stem, a spring for seating said valve, an operating rod extending along said handle and connected at one end with said valve, means at the other end of the rod for manipulating the same to cause opening of the valve, and means engaging said valve stem and operable to lock said valve on its seat.

12. In a liquid applicator comprising a handle adapted to have a spreader head applied to one end thereof, a container on said handle and having a discharge opening, a reenforcing plate across and engaging and stiffening the portion of the container having such discharge opening and said plate having an opening aligning with said discharge opening, a valve controlling said discharge opening and mounted on said container portion and said plate, spring means normally closing said valve, and means operable to open said valve to permit of the discharge of the contents of the container.

13. In a liquid applicator comprising a handle adapted to have a spreader head applied to the lower end thereof, a container on the handle and having a discharge opening, a separable valve including a part within said container and a part at the outer side thereof, said parts being connected through said discharge opening, manual means for opening said valve, said valve including a stem projecting at the outer side of the container, and means at the outer side of the container comprising a guide for said valve stem.

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