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PERFUME CONTAINER WITH VALVED OUTLET OPERATED BY APPLICATOR

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Fig. 1

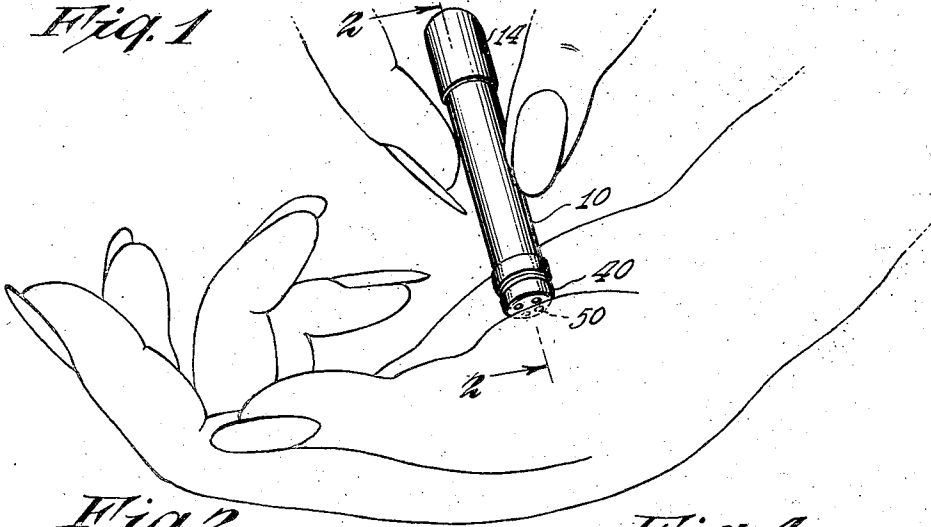


Fig. 2

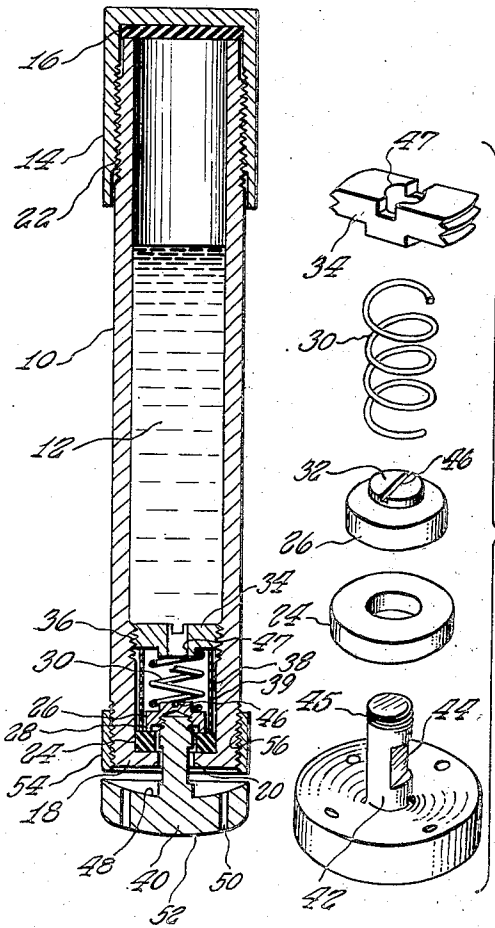


Fig. 4

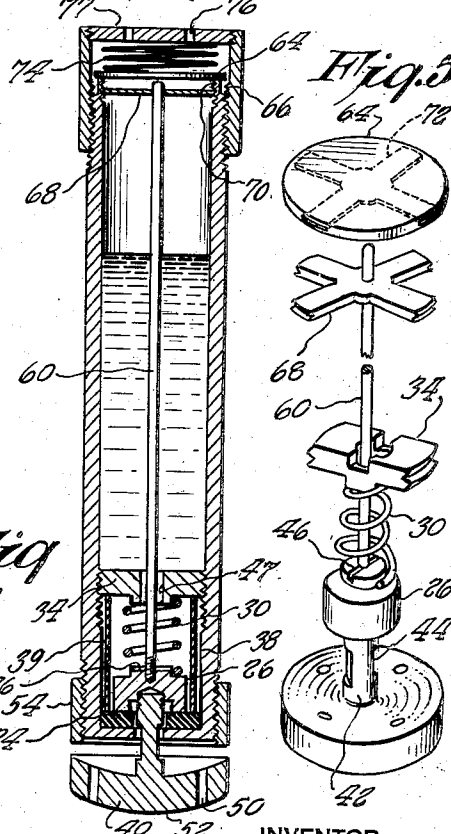


Fig. 5

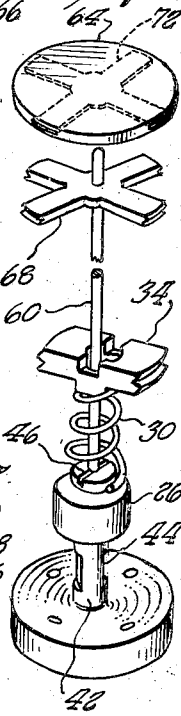
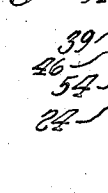


Fig. 3



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PERFUME CONTAINER WITH VALVED OUT-
LET OPERATED BY APPLICATOR

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This invention relates to dispensers for dispensing liquids and particularly for dispensing liquids such as perfumes, where the liquid is to be dispensed in very minute quantities.

The objects of the invention are to provide a dispenser of small size which may be carried in a purse or handbag, which will not leak, which may be conveniently actuated to dispense the desired small quantity of the contents and apply it in the most convenient manner, which can be readily sealed when desired, so that the liquid cannot accidentally escape from the dispenser, and which is simple in construction, not likely to get out of order, and which may be economically manufactured.

In the accompanying drawings, which show certain preferred embodiments of the invention:

Figure 1 is a perspective view, showing the dispenser in use;

Figure 2 is a longitudinal section of one form of dispenser;

Figure 3 is an exploded view showing the dispensing valve construction;

Figure 4 is a longitudinal sectional view of a modified form of the dispenser; and

Figure 5 is an exploded view, showing the dispensing parts of the dispenser shown in Figure 4.

Referring to the drawings in detail, the dispenser comprises a receptacle 10 in which is contained the perfume or other liquid 12 to be dispensed. The upper end of the receptacle 10 is closed by a removable cap or cover 14 which contains a sealing washer 16. The cap may be removed for refilling the receptacle. The lower end of the receptacle is closed by a wall 18 having a central hole 20. The receptacle and cap may be made of any suitable material, such as metal or plastic. The receptacle in the embodiment shown is made in a straight cylindrical form which may be constructed cheaply as a screw machine part or it may be made as a drawing, die casting, or in any other suitable manner. The cap may be secured to the receptacle by means of screw threads 22 or other suitable means of attachment.

At the lower end of the inside of the receptacle and resting upon the end wall 18 is a sealing washer 24 of cork, rubber or other suitable yielding material which should be of such nature as not to be attacked by the contents of the receptacle. A valve member 26 is provided, this valve member having a flange 28 adapted to be held in sealing engagement with the washer 24 by the pressure of a coil spring 30 seated around a boss 32 formed on the back of the valve member. The

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spring 30 rests against an abutment member 34 which has flattened sides so as to permit passage of the liquid around it into the part of the receptacle immediately above the valve. The abutment 34 is secured in the receptacle in any desired manner, as for example by means of the screw threads 36 formed at the top of a portion of the receptacle of reduced diameter indicated at 38.

A small sleeve 39 is preferably inserted in the lower end of the receptacle between the abutment 34 and the washer 24. This holds the washer firmly in place and also limits the distance to which the abutment may be screwed down.

For temporarily opening the valve when the perfume is to be dispensed, a pressure button 40 is provided, this button having a stem 42 which passes through the hole 20 in the end wall 18 of the receptacle. The stem 42 is so shaped as to permit the liquid to pass it, it being shown as provided with flattened portions 44 for this purpose. The upper end of the stem is shown as provided with threads 45 which screw into a threaded socket in the lower side of the valve 26. The valve has a slot 46 in its top and the abutment member 34 has a hole 47 through it so that a screw driver may be passed through the hole and engaged with the slot to hold the valve against turning while the stem is being screwed in. The pressure button is shown as having a concave recess 48 in its upper surface and has small passages 50 passing through it, such passages communicating with the recess 48 so that liquid passing down through the hole 20 when the valve is opened will be caught in the recess 48 and will pass out through the passages 50 to the surface, such as the finger or hand to which the perfume is to be applied when the dispenser is pressed against the skin with sufficient force to cause the valve to be opened against the pressure of the spring 30. The outer surface 52 of the button is preferably finished as a smooth convex surface so that it may be pressed against the skin without causing discomfort.

In use, it will be seen that the dispenser is merely pressed against the hand or other skin surface, as shown in Figure 1, whereupon the pressure on the button will open the valve 26 a little way and permit a small amount of the liquid to escape which may be readily distributed over the skin surface by rubbing the smooth lower surface 52 of the pressure button over the skin. As soon as the pressure on the button is removed, the spring 30 will instantly close the valve 26 against the washer and hold it there, making a

very tight seal. As only small amounts of the perfume are to be dispensed at a time, the air necessary to replace the amount dispensed will readily enter through the hole 20 at the same time that the drop of perfume is coming out.

In some instances, it may be desired to positively seal the dispenser so that the valve cannot be opened accidentally or otherwise. For example, if the carrier of the dispenser is flying in an airplane at high altitudes, it may be desirable to seal the dispenser during such periods. For accomplishing this result, manually operated means are provided for positively preventing the pushing in of the pressure button and consequently opening of the valve. In the construction shown, such temporary sealing means comprise a sleeve 54 screwed on a thread 56 at the lower end of the dispenser. The pressure button is made of a slightly larger diameter than the lower end of the dispenser so that it overhangs the dispenser slightly, its outer diameter preferably coinciding with the outer diameter of the sleeve 54. By screwing the sleeve 54 down for a short distance, it will abut against the overhanging margin of the pressure button and will effectually prevent movement of the button. Thus, the valve 26 is positively held against the washer until the sleeve has been backed off a little way as shown in Figure 2.

A modified form of the invention is shown in Figures 4 and 5, such modification providing venting means for admission of air into the upper end of the dispenser to replace the liquid dispensed. Ordinarily, such venting means are not required but are useful if a freer flow of liquid is desired.

In the construction shown in Figures 4 and 5, the valve mechanism illustrated is the same as that already described. The valve, however, carries a rod 60 which passes through a hole 47 in the abutment 34 and extends to the upper end of the dispenser where its end engages a disc 64 adapted to rest on a seat 66 at the end of the dispenser. A guide member 68 is preferably provided for the upper end of the rod 60, such guide member being shown as having screw threaded engagement with threads 70 formed in the upper end of the dispenser. The disc 64 may be made of cork, rubber, or other suitable yielding material and it may be provided with a reinforcing spider 72 of metal embedded therein so as to provide the necessary stiffness. The disc is normally pressed against its seat 66 by a coil spring 74 fitting inside of the cap which, in this instance, has perforations 76 in its end 77 to permit air to enter. This end is preferably made as a separate piece, screwing into the cylindrical part of the cap, thus permitting the disc 64 to be introduced into the cap from the top and be held against falling out when the cap is removed by the shoulder formed by the threads in the cap. In this construction, when pressure is applied to the pressure button 40, so as to open the valve 24, the rod 60 which is carried by the valve will be brought into engagement with the disc 64 so as to lift the same slightly and permit the entrance of air into the receptacle above the liquid. As soon as the pressure is relieved from the pressure button, the valve 24 will close and the spring 74 will press the disc 64 against its seat so that the entire receptacle is sealed. In this instance, as in the construction of Figures 1 to 3, a sealing sleeve 54 may be employed for temporarily sealing the dispenser.

While certain preferred embodiments of the

invention have been illustrated and described in detail, it is to be understood that changes may be made therein and the invention embodied in other structures. It is not, therefore, the intention to limit the patent to the specific constructions illustrated, but to cover the invention broadly in whatever form its principle may be utilized.

I claim:

1. A perfume dispenser comprising a receptacle of small diameter which may be carried in a handbag, said receptacle having a dispensing opening at one end thereof, a valve inside of the receptacle for closing said opening, a pressure button, and a stem passing through the dispensing opening in the receptacle and connecting said pressure button with said valve, said pressure button being substantially coextensive in area with the end of the receptacle, having a smooth outer surface for engagement with the skin and having dispensing passages therethrough.

2. A perfume dispenser comprising a cylindrical receptacle of small diameter which may be carried in a handbag, a removable cap for closing one end of said receptacle, said receptacle having a dispensing opening at the other end thereof, a valve inside of the receptacle for closing said opening, a pressure button, and a stem passing through the dispensing opening in the receptacle and connecting said pressure button with said valve, said pressure button comprising a disc of approximately the diameter of the receptacle having a concave inner face providing a liquid receiving chamber between said face and the end of the receptacle and a smooth convex outer face, and a liquid dispensing passageway extending therethrough from the inner to the outer face.

3. A portable liquid dispenser comprising a receptacle for the liquid to be dispensed, said receptacle having a wall at one end in which is located a dispensing hole, a sealing washer mounted in said receptacle and resting against said end wall, a valve mounted in said receptacle for engagement with said washer, spring means for normally holding said valve in sealing engagement with said washer, a pressure button adjacent to the end of the dispenser, and a stem connecting the pressure button and said valve, whereby pressure on the button will lift the valve from contact with said washer and permit escape of a small amount of liquid, said stem having screw threaded engagement with said valve, said pressure button comprising a disc having a liquid passageway therethrough and having a smooth convex outer surface of a diameter approximately as large as the end diameter of the dispenser.

4. A perfume dispenser comprising a cylindrical receptacle of small diameter which may be carried in a handbag, a removable cap for closing one end of said receptacle, said receptacle having a dispensing opening at the other end thereof, a valve for closing said opening, a pressure button, and a stem passing through said dispensing opening and connecting said pressure button with said valve, said pressure button being slightly larger in diameter than the diameter of the end of the receptacle so as to slightly overhang the same, and a sealing sleeve mounted on the receptacle and movable into contact with the overhanging edge of the button so as to hold said button against movement in a direction to open the dispensing valve.

5. A perfume dispenser comprising an elongated tubular receptacle having a cap screwing on one end thereof and having an end wall at the other end thereof provided with a dispensing hole

therethrough, a washer mounted in the end of the receptacle and resting on said end wall, a valve member having a flange seating on said washer, a coiled spring for holding said valve against its seat, an abutment member screwing into said receptacle near the lower end thereof against which the end of said spring bears, a pressure button extending over the end of said receptacle and having a stem extending through said hole and secured to said valve, said pressure button being of slightly larger diameter than the adjacent end of said receptacle, and a sealing sleeve screwing on said receptacle and being of such size that it may be screwed partly off of the end of the receptacle so as to engage the overhanging edge of the pressure button and hold said pressure button and valve against inward movement.

6. A perfume dispenser comprising a receptacle of a small diameter which may be carried in a handbag, a removable cap for closing one end of said receptacle, said receptacle having a dispensing opening at the other end thereof, a valve for closing said opening, a pressure button, a stem passing through the dispensing opening in the receptacle and connecting said pressure button with said valve, a rod carried by the valve extending through the receptacle, and venting means carried by the receptacle and movable by the rod into venting position when the valve is opened by pressure upon the pressure button.

7. A perfume dispenser comprising an elongated tubular receptacle having a cap screwing on one end thereof and having an end wall at the other end thereof provided with a dispensing hole therethrough, a washer mounted in the end of the receptacle and resting on said end wall, a valve member seating on said washer, a coiled spring for holding said valve against its seat, an abutment member screwing into said receptacle near the lower end thereof against which the end of said spring bears, a pressure button extending over the end of said receptacle and having a stem extending through said hole and secured to said valve, said cap having a vent opening therein, a disc within said cap having sealing engagement with the end of the receptacle, a spring mounted on said cap and normally holding said disc in sealing engagement, and a rod connected to said valve and passing through a hole in said abutment member and having its end engaging said disc for lifting said disc from its seat when the valve is moved by pressure upon the pressure button.

8. A portable liquid dispenser comprising a receptacle for the liquid to be dispensed, said receptacle having a wall at one end in which is located a dispensing hole, a sealing washer mounted in said receptacle and resting against said end wall, a valve mounted in said receptacle for engagement with said washer, spring means for normally holding said valve in sealing engagement with said washer, a pressure button adjacent to the end of the dispenser, and a stem connecting the pressure button and said valve, whereby pressure on the button will lift the valve from contact with said washer and permit escape of a small

amount of liquid, said stem having screw threaded engagement with said valve, said valve having a slot in its upper face, said spring means comprising a coiled spring engaged with said valve at one end, and an abutment mounted in the receptacle against which the other end of said spring bears, said abutment having a hole therethrough for introduction of a tool for engagement with said slot in the valve to assist in screwing the valve and stem of the pressure button together, said pressure button comprising a disc having a liquid passageway therethrough and having a smooth convex outer surface of a diameter approximately as large as the end diameter of the dispenser.

9. A perfume dispenser comprising an elongated tubular receptacle having a cap screwed on one end thereof and having an end wall at the other end thereof provided with a dispensing hole therethrough, a washer mounted in the end of the receptacle and resting on said end wall, a valve member having a flange seating on said washer, a coiled spring for holding said valve against its seat, an abutment member screwing into said receptacle against which the end of said spring bears, a sleeve mounted in the lower part of the receptacle and engaging said washer at one end and said abutment at the other end for holding said washer upon its seat, and a pressure button extending over the end of said receptacle and having a stem extending through said hole and secured to said valve.

10. A perfume dispenser comprising a receptacle having a dispensing opening at one end thereof, a valve inside of the receptacle for closing said opening, a pressure button, a stem passing through the dispensing opening of the receptacle and connecting said pressure button with the valve, said pressure button being substantially larger in diameter than the stem and having a smooth outer surface for engagement with the skin, said pressure button being depressible to a position close to the end of the receptacle, the inner surface of the pressure button and the surface of the receptacle beneath said pressure button being formed to provide a chamber which is substantially closed around the margin of the pressure button when the pressure button is depressed, said chamber receiving liquid from the dispensing opening when the button is depressed to open the valve, and a liquid dispensing passageway from said chamber to the smooth outer surface of the pressure button.

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