Nov. 1, 1955 L. R. BLANN 2,722,224

DISPENSER FOR FINGERNAIL TREATING LIQUID

Filed June 11, 1954 2 Sheets-Sheet 1

FIG. 1

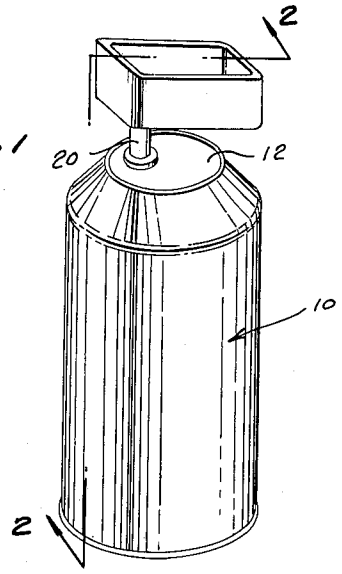


FIG. 2

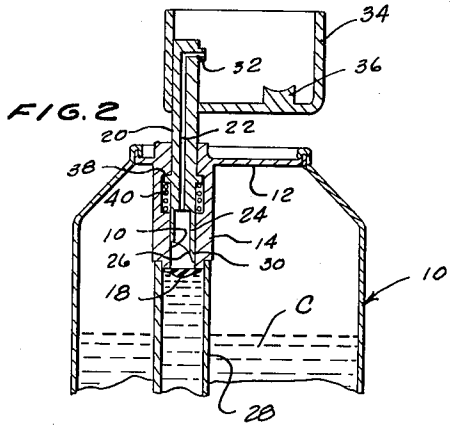


FIG. 4

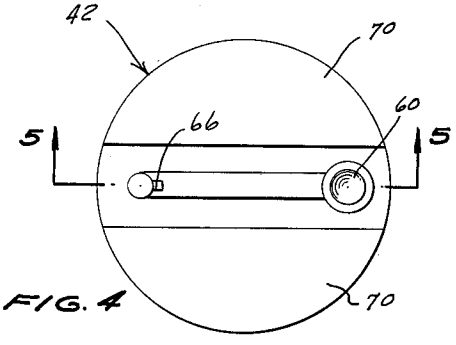


FIG. 3

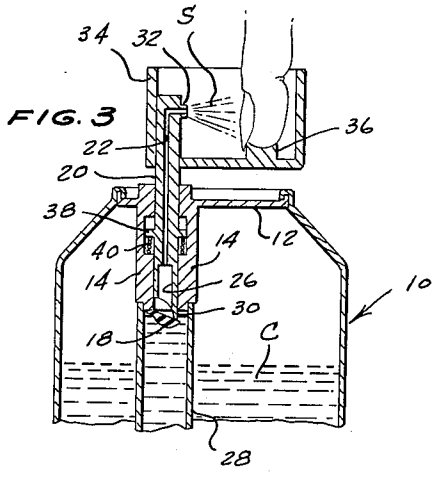
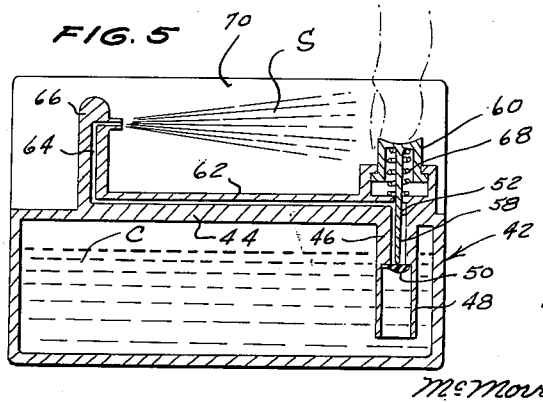


FIG. 5



INVENTOR.
LAWRENCE R. BLANN
BY

McMorrow, Berman & Davidson
ATTORNEYS

Nov. 1, 1955 L. R. BLANN 2,722,224

DISPENSER FOR FINGERNAIL TREATING LIQUID

Filed June 11, 1954 2 Sheets-Sheet 2

FIG. 6

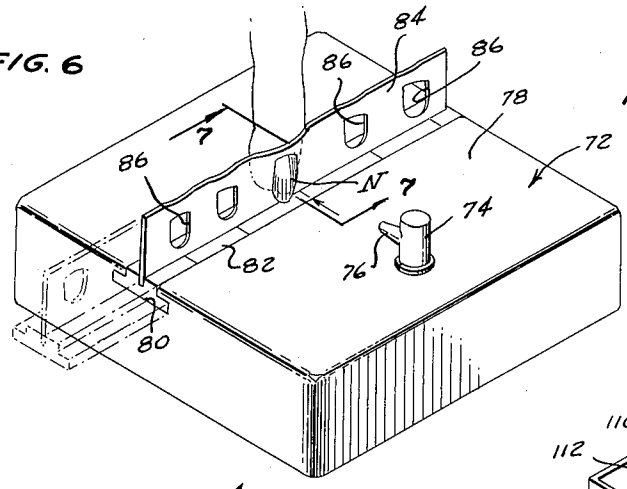


FIG. 7

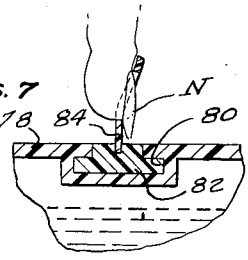


FIG. 10

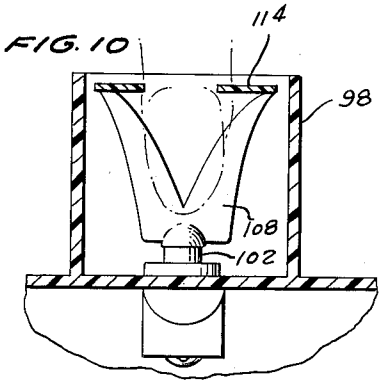


FIG. 8

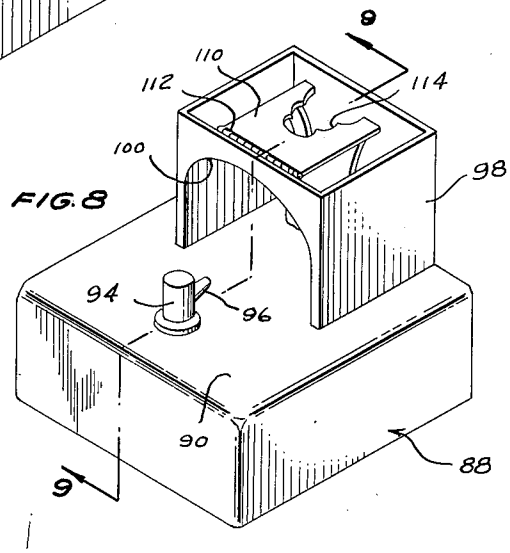
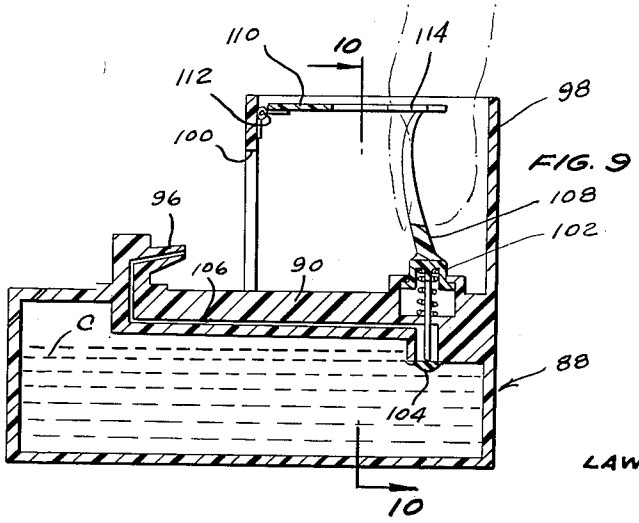


FIG. 9



INVENTOR.
LAWRENCE R. BLANN
BY

McMorrow, Berman + Davidson
ATTORNEYS

United States Patent Office 2,722,224 Patented Nov. 1, 1955

2,722,224

DISPENSER FOR FINGERNAIL TREATING LIQUID

Lawrence R. Blann, Bayonne, N. J.

Application June 11, 1954, Serial No. 436,184

6 Claims. (Cl. 132—88.5)

This invention relates to a dispenser for fingernail treating liquid and has for its objects to apply an even coating of fingernail polish and other fingernail treating liquids to the nail of the user.

Another object is to direct the polish onto the nail and to protect the other portions of the finger from becoming coated with polish.

A further object is to preserve the fingernail treating liquid under pressure within a vessel of the type commonly employed for dispensing insecticides, deodorizers and such other liquids which may be ejected as a pressure spray by the user without requiring the operation of a pump.

The above and other objects may be attained by employing this invention which embodies among its features a closed vessel containing fingernail treating liquid under pressure, valve means carried by the vessel and extending thereinto through the top thereof, a dispensing nozzle carried by the valve means and movable toward the vessel for opening the valve means and spraying liquid from the vessel across the top thereof, and an actuating pad carried by the dispensing nozzle for moving said nozzle toward the vessel and guiding a finger into the spray.

Other features include an actuating pad carried by the valve means for opening said valve means when pressure is applied thereto to advance it toward the vessel, a spray nozzle carried by the vessel and operatively connected to the valve means for directing a spray of liquid across the top of the vessel and onto the nail of a finger pressing on the pad, a cup carried by the vessel and surrounding the pad to define a shield for the spray, a mask carried by the cup for shielding the upper portion of a finger pressing on the pad, and a mask carried by the pad and extending upwardly therefrom to shield portions of the finger adjacent the pad.

Still other features include a mask mounted to move on the vessel across the top thereof in a path which lies perpendicular to the spray, and said mask having fingernail receiving openings extending therethrough, which openings vary in size.

In the drawings:

Figure 1 is a perspective view of one form of this invention;

Figure 2 is a fragmentary sectional view taken substantially on the line 2—2 of Figure 1 on a somewhat enlarged scale;

Figure 3 is a view similar to Figure 2, showing the valve opened;

Figure 4 is a top plan view of a modified form of the invention;

Figure 5 is a sectional view taken substantially on the line 5—5 of Figure 4;

Figure 6 is a perspective view of a further modified form of the invention;

Figure 7 is a fragmentary enlarged sectional view taken substantially on the line 7—7 of Figure 6;

Figure 8 is a perspective view of a further modified form of the invention;

Figure 9 is a sectional view taken substantially on the line 9—9 of Figure 8; and

Figure 10 is a fragmentary sectional view taken substantially on the line 10—10 of Figure 9.

Referring to the drawings in detail, a vessel designated generally 10 has a cover 12 hermetically sealed thereto in which is mounted a tubular body 14 having a passage 16 extending therethrough, the lower end of which is closed by a flap valve 18 to confine the contents C which is preferably under a gaseous pressure to the vessel 10. Mounted for longitudinal sliding movement in the passage 16 is a plunger 20 having a discharge passage 22 extending therethrough and carried by the plunger adjacent the valve 18 is a tubular extension 24 having a relatively large bore 26 extending therethrough which communicates with the passage 22, so that when the valve 18 is opened, as suggested in Figure 3, the liquid contents sealed in the vessel will pass through the discharge passage 22. A conventional tubular stem 28 is carried by the valve body 14 and extends to a location adjacent the bottom of the vessel so that liquid under gaseous pressure contained in the vessel will flow upwardly to the tube 28 and valve body 14. Carried by and extending downwardly from one side of the plunger 20 is an actuating finger 30 which, when the plunger 20 is pressed downwardly, engages the valve to open it. A discharge nozzle 32 is carried by the plunger 20 and extends laterally outwardly therefrom adjacent the upper end thereof for directing liquid passing through the passage 22 across the top of the vessel 10, as will be readily understood upon reference to Figure 3.

Carried by the plunger 20 in encircling relation to the upper end thereof is a cup 34 which defines a shield to confine the spray S issuing from the nozzle 32 to a limited area. An actuating pad 36 is carried by the cup 34 against which the finger of the user is pressed, as suggested in Figure 3, to move the plunger 20 downwardly and open the valve 18 to permit the liquid contents C of the vessel 10 to be discharged through the discharge nozzle 32. A flange 38 is carried by the plunger 20 intermediate the ends thereof and is engaged by the coiled spring 40 carried by the valve body 14 to yieldingly urge the plunger 20 upwardly so as to permit the valve 18 to close under the pressure of the liquid contents C of the vessel 10.

In using the forms of the invention, shown in Figures 1 through 5, a masking tape and salve material can be employed for the purpose of masking the proper sections of the finger.

In the modified form of the invention, illustrated in Figures 4 and 5, a closed vessel designated generally 42 is closed at its upper end by a top wall 44 carrying a valve body 46 similar to that previously described which in turn is provided with a dispensing tube 48 which extends downwardly within the container to a location near the bottom thereof. A valve 50 similar to the valve 18, previously described, closes the passage 52 through the valve body, and mounted in the valve body for longitudinal movement through the passage 52 is a plunger 54 carrying at its upper end a push button type valve actuating pad 60 extending through the top 44 of the vessel 42 and communicating with the opening 52 in the valve body 46 is a discharge passage 62 which extends horizontally across the top 44 and communicates with a discharge passage 64 in a discharge nozzle 66, the discharge end of which faces the side of the vessel 42 adjacent the pad 60 so as to direct a spray S of liquid C contained within the vessel 42 toward a finger engaging and pressing upon the pad 60. As shown, the pad 60 is hollow and resting on the cover 44 is one end of the compression coil spring 68, the opposite end of which bears on the underside of the pad 60 to yieldingly urge it upwardly so as to enable the

valve 50 to close under the pressure of the fluid in the vessel 42. In this type of device, guards 70 extend upwardly adjacent opposite sides of the nozzle 66 and pad 60 so as to confine the spray S within relatively narrow limits.

In the further modified form of the invention, illustrated in Figures 6 and 7, a vessel designated generally 72 is provided with a vertically movable pad 74 carrying a spray nozzle 76 which, when the pad 74 is moved downwardly, directs a spray across the top 78 of the vessel 72. Formed in the top 78 of the vessel 72 is a dovetail or T-slot 80 which extends transversely across the top 78 in perpendicular relation to the spray nozzle 76, and mounted for sliding movement in the T-slot or dovetail 80 is a carriage 82 carrying an upwardly extending flexible mask 84 having longitudinally spaced openings 86 of different dimensions extending therethrough so that the user may place his finger against the mask 84, as suggested in Figures 6 and 7, so as to expose only the nail N thereof to the spray issuing from the nozzle 76 when the pad 74 is pressed downwardly.

In the further modified form of the invention illustrated in Figures 8 to 10, inclusive, a vessel designated generally 88, like the vessel 42, is provided with a top 90 through which extends an actuating pad 102 conforming in all respects to the pad 74 and carrying a spray nozzle 96 which is adapted to direct a spray of the liquid contained within the vessel 88 across the top 90 thereof toward the pad 102. Carried by and extending upwardly from the top 90 in surrounding relation to the pad 92 is a hood 98 having an opening 100 extending therethrough through which the spray directed across the top 90 enters the hood 98. In this type of device the spray is controlled by the pad 102 and conforming in all respects to the structure of the valve and pad 46 and 60, respectively, so that upon the opening of the valve 104, the liquid contents C of the vessel 88 will be expelled through the passage 106 and the spray nozzle 96 across the top of the vessel 88. A substantially V-shaped mask 108 is carried by and extends upwardly from the pad 102 so that upon engagement of the mask 108 and downward pressure thereon the pad 102 will be moved downwardly and the spray will be directed across the top 90 onto the nail of the finger used for pressing the pad downwardly and the portions of the finger other than the nail will be shielded from the spray.

In this type of invention a second shield 110 of flexible material is molded to effect a maximum masking of a finger and is connected at 112 to the hood 98 adjacent the upper edge of the wall thereof having the opening 100 extending therethrough. The shield 110 extends substantially horizontally and is provided with a recess 114 which opens through the side thereof remote from the connection 112 for tight contact with and effective shielding of a finger introduced thereinto. It is obvious that the shield 110 is recessed to receive the finger of the user and confine the spray to the nail of the finger extending therethrough.

In use, it will be evident that by employing the device disclosed in Figures 1, 2 and 3, a finger pressed on the pad 36 will be sprayed by a spray S directed across the top of the vessel 10 and will be confined by the cup 34. Likewise, upon exerting downward pressure on the pad 60 of the device illustrated in Figures 4 and 5, the spray S will be directed across the top of the vessel 42 toward the nail of the finger pressing on the pad 60 and will be confined between the upwardly extending portions 70 of the vessel 42.

In using the modification illustrated in Figure 6, it is obvious that by inserting a nail N in a selected opening 86 in the mask 84, the nail may be brought into alignment with the spray issuing from the nozzle 76 by the shifting of the carriage 82 in the slot 80 and owing to the fact that the openings 86 vary in size, it will be evident that nails of different sizes may be sprayed, and the remainder of the finger will be shielded from the spray.

In the further modification illustrated in Figures 8 through 10, inclusive, a finger inserted through the open top of the hood 98 will engage the mask 108 so that the nail projects through the V-shaped opening therein on the side thereof adjacent the nozzle 96 and upon exerting downward pressure on the mask 108, the pad 102 will move downwardly to open the valve 104 and cause the contents C of the vessel 88 to be discharged through the nozzle 96 against the nail. Obviously, the shield 110 will serve to prevent contact of the spray with the finger above the nail.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What is claimed is:

1. A dispenser for fingernail treating liquid comprising a closed vessel containing fingernail treating liquid, valve means carried by the vessel and extending thereinto through the top thereof, an actuating pad carried by the valve means for opening said valve means when pressure is applied thereto to advance it toward the vessel, and a spray nozzle carried by the vessel and operatively connected to the valve means for directing a spray of liquid across the top of the vessel and onto the nail of a finger pressing on the pad.

2. A dispenser for fingernail treating liquid comprising a closed vessel containing fingernail treating liquid, valve means carried by the vessel and extending thereinto through the top thereof, an actuating pad carried by the valve means for opening said valve means when pressure is applied thereto to advance it toward the vessel, a spray nozzle carried by the vessel and operatively connected to the valve means for directing a spray of liquid across the top of the vessel and onto the nail of a finger pressing on the pad, and a mask carried by the pad and shielding portions of the finger pressing thereon from the spray.

3. A dispenser for fingernail treating liquid comprising a closed vessel containing fingernail treating liquid, valve means carried by the vessel and extending thereinto through the top thereof, an actuating pad carried by the valve means for opening said valve means when pressure is applied thereto to advance it toward the vessel, a spray nozzle carried by the vessel and operatively connected to the valve means for directing a spray of liquid across the top of the vessel and onto the nail of a finger pressing on the pad, and a cup carried by the vessel and surrounding the pad to define a shield for the spray.

4. A dispenser for fingernail treating liquid comprising a closed vessel containing fingernail treating liquid, valve means carried by the vessel and extending thereinto through the top thereof, an actuating pad carried by the valve means for opening said valve means when pressure is applied thereto to advance it toward the vessel, a spray nozzle carried by the vessel and operatively connected to the valve means for directing a spray of liquid across the top of the vessel and onto the nail of a finger pressing on the pad, a hood carried by the vessel and surrounding the pad to define a shield for the spray, a mask carried by the hood for shielding from the spray the upper portion of a finger pressing on the pad, and a mask carried by the pad and extending upwardly therefrom to shield portions of the finger adjacent the pad from the spray.

5. A dispenser for fingernail treating liquid comprising a closed vessel containing fingernail treating liquid, valve means carried by the vessel and extending thereinto through the top thereof, an actuating pad carried by the valve means for opening said valve means when pressure is applied thereto to advance it toward the vessel, a spray nozzle carried by the vessel and operatively connected to the valve means for directing a spray of liquid across

the top of the vessel and onto the nail of a finger pressing on the pad, a mask mounted on the vessel to move across the top thereof in a path which lies perpendicular to the spray, and said mask having fingernail receiving openings extending therethrough.

6. A dispenser for fingernail treating liquid comprising a closed vessel containing fingernail treating liquid, valve means carried by the vessel and extending thereinto through the top thereof, an actuating pad carried by the valve means for opening said valve means when pressure is applied thereto to advance it toward the vessel, a spray nozzle carried by the vessel and operatively connected to the valve means for directing a spray of liquid across

the top of the vessel and onto the nail of a finger pressing on the pad, a mask mounted on the vessel to move across the top thereof in a path which lies perpendicular to the spray, said mask having fingernail receiving openings extending therethrough, and the openings in said mask varying in size.

References Cited in the file of this patent

UNITED STATES PATENTS

2,024,570	Fischman	Dec. 17, 1935
2,031,225	O'Donnell	Feb. 18, 1936
2,119,043	Cornelison	May 31, 1938
2,645,387	Kahn	July 14, 1953