Dec. 23, 1952 J. GIRAUD 2,622,258

DISPENSING AND APPLICATOR CAP FOR CONTAINERS

Filed Oct. 12, 1950 2 SHEETS—SHEET 1

Fig. 1.

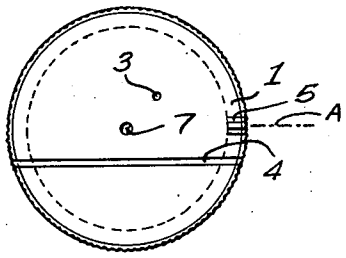



Fig. 2.

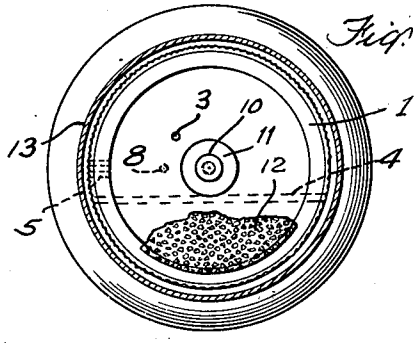



Fig. 3.

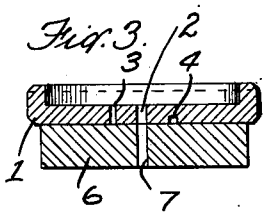



Fig. 4.

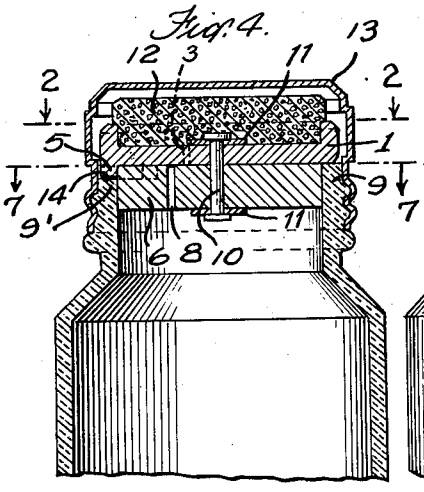
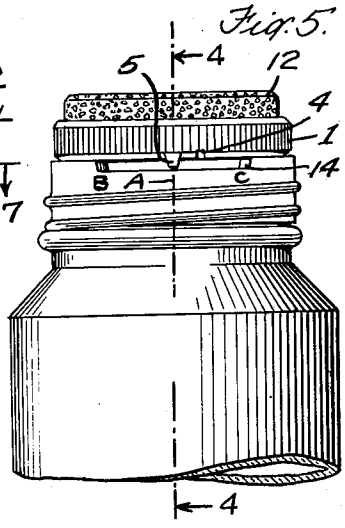



Fig. 5.



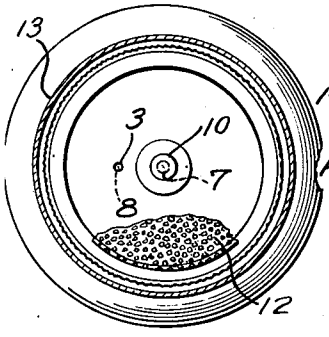




Fig. 6.

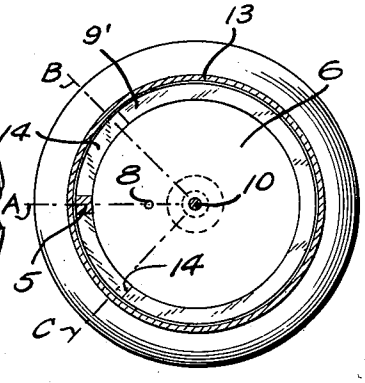



Fig. 7.

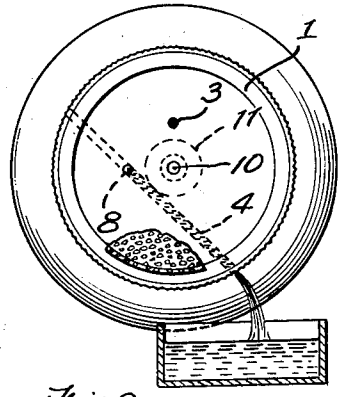



Fig. 8.

Inventor
JULES GIRAUD

By

Attorney

Dec. 23, 1952 J. GIRAUD 2,622,258

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Fig. 9.

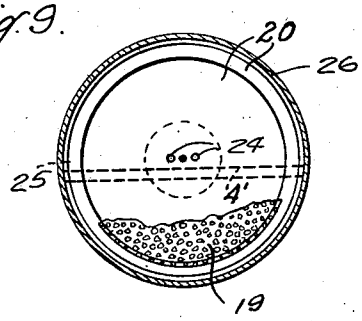



Fig. 10

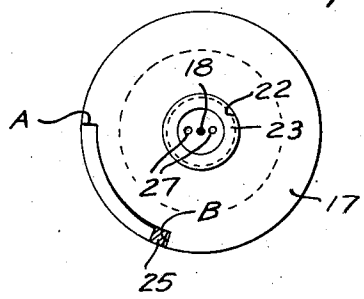
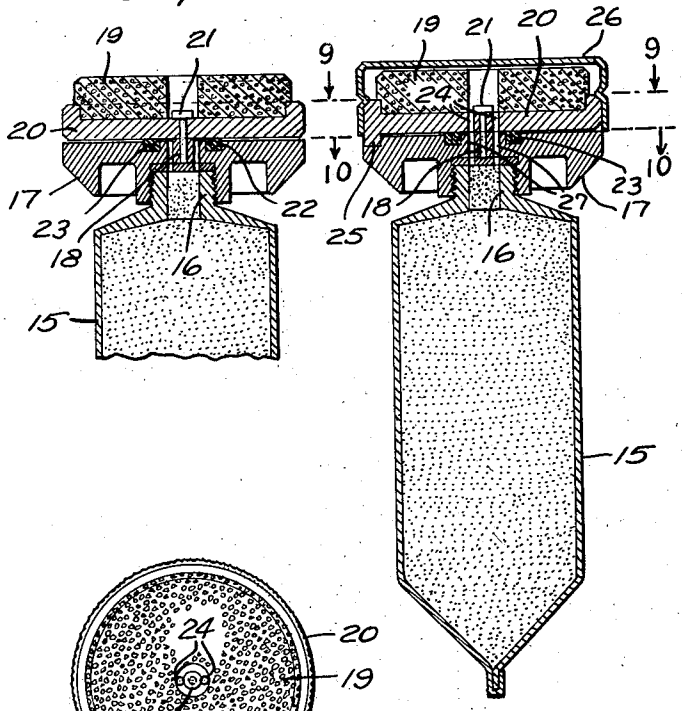



Fig. 11.



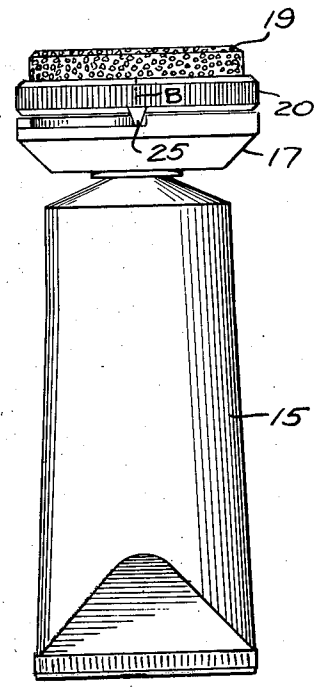







Fig. 12.

Fig. 13.

Fig. 14.

Inventor
JULES GIRAUD

By

Attorney

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# UNITED STATES PATENT OFFICE

2,622,258

## DISPENSING AND APPLICATOR CAP FOR CONTAINERS

Jules Giraud, Paris, France, assignor to Societe Novacel, Paris, France, a corporation of France

Application October 12, 1950, Serial No. 189,712
In France October 21, 1949

5 Claims. (Cl. 15—138)

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This invention relates to dispensing caps for containers and more particularly to a cap for dispensing fluids by drops or for applying the fluids to a sponge-like member for use as an applicator.

The present invention provides a composite distributor and applictor cap which permits dropwise distribution of liquids through a special opening, and also serves as an applicator. By adjustment it is also possible to stop the flow of liquid entirely, even when the cap is at a lower level than the container on which it is mounted, under which circumstances the applicator sponge, thus rendered independent, may be used for applying still other liquids by dipping it into them.

The chief characteristic of the invention consists in the combination of a cap or stopper having a pierced hole with a swab of spongy material, preferably regenerated cellulose, and a disc pierced with one or more holes or slits within the same radius. Rotation of the disc permits registration of a given hole or slit in the latter with the hole in the cap. In a manner determined by the hole or slit, a flow of liquid or of paste may then be produced through the spongy swab. This arrangement likewise makes it possible to ensure complete closure of the container by turning the disc so as to shut off the opening in the cap with an unperforated part of the disc.

The invention will be better understood by referring to the accompanying drawings in which certain specific embodiments are shown for purposes of illustration only.

In the drawings:

Fig. 1 is a bottom plan view of the disc;

Fig. 2 is a section taken on the line 2—2 of Fig. 4 showing the disc in the position of complete closure;

Fig. 3 is a sectional view of the disc and stopper;

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 5;

Fig. 5 is a fragmentary side elevation of the assembly;

Fig. 6 is a section similar to Fig. 2 showing the disc in position for flow of liquid through the applicator;

Fig. 7 is a section taken on the line 7—7 of Fig. 4;

Fig. 8 is a section similar to Fig. 2 showing the disc in position for escape of liquid;

Fig. 9 is a section taken on the line 9—9 of Fig. 13;

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Fig. 10 is a section taken on the line 10—10 of Fig. 13;

Fig. 11 is a detail view of an embodiment suited for use with a collapsible tube container;

Fig. 12 is a section similar to Fig. 9 showing the disc with applicator, in position for dispensing paste from the collapsible tube container;

Fig. 13 is a sectional view of the assembly of cap and collapsible tube container; and

Fig. 14 is a side elevation thereof.

In Figs. 1 to 8, and in particular in Fig. 4, the screw-neck bottle 9 is closed with a stopper 6 having one or more holes 8 located eccentrically. The stopper 6 carries a disc 1 which is rotatably secured by means of a pin 10 passing through a center hole 7 in the stopper 6 and through a center hole 2 in the disc 1 and carrying two lock washers 11. An applicator or swab 12 of adsorbent material, such as regenerated cellulose or other sponge material, is attached to the disc with an adhesive which is proof against water or other liquids to be distributed. As Fig. 4 more particularly shows, the sponge fits the shape of the cavity in which it is mounted. The disc 1 is formed with one or more holes 3 adapted in certain positions of the disc, to register with the holes 8 in the stopper (see Figs. 1 and 2). The upper edge of the bottle neck 9' has an arcuate cut out section 14. Its edge is preferably milled externally to permit ease of manipulation as described below. A groove 4 is cut or pressed in the flat under side of the disc 1. In addition, there is a projection 5 on the lower edge of the disc, forming a marker. This marker 5 may be placed in any of the positions A, B or C at will, with respect to the bottle neck 9' of the bottle (see Fig. 5) and rides in the cut out sector 14 to form a stop. A hood 13 is screwed over the neck 9 when the device is not in use.

The device functions as follows: When the bottle is inverted, after the marker 5 has been turned into position C (Fig. 6), the liquid in the bottle passes through hole 8 in stopper 6 and then escapes through hole 3 in disc 1. It then penetrates the applicator sponge 12. When the sponge 12 is sufficiently wetted, the marker 5 need only be returned to position A in order to stop the supply of liquid and permit the use of the wet sponge 12 as required. If it is desired to draw off a little liquid directly from the container, the marker 5 is placed in position B. The liquid escaping at 8 through the hole in the stopper reaches the groove in disc 1 at 4 and runs out through the said groove, either into

another container or onto a cloth or the like; the flow of liquid is stopped by returning the marker 5 to positon A. In this latter position, the user may employ the swab or sponge independently of the contents of the bottle.

In Figs. 9 to 14 a compressible tube 15 with threaded neck 16 is fitted with a closure cap 17, with intervening packing ring. The closure cap 17 is suitably pierced in the center with a hole 18, and attached to a disc 20 carrying the swab 19 by means of a pin 21. The closure cap 17 has an excised sector from A to B along its circumference, and a circular groove 22 permitting introduction of a ring 23, e. g. of cork, to make a seal between the disc 20 and the cap 17. The disc 20 has holes 24 through which the paste emerges when pressure is exerted on the tube and the disc 20 is so placed that the holes 24 register with the holes 27, when the marker 25 is positioned at B (Figs. 10 and 14). When the device is not in use, a hood 26 is applied and held in place by light friction.

The device functions similarly to that previously described. It may have a groove 41 similar to the groove 4 in the event of its being used with pastes sufficiently fluid to be dispensed dropwise, or for attachment to a screw-neck bottle. For more convenient application of the paste, a brush may be embedded in the sponge or inserted around it behind the milled rim of the disc.

What is claimed is:

1. A dispenser and applicator cap for containers comprising a container closure member having an opening therein for discharge of the container contents, a disc mounted to rotate over said closure member and normally covering and closing said opening, a sponge applicator carried by said disc, said disc having a hole positioned to register with said closure opening in one position of said disc for supplying the container contents to said sponge, and having a recess on its under surface positioned to form a discharge channel from said closure opening to the periphery of said disc in a second position of said disc whereby the contents may be either applied to said applicator or discharged without contacting said applicator.

2. A dispenser and applicator cap, as set forth in claim 1, in which said applicator sponge is formed of regenerated cellulose.



3. A dispenser and applicator cap, as set forth in claim 1, in which the disc is provided with a milled edge to facilitate its operation and markers are disposed on the disc and on a stationary port to indicate the various positions of the disc.

4. In combination, a container having a neck opening, a closure member for said opening comprising a stopper having an opening therein for discharge of the container contents, a disc mounted to rotate over said closure member and normally covering and closing said stopper opening, a sponge applicator carried by said disc, said disc having a hole positioned to register with said stopper opening in one position of said disc for supplying the container contents to said sponge, and having a recess on its under surface positioned to form a discharge channel from said stopper opening to the periphery of said disc in a second position of said disc whereby the contents may be either applied to said applicator or discharged without contacting said applicator.

5. In combination, a container having a neck forming an opening and having external screw threads therein, a closure member having a skirt threaded onto said neck threads and having an opening therein for discharge of the container contents, a disc mounted to rotate over said closure member and normally covering and closing said closure opening, a sponge applicator carried by said disc, said disc having a hole positioned to register with said closure opening in one position of said disc for supplying the container contents to said sponge, and having a recess on its under surface positioned to form a discharge channel from said closure opening to the periphery of said disc in a second position of said disc whereby the contents may be either applied to said applicator or discharged without contacting said applicator.

JULES GIRAUD.

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