Oct. 21, 1947. ANNE-MARIE A. RAULT 2,429,328

CONTAINER WITH AUTOMATIC EJECTING DEVICE

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Fig-1

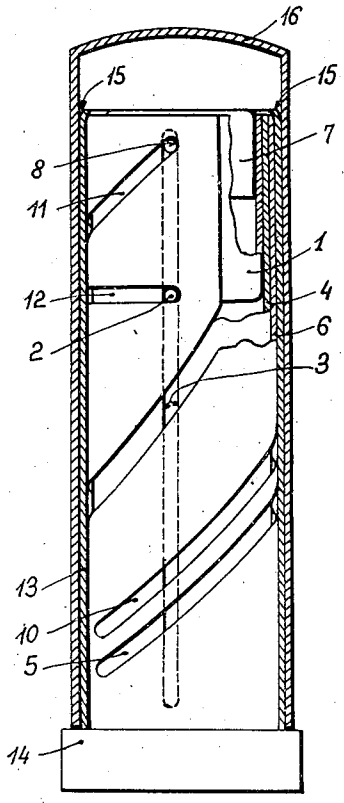


Fig-2

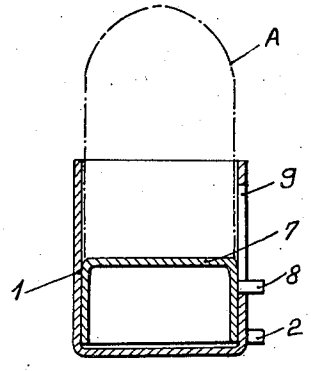
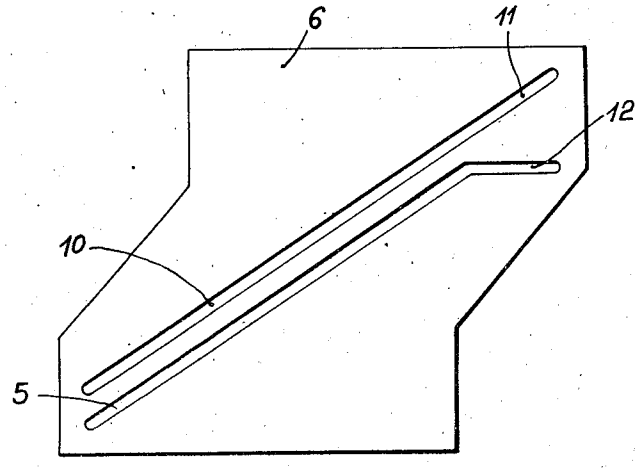


Fig-3



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CONTAINER WITH AUTOMATIC EJECTING DEVICE

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4 Claims. (Cl. 206—56)

1

This invention has for its object to provide a case or container for lipsticks or cosmetics or any other similar articles, of the type wherein a cup enclosing the article which is to be protected or caused to project from the container carries a finger slidable both along a rectilinear slot provided along a generatrix of the case body and along a helical groove provided in a rotatable sleeve.

The invention has for its object to improve cases or containers of such type by the provision of a device for automatically ejecting the contents of the cup so as to allow of easily reloading the latter, as when the lipstick is worn out and should be replaced.

To this end and according to the invention, the cup comprises a movable bottom provided with a finger extending through a straight slot disposed along a generatrix of the cup, a straight slot of the body of the case disposed along a generatrix of the same and a helical groove of the rotatable sleeve, both helical grooves of said sleeve being parallel with each other throughout the greater part of their length, but diverging from each other towards the outlet end of the case, in such manner that the cup and the movable bottom thereof are moved bodily as long as the fingers thereof engage the parallel portions of the helical grooves, whereas the movable bottom moves with respect to the cup when said fingers engage the diverging portions of said grooves.

The arrangement may be such that, at the end of the ejecting movement, the upper face of the movable bottom comes flush with the opening of the case or projects somewhat therefrom.

Further features of the invention will be made clear in the course of the following description, with reference to the accompanying drawing which shows by way of example an embodiment of the invention and wherein:

Fig. 1 is an axial section of a container according to the invention, certain parts being broken away, in the position corresponding to the end of the ejecting movement.

Fig. 2 is a cross-section through the cup and the movable bottom thereof in the position of use and

Fig. 3 is a developed view of the rotatable sleeve.

Referring to the drawing, 1 denotes a cup adapted to enclose an article A (lipstick for example), which is to be protected when not in use and should project out of the container when in use, said cup carries a finger or stud 2, slidable both in a rectilinear slot 3 disposed along a generatrix of the body 4 of the container and in a helical groove 5 of a rotatable sleeve 6.

2

According to the invention, cup 1 comprises a movable bottom 7, formed for instance by an inverted cup fitting into cup 1, and provided with a finger or stud 8. This finger extends successively through a rectilinear slot 9 disposed along a generatrix of the cup 1, the above mentioned slot 3 of the body 4 of the container and a helical groove 10 of the rotatable sleeve 6.

Grooves 5 and 10 are parallel with each other throughout the greater portion thereof, as shown in the developed view of Fig. 3, but diverge from each other towards the outlet end of the container. In the example illustrated, the end 11 of groove 10 constitutes an extension of the helix 10, while the end 12 of groove 5 is at right angles to the generatrices of the cylinder, i. e. forms a circular portion (or a helix whose pitch is equal to zero), connecting with portion 5 through a sharp connecting angle or merging into the same through a connecting portion of progressively decreasing pitch.

It will be seen that, as long as fingers 2 and 8 move through the parallel portion 5 and 10 of the helical grooves, the movable bottom 7 is in a retracted position (Fig. 2) and moves bodily with cup 1. As soon as finger 2 reaches the portion 12 of the groove, cup 1 stops moving upwards, while the movable bottom 7 continues to ascend, for example until it comes flush with the mouth of the container (Fig. 1).

In the embodiment herein illustrated, sleeve 6 is formed out of a piece of sheet-metal suitably cut out and formed into a cylinder, thus having a certain amount of resiliency; it could however be constituted by a solid tube.

The whole device may be enclosed within an outer tubular member 13 beaded as at 15 over sleeve 6 and body 4, said body being integrally secured to a base 14, so that rotation of the tubular member 13 causes rotation of sleeve 6, while body 4 is held fixed by the operator holding the container by its base 14 (or vice versa).

Body 4 can end in a clip ring, beaded-flange or the like to maintain sleeve 6 in place. Moreover, instead of using the same straight slot 3 for both fingers, there could be provided two parallel slots, one for each finger, the helical grooves 5 and 10 being in that case correspondingly offset.

Groove portion 12, instead of being normal to the generatrices of the sleeve, may be differently arranged. In particular it may be inclined in an opposite direction to portion 5 so as to constitute a hinderance opposing a certain resist-

ance to the rotation of sleeve 6 with respect to body 4, in order that the operator, feeling such resistance, should not cause premature or undue ejection of the lipstick.

One of the grooves 5 or 12 may be constituted by the suitably shaped edges of sleeve 6 in developed conditions.

16 denotes a cap or lid covering the mouth of the container and, if need be, the tubular member 13 as shown.

The invention is of course not limited to the details of construction described hereinabove which have been given only by way of example.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:

1. A container for cosmetics and the like comprising in combination a container body, an axially movable cup adapted to contain a retractable article, and slidably mounted in said body, a rotatable sleeve coaxial with said body, a cup bottom, distinct from said cup, a straight slot in said body, along a generatrix thereof, a straight slot in said cup, along a generatrix thereof, two helical recesses in said sleeve having parallel portions throughout the major portion thereof and diverging portions toward the outlet end of said container, a projection on said cup engaging the slot of said body and one of said recesses and a projection on said bottom engaging both said slots and the other of said recesses.

2. A container as claimed in claim 1, wherein said bottom consists of a stamped inverted cup engaging said first-mentioned cup.

3. A container as claimed in claim 1, wherein one of said diverging portions forms an extension of the corresponding parallel portion, whereas said other portion is at an angle to the corresponding parallel portion.

4. A container as claimed in claim 1, wherein one of said diverging portions forms an extension of the corresponding parallel portion, whereas said other portion is at right angles to the generatrices of said sleeve.

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The following references are of record in the file of this patent:

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