Sept. 25, 1945. R. P. PLACE 2,385,643

FEEDING DEVICE

Filed March 30, 1944

Fig. 1.

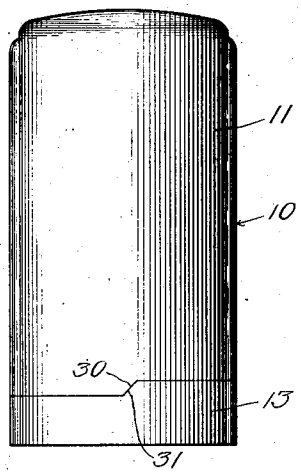


Fig. 2.

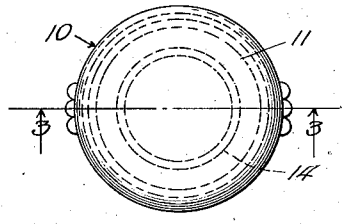


Fig. 5.

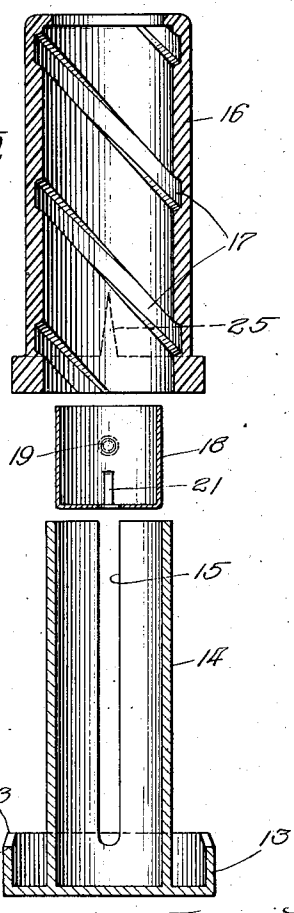


Fig. 3.

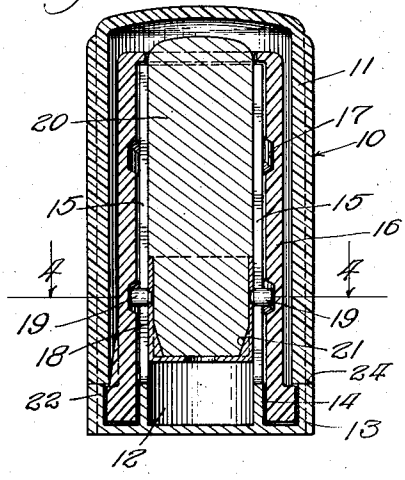
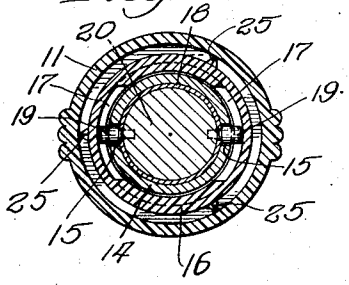


Fig. 4.



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Patented Sept. 25, 1945

2,385,643

UNITED STATES PATENT OFFICE

2,385,643

FEEDING DEVICE

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Application March 30, 1944, Serial No. 528,680

6 Claims. (Cl. 206—56)

This invention relates to a feeding device and more particularly to an improvement in caps for rotary feeding devices of the lipstick type.

The ordinary lipstick container has a standardized rotary screw feed, advancement of the stick being accomplished by turning a sleeve with reference to the base of the container. It is also customary to provide a cover or cap which frictionally engages the sides of the sleeve. It has been found that a large number of lipstick cartridges are spoiled by nervous or accidental twisting of the cover with reference to the base while the container is closed. As a result of this turning, the stick is forced against the cover and, being plastic, spreads and jams and spoils the assembly. The present invention provides a very simple method of overcoming this difficulty. In its preferred form, jamming of the cartridge is avoided by providing a cam or beveled connection between the cap and the base so that, on rotation of the cap, it is thrown out of frictional engagement with the sleeve and, therefore, is not able to advance the cartridge.

The invention is illustrated in the drawing, in which Figure 1 is a side elevation of a typical container; Figure 2 is a plan view thereof; Figure 3 is a sectional elevation along the line 3—3 in Figure 2; Figure 4 is a horizontal section along the line 4—4 in Figure 3; and Figure 5 is a composite sectional elevation of the three main operating parts of the cartridge feed before assembly and arranged to show the method of assembly.

The container 10 comprises a cap 11 and a cartridge 12 including a base 13, a feed cylinder 14 having vertical slots 15, and a sleeve 16 provided with spiral screw threads 17 and rotatably mounted in the base 13. A carriage 18 having a pair of feed pins 19 is slidably mounted within the feed cylinder 14 with the pins 19 held within the slots 15 and the threads 17. A plastic stick 20 such as a lipstick is mounted within the carriage and may be held therein in any suitable way as, for example, by frictional engagement with a stud 21. The base 13 has an annular extension 22 forming a shoulder 23 against which the lower edge 24 of the cap 11 abuts. The sleeve 16 is provided with a plurality of tapered portions 25 which provide a frictional engagement for the lower portion of the cap 11, as best shown in Figure 3. The cap has sufficient flexibility that it anchors itself firmly upon these tapers and is held on the cartridge thereby. It will be noted, however, that the vertical area within which frictional engagement occurs, is limited.

I have provided a beveled cam surface 30 on the lower edge 24 of the cap and a corresponding beveled portion 31 on the shoulder 23 of the base. These cam surfaces, on rotation of the cap with reference to the base, move the cap to a position where it is out of frictional engagement with the sleeve, and, therefore, cannot operate to feed the lipstick.

The slope and depth of the cam surface is of course sufficient to disengage the cap from frictional engagement sufficiently that, on turning the cap, the feed cylinder will not be advanced. On the other hand, the beveled portion may also be vertical to prevent relative rotation of cap and base altogether until the cap has been withdrawn sufficiently to release it from frictional engagement. While the invention has been described with reference primarily to lipsticks, it is also applicable to similar plastic rotary cartridge feed devices such as pomades, et cetera.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom.

What I claim as new, and desire to secure by Letters Patent, is:

1. In a lipstick container or the like having a rotary feed cartridge including a base, a sleeve rotatably mounted on the base, and containing a cartridge fed by rotation of the sleeve with relation to the base, and having a cap in frictional engagement with the sleeve and abutting the base, and means common to the base and cap substantially preventing relative rotary motion of the cap and base only while the cap is in frictional engagement with the sleeve.

2. A container as set forth in claim 1, in which the means for preventing relative rotational movement of the base and cap during frictional engagement of the cap and sleeve include a beveled cam surface substantially perpendicular to the axis of the sleeve and adapted upon rotation a small fraction of a turn to move the cap axially with respect to the sleeve out of frictional engagement therewith.

3. A container as set forth in claim 1, in which the cap is slidably mounted over the sleeve and the frictional engagement thereof with the sleeve is limited substantially to the closed position of the cap.

4. A feed device comprising a base having an annular extension, a screw threaded sleeve rotatably mounted on the base, a vertically slotted feed cylinder within the sleeve and secured to the base, a carriage slidably mounted within the

feed cylinder, a pin carried by the carriage and extending through the slot into the threading of the sleeve, and a cap having a lower edge abutting the annular extension of the base, the cap having a limited frictional engagement with the sleeve when in contact with the base, the cap and the annular extension of the base being shaped to cause frictional disengagement of the sleeve and cap upon limited relative rotation of the cap and base through a small fraction of its circumference.

5. A feed device comprising a base having an annular extension, a screw threaded sleeve rotatably mounted on the base, a vertically slotted feed cylinder within the sleeve and secured to the base, a carriage slidably mounted within the feed cylinder, a pin carried by the carriage and extending through the slot into the threading of the sleeve, and a cap having a lower edge abutting the annular extension of the base, the cap having a limited frictional engagement with the sleeve when in contact with the base, the lower edge of the cap and the abutting portion of the base being sloped in a plane transverse to the axis of the sleeve so that upon rotation of the cap with respect to the base the sleeve will be thrown out of frictional engagement upon rotation through a small fraction of the circumference of the sleeve.

6. A container as set forth in claim 1, in which the means common to the base and cap include abutting faces on the base and cap perpendicular to the axis of the sleeve and at a sharp angle to the direction of rotation of the sleeve, whereby upon relative rotary motion of the cap and base through a small fraction of the circumference thereof the sleeve is forced out of frictional engagement with the cap.

ROLAND P. PLACE.