Jan. 17, 1967 E. G. HULTGREN 3,298,509

LIPSTICK DEVICE

Filed Dec. 4, 1964

Fig. 1

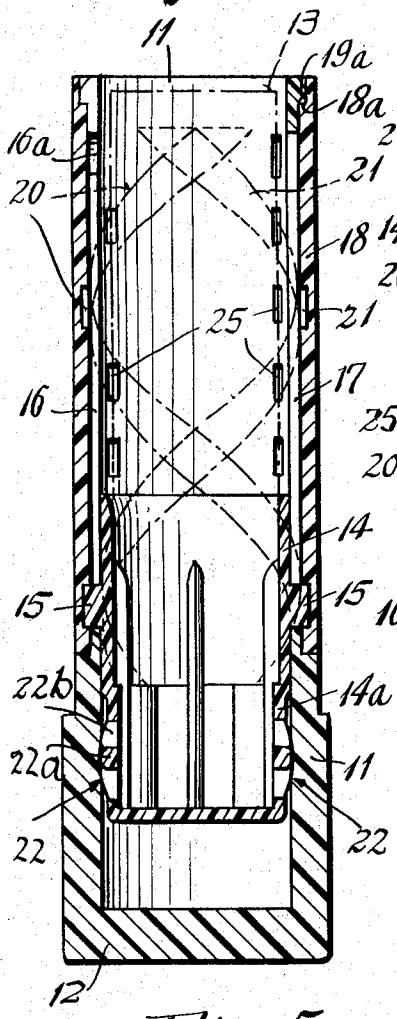


Fig. 2

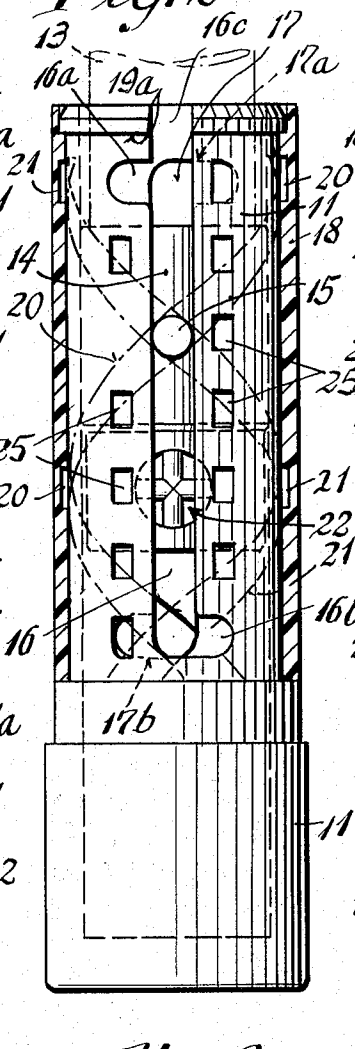


Fig. 3

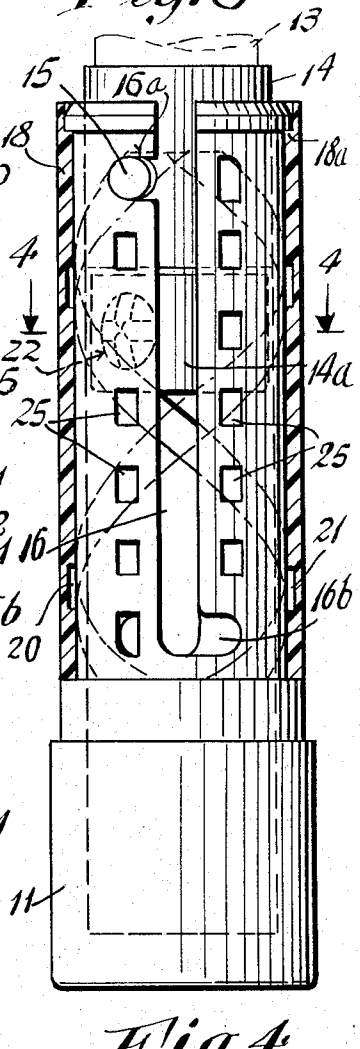


Fig. 5

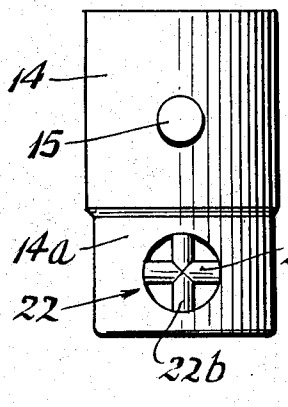


Fig. 6

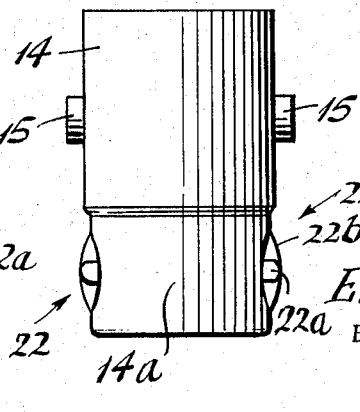
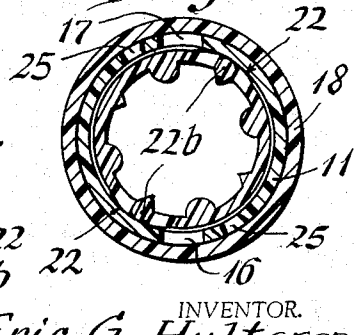


Fig. 4



INVENTOR.

Eric G. Hultgren

BY

Johnson and Kline

ATTORNEYS

United States Patent Office 3,298,509 Patented Jan. 17, 1967

3,298,509

LIPSTICK DEVICE

Eric G. Hultgren, Westport, Conn., assignor to United Tool & Plastics, Inc., Bridgeport, Conn., a corporation of Connecticut

Filed Dec. 4, 1964, Ser. No. 416,065
6 Claims. (Cl. 206—56)

This invention relates to a lipstick device and more particularly to a novel carrier employed therein.

Heretofore, lipstick devices have been provided with an inner cylindrical member having one or more longitudinal slots in which a lipstick carrier having pins projecting through the slot is moved by means of a rotary sleeve member mounted on the inner member for rotation with respect thereto and having one or more helical grooves for receiving the pins to advance or retract the lipstick carrier in response to said relative rotation. The longitudinal slots have lateral extensions or side recesses adjacent each end thereof to receive the pins and prevent unintentional longitudinal movement of the carrier at each end of its travel. Since the carrier has relatively free movement in the inner member it has been easy for it to be inadvertently moved from the side recess and along the longitudinal slot. This has been particularly true when the lipstick is being inserted while the carrier is in its outer position.

The present invention overcomes this difficulty by providing a novel carrier having means cooperating with the inner member for preventing unintentional movement thereof causing the pins to be moved from the side recess into the longitudinal slot and without retarding normal movement of the carrier by the action of the sleeve.

This is accomplished by forming the lower portion of the carrier with a section of slightly reduced diameter and by providing therein a resilient friction projection adapted to engage the inner wall of the cylindrical inner member when the pins are in the side recesses to resist unintentional rotative movement of the carrier therein. Preferably, the friction projection comprises at least a transverse portion having a convex outer surface which will guide it into friction position without catching on the edges of the longitudinal slot as the carrier is rotated to move the pin into the side recesses.

More specifically the present invention forms the friction projection by lateral and longitudinal ribs having convex outer surfaces with the projection aligned with the carrier pins. This projection will frictionally hold the carrier in position but will move along the slot and not interfere with the movement of the carrier during the normal movement of the carrier in the inner member by the rotating sleeve.

Other features and advantages of the invention will be apparent from the specification and claims when considered in connection with the accompanying drawings in which:

FIGURE 1 is a longitudinal section of the device taken through the vertical slots.

FIG. 2 is a longitudinal sectional view of the device taken from the left of FIG. 1.

FIG. 3 is a longitudinal sectional view of FIG. 1 looking from the right of FIG. 1.

FIG. 4 is a sectional view taken along line **4—4** of FIG. 3.

FIG. 5 is a side elevation of the novel lipstick carrier.

FIG. 6 is a view taken from the left of FIG. 5.

As shown in the drawings, the lipstick device comprises a cylindrical inner member **11** of plastic material having a transverse wall **12** at one end closing the member. The other end of the cylindrical member is opened and is adapted to receive a lipstick **13**, shown in dot and dash lines, which may be projected therefrom or retracted within the member.

The lipstick is carried by a cup-shaped carrier **14** which has driving pins **15** projecting from opposite sides thereof. The ends of the pins are adapted to pass through opposed longitudinally extending slots **16, 17** formed in the side walls of the inner member. The slots **16, 17** extend from a point spaced from the closed end and extend longitudinally along the member. Preferably, the slot **16** extends to the free end of the member as shown at **16***c*. At the end of the desired movement of the carrier in retracted or projection positions, the slots are provided with lateral extensions **16***a*, **16***b*, **17***a*, **17***b* into which the ends of the pin can be moved to prevent inadvertent longitudinal movement from said positions.

To operate the carrier from retracted to projected position, a sleeve **18** is rotatably mounted on the inner member and is preferably held in place by having a shoulder **18***a* at the outer end which is adapted to snap under a cooperating shoulder **19***a* on the inner member, the opening **16***c* at the end of longitudinal slot **16** providing sufficient resiliency in the outer end of the cylindrical member to permit the sleeve to be assembled therewith.

The sleeve is provided with a pair of spaced helical grooves **20, 21** on the inner surface thereof, as shown by the dot and dash lines in FIG. 1, cooperating with the ends of the pin so that upon rotation of the sleeve with respect to the inner member, the carrier will be simultaneously lifted at both sides thereof by the groove to move the lipstick uniformly in the cylindrical member.

To prevent inadvertent movement of the carrier from the extensions **16***a*, **16***b*, **17***a*, **17***b* friction means is provided for resisting rotation of the carrier within the inner member when it is in either retracted or projected position.

In the preferred form of friction means, the carrier **14** has a portion **14***a* below the pin sof a reduced diameter and has formed therein one or more friction projections **22** which are adapted, when in position as shown in FIGS. 1, 3 and 4, to frictionally engage the inner surface of the cylindrical inner member **11**. In the illustrated form of the invention, there are employed two friction projections **22** and they are located in the portion **14***a* below the pins **15**. While the projections may take many forms, it is at present preferred to form each of them by a transverse rib **22***a* and a longitudinal rib **22***b* with each rib having a convex outer surface as shown in FIG. 6 with the crossing point of the ribs projecting slightly beyond the diameter of the carrier **14** so as to have good frictional engagement with the inner member. Because of the shape and location of the ribs, they will ride over the edges of the slot **16** as they are moved thereover by the carrier since the convex surfaces will smoothly guide the projection thereover, but because of the location of the projections the high point will be located within the slot **16**, as shown in FIG. 2, and will not interfere with free movement of the carrier during retraction or projection of the lipstick.

While the present invention is applicable to all metal or a combination of plastic and metal lipstick devices, it is herein illustrated as being formed of plastic material because its structure is well suited to this material to produce an inexpensive lipstick device.

If desired, vent holes **25** may be provided on each side of the slot **16**, as shown, to facilitate movement of the carrier.

While the inner member and sleeve can have one slot and groove respectively and the carrier have one drive pin, it is preferred to have a plurality of said elements in order to achieve a balanced operation.

Variations and modifications may be made within the scope of the claims and portions of the improvements may be used without others.

I claim:

1. A lipstick device comprising a cylindrical inner member having a lipstick carrier slidably mounted therein, said inner member having at least one longitudinal slot in the sides thereof and said carrier having at least one pin projecting through said slot, a sleeve surrounding the inner member and mounted thereon for relative rotative movement, said sleeve having at least one helical groove therein for engaging the pin for moving the carrier along the inner member in response to said relative rotation of the sleeve and inner member, said longitudinal slot having lateral extensions adjacent each end into which the pin may be moved to hold the carrier against longitudinal movement at each end of the slot, and friction means on the carrier disposed below and longitudinally aligned with the pin thereon and engaging the inner surface of the inner member for preventing inadvertent movement of the pins on the carrier from said lateral extensions.

2. A lipstick device comprising a cylindrical inner member having a lipstick carrier slidably mounted therein, said inner member having longitudinal slots in the sides thereof and said carrier having pins projecting through said slots, a sleeve surrounding the inner member and mounted thereon for relative rotative movement, said sleeve having helical grooves therein for engaging the pins for moving the carrier along the inner member in response to said relative rotation of the sleeve and inner member, said longitudinal slot having lateral extensions adjacent each end into which the pins are moved to hold the carrier in position at each end of the slot, and friction means comprising projections on the carrier engaging the inner surface of the inner member for preventing inadvertent movement of the carrier from said lateral extensions, said projections being disposed on the carrier below and in longitudinal alignment with said pins and having convex guiding surfaces adapted to move over the edges of the slot and into engagement with said inner surface when the pins are moved into said lateral extensions.

3. A lipstick device comprising a cylindrical inner member having a lipstick carrier having a cylindrical wall slidably mounted therein, said inner member having longitudinal slots in the sides thereof and said carrier having pins projecting through said slots, a sleeve surrounding the inner member and mounted thereon for relative rotative movement, said sleeve having helical grooves therein for engaging the pins for moving the carrier along the inner member in response to said relative rotation of the sleeve and inner member, said longitudinal slot having lateral extensions adjacent each end into which the pins are moved to hold the carrier in position at each end of the slot, and friction means on the carrier engaging the inner surface of the inner member for preventing inadvertent movement of the carrier from said lateral extensions, said friction means comprising crossed ribs having convex outer surfaces with the crossing high point of the ribs being in line with the pins and extending slightly beyond said cylindrical wall and frictionally engaging the inner wall of said inner member when the pins are in said lateral extensions to prevent inadvertent relative movement of said carrier and with said high point lying in said longitudinal slots during normal movement of the carrier.

4. A cylindrical lipstick carrier adapted to slide in an inner member of a lipstick device and having a driving pin thereon adapted to project through a longtiudinal slot in said inner member with the slot having lateral extensions adjacent the ends thereof, said carrier having a friction projection thereon located below and in line with said pin to ride in said longitudinal slot as the pin moves therealong and to engage the inner wall of said inner member when the pin is in said lateral extensions to prevent inadvertent relative movement of said carrier.

5. A lipstick carrier having a cylindrical wall adapted to slide in a cylindrical inner member of a lipstick device and having driving pins thereon adapted to project through longitudinal slots in the side walls of said inner member, said slots having lateral extensions adjacent the ends thereof, said carrier having a portion below the pins of a reduced diameter and provided with friction projections having convex surfaces extending slightly beyond said cylindrical wall and adapted to frictionally engage the inner wall of said inner member when the pins are in said lateral extensions to prevent inadvertent relative movement of said carrier.

6. A cup-shaped lipstick carrier having a cylindrical wall adapted to slide in a cylindrical inner member of a lipstick device and having driving pins thereon adapted to project through longitudinal slots in the side walls of said inner member, said slots having lateral extensions adjacent the ends thereof, said carrier having a portion below the pins of a reduced diameter and provided with friction projections, said friction projections comprising crossed ribs having convex outer surfaces with the crossing high point of the ribs being in line with the pins and extending slightly beyond said cylindrical wall and adapted to frictionally engage the inner wall of said inner member when the pins are in said lateral extensions to prevent inadvertent relative movement of said carrier and with said high point lying in said longitudinal slots during normal movement of the carrier.

References Cited by the Examiner

UNITED STATES PATENTS

1,849,531	3/1932	Lyhne	206—56
2,409,658	10/1946	Book	206—56
2,630,215	3/1953	Lynn	206—56
3,083,822	4/1963	Clark	206—56
3,124,245	3/1964	Hopgood	206—56

THERON E. CONDON, *Primary Examiner.*

MARTHA L. RICE, *Examiner.*