United States Patent

Davis

[15] **3,677,654**

[45] **July 18, 1972**

[54] LIPSTICK DISPENSER

[72] Inventor: **Hazel E. Davis,** 5901 Rose, Long Beach, Calif. 90805

[22] Filed: **Sept. 21, 1970**

[21] Appl. No.: **73,835**

[52] **U.S. Cl.** **401/63,** 401/78

[51] **Int. Cl.** **A45d 40/06**

[58] **Field of Search** 401/63, 64, 75, 78

[56] **References Cited**

UNITED STATES PATENTS

2,691,439	10/1954	Davis	401/63
3,036,702	5/1962	Davis	401/63
2,429,328	10/1947	Rault	401/64

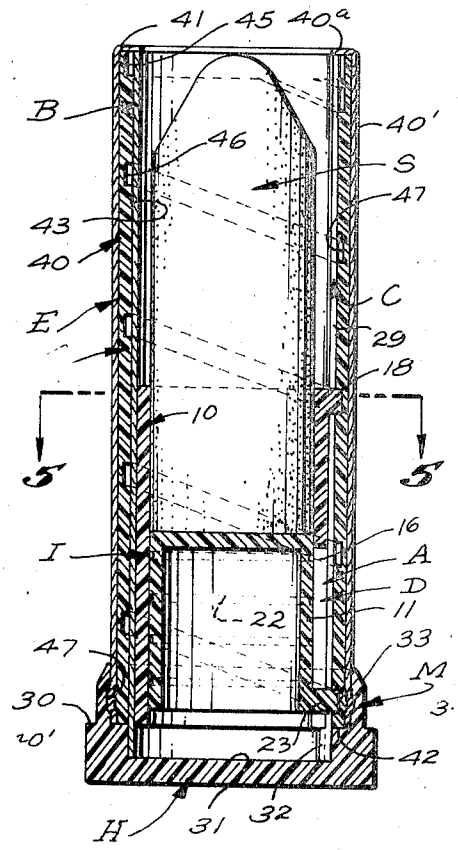
Primary Examiner—Lawrence Charles

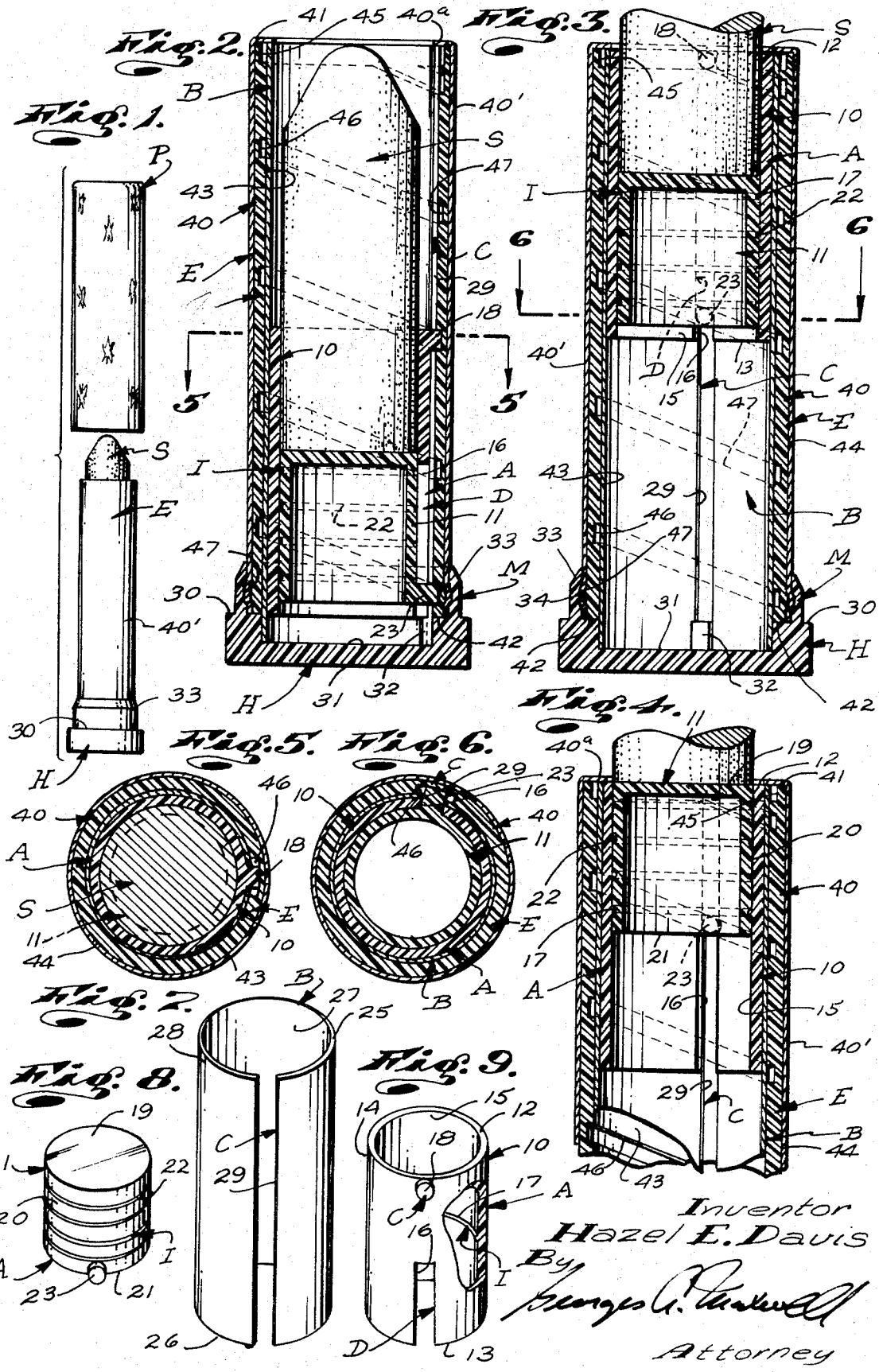
Attorney—Georges A. Maxwell

[57] **ABSTRACT**

A lipstick dispenser including an elongate, vertical cylindrical body with an axial guide slot, a drive barrel with an axially extending helical cam groove and an annular race way at its upper end and surrounding the body and a lipstick supporting cup comprising a tubular cup shell in the body and having an axially extending guiding slot and a cam pin engaged through the guide slot and into engagement in the groove and a cup bottom normally engaged in the lower portion of the cup shell and having a cam lug engaged through the guide and guiding slots and into the groove; an elongate lipstick with a base portion normally engaged in the upper portion of the cup shell and engaging the cup bottom, the cup shell and cup bottom adapted to be moved longitudinally in the body together upon relative rotation of the body and barrel and when the pin and lug are engaged in the groove and said cup bottom adapted to be moved longitudinally upwardly in the cup shell upon relative rotation of the body and barrel and when said pin is engaged in said race way.

2 Claims, 9 Drawing Figures




Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
Fig. 6.
Fig. 7.
Fig. 8.
Fig. 9.
Inventor
Hazel E. Davis
By
Attorney

LIPSTICK DISPENSER

This invention has to do with a device for handling elongate sticks of material, such as lip rouge, and is more particularly concerned with an improved lip rouge or lipstick dispenser which is such that substantially the entire stick of rouge can be advantageously used or consumed without waste.

In the conventional lipstick dispenser, one end of the elongate stick of rouge is engaged in and held by a cup, which cup is axially shiftably engaged in a barrel-like case and so that the cup can be moved in the case to cause the other end of the stick to project from the case and to a position where it can be used and thence back into the case to a position where the stick is housed and protected.

To provide adequate and proper support for the lipstick, the carrier or support cup referred to above and engaged about the one end thereof must engage a substantial portion of the stick, which portion of the stick is inaccessible for use and is, as a general rule, disposed of waste, when the stick is consumed and worn down to the cup.

When the stick, in the ordinary lipstick dispenser, is worn down to the above noted cup, there is no suitable way or manner in which to remove that remaining and waste portion of the stick within the cup, short of using a small tool to dig and scrap it out, which is an unpleasant, tedious and time consuming operation.

As a result of the foregoing, the ordinary lipstick dispenser is considered non-reusable and is disposed of as soon as the stick is worn to the cup and in spite of the fact that it is in otherwise perfect condition and would be capable of repeated use.

A general object of my invention is to provide a lipstick dispenser which is such that the entire stick of lip rouge can be used and which is such that a new or fresh stick of rouge can be advantageously, quickly and conveniently engaged in the dispenser, without requiring the remains of an old stick to be dug and picked therefrom.

The dispenser provided by the present invention involves a stick carrying cup including a pair of movable parts, manely, a cylindrical shell into which a base end portion of a stick is slidably engaged and a bottom carried in its shell adjacent or beneath the base end of the stick and slidable longitudinally in the shell. The bottom can be frictionally engaged in and with the shell but is preferably slidably engaged therein and is adapted to be releasably held and stopped at predetermined points spaced longitudinally of the shell by indexing means comprising axially spaced radially outwardly opening grooves in the side of the bottom and a radially inwardly projecting rib or projection in the shell and selectively engageable in the grooves upon axial shifting of the bottom in the shell. The dispenser next includes an elongate tubular body having an open outer or upper end and closed at its other or lower end by an enlarged operating head. The cup is slidably engaged in the body to operate and shift longitudinally therein between a lower retracted position where the stick is wholly within the body and an up extended position where the cup is at the upper open end of the body and where the stick is outside of the body and accessible. A guide and stop means is provided to guide the shell and bottom of the cup in the body and to limit relative longitudinal movement of said parts. The guide and stop means includes a lug on the bottom of the cup projecting through a slot in the shell, a cam pin on the shell and a guide slot in the body through which the lug and cam pin extend on in which said lug and projection are slidably engaged. An acuating means is provided for the cup and normally serves to move the shell and bottom, as a unit, between the hereinafter referred to positions. The actuating means involves an elongate barrel surrounding the body and having a cam slot therein and with which the lug and projection on the bottom and shell of the cup project. The barrel is rotatably carried by the head at the lower end of the body for rotation relative to the body and is such that when it is so rotated, the cup, as a unit, is moved, by the cam slot and the cam pin and lug, longitudinally upwardly or downwardly in the body. The upper end of the cam slot intersects an annular race at the upper end of the body which limits upward axial movement of the cam pin in the shell and permits circumferential movement of said cam pin relative to the barrel whereby continued rotation of the barrel relative to the body, after the lug is moved into engagement in the race results in movement of the bottom of the cup upward in the shell of the cup, by the action between the lug and cam slot and controlled ejection of the portion of the stick engaged in the cup, therefrom. Upon reverse rotation of the barrel relative to the body, the bottom of the cup is first moved downward in the shell of the cup, retracting the stick into the shell. Upon continued reverse rotation of the barrel and body, the cup, as a unit, is moved downward in the body.

It is an object of my invention to provide dispenser of the character referred to wherein the head, shell, bottom and the barrel, referred to above, are molded plastic parts which are easy and economical to manufacture and assemble and which provide a smoother operating and more durable dispenser than can be established of metal only and as is common practice in the prior art.

The foregoing and other objects and features of my invention will be apparent and will be fully understood from the following detailed description of a typical preferred form and application of my invention, throughout which description reference is made to the accompanying drawings in which:

FIG. 1 is an elevational view of my new dispenser;

FIG. 2 is an enlarged detailed sectional view of my dispenser;

FIG. 3 is a view similar to FIG. 2 showing parts in different positions;

FIG. 4 is a view of a portion of the structure shown in FIGS. 2 and 3 and showing the parts in yet another position;

FIG. 5 is a sectional view taken as indicated by line 5—5 on FIG. 2;

FIG. 6 is a sectional view taken as indicated by line 6—6 on FIG. 3;

FIG. 7 is an isometric view of the body of my new dispenser;

FIG. 8 is an isometric view of the cup bottom that I provide; and,

FIG. 9 is an isometric view of the cup shell that I provide.

The structure provided by the instant invention is such that it can be advantageously employed to handle and dispense various types of stick material and is particularly suitable for handling sticks of lip rouge, ordinarily referred to as lipsticks.

In light of the above, and for disclosure purposes, the stick of material handled will be referred to as lipstick and the device will be referred to as a lipstick dispenser.

Referring to the drawings, the lipstick dispenser involves, generally, a cup A carrying a lipstick S and a support body B. The cup A includes a tubular shell **10** and a bottom **11**. A primary guide means C guides the cup shell **10** in the body and a secondary guide means D guides the cup bottom **11** in the shell and relative to the body. The structure further includes actuating means E which normally serves to shift or operate the cup bodily in the body and is operable to shift the bottom **11** of the cup relative to the cup shell **10**, after movement of the shell relative to the body has reached a predetermined stopped position.

In addition to the foregoing, the present invention provides indexing means I between the cup shell and cup bottom, a head H operatively connecting the body B and the actuating means E and a removable cap P.

The cup A is established by an assembly of the cup shell **10** and cup bottom **11**, each of which parts is preferably molded of plastic.

The cup shell **10** is an elongate, cylindrical, tubular part, shown arranged to extend vertically and as having an open upper and lower ends **12** and **13**, a cylindrical exterior surface **14**, a cylindrical bore **15**.

The shell is further provided with an elongate, radially opening, longitudinally extending guide slot **16** extending from its lower end to a point approximately midway between

its ends, an indexing projection **17** in its bore and substantially midway between its ends and a cam pin or projection **18** projecting laterally outwardly from one side adjacent its upper end. The pin **18** is an element of the primary guide means C and actuating means E, the guide slot **16** is a part or feature of the secondary guide means D and the projection **17** is an element of the indexing means I, each of which means will be considered in detail in the following.

The cup bottom **11** is an elongate, cylindrical part having a flat top **19**, a cylindrical exterior **20**, a bottom **21**, a plurality (4) of axially spaced radially outwardly opening indexing grooves **22** and radially outwardly projecting cylindrical lug **23** at one side and adjacent the bottom end **21**.

The grooves **22** are elements of the indexing means I and the lug **23** is an element of the secondary guide means D and actuating means E.

The cup bottom **11** is a downwardly opening cup-like part, is adapted to freely slidably engage in the base **15** of the shell **10** and is preferably slightly less than one half the vertical or longitudinal extent of the shell.

The cup bottom **11** is normally arranged in the cup shell **10** to occur in the lower portion of the shell, with its lug **23** projecting laterally through the slot **16**, at the lower end of said slot and extending radially outward from the shell.

The projection **17** in the shell, which projection is shown in the form of an annular rib in the in the shell bore **15**, is releasably engaged in the uppermost groove **22** in the cup bottom when the cup bottom and shell are in their above-noted normal position.

The cup bottom **11** is adapted to be shifted vertically from its noted normal position in the shell **10** to several intermediate position where the projection **17** engages in the intermediate grooves **22** and finally to a fully actuated position where the top **19** of the bottom is normal or flush with the upper end **12** of the shell, the lug **23** stops at the upper end of the slot **16** and the projection **17** is engaged in the uppermost groove **22**, as clearly illustrated in FIG. **4** of the drawings.

The lipstick S is an elongate, vertical cylindrical stick of material of considerable and predetermined length and has a lower base portion which is normally engaged in the upper portion of the cup shell and in stopped engagement on the top **19** of the cup bottom. The lipstick is preferably substantially equal in diameter with the bore **15** of the cup shell and establishes sliding engagement therein.

The body B that I provide is preferably a simple elongate vertically extending longitudinally split part formed of sheet metal. The body is of considerable longitudinal extent, has open top and bottom ends **25** and **26**, cylindrical inside and outside surfaces **27** and **28** and defines an elongate longitudinal extending guide slot **29** which slot is coextensive with the body. The slot **29** is a cooperative part or feature of the primary and secondary guide means C and D and of the actuating means E.

The body B corresponds in I. D. with the O. D. of and slidably receives the cup shell **10**. The cam pin **18** and the lug **23** of the guide means C and D are slidably received by the guide slot **29** and project radially outward from the body a limited predetermined extent.

The lower end of the body is fixed to and carried by the head H which head is a large diameter molded plastic part.

The head H has a flat top **30** with a central upwardly opening socket **31** into which the lower end of the body is press fitted. The side wall of the socket **31** is provided with a radially inwardly projecting key **32** which projects through the lower end of the slot **29** and keys the head to the body against relative rotation.

The body can, in practice, be fixed in and with the head H to prevent relative axial movement and displacement of the parts by means of a suitable cement or bonding agent between the parts or by mechanical means, such as stacking the metal body into the body of the plastic head.

The actuating means E includes an elongate, vertical, cylindrical barrel **40** having open upper and lower ends **41** and **42**, a central bore **43** and cylindrical exterior **44**. The bore **43** is provided with an annular, radially inwardly opening groove or race way **45** at or adjacent its upper end **41** and an elongate helical, radially inwardly opening cam groove **46** extending upwardly from the lower end of the barrel to the race way **45** with which it communicates.

In practice, the barrel **40** can be a unitary molded plastic part or can, as illustrated, include a molded plastic core part and a metal sheath **40'** engaged and fixed about the core. In the case illustrated, the outer and lower sides or surfaces of the race way **45** are established in the molded plastic core and the upper or top side of said race way is defined by a radially inwardly turned flange **40^a** on the upper end of the sheath **40'**.

The barrel **40** is slidably and rotatably engaged about the body B. The lower end of the barrel is rotatably coupled with the head H by suitable bearing means M.

The barrel **40** is slidably and rotatably engaged about the body B and extends upwardly from the top **30** of the head to the upper end **25** of the body B. In practice, it is preferred that the flange **40^a** at the upper end of the barrel project radially inwardly to overlie the upper end **25** of the body and to act as a retainer or keeper flange to prevent axial upward shifting of the body and in which case the body need not be fixed to the head H to prevent relative axial displacement of the body and head.

The outer end portions of the pin **18** on the cup shell **10** and lug **23** on the cup bottom **11** establish cam followers and normally project into and establish sliding bearing engagement in the cam slot, as clearly illustrated throughout the drawings.

The barrel **40** is rotatably coupled and held against axial shifting relative to the head by suitable bearing means M between the head and the lower end of the barrel.

The bearing means M can vary widely in form without departing from the spirit of this invention and is shown as including an axially upwardly projecting annular mounting flange **33** on the top **30** of the head H and in which the lower end of the sheathed barrel is slidably and rotatably engaged, a radially outwardly opening, annular, retaining groove **47** in the flange **33** and a radially outwardly projecting, annular, retaining rib **34** on the sheathed barrel slidably engaged in the groove **46**.

The rib **34** is engaged in the groove **46** when the barrel is forced into engagement in the flange.

The flange **33**, in addition to mounting the barrel **40**, also serves to frictionally engage and hold the lower end of the removable cap P which is provided to cover the upper major portion of the dispenser when it is not in use and as is commonly provided and practiced in dispensers of the general character and class here concerned with.

Since the cap P and its particular relationship with the remainder of the construction does not go to or effect the novelty and spirit of this invention, further detailed consideration thereof will be dispensed with.

With the structure and the combination and relationship of parts described above, it will be apparent that upon manual rotation of the barrel **40** relative to the head H (and body B) in one (counter-clockwise) direction, the cam pin **18** and lug **23** are driven upwardly by the cam groove **46** and the cup A, as a unit, is moved upwardly in the body B.

Conversely, it will be apparent that upon rotation of the barrel **40** relative to the head H in the other (counter-clockwise) direction, the cam pin **18** and lug **23** are driven downwardly by the cam groove **46** and the cup A, as a unit, is moved downwardly in the body B.

When the dispenser is not use and the lipstick S carried by the cup A is at its full and maximum length, the parts of the construction are arranged and positioned as shown in FIG. **2** of the drawings, where the cup A occurs in the lower end of the body A, the bottom **11** of the cup occurs in the lower end of the cup shell **10** and the upper end of the lipstick S occurs immediately below the upper end **41** of the barrel **40**.

When it is desired to dispense and use the the stick, the barrel **40** is rotated relative to the head H to drive the cup A upwardly and the lipstick S upwardly and outward of the upper end of the barrel to the extent desired.

After the lipstick is used, it is retracted into the barrel and body by reverse relative rotation of the barrel and head.

As the stick is used and consumed in the above manner, the cup A must ultimately be advanced upwardly in the body and relative to the barrel to a maximum extent to effect exposure of the lipstick above the construction and where the upper end 12 of the cup shell 10 is at or adjacent the upper ends of the body and barrel and as clearly illustrated in FIG. 3 of the drawings.

When the cup reaches that position shown in FIG. 3 of the drawings, the cam pin leaves its normal engagement in the cam groove 46 and enters the race way 45 and is free to move circumferentially in the race way 45 and relative to the body B and barrel 40, without shifting axially of the construction. The cup shell 10 is therefore stopped and held against further vertical shifting in and relative to the body and the barrel.

When the structure is in the position shown in FIG. 3 and described above and all of the exposed portion of the lipstick S is used, a substantial amount of the lipstick remains within the cup A.

To effect controlled upward shifting and ejection of the portion of the lipstick in the cup, for effective use, the barrel is rotated relative to the head in said one direction to effect driving of the lug 28 and cup bottom 11 upwardly relative to the cup shell 10, body B and barrel 40. As the cup bottom 11 is moved upwardly relative to the cup shell 10 in the manner set forth above, the cam pin 18 on cup shell moves freely circumferentially in the race way 45.

Upon continued rotation of the parts to effect upward shifting of the cup bottom 11 in the cup shell 10, the top 19 of the cup bottom 11 ultimately reaches the top 15 of the cup shell 10 and to that point where the entire lipstick is ejected from within the construction for use and consumption.

When the structure reaches its fully actuated position described above and which is illustrated in FIG. 4 of the drawings, the lug 23 stops at the top end of the groove or slot 16 in the shell 10 and locks the structure so as to prevent displacement of the shell bottom.

During the last phase of operation of my dispenser, when and as the portion of the lipstick S normally in the cup A is ejected from the cup the extent to which the remaining lipstick S is held and supported by the cup diminishes and the tendency of the lipstick to be urged out of supported engagement in the cup A becomes increasingly greater. As a result of the above, it is important that ejection of the lipstick from the cup, for use, be controlled and that only that extent of the remainder of the lipstick necessary for normal use or consumption be ejected, as it is used.

To effectively gain such controlled ejection of the lipstick from the cup, I have provided the previously noted indexing means I comprising the projection 17 in the cup shell 10 and the grooves 22 in the cup bottom 11.

With the indexing means I that I provide, it will be apparent that the operator of the construction, when operating it to eject the lipstick from the cup A, must exert increased force between the barrel and head each time the cup bottom is moved upwardly in the cup shell to a point where the projection 17 engages in each of the grooves 22 and to urge that groove out of engagement with the projection. The resistance afforded by the indexing means I, each time a groove 22 engages the projection 17, effectively signals the operator that another portion of the lipstick, of predetermined extent and suitable for use, has been ejected and prevents inadvertant excessive ejection of the last part of the lipstick in such a manner as might result in displacement and loss of the lipstick.

It will be apparent that as the last portion of the lipstick is being ejected from the cup and used, it can be retracted into the cup by reverse rotation of the parts and that the indexing means I effectively signals the operator when the lipstick has been retracted into the cup, for storage, in the same way it signals to operator the extent to which the lipstick is ejected.

Finally, when the lipstick is fully consumed, the construction can be operated to arrange the parts in the position shown in FIG. 3, whereupon a new lipstick can be engaged therein. Subsequent to engagement of a new lipstick in the construction, as above set forth, the construction is operated to urge the structure to a condition and position shown in FIG. 2 of the drawings and ready for regular or normal use and consumption of the new lipstick.

Having described only typical preferred forms and applications of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any modifications and/or variations that may appear to those skilled in the art to which this invention pertains.

Having described my invention, I claim:

1. A lipstick dispenser comprising an elongate, vertical tubular body with a longitudinally extending radially opening guide slot, an elongate tubular barrel substantially coextensive with and freely engaged about the body and having an annular radially inwardly opening race way adjacent to and opposing the upper end portion of the body and an elongate radially inwardly opening helical cam groove extending axially downwardly from the race way, bearing means at and between the lower ends of the body and barrel to prevent relative axial movement and allow for free relative rotation therebetween, a lipstick carrying cup comprising an elongate tubular cup shell slidably engaged in the body and having a cam pin projecting laterally outwardly through the guide slot to normally engage the cam groove and engagable in said race way and an elongate axially extending guiding slot in one side and a cup bottom slidably engaged in the cup shell to normally occur in spaced relationship below the upper end of said cup shell and having a cam lug projecting laterally through the guide and guiding slots and engaged in the cam groove and an elongate vertically extending lipstick having a lower portion normally engaged in the upper portion of the cup shell in stopped engagement with the cup bottom and projecting upwardly and freely through the body, an index means to control relative axial shifting of the cup shell and cup bottom parts and including a plurality of axially spaced radially opening index grooves in one of said parts and opposing the other of said parts and a radial projection on the other of said parts selectively engaging in the index grooves upon relative axial shifting of the parts.

2. A structure as set forth in claim 1 wherein said bearing means includes an enlarged manually engageable head fixed with the lower end of the body and having an annular support flange slidably engaged with the lower end of the barrel, said support flange and barrel having an interengaged annular rib and groove to allow for free relative rotation and prevent relative axial movement of the head and barrel.

* * * * *