May 12, 1970 M. L. BERINS 3,511,575

LIPSTICK CASE

Filed July 27, 1967 2 Sheets-Sheet 1

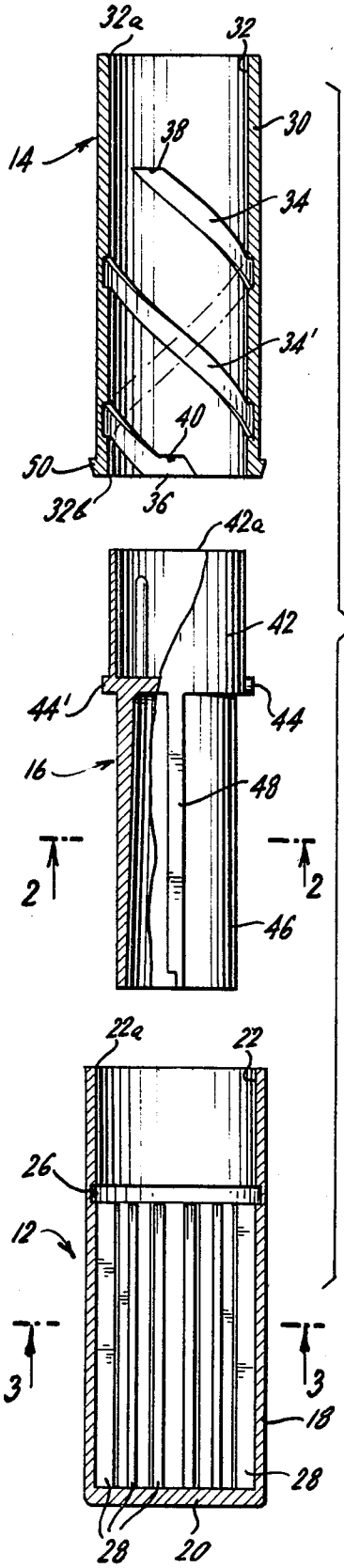


FIG. 1.

FIG. 2.

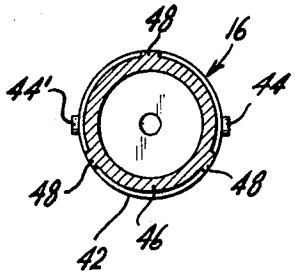


FIG. 3.

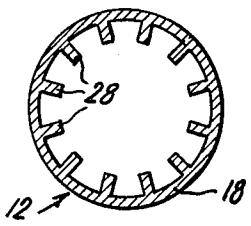
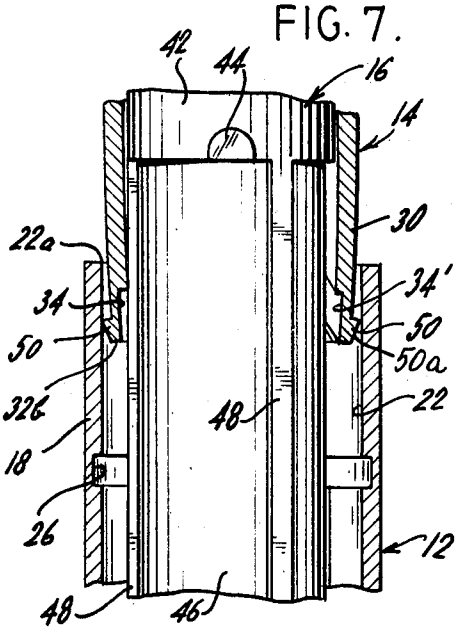


FIG. 7.



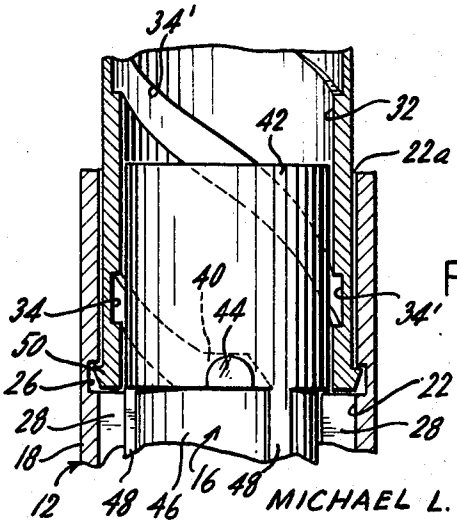


FIG. 8.

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FIG. 4.

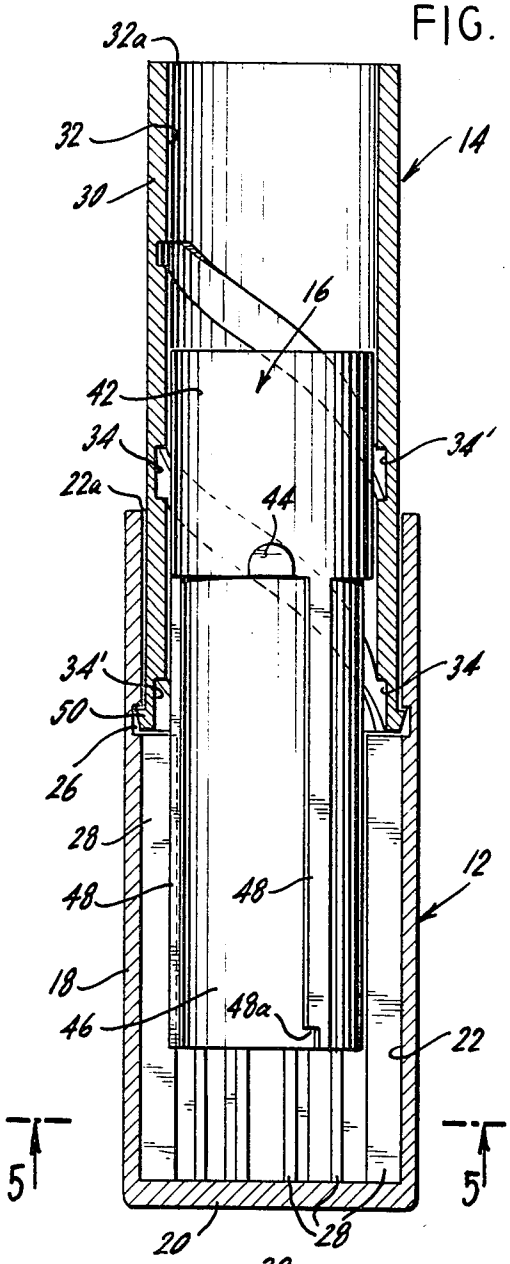
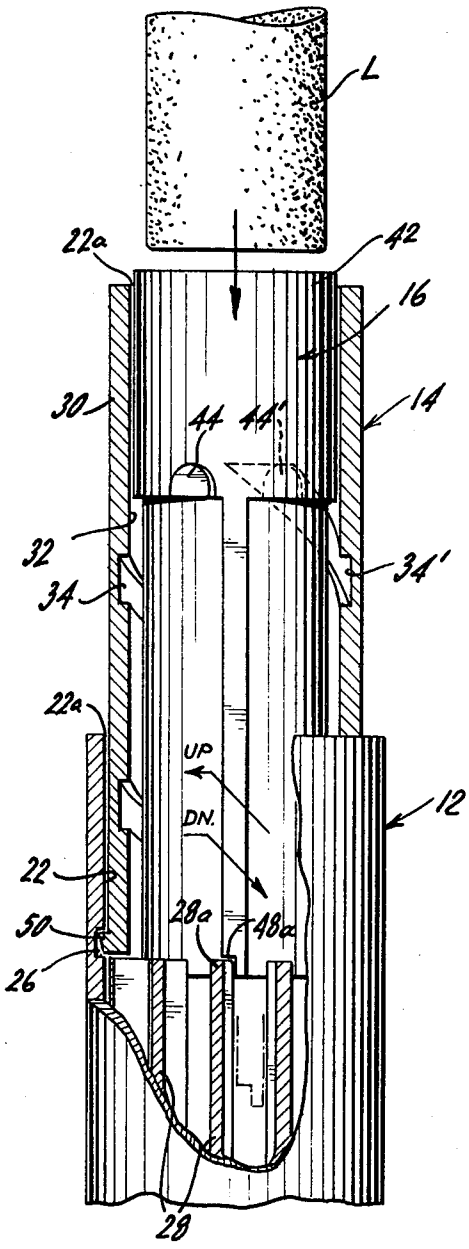


FIG. 6.



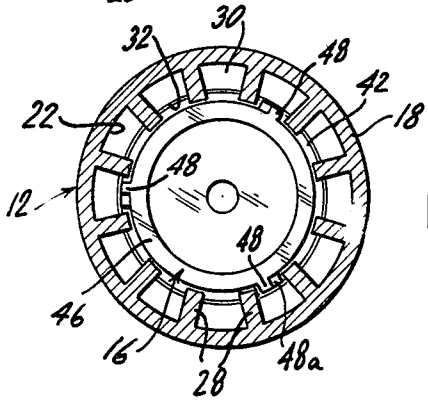


FIG. 5.

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LIPSTICK CASE

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U.S. Cl. 401—78 2 Claims

ABSTRACT OF THE DISCLOSURE

A three-piece lipstick case having a base and a cup holder which are connected for relative rotation and are effective to displace a combined cup and coordinating member received within and engaged by the base of the cup holder to extend and retract a lipstick in relation to the case. Locking arrangements are provided for securing the cup of the combined cup and coordinating member in a loading position to facilitate the loading into the case of a lipstick and/or to locking the cup in a retracted position for storage and/or shipment.

The present invention relates generally to containers for holding, projecting, retracting and applying bodies or stciks of medicinal, hygienic, cosmetic, marking or other dispensable substances, and more particularly to a three-piece cases for cosmetic preparations, such as lipsticks.

There have been enumerable constructions proposed throughout the years for use in dispensing lipstick. Although many of these have gained widesperad commercial acceptance, there is a never ending need for simplifying usch cases, improving the functionality thereof, and reducing the costs incident to the construction of such cases and to the loading of the manufactured cases with a dispensable product, such as a lipstick.

Broadly, it is an object of the present invention to provide an improved dispenser for cosmetic sticks and like preparations which realizes one or more of the aforesaid objectives. Specifically, it is within the contemplation of the present invention to provide a lipstick case which is constructed of three basic components which may be molded without any untoward difficulty, are easily assembled and may be readily loaded with a lipstick or similar product.

In accordance with an illustrative embodiment demonstrating objects and features of the present invention, there is provided a three-piece lipstick case which comprises a base, a cup holder arranged coaxially of the base and a combined cup and coordinating member received with and engaging both the base and the cup holder. The base has an internal bore terminating in an open end, while the cup holder has both ends open and includes a cylindrical wall having an internal spiral cam formed therein. The combined cup and coordinating member includes a cup which opens in the direction of one open end of the cup holder and is adapted to receive a lipstick which projects from the common open ends of the cup holder and cup. A cam follower engages the internal spiral cam of the cup holder and includes an integral coordinating extension which projects through the other open end of the cup holder and into the internal bore of the base. Cooperating splines are integrally formed on the internal bore and on the coordinating extension and coact with each other to preclude relative rotation between the base and the member, but permitting longitudinal movement therebetween. Interengaging means on the base and cup holder rotatably interconnect the assembly of the base and cup holder such that relative rotation of the base and cup holder is effective to displace

the combined cup and coordinating member longitudinally relative to the base to extend and retract the lipstick in relation to the case.

The above brief description as well as further objects, features and advantages of the present invention will be more fully appreciated by reference to the following detailed description of a presently preferred, but nonetheless illustrative embodiment in accordance with the present invention, when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is an exploded sectional view of a three-piece lipstick case embodying features of the present invention;

FIG. 2 is a sectional view taken along the line 2—2 of FIG. 1 and looking in the direction of the arrows showing the cross section of the combined cup and coordinating member;

FIG. 3 is a sectional view taken substantially along the line 3—3 of FIG. 1 and looking in the direction of the arrows showing the cross section of the base;

FIG. 4 is a vertical section through the lipstick case showing the three pieces thereof in assembled relation and with the combined cup and coordinating member in an intermediate position;

FIG. 5 is a sectional view taken substantially along the line 5—5 of FIG. 4 and looking in the direction of the arrows;

FIG. 6 is a fragmentary elevational view, with parts in section and broken away, showing the lipstick case with the cup thereof locked in a loading position for receiving a lipstick or similar dispensable substance;

FIG. 7 is a fragmentary elevational view, with parts broken away and in section, showing the pieces during the assembly of cup holder and base; and,

FIG. 8 is a fragmentary sectional view similar to FIG. 7, but with the cup holder and base rotatably interconnected.

Referring now specifically to the drawing, the three pieces of a typical lipstick case **10** embodying features of the present invention are shown in FIG. 1 and are seen to include a base **12**, a cup holder **14** arranged coaxially of the base **12** and a combined cup and coordinating member **16** received within and engaging both the base **12** and the cup holder **14**.

The base **12** is illustrated as being a simple cylindrical part, with an easily moldable undercut, that may be shaped to impart any desired external ornamentation to the case or dispenser **10**. Specifically, the base **12** includes an upstanding cylindrical wall **18** closed at one end by a bottom wall **20** and formed with an internal bore **22** terminating in an open end **22***a*. The bounding wall of the internal bore **22** contiguous to the open end **22***a* is smooth for a substantial portion of its length and is formed at a location spaced from the open end **22***a* with a locking groove or seat **26** which extends circumferentially of the base **12**. Projecting radially inwardly from the bounding wall of the internal bore **22** intermediate the bottom wall **20** and the locking seat **26** are a plurality of longitudinally extending radial splines **28**, seen best in FIG. 3. The splines **28** serve in conjunction with corresponding splines on the combined cup and coordinating member **16** to preclude relative rotation between the base **12** and the member **16**, yet permit longitudinal movement therebetween for a purpose to be subsequently described.

The cup holder **14** includes a cylindrical wall or body **30** having a through bore **32** terminating in opposite open ends **32***a*, **32***b*. On the interior of the cylindrical wall **30**, there are formed internal spiral cam tracks **34**, **34**^{1} which are of a longitudinal extent and pitch to achieve the desired longitudinal displacement of the combined cup and coordinating member **16** relative to the cup holder **14** in response to relative rotation between the base **12** and the

cup holder **14**. The cam track **34** has an entry end **36** which receives a cam follower on the member **16** and a terminal end **38** which serves as a stop for the cam. The second cam track **34¹** provided on the interior of the cylindrical wall **30** is of identical construction to the cam track **34**, but has its entry end at a point removed 180° circumferentially from the entry end **36**.

The combined cup and coordinating member **16** is formed with a substantially cylindrical cup **42** which has an open end **42*a*** opening in the same direction as the open end **32*a*** of the cup holder **14**. The cup **42** is adapted to receive a lipstick L, as seen best in FIG. 6. Projecting from exterior of the member **16** contiguous to the base end of the cup **42** are diametrically opposed cam followers **44**, **44¹** which are received within the identical cam tracks **34**, **34¹**. In response to relative rotation between the base **12** and the cup holder **14**, the cup **42** is longitudinally displaced relative to the assembly as a result of the cooperation between the cams **44**, **44¹** and their corresponding cam tracks **34**, **34¹**. Depending from the cup **42** of the member **16** is an integral coordinating extension **46** which is adapted to project through the open end **32*b*** of the cup holder **14** into the internal bore **22** of the base **12**. The coordinating extension **46** is formed, as seen best in FIG. 2, with a plurality of longitudinally extending radial splines **48** which coact with the splines **28** on the base **12** to preclude relative rotation between the base **12** and the extension, yet permit longitudinal movement therebetween.

The assembly of the three pieces **12**, **14** and **16** of the lipstick case **10** is achieved simply and directly, as illustrated in the progressive showings of FIGS. 7 and 8, by inserting the member **16** within the cup holder **14** and thereupon rotably interconnecting the base **12** and the cup holder **14**. Specifically, the rotatable interconnection between the base **12** and the cup holder **14** includes an outwardly projecting locking shoulder **50** formed on the cup holder **14** contiguous to the open end **32*b*** which is received within the locking seat or groove **26** in the base **12**. As seen best in FIGS. 7 and 8, the member **16** is first assembled with the cup holder and this sub-assembly is then united with the base **12**. As seen in FIG. 7, incident to the insertion of the lower end of the cup holder **14** into the internal bore **22** of the base **12**, the leading end **32*b*** of the cup holder is somewhat radially compressed. This compression is facilitated by the chamfer **50*a*** provided on the locking shoulder **50**. The final assembled position of the lipstick case **10** is shown in FIG. 8. It will be appreciated that the annular locking groove **26** and the shoulder **50** cooperate to interconnect the assembly, with the followers **44**, **44¹** at the lower end of their respective cam slots or tracks **34**, **34¹**.

When the followers **44**, **44¹** are in the circumferentially extending locking seats **40** of the respective cam tracks at the lower end of the cup holder **14**, there is a minimum tendency of the cup **42** to move relative to the cup holder **14**. This precludes the inadvertent extension of the lipstick, as for example due to vibration in shipping. However, this does not interfere with the desired operation of the case since a slight initial relative rotation of the base **12** and cup holder **14** will remove the followers from the respective locking slots bringing the same into the rise portion of the cam tracks **34**, **34¹** for longitudinal translation of the cup and lipstick into extended position, such as the intermediate extended position illustrated in FIG. 4 or the final extended position illustrated in FIG. 6.

Additionally, provision is made on the base **12** and on the combined coordinating and cup member **16** for releasably securing the cup **42** against longitudinal movement relative to the cup holder **14** and the base **12** when the cup **42** is in a loading position remote from the base **12**, as illustrated in FIG. 6. In this loading position, the cup **42** is held in a relatively fixed position against longitudinal displacement such that the lipstick L may be forced into supported relation with the cup, as illustrated by the directional arrow in that figure. This temporary locking position includes interengaging locking elements formed on the splines **28** of the base **12** and on the splines **48** of the intermediate member **16**. Specifically, the upper ends of the splines **28**, such as the end **28*a*** in FIG. 6, serve as locking shoulders while the corresponding lower ends of the splines **48**, such as the lower end **48*a***, are cut away to provide seats for the corresponding locking shoulders. When the cup **42** is in the retracted position, the seats **48*a*** on the lower ends of the splines **48** are out of engagement with the splines **28** of the base **12**, for example as shown in the intermediate position as shown in FIG. 4. As the base and the cup holder are rotated to each other, the cup is driven upwardly until such time as the seats **48*a*** slip over and engage the locking shoulders **28*a*** afforded by the upper ends of the splines **28** on the base, as shown in FIG. 6. This of course prevents the cup **42** from being pushed down during loading and any axially force applied incident to such loading, is indicated by the directional arrow in FIG. 6, merely tends to increase or enhance the locking action. Upon the slight initial relative rotation of the base **12** and the cup holder **14** in the opposite direction, the locking elements **28*a***, **48*a*** disengage from each other thereby permitting the cup to be longitudinally and downwardly displaced for the normal and intended operation of the lipstick case (see the dotted line position of spline **48** in FIG. 6). This configuration can be revised with equal efficacy, with seats being provided on the base and the locking shoulders on the intermediate member.

From the foregoing it will be readily appreciated by those skilled in the art that the construction of the present invention facilitates the use of conventional molds with no side actions. Further, the assembly of the components or parts of the lipstick case in such that it may be achieved with relativelysimpele manipulative steps including the initial assembly of the member **16** and the cup holder **14** and the final assembly of the three pieces, as progressively illustrated in FIGS. 7 and 8. Such assembly involves the use of relatively simple jigs or fixctures. Still further, the construction is such that it facilitates the easy loading of the lipstick onto its supporting cup. In particular, there is no need for special provisions external to the case **10** to facilitating loading with a dispensable cosmetic, medication or the like. The relatively long configuration of the combined cup and coordinating member and its cooperation with the base minimizes the tendency of the cup to wobble in the cup holder. This renders the lipstick case much more stable and desirable, both at the level of the manufacturer and the consumer.

Finally, the device is operable in the usual manner for ceases or dispensers of this type. Although it has not been specifically illustrated, it will be appreciated that the case may include a cover which slips over the cup holder and forms a continuation of the base, both ornamentally and functionally. In this connection, the exterior surfaces of the base **12** and such cover may be provided with what ever ornamentation is required, as is generally understood by those skilled in the art.

A latitude of modification, substitution and change is intended in the foregoing disclosure. Accordingly it is appropriate that the appended claims be construed broadly and in the manner consistent with the spirit and scope of the invetnion herein. Although the claims may make reference to a lipstick case, it is intended that this term be broadly construed as to embrace holders and dispensers for various types of products, including without limitation, cosmetic, medicinal preparations, brushes, applications and the like which are to be extended relative to a holder for use.

What is claimed is:

1. A lipstick case comprising a base having an internal bore terminating in an open end, a cup holder comprising a cylinder arranged coaxially with said base and having

first and second open ends with an internal spiral cam formed therein, said spiral cam extending from said first open end to a point intermediate said first and second open ends and a combined cup and coordinating member received within and engaging both said base and said cup holder, said combined cup and coordinating member including a cup opening at one end thereof adapted to receive a lipstick for extension through the second open end of said cup holder, a cam follower for engaging said internal spiral cam of said cup holder and an integral coordinating extension projecting through the first open end of said cup holder and into said internal bore, said coordinating extension and said internal bore including cooperating splines extending radially and inwardly of said internal bore and radially and outwardly of said coordinating extension and coacting with each other to prevent relative rotation between said base and said combined cup and coordinating member and to permit longitudinal movement therebetween and interengaging means on said base and said cup holder for rotably interconnecting said base and said cup holder, the pitch of said spiral cam being sufficient to enable less than one rotation of said base relative to said cup holder to displace said cup and coordinating member longitudinally to its full extent.

2. A lipstick case according to claim 1 including locking shoulders and seats formed on the splines of said internal bore and said coordinating extension for releasably securing said cup and coordinating member against longitudinal movement relative to said cup holder when said cup is in a loading position remote from said base such that said cup may be relatively fixed for loading therein of a lipstick.

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