July 10, 1956 C. R. SHERMAN 2,753,991

LIPSTICK REFILL CARTRIDGE

Filed Feb. 17 1951 2 Sheets-Sheet 1

Fig. 1

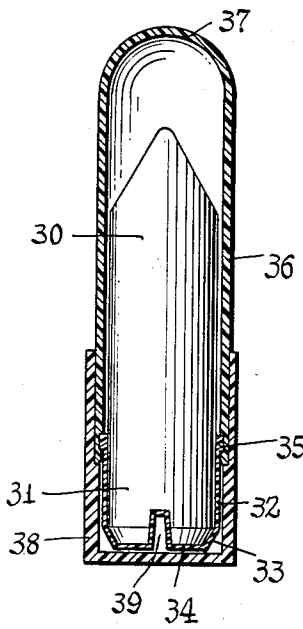


Fig. 2

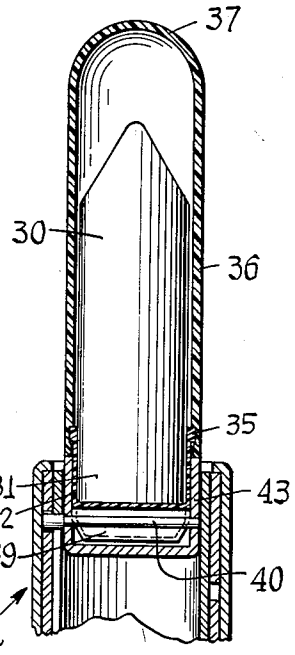


Fig. 3

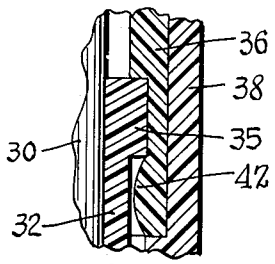


Fig. 7

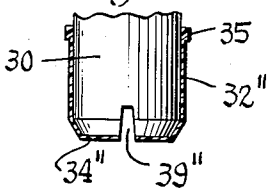


Fig. 4

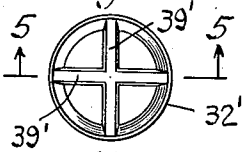


Fig. 9

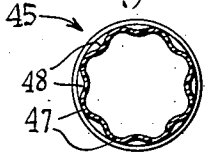


Fig. 10

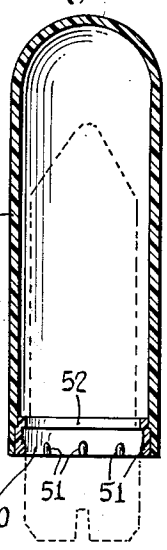


Fig. 11

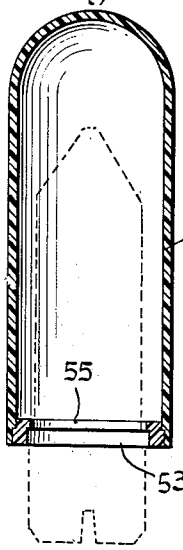


Fig. 5

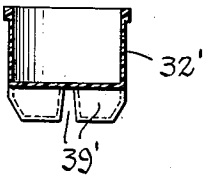


Fig. 8

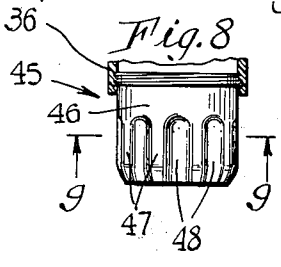


Fig. 6

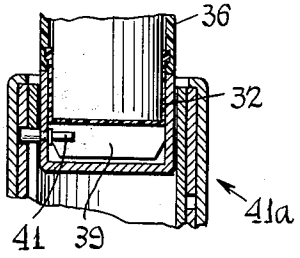
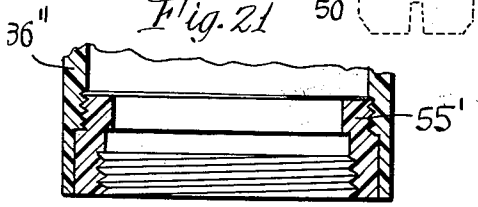


Fig. 21



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July 10, 1956 C. R. SHERMAN 2,753,991

LIPSTICK REFILL CARTRIDGE

Filed Feb. 17, 1951 2 Sheets-Sheet 2

Fig. 12

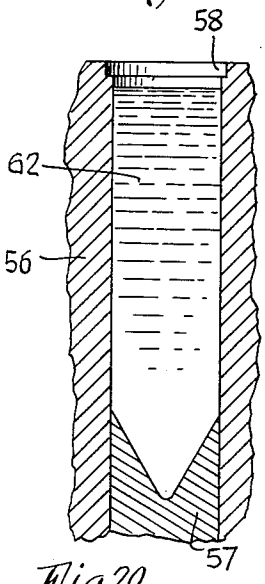


Fig. 13

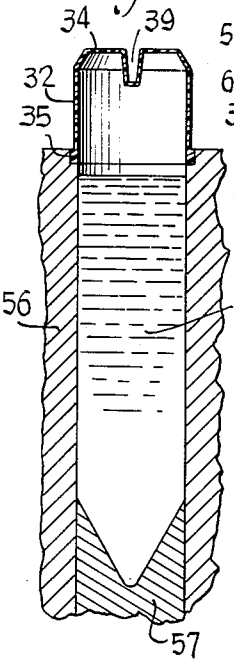


Fig. 14

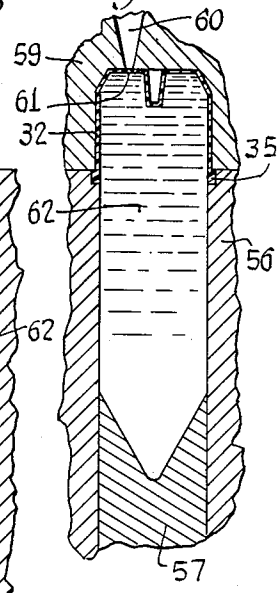


Fig. 15

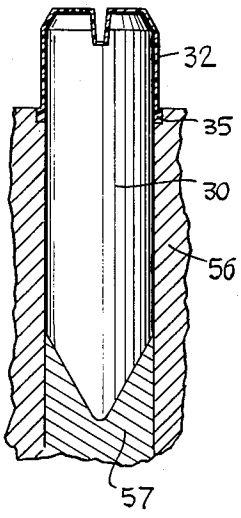


Fig. 20

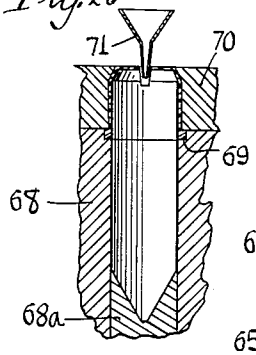


Fig. 17

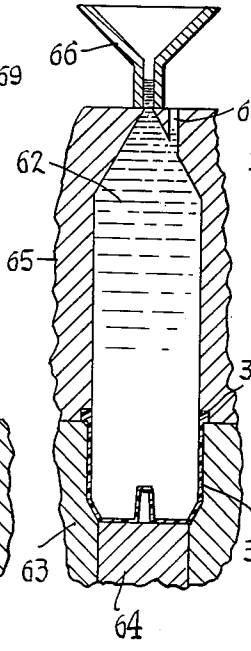


Fig. 18

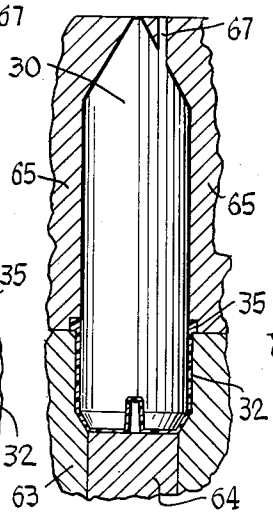


Fig. 19

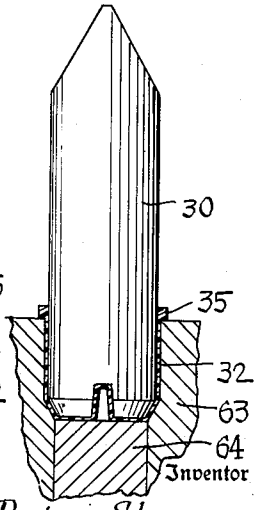
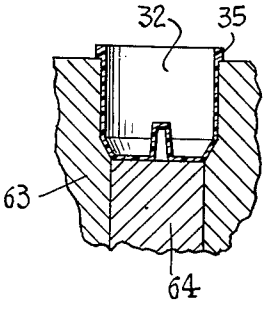


Fig. 16



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LIPSTICK REFILL CARTRIDGE

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Application February 17, 1951, Serial No. 211,540

2 Claims. (Cl. 206—56)

This invention relates to refill cartridges for lipstick holders.

An object of the invention is to provide an improved lipstick refill cartridge which will fit different sizes and styles of holders without requiring that the main components of the cartridge be changed or discarded and replaced.

Another object of the invention is to provide an improved lipstick refill cartridge providing the maximum amount of protection of the lipstick while being stored, shipped or handled, yet which still maintain simplicity and economy of the parts or components.

A further object of the invention is to provide an improved lipstick refill cartridge as above set forth, which is reliable in accomplishing the ends sought, and yet is easy to use and to install.

A still further object of the invention is to provide an improved lipstick refill cartridge according to the foregoing, which may be readily economically fabricated and assembled.

In accomplishing the above objects I provide a novel assemblage of lipstick, yieldable yet durable cup carrying the lipstick, and rigid casing or housing surrounding the lipstick and removably connected to the cup. I further provide, for use optionally with the above housing, a rigid cap arranged to enclose the cup, and to be removably secured to the housing.

In the bottom of the cup I provide one or several cuts or slots, which may be formed in the wall of the cup without passing through the latter, or which may extend through the wall of the cup. One cut or slot, or a portion thereof, receives a projection disposed in the bore of the holder, thus providing clearance for the projection and enabling the cup to be fully seated and retained in the holder. The projection of the holder may be in the form of a bar extending diametrically across the bore, or may be in the form of a pin projecting partially across the bore from one wall thereof.

In one form of the invention the bottom of the cup is provided with crossed slots, enabling it to be more readily seated in the holder because of the larger possible number of positions wherein clearance for the projection of the holder is provided.

In another form of the invention the side walls of the cup are fluted or ribbed, providing clearance for nibs formed in the lipstick holder.

I provide for frictionally connecting the cup with the housing either directly or through the intermediary of adapter rings of different sizes carried in the housing, and accordingly the housing may be made with a diameter substantially larger than that of the lipstick, either by enlarging the housing or reducing the cup size, thereby providing adequate clearance around the sides of the lipstick without complicating the construction of either the cup or the housing. Instead, both said components may retain the simple, economical-to-mold-or-fabricate shape, and the adapter ring may also have a simple, economical to fabricate shape. Also, by the provision of the adapter

ring, the housing size may remain unchanged, reducing mold cost, while enabling different diameter cups as required by different holder sizes, to be used with the housing.

I further provide detent means in the form of nibs on the inside of the housing or adapter ring, said nibs engaging the underside of a flange on the cup and serving to securely retain the cup in proper position with respect to the housing, maintaining proper alignment of the lipstick within the housing.

Another object of the invention is to provide a practical, simple and economical-to-fabricate lipstick refill cartridge which has, in addition to the lipstick, but two main casing or enclosure parts, thereby reducing its cost to a minimum.

In accomplishing this object I provide screw threads in the bore of the housing, and cooperable screw threads in the flange of the cup. Or, if an adapter ring is used, I may screw the ring into the housing, and screw the cup into the ring. In either case, the cup will be securely held by screw threads and thus prevented from separating from the housing. By this organization it is unnecessary to use an additional casing part in the form of a cap. The housing and the cup constitute the two main casing parts, aside from the lipstick, and the elimination of the cap reduces the cost of the cartridge appreciably.

In making the lipstick of the present invention I bring the cup and a lipstick mold together in mouth-to-mouth relation, and completely fill the cavities thereof with hot viscous lipstick material. I then cool the mold and cup to harden the lipstick material, and thereafter eject the lipstick from the mold.

In another method of making the lipstick of the present invention I fill a mold with hot viscous lipstick material, bring together in mouth-to-mouth relation the mold and a cup, thereafter transfer part of the lipstick material from the mold into the cup, and then cool the mold and cup to harden the lipstick material. I then eject the hardened lipstick from the mold. These methods are advantageous in assembling lipsticks to cups having bottom portions formed with cuts or slots, or with inward projections of any type.

Other features and advantages will hereinafter appear.

In the accompanying drawings:

Figure 1 is a longitudinal sectional view through an improved lipstick refill cartridge made in accordance with the invention.

Fig. 2 is a longitudinal sectional view of the cartridge mounted in a holder, with the cap removed. The section of the cartridge in Fig. 2 is at right angles to the section shown in Fig. 1.

Fig. 3 is an enlarged fragmentary sectional view showing the separable connection between the cup and housing of the cartridge of Figs. 1 and 2.

Fig. 4 is a bottom view of the cup part of the cartridge.

Fig. 5 is a vertical sectional view through the cup, taken on line 5—5 of Fig. 4.

Fig. 6 is a fragmentary sectional view showing the cartridge mounted in a holder of different style from that of Fig. 2.

Fig. 7 is a fragmentary view of the base portion of a lipstick carried in a cup, the latter being shown in vertical section and illustrating another embodiment of the invention.

Fig. 8 is a side elevational view of a cup having fluted sides, illustrating another embodiment of the invention.

Fig. 9 is a transverse sectional view taken on line 9—9 of Fig. 8.

Fig. 10 is a longitudinal sectional view of a housing and adapter ring carried thereby, made in accordance with the invention.

Fig. 11 is a view like Fig. 10, but illustrating a still different form of housing and adapter ring.

Fig. 12 illustrates an initial step in the method of making the lipstick of the present invention, being a fragmentary sectional view of a mold and plunger, the mold being filled with hot, viscous lipstick material.

Fig. 13 is a view like Fig. 12, but with a cup disposed in mouth-to-mouth relation with the mold.

Fig. 14 is a view of the mold and cup of Fig. 13, but with a retaining member surrounding the cup and with the plunger in raised position whereby the viscous lipstick substance has been forced into the cup.

Fig. 15 is a view like Fig. 14, but with the retaining member removed and with the lipstick material in a hardened condition.

Fig. 16 illustrates an initial step in another method of providing the lipstick of the present invention, being a fragmentary sectional view of a lipstick cup mounted in a holding tool having a plunger.

Fig. 17 is a view like Fig. 16, but showing a mold disposed adjacent the cup in mouth-to-mouth relation, and showing a filling funnel operatively associated with the mold, said mold and cup being filled with hot viscous lipstick material.

Fig. 18 is a view like Fig. 17, but with the funnel removed from the mold and with the lipstick material in a hardened condition.

Fig. 19 is a view like Fig. 18, but with the mold removed from the lipstick.

Fig. 20 illustrates a step of still another method of providing the lipstick of the present invention, being a fragmentary sectional view of a mold, plunger, lipstick cup and holder therefor together with filling funnel.

Fig. 21 is an enlarged diametric sectional view through an adapter ring and portion of a housing, illustrating another form of the invention.

Referring to Figs. 1 and 2, there is shown a lipstick **30** having a base portion **31** carried in a cup **32**. Preferably the cup **32** is molded of plastic material such as polyethylene (polymerized ethylene) which is substantially nonrigid and yielding when formed into various shapes. The cup **32** may, however, be made of paper or a paper-like product such as cardboard, foil, etc., or it may be formed of metal.

As shown, the cup **32** preferably has a beveled lower wall portion **33** extending around a flat bottom **34**. The sides of the cup **32** may be cylindrical, and at the rim may have an outwardly extended flange **35**.

Demountably secured to the cup **32** is a tubular casing or housing **36** having a closed end **37**, the other end of the housing being open and having an enlarged bore receiving and frictionally engaging the flange **35** of the cup **32**. Preferably the housing **36** is made of a relatively rigid plastic material such as polystyrene (polymerized styrene monomer). However, it may be made of metal or other suitable material.

A cap **38** is provided, surrounding the cup **32** and having an enlarged bore receiving the open end portion of the housing **36**. The cap **38** is frictionally retained on the housing **36**, and is arranged to be easily removable therefrom when desired.

In accordance with the invention the bottom **34** of the cup **32** is provided with a slot **39** shown in Figs. 1 and 2 as being formed by suitably shaping the bottom wall **34** of the cup. By the provision of the slot **39** the cup **32** may be inserted in various styles of lipstick holders having internal projecting parts such as the diametric bar **40** shown in the holder **40***a* of Fig. 2, or the pin **41** shown in the holder **41***a* of Fig. 6. The slot **39** provides clearance for the bar **40** or pin **41**, and is preferably somewhat tapered whereby the bar or pin may be wedged into it to be tightly gripped thereby.

Also in accordance with the invention the open end portion of the housing **36** may be provided with nibs **42**, Fig. 3, for engagement with the underside of the flange **35** of the cup **32** to retain the cup and housing together against accidental separation.

Referring to Fig. 1, it will be seen that the cup **32** is securely held in the housing **36** by means of the nibs **42**, thereby positioning the lipstick **30** in spaced relation inside the housing and providing for a maximum protection of the lipstick against accidental damage. The cup **32** is protected in turn by the cap **38** which surrounds the cup and has a sliding fit with the housing **36**, of relatively large area.

When a user desires to provide a refill for her lipstick holder, she merely removes the cap **38** from the cartridge, inserts the cup **32** in the receptacle part **43**, Fig. 2, of the lipstick holder **40***a*, and thereafter removes the housing **36**, exposing the lipstick **30** for use. At no time during this operation is it necessary for the user to touch the lipstick **30**. Accordingly there will be avoided any smudging of fingers, etc., as well as damage or marking of the lipstick **30**. At the time that the cup **32** is inserted in the receptacle part **43** the bar **40** of the receptacle will be wedged in the slot **39** in the bottom of the cup **32**, thereby helping to securely retain the cup in the receptacle.

I also provide, as shown in Figs. 4 and 5, a cup **32'** having crossed slots **39'**. The cup **32'** may be somewhat easier to insert in the receptacle **43** since it has four possible rotative positions aligning the slots **39'** with the diametric bar **40**, whereas the cup **32** has only two possible rotative positions for aligning the bar with the slot thereof.

Another form of cup for carrying the lipstick **30** is shown in Fig. 7. The cup **32''** shown therein has a relatively flat bottom **34''** provided with a slot **39''** in the form of a cut extending through the bottom of the cup and also through the side walls. In this form of the invention no shaping of the bottom wall of the cup is required in the formation of the cut **39''**. The lipstick **30** may also have a slot aligned with the cut **39''** as shown in Fig. 7, or it may be inserted in the cup **32''** without any slot whatsoever. In the latter case, when the lipstick and cup are inserted in the holder the projection of the holder, whether it be the bar **40** or the pin **41** can be forced into the soft wax-like material of the lipstick without difficulty.

Still another form of cup made in accordance with the invention is shown in Figs. 8 and 9. In these figures the cup **45** has side walls **46** provided with ribs **47** and grooves **48**, producing a fluted shape or effect. Such a cup may be used in lipstick holders having inward projections which are relatively short, such as embossed nibs formed in the metal of the receptacle.

As shown in Fig. 8, the flange of the cup **46** may be threaded, and the housing **36'** may have internal threads cooperable with the threads of the cup. By this organization the cup **46** will be securely held in place and prevented from accidentally separating from the housing. Accordingly no cap, such as the cap **38** shown in Fig. 1, need be employed, but instead the lipstick cartridge will, in addition to the lipstick, be constituted solely of the two main casing parts, namely the housing **36'** and the cup **46**. Accordingly the cost of the refill cartridge is maintained at a minimum by virtue of the cap **38** being unnecessary.

In accordance with this invention means are provided enabling the housing which surrounds and protects the lipstick to be spaced a greater distance from the latter than is shown in Figs. 1 and 2, without requiring special or complicated shapes for the housing or cup. Thus added protection for the lipstick is had.

Referring to Fig. 10, an enlarged housing **49** is provided, having an adapter ring **50** fitted within its open end. The housing **49** and ring **50** may have cooperable shoulders, as shown, for positioning the ring, and the ring may have inward projections, as for example, nibs **51** and a shoulder **52** for engaging opposite sides of the flange

35 of the cup 30 to retain the latter properly positioned with respect to the housing 49. In Fig. 10, the cup 32 is shown in dotted outline, as is also the lipstick 30, and it will be noted that the spacing between the lipstick and housing is much greater than that which exists in Figs. 1 and 2, minimizing the likelihood of the lipstick coming in contact with the housing.

Another form of housing and adapter ring is shown in Fig. 11, wherein a ring 53 is secured to the open end portion of a tubular housing 54. The ring 53 and housing 54 have cooperable positioning shoulders as shown, and the ring has an additional internal shoulder 55 for engaging and positioning the cup 32.

It will be understood that the cups 32', 32'' and 45 may be used with the housings 49 and 54 instead of the cup 32.

By the above construction I have provided a simple and advantageous lipstick refill cartridge which will fit different styles of holders without requiring changes in the main components such as the lipstick, holding cup for the lipstick, or housing. For instance, regardless of whether the lipstick holder has small projecting nibs in its side wall or has pins such as the pin 41 or bars such as the bar 40, the cups 32, 32' and 32'' will be received in the receptacle of the holder and securely retained in place.

It should be noted that by the provision of the adapter rings 50 and 53 both the housings 49 and 54 may have the same diameter as the housing 36, and may be used with lipsticks and cups having smaller diameters than those shown in Figs. 1 and 2. Or, if the lipsticks and cups are of all of the same diameter, then the housings 49 and 54 may be made larger, in each case providing added clearance between the housing and the lipstick to further decrease the likelihood of damage to the lipstick before it is finally inserted in the holder and put to use.

Several methods are used for producing the lipstick and cup assemblies. Referring to Figs. 12 through 15, a mold 56 is shown having a plunger 57 and having an enlarged mouth 58. The mouth 58 is adapted to receive the flange 35 of the cup 32 when the latter is inverted over the mold 56. In other words, the mold 56 and cup 32 may be brought together in mouth-to-mouth relation as illustrated in Fig. 13. After this has been done, a retainer 59, Fig. 14, may be placed over the inverted cup 32 to hold the same in place, and the retainer 59 may have a vent channel 60 communicating with a small vent opening 61 in the bottom of the cup 32. In accordance with the present method, the mold 56 is first filled with hot viscous lipstick substance 62 to a predetermined level. The cup 32 is then placed over the opening of the mold in inverted position, and the retainer 59 is then brought into place. While the lipstick material 62 is still viscous, the plunger 57 is raised a predetermined distance, forcing the viscous lipstick material 62 into the cup 32 and completely filling the latter. The mold 56 and cup 32 are then cooled, to harden the lipstick as illustrated in Fig. 15. After this has occurred, the plunger 57 may be further raised to eject the lipstick 30 from the mold 56.

Another method of producing lipstick and cup assemblies of the invention, is illustrated in Figs. 16 through 19. In Fig. 16 the cup 32 is carried in a holder 63 having a plunger 64. A mold 65 is brought into place over the cup 32, and a funnel 66 then brought adjacent the mold to communicate with the cavity thereof. A vent channel 67 is provided in the upper portion of the mold adjacent the channel. Lipstick material 62 in a hot viscous state is fed through the funnel 66 into the mold 65 and the cup 32, completely filling the same. The mold and cup are then chilled, hardening the lipstick material to form a lipstick 30. The mold 65 is then removed, exposing the lipstick 30 whereupon the cup 32 may be ejected from the holder 63 by raising the plunger 64.

Another method of producing lipstick and cup assemblies is illustrated in Fig. 20, wherein a mold 68 having a plunger 68*a* is provided with an enlarged mouth 69 to receive the rim of the cup 32 when the latter is inverted over the mold cavity. A retainer 70 is brought into place to hold the cup 32 in position, whereupon hot viscous lipstick material is filled into the mold 68 and cup 32 by means of a funnel 71. The lipstick material is filled to a predetermined height in the cup, a small distance from the bottom of the cup, and the funnel 71 is then removed. The plunger 68*a* is then raised a predetermined distance to cause the lipstick material to completely fill the cup 32. The mold 68 and the cup 32 are then chilled to harden the lipstick material, whereupon the retainer 70 may be removed and the plunger 68*a* raised further to eject the lipstick from the mold.

Fig. 21 illustrates another form of the invention, wherein a housing 36'' has internal threads cooperable with external threads of an adapter ring 55'. The ring 55' in turn has internal threads adapted to screw over the external threads of the cup 46. Thus the cup 46 may be secured by its threads to a casing such as the housing 36'', which is substantially larger in diameter than the cup. Here again, the refill cartridge, in addition to the lipstick itself, is constituted of two main casing parts, the housing 36'' and the cup 46, and no third casing part such as the cap 38 need be provided. Thus the fabrication of the cartridge may be held to a minimum.

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 refill cartridge for a lipstick holder comprising a cup having an outside size enabling it to be received in the lipstick holder, and having an outwardly extending flange around its rim; a lipstick having a base portion carried in said cup; a tubular housing closed at one end, the other end of the housing receiving and engaging the flange of said cup and having internal projections engageable with opposite sides of said flange to position the housing; and a removable cap surrounding said cup, engaging and having a frictional fit with the housing whereby the cap may be readily removed to expose the cup for insertion in the lipstick holder.

2. A refill cartridge for a lipstick holder, comprising a cup having an outside size enabling it to be received in the lipstick holder, and having an outwardly extending flange around its rim; a lipstick having a base portion carried in said cup; a tubular housing closed at one end, the other end of the housing having an enlarged bore receiving the flange of the cup and having a projection in said bore engaging the underside of the flange to retain the cup in place; and a removable cap surrounding said cup, engaging and having a frictional fit with the housing whereby the cap may be readily removed to expose the cup for insertion in the lipstick holder.

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