

[54] **APPARATUS AND METHOD FOR APPLYING COSMETICS**

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[52] U.S. Cl. **132/85**

[51] Int. Cl. **A45d 44/18**

[58] Field of Search..... 132/85, 88.7, 79, 132/33.1, 73, 11, 1, 9, 32.3, 31.2, 159, 120; 401/118-30; 128/267, 285, 260; 15/521, 537, 121.3

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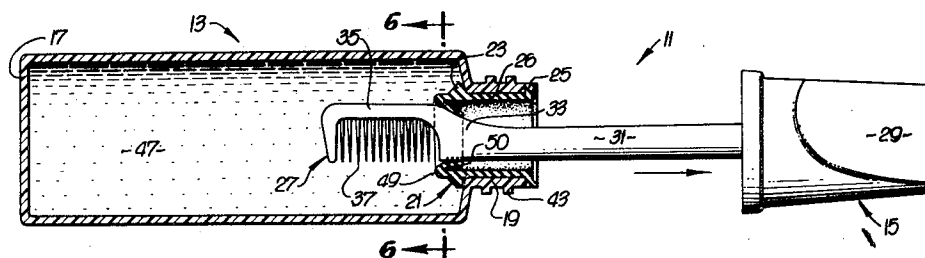
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[57] ABSTRACT

An applicator suitable for applying cosmetics, such as mascara, to eyelashes includes a comb portion for applying the mascara and simultaneously separating the eyelashes. The applicator has a handle and is constructed so that it may be inserted into and withdrawn from an opening defined in a cosmetic container. A coupling arrangement is provided for securing the applicator in the container opening and a seal arrangement including a resilient lip closes the container to prevent leakage. The lip is mounted adjacent the container opening and functions as a wiper to remove excess mascara from the applicator as it is withdrawn.

4 Claims, 10 Drawing Figures



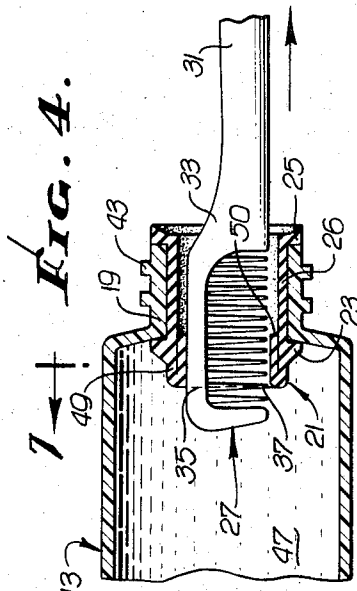


FIG. 4.

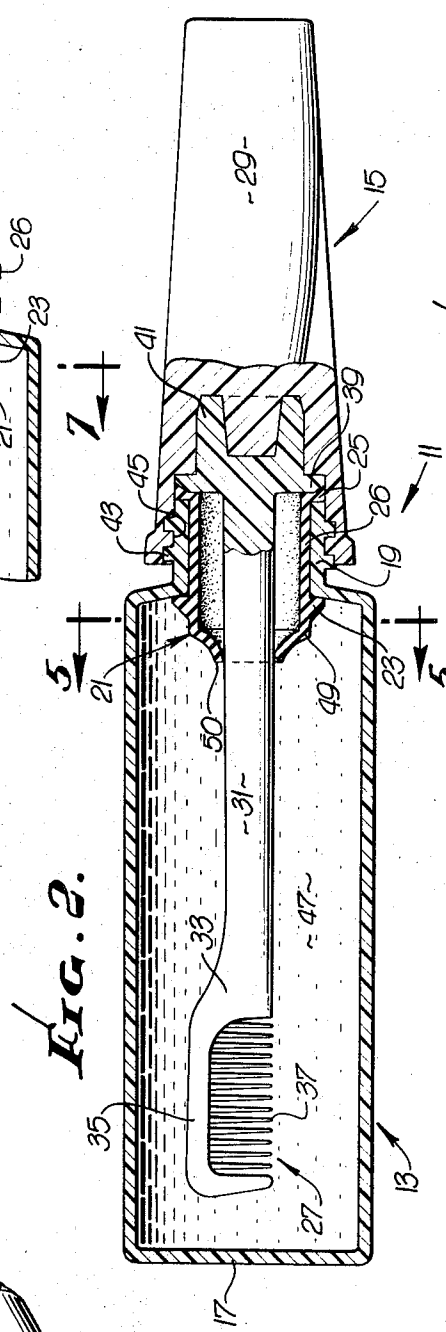


FIG. 2.

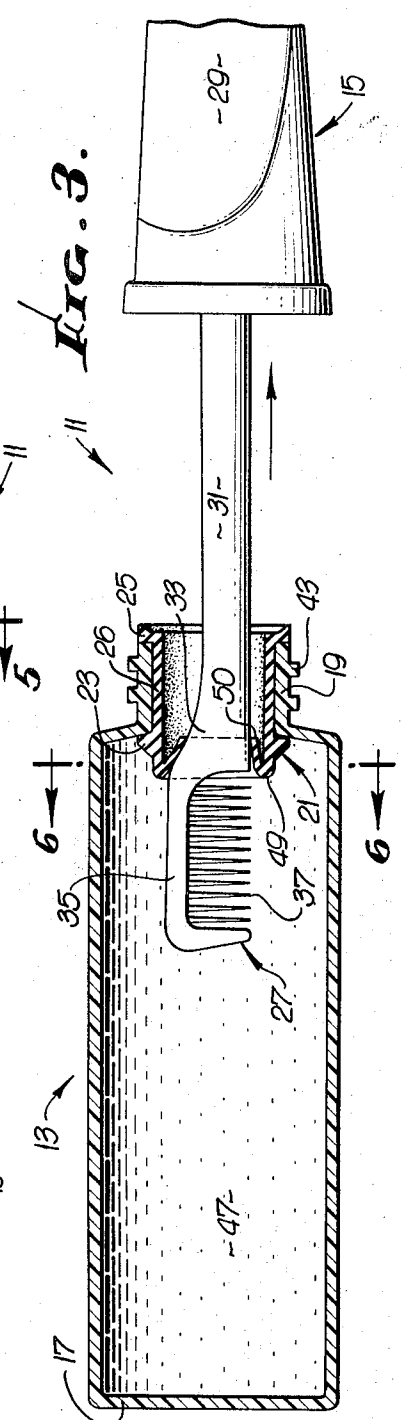


FIG. 3.

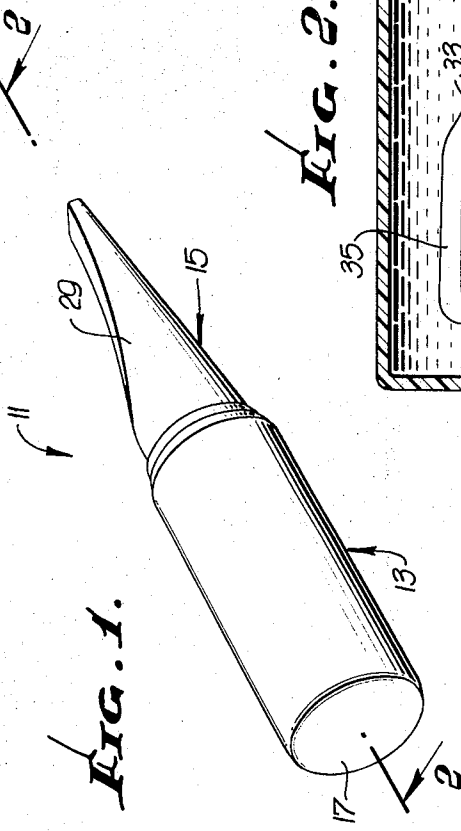


FIG. 1.

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FIG. 5.

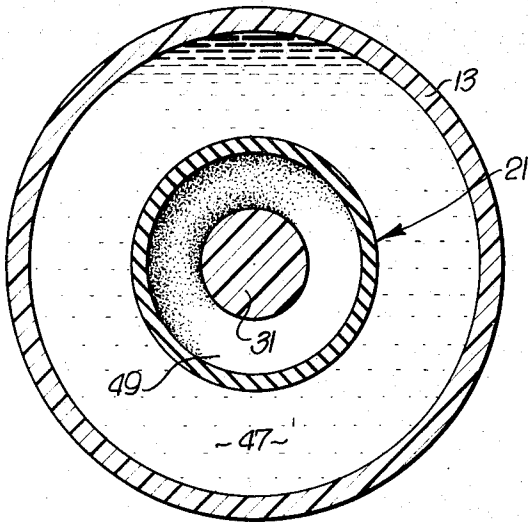


FIG. 6.

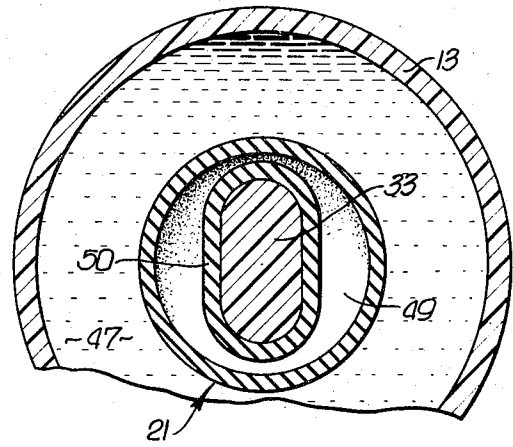


FIG. 7.

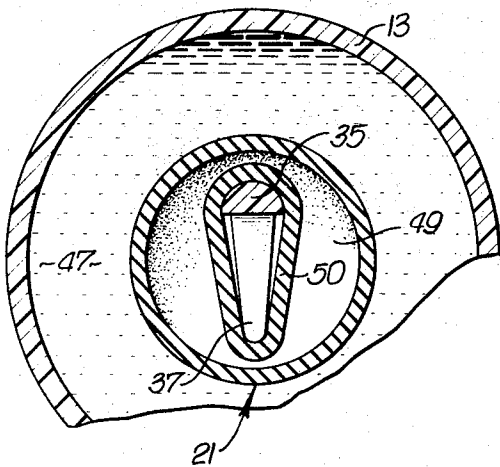


FIG. 9.

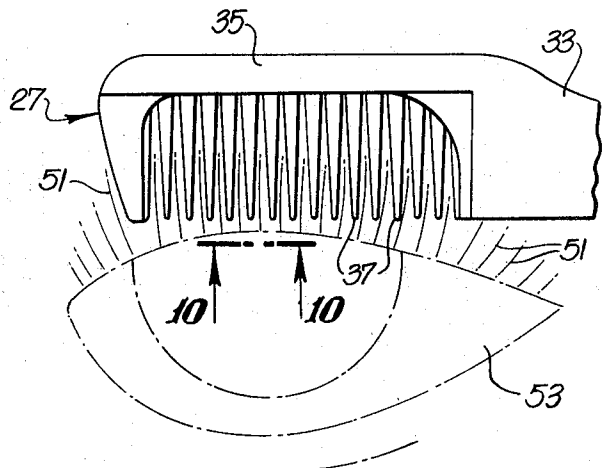


FIG. 8.

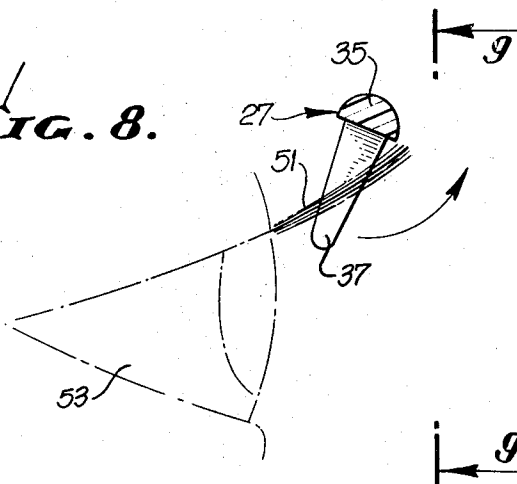
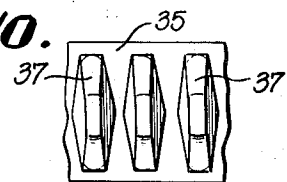


FIG. 10.



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APPARATUS AND METHOD FOR APPLYING COSMETICS

BACKGROUND OF THE INVENTION

The present invention relates to the application of cosmetics and more particularly to an improved apparatus and method for applying cosmetics, such as mascara, to eyelashes.

Heretofore, applicator devices employing brushes, screw threads or felt tips have commonly been used by women to apply mascara to their eyelashes. With such devices, the women generally brushed or rotated the mascara carrying device against the eyelashes, thereby to transfer the mascara thereto. Common problems inherent with the use of such devices for applying mascara are that it is difficult to apply the mascara uniformly and also difficult to prevent the coated eyelashes from becoming stuck together. Consequently, when using these prior art devices, women frequently had to separate their eyelashes after the mascara had been applied. Auxiliary attachments, thus, have been devised to separate the coated eyelashes.

SUMMARY OF THE INVENTION

It is, accordingly, an object of the present invention to provide an improved apparatus and method for applying cosmetics, such as mascara and the like, to eyelashes which is characterized by being effective to apply the mascara in a uniform manner while simultaneously separating the eyelashes from each other.

It is, further, an object of the present invention to provide an applicator for applying mascara and the like to eyelashes which includes a comb portion for applying the mascara.

It is, additionally, an object of the present invention to provide an improved apparatus for applying mascara and the like to eyelashes which is characterized by including a comb applicator, a container for holding the cosmetic to be applied, an improved wiper arrangement for removing excess mascara from the applicator, and an improved seal arrangement for closing the cosmetic container.

In accomplishing these and other objects, there is provided in accordance with the present invention an applicator including comb and handle portions. The comb portion is for applying mascara to the eyelashes while simultaneously separating the eyelashes and the handle portion is for gripping the applicator. A cosmetic container is provided having neck structure defining an opening in the container which opening is dimensioned so that the applicator comb portion may be inserted therein and withdrawn therefrom. Wiper means in the form of a resilient flexible lip which substantially conforms to the applicator's cross-section is mounted within the container adjacent the container opening for wiping and removing excess mascara from the applicator. An arrangement is also provided for detachably securing the applicator in the container opening and a dual seal arrangement is included to prevent the leakage of mascara from the container when closed.

Additional objects of the present invention reside in the specific construction of the exemplary apparatus for applying cosmetics to eyelashes hereinafter particularly described in the specification and shown in the several drawings and its method of operation.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a cosmetic applicator according to the present invention when not in use with its applicator and cosmetic container parts being releasably secured together;

FIG. 2 is a sectional view taken along the line 2—2 of FIG. 1;

FIG. 3 is a longitudinal sectional view of the apparatus of FIG. 1 illustrating the applicator being withdrawn from the cosmetic container;

FIG. 4 is a sectional view of the neck portion of the cosmetic container of the apparatus of FIG. 1 showing the comb portion of the applicator being withdrawn through the wiper mechanism mounted adjacent the opening defined in the cosmetic container;

FIG. 5 is a cross-sectional view taken along the line 5—5 of FIG. 2;

FIG. 6 is a cross-sectional view taken along the line 6—6 of FIG. 3;

FIG. 7 is a cross-sectional view taken along the line 7—7 of FIG. 4;

FIG. 8 illustrates use of the applicator for applying cosmetics to eyelashes;

FIG. 9 is a view taken along the line 9—9 of FIG. 8; and

FIG. 10 is a view taken along the line 10—10 of FIG. 9.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings in more detail, there is shown in FIG. 1 a cosmetic applicator apparatus generally designated by the numeral 11. The apparatus 11 includes a cosmetic container part 13 and an applicator part 15. The apparatus 11 is shown not in use in FIG. 1 with the applicator part 15 releasably or detachably secured upon the cosmetic container part 13 by being screwed thereon.

As shown in more detail in FIGS. 2 and 3, the container 13 is preferably made in the form of a hollow cylindrical structure having its ends 17 closed and neck structure 19 formed at its other end which defines an opening in the container. The neck 19 is formed on the container 13 to extend outwardly therefrom preferably along the axis of the cylindrical tubular container 13. Secured within the neck 19 is a fitting 21 which is preferably made of resilient and flexible rubber. The fitting 21 is dimensioned to tightly mate with the inner surfaces of the container neck 19 and has spaced apart annular rims or flanges 23 and 25 formed thereon which are interconnected by a tubular sleeve portion 26. The sleeve portion 26 defines the effective size of the opening of the container 13. The rims 23 and 25 seat, respectively, against the inner and outer ends of the container neck 19, thereby to hold the fitting 21 securely in the neck 19 in a sealing relationship therewith.

The opening of the cosmetic container 13 is appropriately dimensioned for receiving the applicator end of the applicator 15 so that the applicator 15 may be inserted into the container 13 and withdrawn therefrom. The applicator 15, as shown in FIGS. 2 and 3, includes a comb portion 27, a handle portion 29, and a rod portion 31 which interconnects the handle and comb portions. The rod portion 31 is preferably a substantially straight cylindrically shaped rod. The comb 27 is preferably formed integral with the rod 31 on one

end thereof with the longitudinal dimension of the comb 27 aligned with the longitudinal dimension of the rod 31. The width of the comb 27 is preferably larger than the width of the rod 31 and a connecting part 33 of the comb 27 is shaped to expand in a gradual continuous manner from one side of the peripheral surface of the rod 31 to the base 35 of the comb 27.

The comb 27 has a row of similarly shaped aligned teeth 37 mounted on the base 35 to extend transversely to the longitudinal dimension of the comb 27. The comb teeth 37, with are better shown in FIG. 10, preferably taper, both in the longitudinal and transverse directions, from their bases to their tips and have a width at their bases which is less than the width of the comb base 35. The teeth 37 are appropriately spaced apart along the comb base 35 and are appropriately sized so that they are suitable for use in combing eyelashes. The comb 27 is formed on the rod 31 with the tips of its aligned teeth 37 in alignment with the side of the peripheral surface of the rod 31 diametrically opposite to the expanding comb part 33. The comb base 35 is preferably formed to have a semi-cylindrical outer periphery. As shown in FIGS. 2-4, the dimension of the comb 27 across its flat dimension or width is designed to be slightly less than the width of the container opening defined by the fitting 21 so that the comb 35 may be easily inserted into and withdrawn from the neck of the container 13.

Formed on the other end of the rod 31 is a rigid annular flange 39. The flange 39 is preferably formed integral with the rod 31 and is designed to mate as a valve with the resilient rim 25 of the fitting 21. The resilient rim 25 functions as a resilient washer means and forms a concave valve seat. The flange 39 has its peripheral edge formed in a convex shape so that the valve it forms mates in a sealing relationship with the valve seat provided by the rim 25 by forcing the resilient rim 25 outward. Thereby, the applicator 15 may be secured on the container neck 19 by being screwed thereon since any tendency of the fitting 21 being forced or screwed into the interior of the container 13 by rotation of the flange 39 is counteracted by the outward force applied by the convex edge of the flange 39 against the resilient rim 25.

Mounting structure 41 is also formed on the end of the rod 31 to extend from the rigid flange 39 away from the rod 31. The mounting structure 41 is preferably shaped like a collar and provides an arrangement upon which the applicator handle portion 29 may be secured. The handle portion 29 is shown secured on the structure 41 in FIG. 2. To attach the applicator 15 on the container 13, a coupling arrangement or means is provided by forming male threads 43 around the outer periphery of the container neck 19 and forming female threads 45 in the inner cap-like portion of the handle 29 which surrounds the rod 31. The female threads 45 are designed to mate with the male threads 43 so that the applicator 15 may be releasably or detachably secured upon the container 13 by screwing the handle portion 29 on the threaded neck 19.

The interior of the container 13 is filled with mascara 47 or another similar type of cosmetic. The comb 27 is immersed in the mascara 47 whenever the applicator 15 is secured upon the container 13 in the manner shown in FIG. 2. In order to remove mascara from the rod portion 31 and excess mascara from the comb portion 27 of the applicator 15, a wiper mechanism or

means 49 is formed on the inner end of the fitting 21. The wiper 49 is preferably formed by a thin rubber lip which is both resilient and flexible. The wiper lip 49 is located at or adjacent to the container opening defined by the neck 19, is recessed and protrudes into the container 13 so that mascara wiped from the applicator 15 is not splattered around the outer edge of the container neck 19. The wiper 49 has an appropriately sized hole therein through which the comb and rod portion of the applicator 15 may be inserted. The size of the wiper opening is preferably not larger than the smallest cross-sectional dimension of the rod 31. Thereby, the edges 50 of the wiper hole wipe at all times against the comb and rod portions of the applicator 15 as the applicator 15 is withdrawn from or inserted into the container 13.

As shown in FIGS. 2 and 3, the rod 31 is formed to be narrowest adjacent the comb part 33 and to enlarge or expand slightly and gradually towards the handle 29. Thereby, when the applicator 15 is secured upon the container 13, as shown in FIG. 2, the opening of the wiper 49 is stretched sufficiently by the enlarged end of the rod 31 to bear tightly thereagainst and form a seal therewith. It is noted that the rod 31 and the opening of the wiper 49 are both preferably made cylindrical in shape while the comb 27 is preferably formed to have a substantially flat shape.

Commercially, the applicator apparatus 11 may be sold in its closed or assembled form as shown in FIG. 1. A woman may then apply mascara to her eyelashes in the following manner. The applicator handle 29 is gripped and the applicator 15 is unscrewed from the neck of the container 13. Once unscrewed, the applicator 15 is withdrawn from the container 13 by pulling the rod and comb portions of the applicator 15 out of the fitting 21 mounted in the container neck 19. It is noted that since the comb portion 27 of the applicator has been immersed in the mascara 47 within the container 13 that mascara is thus loaded between the teeth of the comb 27.

As the applicator 15 is withdrawn from the neck of the container 13, the resilient wiper 49 wipes against the rod 31 of the applicator 15. As shown in FIG. 5, the wiper opening which conforms to the shape of the applicator 15 is initially in a substantially circular shape as there shown. As the applicator 15 is withdrawn, the wiper 49 remains substantially in the position shown in FIG. 2 wiping mascara from the rod 31 until the comb portion of the applicator is reached. As the comb portion 27 is withdrawn through the container neck, the expanding width of the part 33 of the comb causes the resilient wiper lip 49 to be pulled in a direction as shown in FIG. 3. The wiper 49 is thus drawn into the fitting 21 and container neck 19 as shown in FIG. 4.

Referring to FIG. 6, it is there seen that the opening of the wiper 49 is stretched by the comb part 33 to assume an oval shape. The wiper 49, however, since it conforms to the shape of the part 33, still functions to wipe mascara from that part of the applicator 15. As the comb base 35 is drawn into the container neck, the opening of the wiper 49 assumes the shape shown in FIG. 7. As shown in FIG. 7, the portion of the wiper 49 adjacent the base of the comb 35 wipes against the semi-cylindrical outer periphery of the base 35 to remove mascara therefrom and also bears against the tips of the comb teeth 37 to remove excess mascara therefrom. The resilient wiper 49, however, does not wipe against the sides of the comb teeth 37 since the width

of the comb base 35 is wider than the width of the base of the teeth 37. Thereby, the wiper 49 does not disturb the mascara loaded between the comb teeth 37.

Once the applicator 15 has been completely removed from the container 13, the applicator 15 may be used as shown in FIGS. 8 and 9 to apply mascara to the eyelashes 51 of an eye 53. The mascara is there shown being applied by rotating the comb teeth 37 downward through the eyelashes 51 in FIG. 8. This is one technique for applying mascara to eyelashes. It is, however, noted that all women do not apply mascara in the same manner so that it should be understood the mascara could also be applied by positioning the comb portion 27 of the applicator below the eyelashes 51 and rotating the comb teeth 37 upward through the eyelashes 51. Once all the mascara carried by the comb 27 has been applied, the comb portion 27 of the applicator 15 may be re-inserted into and then withdrawn from the container 13 to load more mascara thereon.

By applying the mascara 47 in the manner just described, a uniform circumferential application of mascara to eyelashes is accomplished by drawing the eyelashes 51 through mascara embedded or loaded between the teeth 37 of the comb 27. Further, since the teeth are spaced apart in an appropriate manner for combing eyelashes, the eyelashes 51 are also automatically and simultaneously separated from each other by applying mascara in this manner.

Once the mascara has been applied, the applicator 15 may be re-inserted into the container 13. The handle 29 is then screwed on the container neck 19 to close the cosmetic container 13. With the applicator 15 tightly secured on the container neck 19, a double seal arrangement is provided to prevent mascara leakage. The first seal is provided by mated resilient rim 25 and flange 39. The second seal is provided by the wiper lip 49 which bears against the outer periphery of the applicator rod 31. It is also noted that the resilient rim 23 functions like a washer to prevent mascara leakage between the fitting sleeve 26 and the container neck 19. It is further noted that the cosmetic container 13 and the applicator part 15 are preferably formed of plastic by a relatively inexpensive molding process so that the entire apparatus 11 may be disposed of after the mascara contained therein has been used.

Thus, there has been provided an improved apparatus and method for applying mascara and like cosmetics to eyelashes.

Although we have herein shown and described our invention in what we have conceived to be the most practical and preferred embodiment it is recognized that departures may be made within the scope of our invention.

We claim:

1. A cosmetic package for use in the application of mascara to eyelashes, comprising:

- a. a container having mascara therein, said container being provided with an access opening;
- b. an applicator including a comb portion, a handle portion, and a rod portion interconnecting said handle and comb portions, the rod portion including a major length of annular cross section and a minor transition length merging from annular cross section to a flattened cross section at the comb portion, the flattened cross section having a peripheral edge aligned with the periphery of the annular cross section, said comb portion and rod portions

being removably inserted in said container through said opening to immerse said comb portion in said mascara, said comb portion having a plurality of elongated teeth extending from a base portion at one side to the tips of said teeth at the other side to define a cross-sectional configuration which is relatively elongated in one dimension and relatively thin in the other dimension, the comb portion having a cross section generally flatter than the annular cross section of the rod and corresponding in general to the flattened cross section of the transition length of the rod and its periphery being greater than that of the annular cross section of the rod; and

c. wiper means mounted on said container adjacent said container opening for wiping the rod and comb portions of said applicator as they are withdrawn from said container to remove mascara from said applicator rod portion and remove excess mascara from said applicator comb portion, said wiper means including a frusto conical annular lip of a resilient, elastic and flexible material converging inwardly of the container with its terminal inner edge surface in complete contact encirclement of the rod when the applicator is in place in the container and defining a stretchable opening through which said applicator is inserted and withdrawn, said lip being axially reversible by withdrawal of the applicator to position the reversed surface of the lip in complete wiping encirclement of the transition length of the rod and being resiliently deformed and stretched by the latter to an elongated slot configuration conforming generally to the peripheral surface of the comb portion in contact wiping relationship with the base and tips of the teeth thereof and in general wiping relationship to the edges of the teeth as the comb portion passes outwardly through the wiper means, whereby excess mascara is removed from said comb portion, the tips of said teeth being aligned with the periphery of the major length of said rod and the aligned peripheral edge of the flattened cross section of the transition length thereof whereby said rod imitates the form of the slot configuration and tends to control the amount of flexing of the teeth when the applicator is withdrawn through said wiper means.

2. The invention defined in claim 1, wherein:

neck structure is formed on said container to define said container opening;

said comb portion gradually expands from said rod portion to a predetermined width greater than the diameter of said rod portion and has a longitudinally extending base upon which is formed one row of spaced apart teeth having their tips aligned with the periphery of said rod portion, said comb base having a width larger than the base of said teeth and said teeth tapering from their base to their tips; and

said lip is recessed within said container and formed to protrude towards the interior of said container whereby as said comb portion is withdrawn from said container through said lip opening said lip is drawn into said container neck structure as it wipes said comb portion.

3. The invention defined in claim 2, wherein the diameter of said applicator rod portion gradually expands

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in the direction from said comb portion to said handle portion.

4. The invention defined in claim 1 wherein there is provided coupling means for releasably securing said applicator on said container with its handle portion po-

sitioned exteriorally of said container and its rod and comb portions positioned within said container so as to immerse the comb portion in the mascara contained therein.

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