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(54) **COSMETIC APPLICATOR WITH DISPARATE MATERIAL APPLICATION ZONES AND BACKWIPE RETURN**

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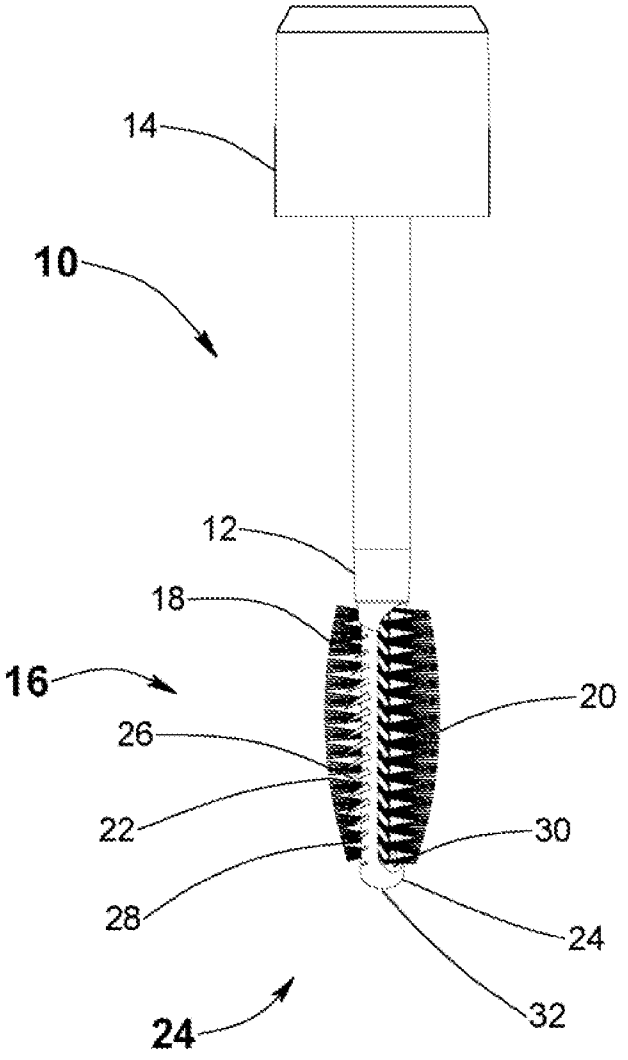
(57) **ABSTRACT**

A cosmetic applicator with disparate material application zones and a backwipe return for permitting the achievement of multiple cosmetic material application effects with a single applicator and for permitting the return of backwiped cosmetic material to a cosmetic bottle. The applicator has a wire core formed from first and second wire segments twisted into a helical configuration to form a plurality of coils. A plurality of radially disposed bristles are retained by the wire core to form a brush head. Multiple distinct bristle zones of different bristle types exhibit distinct material application properties in a single cosmetic applicator. Backwiped cosmetic material can be returned to the cosmetic bottle by a sloped shoulder at a proximal end of an applicator rod in combination with a cosmetic material passageway in a sloped facing surface of a flexible inner ring of a wiper.



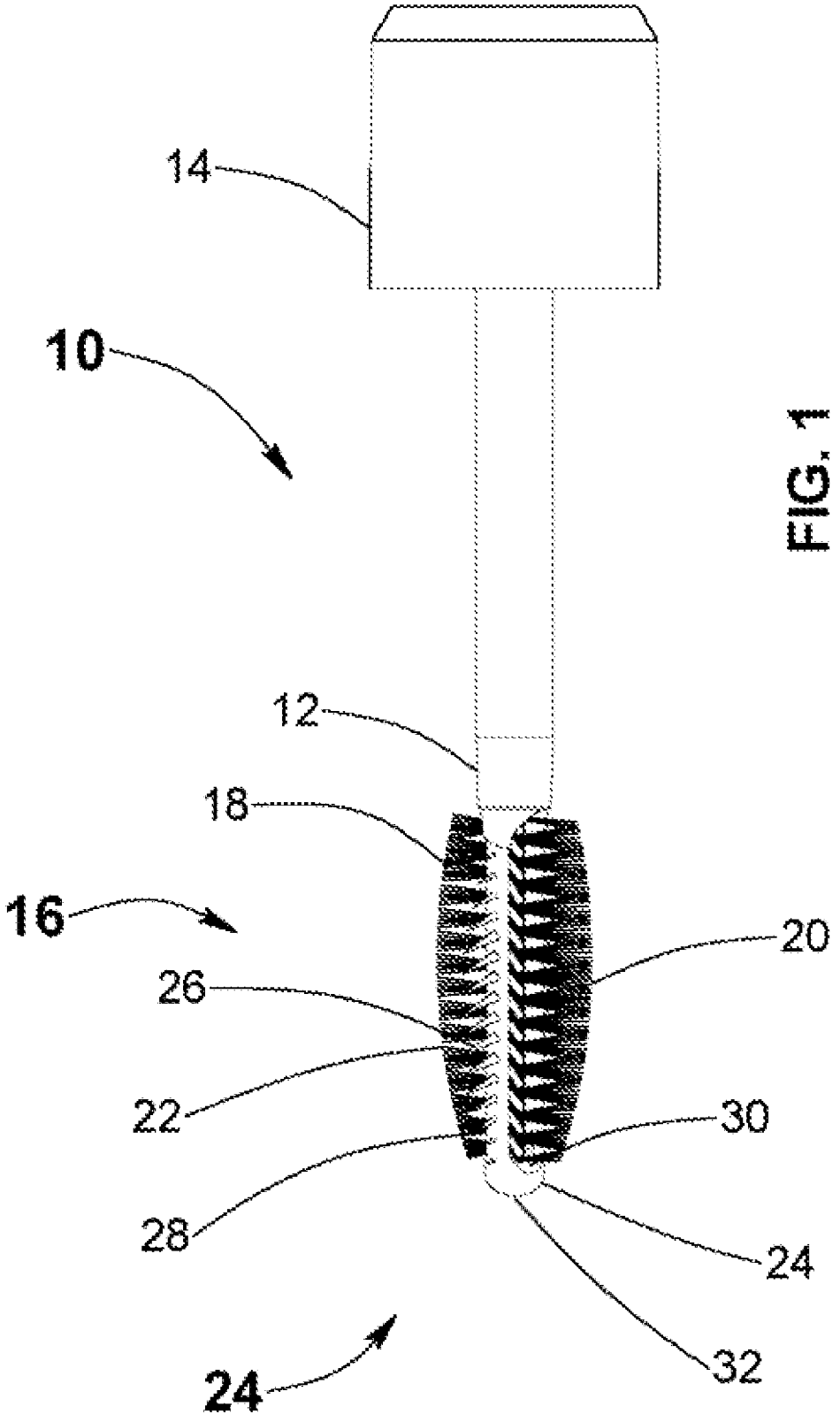


FIG. 1

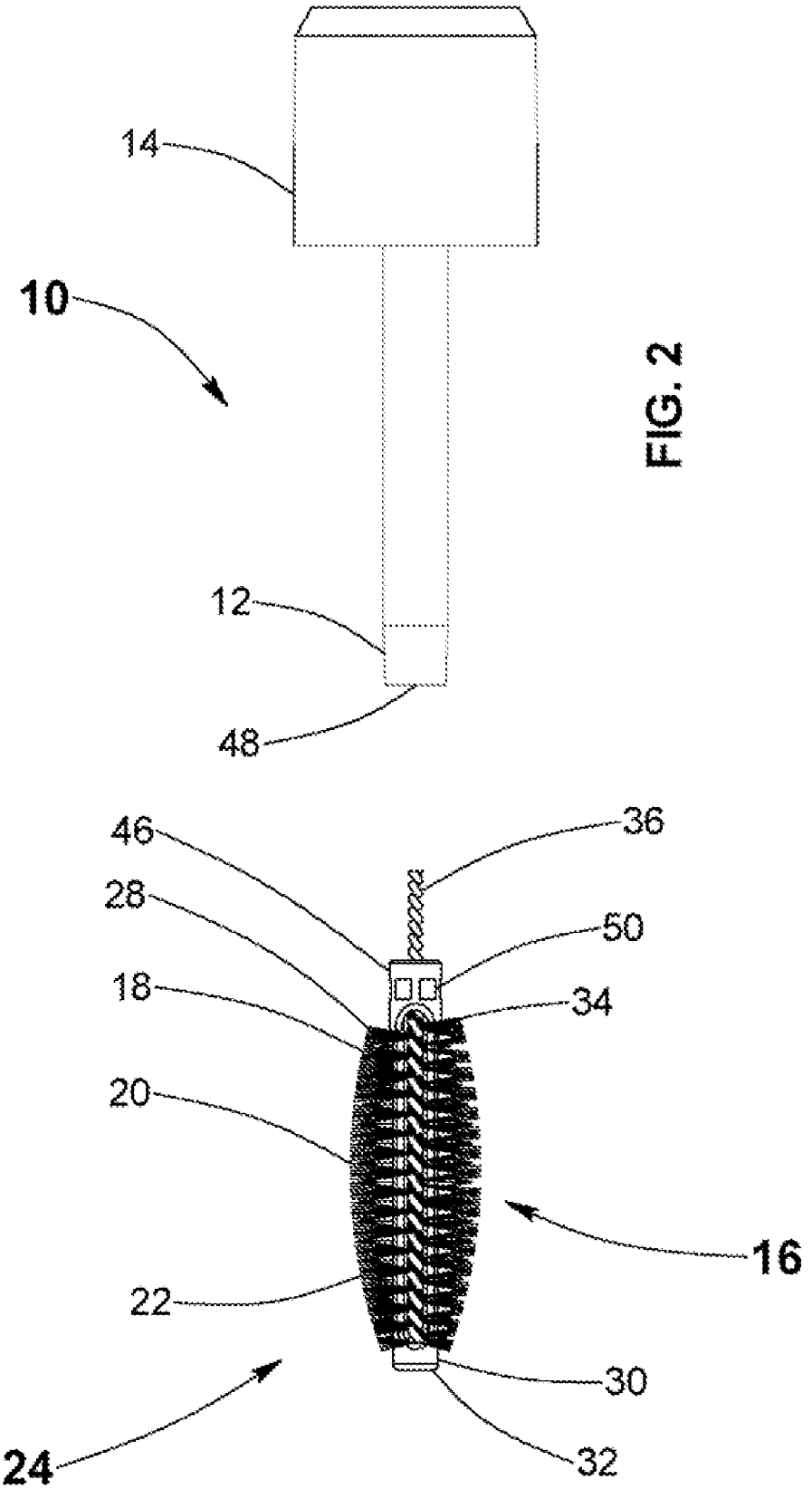


FIG. 2

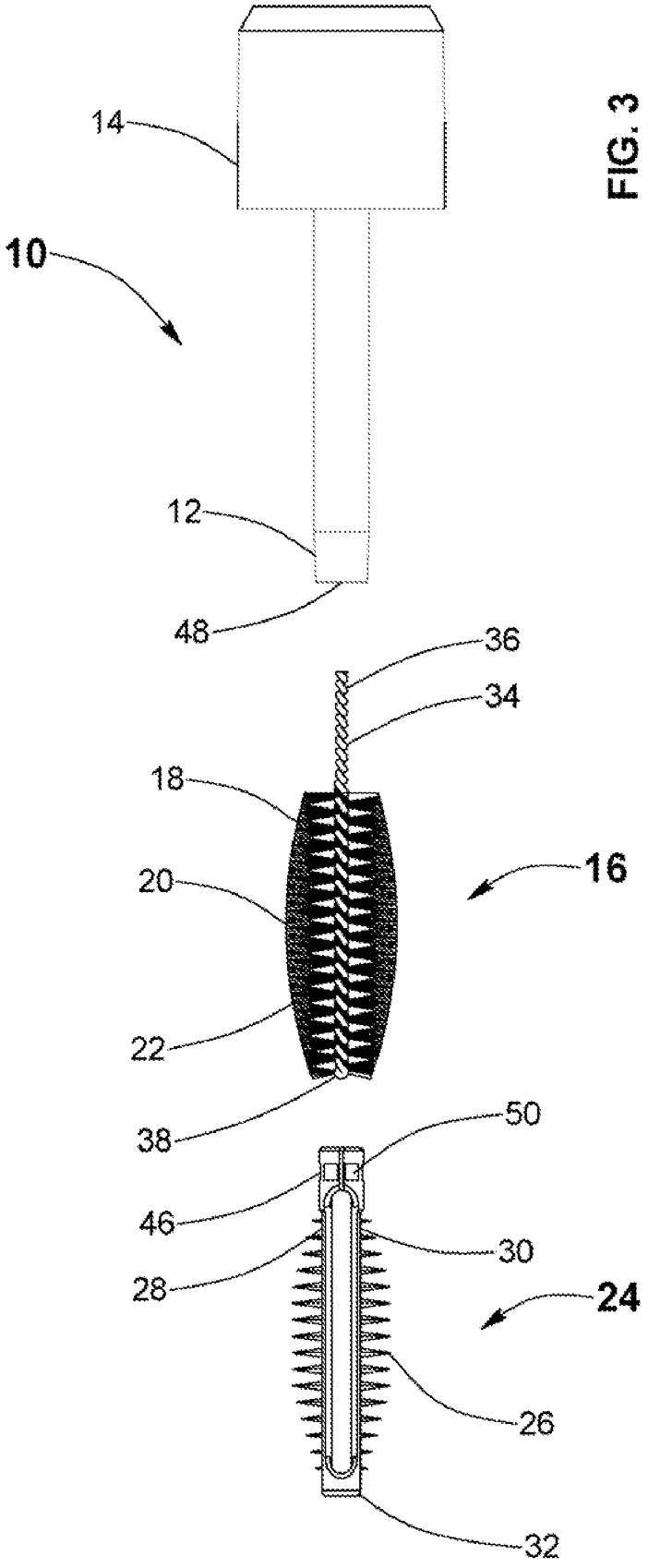


FIG. 3

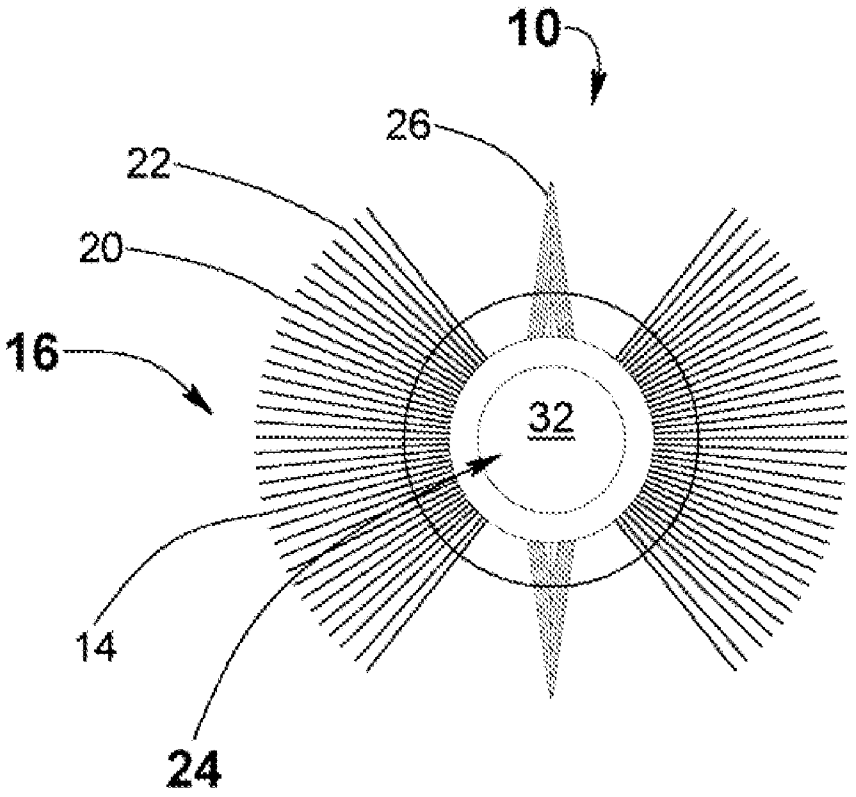


FIG. 4

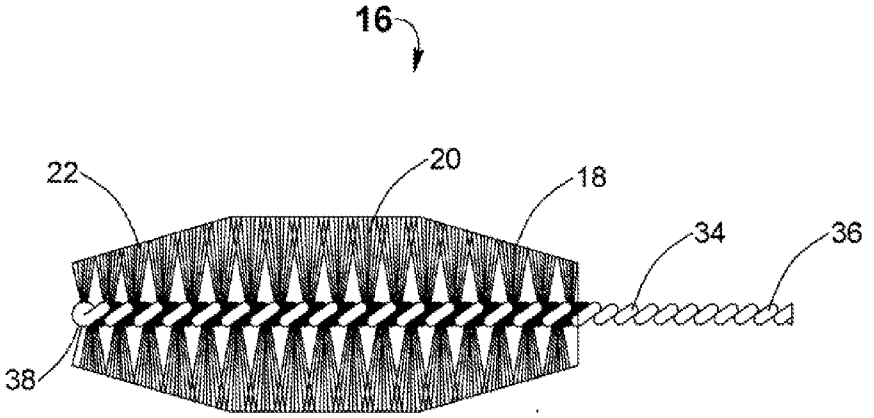


FIG. 5A

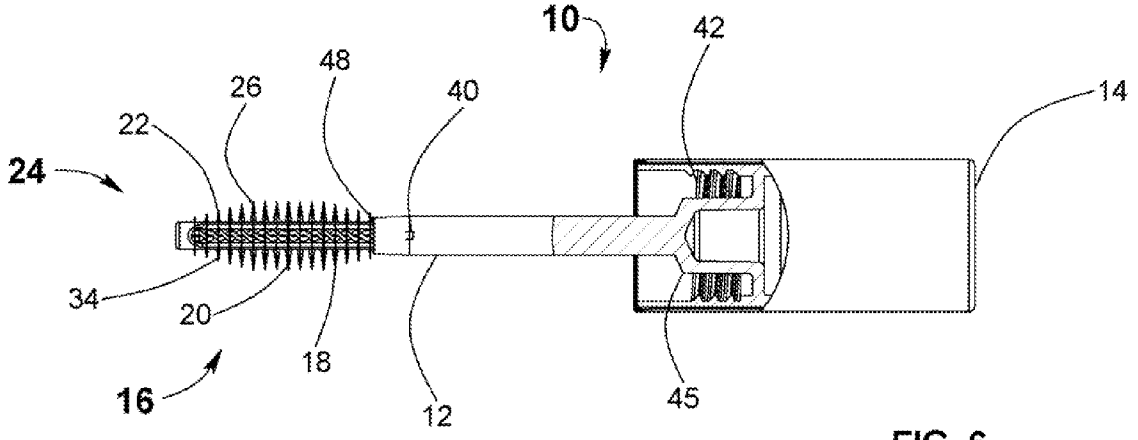


FIG. 6

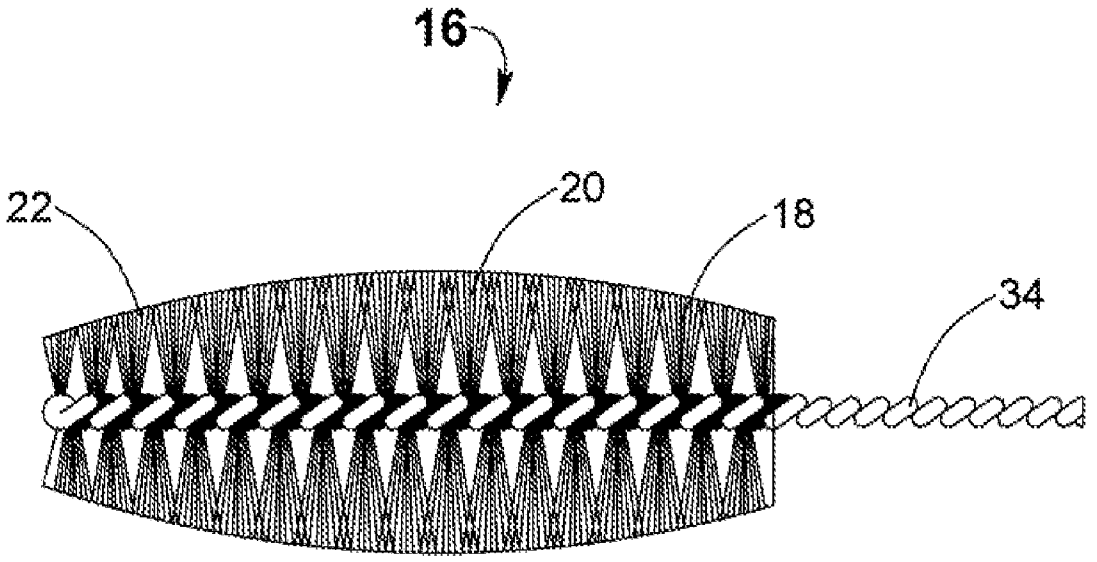


FIG. 5B

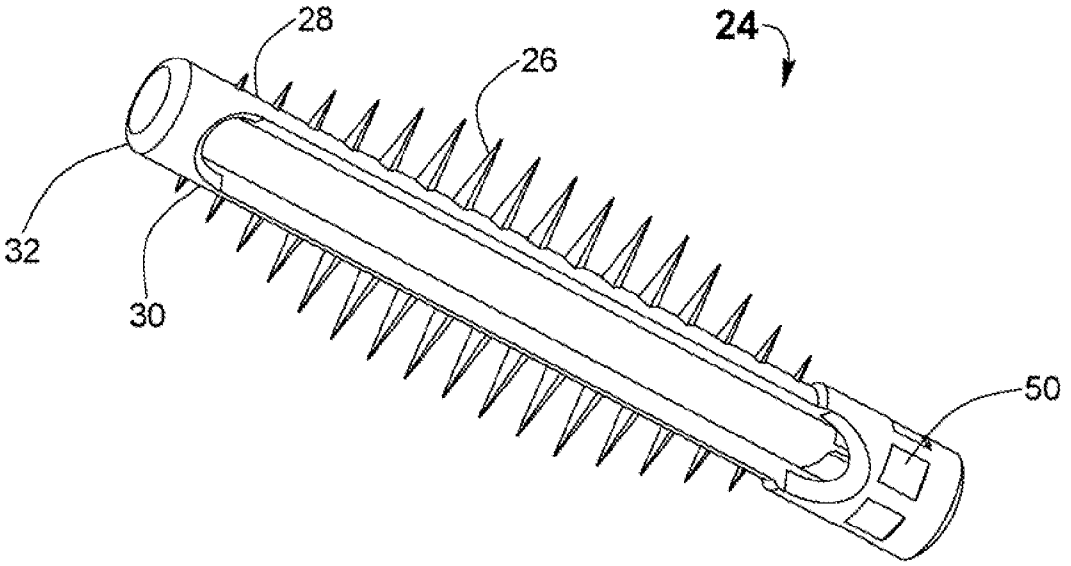


FIG. 7

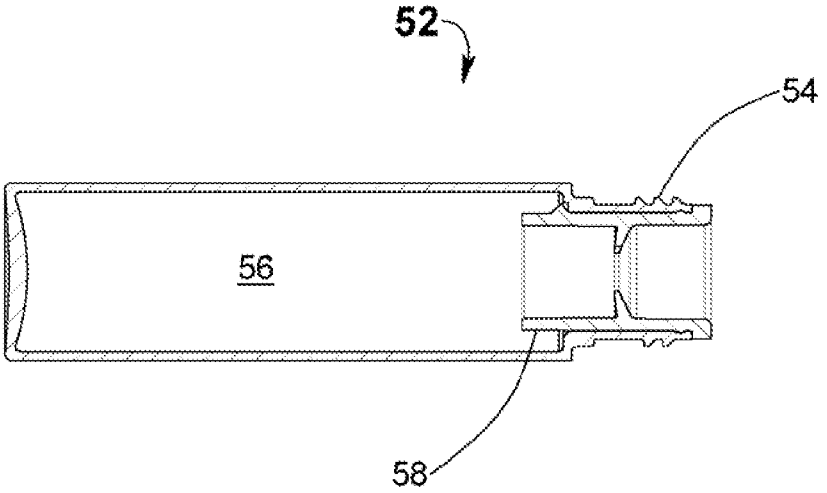


FIG. 8

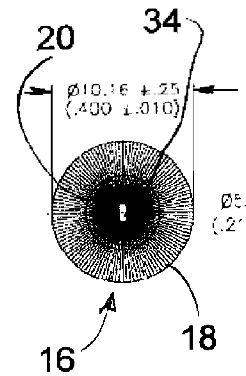

20
34
Ø10.16 ±.25
(.400 ±.010)
16
18

FIG. 10

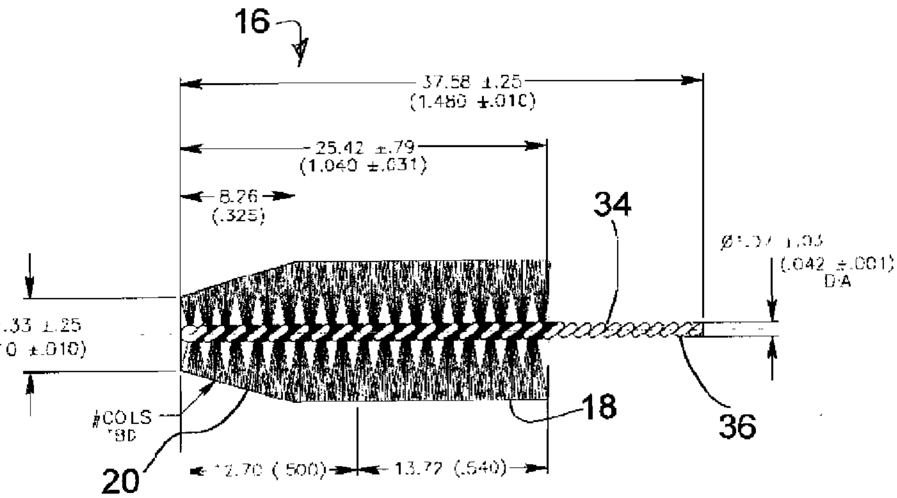

16
37.58 ±.25
(1.480 ±.010)
25.42 ±.79
(1.040 ±.031)
8.26
(.325)
34
(.042 ±.001)
DIA
(.210 ±.010)
18
36
20
13.72 (.540)

FIG. 9

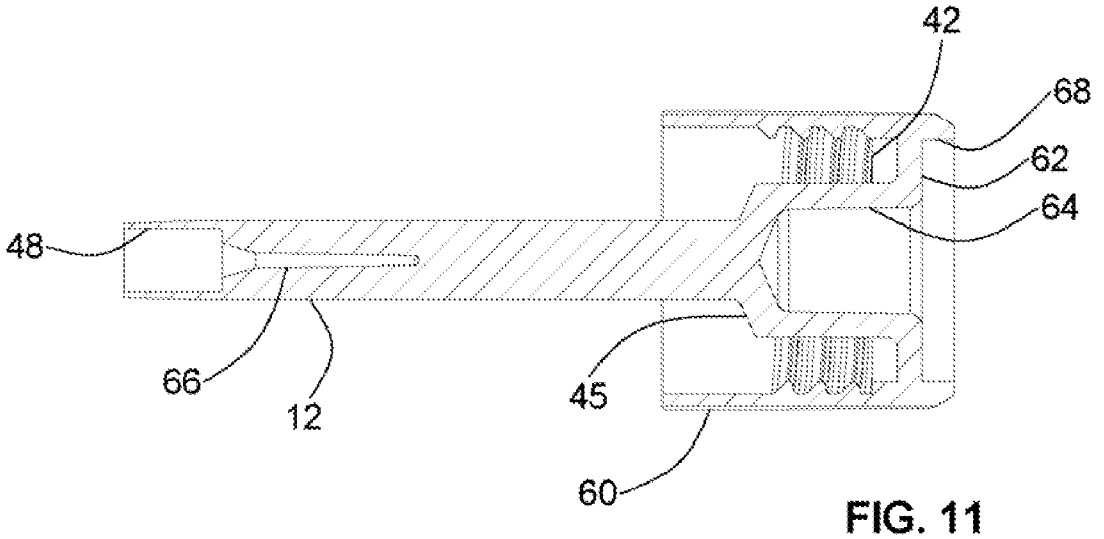


FIG. 11

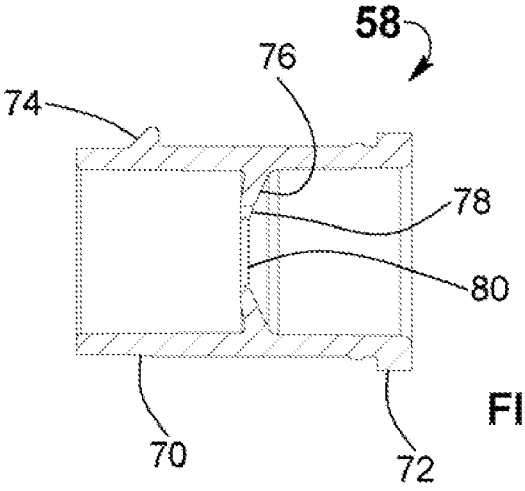


FIG. 12

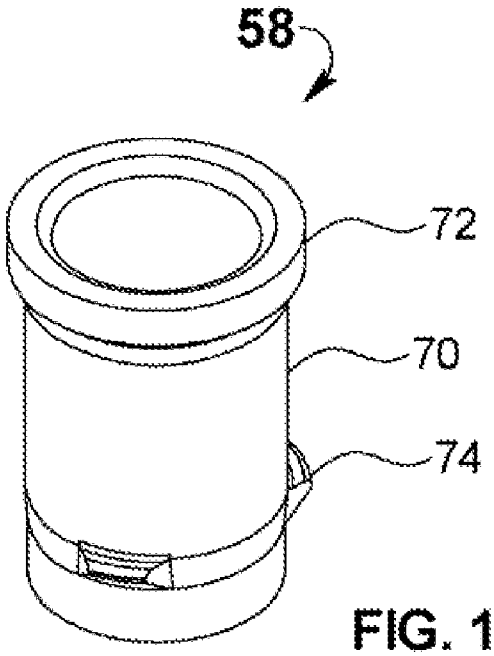


FIG. 13

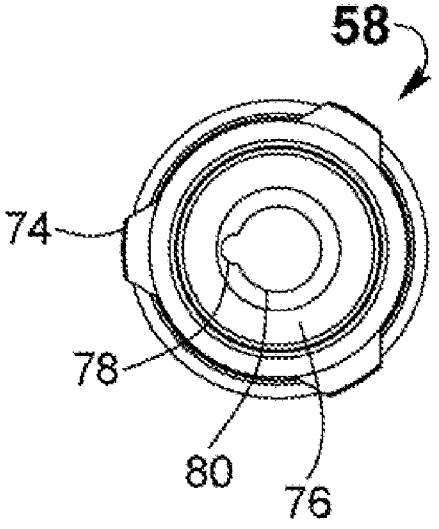


FIG. 14

COSMETIC APPLICATOR WITH DISPARATE MATERIAL APPLICATION ZONES AND BACKWIPE RETURN

FIELD OF THE INVENTION

[0001] The present invention relates generally to cosmetic applicators. More particularly, disclosed herein is a cosmetic applicator with multiple distinct zones providing multiple, disparate performance characteristics in a single applicator and with a backwipe return arrangement.

BACKGROUND OF THE INVENTION

[0002] Cosmetic dispensers for mascara and other liquid or pasty cosmetics commonly are founded on two pieces, a container and a cap. The container typically comprises a bottle with an open inner volume for retaining a volume of the cosmetic material. The cap normally has a rod or wand that projects distally therefrom. A brush or other structure capable of retrieving cosmetic from the open inner volume of the bottle and applying the cosmetic to a body surface is retained at the distal end of the wand for being dipped into the volume of cosmetic. When dipped in the cosmetic, the brush becomes loaded with the liquid or pasty material for permitting controlled application of the cosmetic, such as to the user's eyebrows or eyelashes. The cosmetic dispenser can be sealed during periods of nonuse by a threaded engagement between the cap and a neck of the bottle.

[0003] In general, mascara brushes have remained fundamentally similar to the twisted wire arrangement disclosed at least as early as 1964 in, for example, U.S. Pat. No. 3,214,782. In a typical twisted wire arrangement, a plurality of individual bristles are retained between a metal wire that is folded over and then twisted to form a helical core. The bristles are clamped between the wires and are flared radially outwardly from the core to produce a brush with a substantially round cross-section.

[0004] During application of the cosmetic, a user will typically hold the cap with one hand and the bottle in the other. By repeated dipping into the volume of cosmetic material, the brush or other structure can be employed in the successful application of the cosmetic. Mascara is commonly applied in such a manner as are other liquid, semi-liquid, pasty and other cosmetics, including, by way of example and not limitation, lip gloss, concealer, and eye shadow.

[0005] Despite variations in the shape and material composition of the bristles, wire, and the contour of the brush, the cosmetic applicators of the prior art have been substantially limited in their adaptability to different materials and application goals. As a result, a mascara user seeking to achieve defining and separating will need to use a first type of brush; a user seeking volumizing and building must use a second type of brush; and a user seeking to achieve another goal will need still another type of brush.

[0006] Disadvantageously, purchasing multiple separate cosmetic applicators to achieve varied application goals is expensive. Furthermore, storing and transporting a plurality of cosmetic applicators can be awkward and cumbersome. As a result, many cosmetic users will forgo access to the cosmetic applicators that they desire in favor of convenience and reduced expense.

[0007] Another recognized and long-standing problem with the use of cosmetic applicators is the phenomenon commonly referred to as backwipe. As the cosmetic brush is drawn from the inner volume of the cosmetic bottle loaded with the liquid or pasty material, the brush passes through a wiper that has a diameter a given amount less than the diameter of the brush. Excess cosmetic is wiped from the brush with the goal of leaving the brush sufficiently loaded for the application of the cosmetic material while minimizing or eliminating dripping, tailing, and other disadvantages deriving from excess loading.

[0008] Even after the application of cosmetic, however, the cosmetic brush retains a volume of cosmetic material thereon. Consequently, as the cosmetic brush is repeatedly removed and reinserted through the wiper, a reverse wiping action or backwipe occurs thereby producing a buildup of residue on the outer side of the wiper. The backwiped cosmetic material is inherently messy and unsightly and wastes mascara product while reducing the ease and effectiveness of proper cosmetic application. This is particularly true as the backwiped product hardens over time thereby hindering use and closure of the cosmetic applicator and causing an undesirable condition referred to as clumping.

[0009] Attempts have been made to overcome the deleterious effects of backwiping. For example, in U.S. Pat. No. 5,951,185, Kingsford et al. disclosed a Fluid Material Dispenser with the expressed goal of eliminating backwipe. Under the '185 patent, backwipe is sought to be avoided by use of a wiper divided into halves or wiping jaws. The jaws can be disposed in a closed position for wiping the cosmetic brush as it is removed from the container. The jaws can then be adjusted to a separated, open position for permitting the cosmetic brush to pass back into the container without being wiped. With the jaws out of contact with the brush as it is reinserted into the container, backwiping is ideally prevented.

[0010] Even assuming its effectiveness, arrangements such as that taught by the '185 patent are quite complex in structure and operation. With that, the cost of manufacture is invariably increased. Furthermore, the likelihood of malfunction is increased, particularly in the presence of pasty cosmetic materials.

[0011] The present inventor has appreciated, therefore, that it would be advantageous to devise of a cosmetic applicator that provides multiple performance characteristics in a single applicator and, further, that a cosmetic applicator capable of avoiding the buildup of backwiped cosmetic product in a simply yet effective manner would represent a useful advance in the field.

SUMMARY OF THE INVENTION

[0012] With a knowledge of the needs that have been left by the prior art, an object of embodiments of the present invention is to provide a cosmetic applicator with plural distinct zones for enabling multiple different performance characteristics to be achieved with a single applicator.

[0013] A more particular object of certain embodiments of the invention is to provide a cosmetic applicator with a brush having first zone for achieving a first performance characteristic, a second zone for achieving a second performance characteristic, and, potentially, a third zone for achieving a third performance characteristic.

[0014] Another object of embodiments of the invention is to provide a cosmetic applicator with plural zones that are distinct in performance and distinct in appearance thereby to permit the achievement of multiple application goals with a single applicator and the visual distinction between the zones permitting the same.

[0015] Still further embodiments of the invention seek to minimize or eliminate the buildup of backwiped cosmetic product through an effective yet elegantly simple wiper and applicator combination.

[0016] These and further objects and advantages of embodiments of the invention will become obvious not only to one who reviews the present specification and drawings but also to one who has an opportunity to make use of an embodiment of the instant invention for a multi-zone cosmetic applicator with backwipe return disclosed herein. However, it will be appreciated that, although the accomplishment of each of the foregoing objects in a single embodiment of the invention may be possible and indeed preferred, not all embodiments will seek or need to accomplish each and every potential object and advantage. Nonetheless, all such embodiments should be considered within the scope of the present invention.

[0017] In carrying forth the aforementioned objects, one embodiment of the invention comprises a cosmetic applicator with disparate material application zones for permitting the achievement of multiple cosmetic material application effects with the applicator. The cosmetic applicator has a wire core formed from first and second wire segments twisted into a helical configuration to form a plurality of coils. A plurality of radially disposed bristles are secured between the first and second wire segments of the wire core to form a brush head for being dipped into a volume of cosmetic material. The bristles of the brush head are disposed in at least first and second distinct bristle zones with the bristles of the first bristle zone being of a first bristle type and the bristles of the second bristle zone being of a second bristle type different than the first bristle type. With this, the first bristle zone can provide a first material application property, and the second bristle zone can provide a second material application property different from the first material application property.

[0018] The first bristle zone can be disposed over a first series of coils of the wire core, and the second bristle zone can be disposed over a second series of coils of the wire core. In certain embodiments, the first bristle zone can be round and of a generally consistent diameter from a proximal end of the brush head a proximal end of the second bristle zone, and the second bristle zone can terminate in a frusto-conical distal portion. The bristles of the separate bristle zones can differ in diameter, bristle counts, and bristle colors. The bristles of certain bristle zones can comprise hollow tubular filaments, and the bristles of other bristle zones can comprise solid round bristles.

[0019] Where a third bristle zone is provided, the bristles of the third bristle zone can be of a third bristle type different than the first and second bristle types. Under such a configuration, the first bristle zone can be disposed over a proximal portion of the brush head, the second bristle zone can be disposed over a mid-portion of the brush head, and the third bristle zone can be disposed over a distal portion of the brush head. While the relative percentages could vary within the scope of the invention, particular embodiments can have a first bristle zone comprising approximately 28 percent of the brush head, a second bristle zone comprising approximately 44 percent of the brush head, and a third bristle zone comprising approximately 28 percent of the brush head. Certain embodiments can have a first bristle zone that terminates in a frusto-conical proximal portion and a third bristle zone that terminates in a frusto-conical distal portion whereby the brush head presents a double taper configuration.

[0020] Under certain manifestations of the invention, an oversleeve can be provided with a proximal, tubular base portion, a distal tip portion, at least one base strip with a proximal end coupled to the base portion and a distal end coupled to the distal tip portion, at least one open channel between the at least one base strip, and a plurality of tines that project from the base strip. The oversleeve can be received over the brush head with the wire core disposed through the base portion of the oversleeve, the distal end of the wire core received into the tip portion, and the bristles of the first and second bristle zones passed through the at least one channel.

[0021] To facilitate the engagement of the brush head with the oversleeve, the distal end of the wire core can comprise a tip that extends distally beyond the bristle zones of the brush head, and the distal tip portion of the oversleeve can comprise a conical cap with a conical exterior and an inner receiving indentation that receives the tip of the wire core. The tip of the wire core can take the form of a longitudinally aligned straight portion of the wire segments where the wire segments are disposed in a generally parallel relationship, and the first helical coil of the wire core can be disposed proximal to the straight portion.

[0022] Embodiments of the oversleeve can have first and second base strips separated by channels, and a row of tines can project from each base strip. The number of tines in each row could approximately equal a number of coils over which the bristle zones of the brush head are disposed. Like the bristles, the rows of tine can have double-taper profiles.

[0023] The brush head can be fixed to a distal end of an applicator rod for enabling a dipping of the brush head into a volume of cosmetic material in an open inner volume of a cosmetic bottle. The cosmetic bottle has an opening at a proximal end thereof for permitting an insertion and removal of the brush head and the rod and a wiper retained relative to the opening of the bottle for wiping excess cosmetic material from the brush head and the rod wherein the wiper has a flexible inner ring with an inner annular opening for permitting passage of the brush head and the rod. A cosmetic material passageway can be incorporated into the flexible inner ring of the wiper, and that passageway can be supplemental to the inner annular opening of the flexible inner ring. With this, backwiped cosmetic material can be pressed through the cosmetic material passageway for return into the open inner volume of the bottle.

[0024] In certain manifestations of the cosmetic applicator, the cosmetic material passageway can comprise a semicircular lobe contiguous with the inner annular opening in the flexible inner ring. The wiper can further include a cylindrical outer wall, and an annular shoulder can be disposed at the proximal end of the applicator rod. To promote the return of backwiped cosmetic material, the flexible inner ring of the wiper can have a proximal surface sloped at an angle away from the opening of the cosmetic bottle, and the shoulder can have a distal surface sloped at substantially the same angle away from the proximal end of the applicator rod.

[0025] One will appreciate that the foregoing discussion broadly outlines the more important features of the invention to enable a better understanding of the detailed description that follows and to instill a better appreciation of the inventors' contribution to the art. Before any particular embodiment or aspect thereof is explained in detail, it must be made clear that the following details of construction and illustra-

tions of inventive concepts are mere examples of the many possible manifestations of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] In the accompanying drawing figures:

[0027] FIG. **1** is a view in side elevation of a cosmetic applicator with disparate material application zones pursuant to the present invention;

[0028] FIG. **2** is a view in side elevation of the cosmetic applicator with disparate material application zones of FIG. **1** in a partially disassembled form with the brush detached from the rod;

[0029] FIG. **3** is a view in side elevation of the cosmetic applicator with disparate material application zones of FIG. **1** in a further disassembled form with the oversleeve separated from the brush and the brush detached from the rod;

[0030] FIG. **4** is a distal end view of the cosmetic applicator with disparate material application zones of FIG. **1**;

[0031] FIG. **5**A is a partially sectioned view in side elevation of a cosmetic applicator with disparate material application zones pursuant to the present invention;

[0032] FIG. **5**B is a partially sectioned view in side elevation of an alternative cosmetic applicator with disparate material application zones pursuant to the present invention;

[0033] FIG. **6** is a partially sectioned view in side elevation of a cosmetic applicator with disparate material application zones as taught herein;

[0034] FIG. **7** is a perspective view of an oversleeve according to the instant invention;

[0035] FIG. **8** is a cross-sectional view in side elevation of a cosmetic bottle for use in relation to the cosmetic applicator disclosed herein;

[0036] FIG. **9** is a partially sectioned view in side elevation of an alternative cosmetic applicator with disparate material application zones pursuant to the present invention;

[0037] FIG. **10** is a distal end view of the cosmetic applicator of FIG. **4**;

[0038] FIG. **11** is a cross-sectional view in side elevation of an alternative application rod pursuant to the present invention;

[0039] FIG. **12** is a cross-sectional view in side elevation of a wiper for use in relation to the application rod of FIG. **11**;

[0040] FIG. **13** is a perspective view of the wiper of FIG. **12**; and

[0041] FIG. **14** is a top plan view of the wiper of FIG. **12**.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0042] It will be appreciated that the cosmetic applicator with disparate material application zones described herein can pursue widely varied embodiments. However, to ensure that one skilled in the art will be able to understand and, in appropriate cases, practice the present invention, certain preferred embodiments of the broader invention revealed herein are described below and shown in the accompanying drawing figures. Before any particular embodiment of the invention is explained in detail, it must be made clear that the following details of construction, descriptions of geometry, and illustrations of inventive concepts are mere examples of the many possible manifestations of the invention.

[0043] A manifestation of the present invention for a cosmetic applicator with disparate material application zones is indicated generally at **10** in FIG. **1**. There, the cosmetic applicator **10** has an application rod **12** with a proximal end and a distal end. A cap **14**, which also acts as a handle during the application of liquid or pasty cosmetic material (not shown), is affixed to the proximal end of the rod **12** as is best seen in FIG. **6**.

[0044] A cosmetic brush head **16** is affixed to the distal end of the rod **12** for being dipped into a volume of liquid or pasty cosmetic material retained in the open inner volume **56** of a cosmetic bottle, such as that indicated generally at **52** in FIG. **8**. With reference to FIG. **5**A, the cosmetic brush head **16** can be seen to be founded on a twisted wire core **34**. The twisted wire core **34** is formed by first and second wire segments twisted into a helical configuration to define a central longitudinal axis. While the first and second wire segments could be separate strands of wire, the twisted wire core **34** is preferably formed from a single wire folded over to establish the first and second wire segments and then twisted into the desired helical configuration to form a plurality of coils therealong. The cosmetic brush head **16** has a proximal base portion **36** and a distal tip **38**.

[0045] In FIGS. **1** through **6**, the cosmetic brush head **16** has multiple distinct bristle zones. The multiple zones of bristles permit the achievement of multiple performance characteristics by the use of a single cosmetic applicator **10**. More particularly, in the present embodiment, first, second, and third distinct zones **18**, **20**, and **22** of brush filaments are retained between the twisted wire core **34** thereby to establish a brush head **16** having three distinct bristle zones. As shown in FIG. **3**, the wire core **34** has a tip **38** that projects distally beyond the third zone **22**. Here, the tip **38** comprises a longitudinally aligned straight portion of the folded-over end of the twisted wire core **34** that is devoid of bristles therebetween and where the first and second strands of the wire core **34** are disposed in a generally parallel relationship. The first coil of the twisted wire core **34** is disposed proximal to the straight portion. The proximal base portion **36** of the wire core **34** projects proximally beyond the first zone **18** by a given number of coils.

[0046] In the depicted embodiment, the brush filaments of the first, second, and third zones **18**, **20**, and **22** cooperate to form the brush head **16**. The first, second, and third zones **18**, **20**, and **22** occupy approximately eighteen coils of the twisted wire core **34** in total. Within the brush head **16**, the first zone **18**, which may alternatively be referred to as the proximal zone, is made up of brush filaments occupying approximately five coils or approximately 28 percent of the brush head. Likewise, the third or distal zone **22** is made up of brush filaments occupying approximately five coils or approximately 28 percent of the brush head **16**. The second or central zone **20**, which resides between the first and third zones **18** and **22**, is made up of brush filaments occupying approximately eight coils or 44 percent of the brush head **16**.

[0047] The cosmetic brush **16** can be fixed to the rod **12** in any effective manner. Looking specifically to FIG. **6**, for example, the cosmetic brush **16** can be retained relative to the rod **12** by an insertion of the base portion **36** of the wire core **34** into a corresponding longitudinal, centered borehole in the distal end of the rod **12**. If necessary, the brush head **16** can be secured in place by a crimping or other deformation of the base portion **36** of the wire core **34**. In one practice of the invention, the base portion **36** of the wire core **34** is flattened to some extent, heated, and then inserted into a round borehole in the distal end of the rod **12** whereby the plastic rod melts and then hardens around the base portion **36** of the wire

core **34** to hold the wire core **34** and thus the brush head **16** in general in place relative to the rod **12**.

[0048] The bristles of the brush head **16** in FIG. **5**A, for example, are formed, such as by trimming or otherwise, to have what can be referred to as a reverse double taper configuration.

[0049] The reverse double taper configuration is designed to yield superior product loading, unloading, and ease of use. Tapering at both ends of the brush head **16** together with a central portion of a generally consistent diameter over a given length permits the use of both tapered ends to reach particular areas, such as the corners of a user's eyes, while permitting the flat central portion to be used to apply a larger volume of material. The tapering of the brush head **16** can begin where the first zone **18** meets the second zone **20** and where the second zone **20** meets the third zone **22**. Under that arrangement, the second zone **20** is of a consistent diameter, and the first and third zones **18** and **22** are of progressively reducing diameters toward the proximal and distal ends of the brush head **16** respectively, each thereby establishing a frusto-conical shape.

[0050] Similar benefits in material loading and application can be achieved by the brush head **16** of FIG. **5**B, which again has a double taper. First, second, and third bristle zones **18**, **20**, and **22** are provided with each bristle zone having different material application characteristics. In the depicted embodiment, however, the brush head **16** smoothly transitions from zone to zone with a progressive reduction in diameter from a maximum at the midpoint of the brush head **16** and at a midpoint of the second bristle zone **20** to minimum at the ends of the first and third bristle zones **18** and **22**. With this, the brush head **16** presents a smooth profile with a symmetrical, arcuate outer shape.

[0051] The three zones **18**, **20**, and **22** are different from one another in material application properties. By way of example and not limitation, the zones **18**, **20**, and **22** can differ in material retention characteristics, defining and separating characteristics, and volumizing and building characteristics. The differences in the zones **18**, **20**, and **22** can be achieved by varying one or more of a plurality of factors, including bristle density, bristle material, bristle length, bristle diameter or thickness, bristle cross-sectional shape, bristle positioning, and bristle end treatment.

[0052] In one presently contemplated advantageous embodiment, by way of example, the bristles of the first zone **18** can be solid rods made from a synthetic polymer, such as nylon, with a bristle diameter of 0.003 inches. The bristles of the first zone **18** can be disposed in well defined rows, and the bristles of the first zone **18** can have a unique filament count relative to the second and third zones **20** and **22**. With this, the first zone **18** will tend to produce a first material application effect, namely a definition and separation in the treated hair in this embodiment.

[0053] The bristles of the second zone **20**, however, can be hollow tubes with an outer bristle diameter of 0.005 inches. The bristles can be disposed in interwoven filament rows and with a unique filament count relative to the first and third zones **18** and **22**. Under that arrangement, the bristles of the second zone **20** will tend to achieve a second material application effect, namely a volumizing and building effect in the treated hair in the embodiment shown and described.

[0054] Finally, the third zone **22** can produce a third material application effect by being formed with solid, round bristles that are disposed in defined filament rows like those of the first zone **18**. However, the bristles of the third zone **22** can have a different diameter relative to those of the first zone **18**. For example, the bristles of the third zone **22** can have a diameter of 0.004 inches, and a unique filament count relative to the bristles of the first and third zones **18** and **22**. As a result, the bristles of the third zone **22** will also tend to produce a defining and separating effect, but it could be different in material application property from the defining and separating effect achieved by the bristles of the first zone **18**.

[0055] The present inventor has further appreciated that the function of the cosmetic applicator **10** and the utility of the different material application effects produced by the multiple material application zones **18**, **20**, and **22** can be further improved by promoting the ability of the user to differentiate visually between the multiple zones **18**, **20**, and **22**. Such a visual differentiation will not only accentuate the multiple performance characteristics achieved by the cosmetic applicator **10**, but it will also permit the user to identify the desired zone **18**, **20**, or **22** to be employed based on the user's desired material application effect.

[0056] In one embodiment of the cosmetic applicator **10**, this is achieved by having bristles of each of the first, second, and third zones **18**, **20**, and **22** of different colors. For example, the bristles of the first zone **18** with their first defining and separating effect can be blue in color, the bristles of the second zone **20** with their volumizing and building effect can be natural or tan in color, and the bristles of the third zone **22** with their second defining and separating effect can be red in color.

[0057] As best seen in FIG. **6**, the rod **12** of the cosmetic applicator **10** can have a valve seal **45** at the proximal end thereof. The valve seal **45** can be disposed within the cap **14** to push any backwiped product into the bottle **52**, such as that shown in FIG. **8**. The rod **12** can be tapered to prevent cosmetic product from producing undesirable hydraulic pressure during the insertion and removal of the rod **12** of the cosmetic applicator **10** relative to the bottle **52**.

[0058] Threads **42** on the inner wall of the cap **14** can engage threads **54** on the neck of the bottle **52** to retain the cosmetic applicator **10** relative to the bottle **52** and to seal the open inner volume **56** of the bottle **52**. The bottle **52** can retain a wiper **58** adjacent to the neck thereof for wiping excess product from the brush head. The wiper **58** can in certain embodiments be a one-piece arrangement formed from a soft polymer, such as thermoplastic elastomer (TPE) or rubber. Locking ribs on the wiper **58** can secure the wiper **58** in relation to the bottle **52**.

[0059] It is believed that the performance of the unique multi-zone configuration of the brush head may be improved by cosmetic material, such as mascara, that is specifically calibrated to exploit the disparate material application characteristics of the zones **18**, **20**, and **22**. Performance will be maximized by employing cosmetic material with preferred ingredients, preferred proportions, and a preferred range of viscosity.

[0060] In certain embodiments, the unique performance of the cosmetic applicator **10** can be furthered by additionally incorporating what can be referred to as an oversleeve **24**. The oversleeve **24** is shown received over the cosmetic brush **16** in FIGS. **1** and **2** and then apart in FIGS. **3** and **7**. In the depicted embodiment, the oversleeve **24** has a proximal, tubular base portion **46** and a distal tip portion **32**. The distal tip portion **32** comprises a conical cap with a conical exterior and an inner receiving indentation.

[0061] First and second base strips **28** and **30** communicate longitudinally from proximal ends fixed to the base portion **46** to distal ends fixed to the tip portion **32**. The base strips **28** and **30** are spaced 180 degrees apart and are separated by open channels, which are disposed in opposition communicating longitudinally along the oversleeve **24** from the base portion **46** to the tip portion **32**.

[0062] A first longitudinally aligned row of tines **26** projects from the first base strip **28**, and a second longitudinally aligned row of tines **26** projects from the second base strip **30**. As noted above, the base strips **28** and **30** are disposed 180 degrees apart. Consequently, the rows of tines **26** project in diametric opposition 180 degrees apart.

[0063] With this, the oversleeve **24** can be slid over the wire core **34** with the wire core **34** received through the tubular base portion **46** and then between the base strips **28** and **30** until the tip **38** of the wire core **34** is received into the inner receiving indentation of the tip portion **32** of the oversleeve **24**. The bristles of the first, second, and third zones **18**, **20**, and **22** of the brush head can be received through the channels in the oversleeve **24** so that the bristles project therethrough.

[0064] When the oversleeve **24** is fully engaged with the wire core **34**, a proximal end of the base portion **46** of the oversleeve **24** is received into a corresponding annular ring formed at the distal end **48** of the rod **12** to prevent dislodging of the oversleeve **24** and undesirable material accumulation at the proximal end thereof. The oversleeve can be additionally secured by one or more stakes **40** passed through the distal end of the rod **12** and through an aperture **50** in the base portion **46** of the oversleeve **24**. Of course, other means for securing the oversleeve **24** in place can be employed as necessary.

[0065] The number of tines **26** can in certain embodiments correspond to the number of coils over which the bristles of the brush head **16** are disposed. With that, in the embodiment depicted in FIGS. **1**, **2**, and **3**, there can be eighteen tines spaced over the length of each base strip **28** and **30** corresponding to the eighteen coils over which bristles are retained by the wire core **34**.

[0066] Similarly to the bristles of the first, second, and third bristle zones **18**, **20**, and **22**, the tines **26** in each row have a double taper profile with a central group of tines **26** of a generally consistent height and proximal and distal series of tines **26** that taper to progressively shorter heights. The tip-to-tip distance of the opposed tines **26** can generally equal the diameter of the corresponding portions of the brush head **16** so that the tapering of the rows of tines **26** can correspond generally to the tapering of the brush head **16** formed by the first, second, and third brush zones **18**, **20**, and **22**. With that, the height of the tines **26** can be at a maximum at the mid-portion of the oversleeve **24** and can progressively taper toward the proximal and distal ends thereof.

[0067] With the oversleeve **24** received over the brush head **16** as in FIGS. **1** and **4**, the cosmetic applicator **10** presents first and second opposed bristle portions over a given circumferential portion with the first and second base strips **28** and **30** and the radially projecting rows of tines **26** interposed therebetween. So disposed, the first, second, and third bristle zones **18**, **20**, and **22** can be employed to apply product with multiple different application characteristics, and the interposed tines **26** can be used for combing, lengthening, curling, and other material application and hair treatment practices.

[0068] The oversleeve **24** can be formed in any appropriate manner. Under certain practices of the invention, the oversleeve **24**, including the base and tip portions **46** and **32**, the base strips **28** and **30**, and the tines **26**, can be molded or otherwise formed as a unit. The material for the oversleeve **24** could vary within the scope of the invention depending on, among other things, desired material application characteristics and the cosmetic to be applied. One presently preferred embodiment forms the oversleeve **24** from a polymeric material, such as a thermoplastic polyester elastomer.

[0069] The tines **26** could be of any suitable cross section. In one presently preferred embodiment, the tines **26** can have a diamond-shaped cross section with the goal of enhancing the combing and lengthening characteristics achieved by use of the tines **26**. The diamond shape is believed to grab the hair to which cosmetic is to be applied as the tines **26** pass among and between that hair.

[0070] With two oppositely projecting rows of tines **26**, the oversleeve **24** will be capable of passing through the wiper **58** while permitting the wiper **58** to perform its primary function of wiping the bristles of the brush head most effectively. In certain embodiments, the oversleeve **24** and the tines **26** can be black in color to differentiate from the remainder of the cosmetic applicator **10** and again to facilitate the most efficient use of their performance characteristics.

[0071] While first and second base strips **28** and **30** with opposed tines **26** projecting therefrom have been found preferred in certain applications, it will be noted that just one base strip **28** or more than two base strips **28** and **30** is possible. By way of example, an oversleeve **24** is possible having first, second, and third base strips that could be spaced evenly at 120-degree separations. Tines **26** could again project from each base strip. With this, when the oversleeve **24** is passed over the brush head **16**, tines **26** will project at 120-degree intervals and sections of the brush head **16** project through channels between the base strips in three areas.

[0072] It is also within the scope of the invention to have fewer or more zones of bristles. For example as is shown in FIGS. **9** and **10**, embodiments are contemplated where first and second bristle zones **18** and **20** are employed. There, the bristles are again retained by a twisted wire core **34** to establish a brush head **16**. The first bristle zone **18** is round and of a generally consistent diameter from the proximal end of the brush head **16** to the point where the first bristle zone **18** meets the second bristle zone **20**. The second bristle zone **20** has a proximal portion that is generally round and of a consistent diameter and then a distal portion that progressively reduces in diameter to adjacent to the distal end of the twisted wire core **34** to establish a frusto-conical shape.

[0073] The first and second zones **18** and **20** are different from one another in material application properties. By way of example and not limitation, the zones **18** and **20** can differ in material retention characteristics, defining and separating characteristics, and volumizing and building characteristics. The differences in the zones **18** and **20** can be achieved by varying one or more of a plurality of factors, including bristle density, bristle material, bristle length, bristle diameter or thickness, bristle cross-sectional shape, bristle positioning, and bristle end treatment.

[0074] In one advantageous embodiment, for example, the bristles of the first zone **18** can be hollow tubular filaments, each with an outer diameter of, for example, 0.005 inches. The bristles have a unique filament count relative to the second zone **20**. Under that arrangement, the bristles of the first zone **18** will tend to achieve a first material application effect.

[0075] The second zone **20** can produce a second material application effect by being formed with solid, round bristles that are disposed in defined filament rows. The bristles of the second zone **20** can have a different diameter relative to those of the first zone **18**. For example, the bristles of the second zone **20** can have a diameter of 0.004 inches, and a unique filament count relative to the bristles of the first zone **18**. As a result, the bristles of the second zone **20** will tend to produce a different in material application property from the effect achieved by the bristles of the first zone **18**.

[0076] Again, the function of the cosmetic applicator **10** and the utility of the different material application effects produced by the multiple material application zones **18** and **20** can be further improved by promoting the ability of the user to differentiate visually between the multiple zones **18** and **20**. This could, for example, be achieved by having bristles of the first and second zones **18** and **20** of different colors. For example, the bristles of the first zone **18** with their first effect can be white in color and the bristles of the second zone **20** can be black in color.

[0077] Turning to FIGS. **11** through **14** in combination with FIG. **8**, embodiments of the cosmetic applicator **10** are contemplated wherein a broadened, annular base portion **64** is connected to the proximal end of the applicator rod **12** by a sloped shoulder **45**. The distally-facing surface of the shoulder **45** is sloped at a given angle away from the proximal end of the applicator rod **12** and toward the base portion **64**. An annular ring **62** is formed at the proximal end of the base portion **64**, and a cylindrical outer wall **60** is fixed encircling the outer edge of the annular ring **62**. The inner surface of the outer wall **60** has threads **42** disposed therealong for engaging the threads **54** on outer surface of the neck of the bottle **52**.

[0078] The wiper **58** has a cylindrical outer wall **70** for being received through the neck of the bottle **52** as in FIG. **8**. A peripheral ridge **72** is disposed at the proximal end of the outer wall **70** of the wiper **58** for overlying the proximal or outer end of the neck of the bottle **52**, and a plurality of tabs **74** project from adjacent to the distal end of the outer wall **70** of the wiper **58** for overlying the distal end of the neck or inner end of the bottle **52** thereby securing the wiper **58** in place.

[0079] The wiper **58** has a flexible inner ring **76** that projects radially inwardly from the outer wall **70**. As best seen in FIG. **14**, the flexible inner ring **76** has an inner annular opening **80** for permitting passage of the rod **12** and the brush head **16**. The inner annular opening **80** can be smaller in diameter than the diameter of the rod **12** and of the brush head **16** so that excess cosmetic material is wiped from the rod **12** and the brush head **16** as they are drawn from the open inner volume of the bottle **52**. The proximal or outer surface of the flexible inner ring **76** is sloped at a given angle away from the proximal end of the wiper **58** and away from the proximal end of the bottle **52** when the two are engaged as in FIG. **8**.

[0080] In particular embodiments of the invention, the angle at which the distally-facing surface of the sloped shoulder **45** is disposed can substantially match the angle at which the proximally-facing surface of the inner ring **76** is disposed. In the depicted embodiment, for example, the facing surfaces of the sloped shoulder **45** and the inner ring **76** are disposed at matching twenty-five degree angles. Furthermore, the base portion **64** can have an outer diameter marginally less than the inner diameter of the outer wall **70** of the wiper **58**. In one contemplated embodiment, for instance, the base portion **64** has an outer diameter of approximately 0.391 inches while the outer wall **70** of the wiper **58** has an inner diameter of approximately 0.422 inches.

[0081] Under this arrangement, the base portion **64** will act as a piston within the cylinder defined by the outer wall **70** of the wiper **58** during reinsertion into the bottle **52**. Any backwiped cosmetic product will tend to be pressed distally toward the sloped proximal surface of the wiper **58** and thus toward the open inner volume of the bottle **52**. As noted above, the inner opening **80** of the inner ring **76** of the wiper **58** is marginally smaller in diameter than the diameter of the rod **12**. With this, cosmetic product pressed by the base portion **64** would tend to accumulate between the facing surfaces of the shoulder **45** and the inner ring **76** of the wiper **58**.

[0082] Advantageously, however, a cosmetic material passageway **78** is disposed in the inner ring **76** of the wiper **58** supplemental to the annular inner opening **80**. In the depicted embodiment, the passageway **78** is contiguous with the inner opening **80** in the form of a semicircular lobe. This can be considered advantageous in that, among other things, the passageway **78** is disposed at the inner, distal edge of the inner ring **76**. In other embodiments, the passageway **78** could otherwise be disposed in supplementation of the inner annular opening **80**, such as by being disposed in the body portion of the inner ring **76** separate from the annular inner opening **80**.

[0083] With the provision of the cosmetic material passageway **78** and the sloped surfaces of the shoulder **45** and the inner ring **76**, backwiped cosmetic, cosmetic wiped by the user on the proximal edge of the wiper **58**, and cosmetic material otherwise disposed outside of the inner ring **76** will be pressed by the shoulder **45** and the base portion **64** into the funnel shape presented by the outer surface of the inner ring **76**. The cosmetic can be pressed through the cosmetic material passageway **78** and back into the open inner volume of the bottle **52**. With that return of backwiped material to the inner volume of the bottle **52**, the waste, mess, and other deleterious effects that backwiped cosmetic material normally produces can be substantially minimized or even avoided entirely.

[0084] With certain details of the present invention for a cosmetic applicator with disparate material application zones and backwipe return disclosed, it will be appreciated by one skilled in the art that changes and additions could be made thereto without deviating from the spirit or scope of the invention. This is particularly true when one bears in mind that the presently preferred embodiments merely exemplify the broader invention revealed herein. Accordingly, it will be clear that those with certain major features of the invention in mind could craft embodiments that incorporate those major features while not incorporating all of the features included in the preferred embodiments.

[0085] Therefore, the following claims are intended to define the scope of protection to be afforded to the patent holder. Those claims shall be deemed to include equivalent constructions insofar as they do not depart from the spirit and scope of the invention. It must be further noted that a plurality of the following claims express certain elements as means for performing a specific function, at times without the recital of structure or material. As the law demands, these claims shall be construed to cover not only the corresponding structure and material expressly described in this specification but also all equivalents thereof that might be now known or hereafter discovered.

I claim as deserving the protection of Letters Patent:

1. A cosmetic applicator with disparate material application zones for permitting the achievement of multiple cosmetic material application effects with the applicator, the cosmetic applicator comprising:

a wire core formed from first and second wire segments twisted into a helical configuration to form a plurality of coils wherein the wire core has a proximal end, a distal end, and a body portion that defines a longitudinal axis;

a plurality of radially disposed bristles secured between the first and second wire segments of the wire core to form a brush head for being dipped into a volume of cosmetic material;

wherein the bristles of the brush head are disposed in at least first and second distinct bristle zones, wherein the bristles of the first bristle zone are of a first bristle type, and wherein the bristles of the second bristle zone are of a second bristle type different than the first bristle type;

whereby the first bristle zone can provide a first material application property and whereby the second bristle zone can provide a second material application property different from the first material application property.

2. The cosmetic applicator of claim **1** wherein the first bristle zone is disposed over a first series of coils of the wire core and wherein the second bristle zone is disposed over a second series of coils of the wire core.

3. The cosmetic applicator of claim **2** wherein the first bristle zone is round and of a generally consistent diameter from a proximal end of the brush head a proximal end of the second bristle zone and wherein the second bristle zone terminates in a frusto-conical distal portion.

4. The cosmetic applicator of claim **1** wherein the bristles of the first bristle zone have a first diameter and wherein the bristles of the second bristle zone have a second diameter different than the first diameter.

5. The cosmetic applicator of claim **1** wherein the bristles of the first bristle zone comprise hollow tubular filaments and wherein the bristles of the second bristle zone comprise solid round bristles.

6. The cosmetic applicator of claim **5** wherein the bristles of the first bristle zone have an outer diameter of approximately 0.005 inches and wherein the bristles of the second bristle zone have an outer diameter of approximately 0.0004 inches.

7. The cosmetic applicator of claim **1** wherein the first bristle zone has a unique bristle count relative to the second bristle zone.

8. The cosmetic applicator of claim **1** wherein the bristles of the first bristle zone are of a first color and wherein the bristles of the second bristle zone are of a second color different than the first color.

9. The cosmetic applicator of claim **1** further comprising a third distinct bristle zone wherein the bristles of the third bristle zone are of a third bristle type different than the first and second bristle types.

10. The cosmetic applicator of claim **9** wherein the first bristle zone is disposed over a proximal portion of the brush head, the second bristle zone is disposed over a mid-portion of the brush head, and the third bristle zone is disposed over a distal portion of the brush head.

11. The cosmetic applicator of claim **10** wherein the first bristle zone comprises approximately 28 percent of the brush head, the second bristle zone comprises approximately 44 percent of the brush head, and the third bristle zone comprises approximately 28 percent of the brush head.

12. The cosmetic applicator of claim **10** wherein the first bristle zone terminates in a frusto-conical proximal portion and wherein the third bristle zone terminates in a frusto-conical distal portion whereby the brush head has a double taper configuration.

13. The cosmetic applicator of claim **9** wherein the bristles of the first bristle zone have a first diameter, the bristles of the second bristle zone have a second diameter different than the first diameter, and the bristles of the third bristle zone have a third diameter different than the first and second diameters.

14. The cosmetic applicator of claim **13** wherein the bristles of the first bristle zone have a diameter of approximately 0.003 inches, the bristles of the second bristle zone have a diameter of approximately 0.005 inches, and the bristles of the third bristle zone have a diameter of approximately 0.004 inches.

15. The cosmetic applicator of claim **9** wherein the bristles of the first bristle zone comprise solid rods and the bristles of the second bristle zone comprise hollow tubes.

16. The cosmetic applicator of claim **1** further comprising an oversleeve with a proximal, tubular base portion, a distal tip portion, at least one base strip with a proximal end coupled to the base portion and a distal end coupled to the distal tip portion, at least one open channel between the at least one base strip, and a plurality of tines that project from the base strip, the oversleeve received over the brush head with the wire core disposed through the base portion of the oversleeve, the distal end of the wire core received into the tip portion, and the bristles of the first and second bristle zones passed through the at least one channel.

17. The cosmetic applicator of claim **16** wherein the distal end of the wire core comprises a tip that extends distally beyond the bristle zones of the brush head and wherein the distal tip portion comprises a conical cap with a conical exterior and an inner receiving indentation that receives the tip of the wire core.

18. The cosmetic applicator of claim **17** wherein the tip of the wire core comprises a longitudinally aligned straight portion of the wire segments where the wire segments are disposed in a generally parallel relationship and wherein the first helical coil of the wire core is disposed proximal to the straight portion.

19. The cosmetic applicator of claim **16** wherein the oversleeve has first and second base strips separated by channels, each base strip with a row of tines that project therefrom.

20. The cosmetic applicator of claim **19** wherein each row of tines approximately equals a number of coils over which the bristle zones of the brush head are disposed.

21. The cosmetic applicator of claim **19** wherein the brush head and the rows of tine have double-taper profiles.

22. The cosmetic applicator of claim **1** further comprising a rod with a proximal end and a distal end wherein the proximal end of the wire core is fixed to the distal end of the rod.

23. The cosmetic applicator of claim **22** further comprising a cosmetic bottle wherein the cosmetic bottle has an open inner volume for retaining a volume of cosmetic material, an opening at a proximal end thereof for permitting an insertion and removal of the brush head and the rod, a wiper retained relative to the opening of the bottle for wiping excess cosmetic material from the brush head and the rod wherein the wiper has a flexible inner ring with an inner annular opening for permitting passage of the brush head and the rod, and a

cosmetic material passageway in the flexible inner ring of the wiper wherein the cosmetic material passageway is supplemental to the inner annular opening of the flexible inner ring.

24. The cosmetic applicator of claim **23** wherein the cosmetic material passageway comprises a lobe contiguous with the inner annular opening in the flexible inner ring.

25. The cosmetic applicator of claim **23** wherein the wiper further comprises a cylindrical outer wall and further comprising an annular shoulder disposed at the proximal end of the applicator rod.

26. The cosmetic applicator of claim **25** wherein the flexible inner ring of the wiper has a proximal surface sloped at an angle away from the opening of the cosmetic bottle and wherein the shoulder has a distal surface sloped at an angle away from the proximal end of the applicator rod.

27. The cosmetic applicator of claim **26** wherein the angles at which the proximal surface of the flexible inner ring of the wiper and the distal surface of the shoulder are sloped are approximately equal.

28. A cosmetic applicator with a backwipe return for permitting a return of backwiped cosmetic material, the cosmetic applicator comprising:

a brush head with a plurality of radially communicating bristles;

an applicator rod with a proximal end and a distal end wherein the brush head is fixed to the distal end of the applicator rod;

a cosmetic bottle with an open inner volume for retaining a volume of cosmetic material, an opening at a proximal end thereof for permitting an insertion and removal of the brush head and the rod;

a wiper retained relative to the opening of the bottle for wiping excess cosmetic material from the brush head and the rod wherein the wiper has a flexible inner ring with an inner annular opening for permitting passage of the brush head and the rod; and

a cosmetic material passageway in the flexible inner ring of the wiper wherein the cosmetic material passageway is supplemental to the inner annular opening of the flexible inner ring.

29. The cosmetic applicator of claim **28** wherein the cosmetic material passageway comprises a lobe contiguous with the inner annular opening in the flexible inner ring.

30. The cosmetic applicator of claim **28** wherein the wiper further comprises a cylindrical outer wall and further comprising an annular shoulder fixed to the applicator rod adjacent to the proximal end thereof.

31. The cosmetic applicator of claim **30** wherein the flexible inner ring of the wiper has a proximal surface sloped at an angle away from the opening of the cosmetic bottle and wherein the shoulder has a distal surface sloped at an angle away from the proximal end of the applicator rod.

32. The cosmetic applicator of claim **31** wherein the angles at which the proximal surface of the flexible inner ring of the wiper and the distal surface of the shoulder are sloped are approximately equal.

33. The cosmetic applicator of claim **31** wherein the cosmetic material passageway comprises a lobe contiguous with the inner annular opening in the flexible inner ring.

34. The cosmetic applicator of claim **30** further comprising an annular base portion fixed to the annular shoulder wherein the annular base portion has a diameter smaller than an inner diameter of the cylindrical outer wall of the wiper whereby the annular shoulder and the annular base portion can be received into the cylindrical outer wall of the wiper to press cosmetic material through the cosmetic material passageway.

35. A cosmetic applicator with a backwipe return for permitting a return of backwiped cosmetic material, the cosmetic applicator comprising:

a brush head with a plurality of radially communicating bristles;

an applicator rod with a proximal end and a distal end wherein the brush head is fixed to the distal end of the applicator rod;

a cosmetic bottle with an open inner volume for retaining a volume of cosmetic material, an opening at a proximal end thereof for permitting an insertion and removal of the brush head and the rod;

a wiper retained relative to the opening of the bottle for wiping excess cosmetic material from the brush head and the rod wherein the wiper has a cylindrical outer wall and a flexible inner ring with an inner annular opening for permitting passage of the brush head and the rod; and

an annular shoulder fixed to the applicator rod adjacent to the proximal end thereof wherein the flexible inner ring of the wiper has a proximal surface sloped at an angle away from the opening of the cosmetic bottle and wherein the shoulder has a distal surface sloped at an angle away from the proximal end of the applicator rod.

36. The cosmetic applicator of claim **35** wherein the angles at which the proximal surface of the flexible inner ring of the wiper and the distal surface of the shoulder are sloped are approximately equal.

37. The cosmetic applicator of claim **36** further comprising an annular base portion fixed to the annular shoulder wherein the annular base portion has a diameter smaller than an inner diameter of the cylindrical outer wall of the wiper whereby the annular shoulder and the annular base portion can be received into the cylindrical outer wall of the wiper to press cosmetic material into the cosmetic bottle.

38. The cosmetic applicator of claim **35** further comprising a cosmetic material passageway in the flexible inner ring of the wiper wherein the cosmetic material passageway is supplemental to the inner annular opening of the flexible inner ring.

39. The cosmetic applicator of claim **38** wherein the cosmetic material passageway comprises a lobe contiguous with the inner annular opening in the flexible inner ring.

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