



(11) **EP 2 448 443 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:
16.11.2016 Bulletin 2016/46

(21) Application number: **10772859.4**

(22) Date of filing: **06.05.2010**

(51) Int Cl.:
A45D 34/04 (2006.01) A45D 40/26 (2006.01)

(86) International application number:
PCT/US2010/033941

(87) International publication number:
WO 2010/129818 (11.11.2010 Gazette 2010/45)

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

KOSMETISCHER APPLIKATOR MIT VERSCHIEDENEN APPLIKATIONSBEREICHEN UND
ABWISCHRÜCKFÜHRUNG

APPLICATEUR DE COSMÉTIQUE AVEC ZONES D'APPLICATION DISTINCTES ET RETOUR DE
L'ESSUYEUR

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO SE SI SK SM TR**

(30) Priority: **06.05.2009 US 175965 P**
23.02.2010 US 710517

(43) Date of publication of application:
09.05.2012 Bulletin 2012/19

(73) Proprietor: **HCP Packaging USA, Inc.**
(Connecticut, USA Corp.)
Shelton, CT 03246 (US)

(72) Inventor: **LEGASSIE, Raymond, P.**
Laconia, NH 03246 (US)

(74) Representative: **Visser-Luirink, Gesina**
Amsterdams Octrooibureau
Visser-Luirink B.V.
Postbus 76068
1070 EB Amsterdam (NL)

(56) References cited:
EP-A1- 1 475 013 JP-A- 2007 520 249
KR-Y1- 200 397 604 US-A- 3 214 782
US-A- 5 482 059 US-A1- 2005 066 990
US-A1- 2007 204 873

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description

TECHNICAL FIELD

[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. Patent No. 3,214,782.

[0004] Another mascara brush is disclosed in U.S. Patent No. 5,482,059. 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.

[0005] 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.

[0006] 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.

[0007] 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.

[0008] 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.

[0009] 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.

[0010] Attempts have been made to overcome the deleterious effects of backwiping. For example, in U.S. Patent 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.

[0011] 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.

[0012] 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 DISCLOSURE OF THE INVENTION

[0013] 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 as defined in appended claims.

[0014] A more particular object 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 a third zone for achieving a third performance characteristic.

[0015] 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.

[0016] 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.

[0017] 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.

[0018] 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, second and third distinct bristle zones, the first bristle zone being disposed over a proximal portion of the brush head, the second bristle zone being disposed over a mid-portion of the brush head, and the third bristle zone being disposed over a distal portion of the brush head. The bristles of the first bristle zone are of a first bristle type disposed over a first series of coils of the wire core, the bristles of

the second bristle zone are of a second bristle type different than the first bristle type and disposed over a second series of coils of the wire core, and the bristles of the third bristle zone are of a third bristle type different than the first and second bristle types, said bristles of the third bristle zone being disposed over a third series of coils of the wire core. 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 and the third bristle zone can produce a third material application effect.

[0019] In certain embodiments, the first bristle zone can be round and of a generally consistent diameter from a proximal end of the brush head to 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 bristle counts and bristle colors.

[0020] 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.

[0021] 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.

[0022] 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.

[0023] 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.

[0024] 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.

[0025] 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.

[0026] 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 illustrations of inventive concepts are mere examples of the many possible manifestations of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] In the accompanying drawing figures:

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

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;

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;

FIG. 4 is a distal end view of the cosmetic applicator with disparate material application zones of FIG. 1; FIG. 5A is a partially sectioned view in side elevation of a cosmetic applicator with disparate material application zones pursuant to the present invention; FIG. 5B is a partially sectioned view in side elevation of an alternative cosmetic applicator with disparate material application zones pursuant to the present invention;

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

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

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

FIG. 9 is a partially sectioned view in side elevation of an alternative cosmetic applicator with disparate material application zones not pursuant to the present invention;

FIG. 10 is a distal end view of the cosmetic applicator of FIG. 9;

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

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

FIG. 13 is a perspective view of the wiper of FIG. 12; and

FIG. 14 is a top plan view of the wiper of FIG. 12.

DETAILED DESCRIPTION

[0028] 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.

[0029] 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.

[0030] 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. 5A, 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.

[0031] 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.

[0032] 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.

[0033] 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.

[0034] The bristles of the brush head 16 in FIG. 5A, for example, are formed, such as by trimming or otherwise, to have what can be referred to as a reverse double taper configuration. 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.

[0035] Similar benefits in material loading and application can be achieved by the brush head 16 of FIG. 5B, 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.

[0036] 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.

[0037] 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.

[0038] 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.

[0039] 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 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.

[0040] 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.

[0041] 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.

[0042] As best seen in FIG. 6, the rod 12 of the cosmetic applicator 10 can have a valve seal at the proximal end thereof. The valve seal 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.

[0043] 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.

[0044] 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.

[0045] 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.

[0046] 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.

[0047] 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.

[0048] 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.

[0049] 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.

[0050] 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.

[0051] 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.

[0052] 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.

[0053] 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.

[0054] 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.

[0055] 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.

[0056] 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.

[0057] It is also within the scope of the invention to have more zones of bristles.

[0058] An applicator not according to the invention can have fewer zones of bristles, as shown, for example, in FIGS. 9 and 10. In said examples 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.

[0059] The first and second zones 18 and 20 are different from one another in material application properties. 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.

[0060] 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.

[0061] 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.

[0062] 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.

[0063] 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 the valve seal comprising 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.

[0064] 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.

[0065] 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.

[0066] 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.

[0067] 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.

[0068] 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 semi-circular 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.

[0069] 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.

[0070] 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 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.

[0071] Therefore, the following claims are intended to define the scope of protection to be afforded to the patent holder.

Claims

1. A cosmetic applicator (10) with disparate material application zones for permitting the achievement of multiple cosmetic material application effects with the applicator (10), wherein the cosmetic applicator (10) comprises:

a wire core (34) formed from first and second wire segments twisted into a helical configuration to form a plurality of coils wherein the wire core (34) 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 (34) to form a brush head (16) for being dipped into a volume of cosmetic material; wherein the bristles of the brush head (16) are disposed in at least first, second and third distinct bristle zones (18, 20, 22), the first bristle zone being disposed over a proximal portion of the brush head, the second bristle zone being disposed over a mid-portion of the brush head, and the third bristle zone being disposed over a distal portion of the brush head, **characterized in that** the bristles of the first bristle zone (18) are of a first bristle type disposed over a first series of coils of the wire core (34), the bristles of the second bristle zone (20) are disposed over a second series of coils of the wire core (34), and are of a second bristle type different than the first bristle type, and the bristles of the third bristle zone (22) are disposed over a third series of coils of the wire core (34) and are of a third bristle type different than the first and second bristle types, wherein the bristles of the first bristle zone (18) have a first diameter, the bristles of the second bristle zone (20) have a second diameter different than the first diameter, and the bristles of the third bristle zone (22) have a third diameter different than the first and second diameters; wherein the bristles of the first bristle zone (18) comprise solid rods, wherein the bristles of the second bristle zone (20) comprise hollow tubes and wherein the bristles of the third zone (22) comprise solid, round bristles, disposed in defined filament rows like those of the first zone, whereby the first bristle zone (18) can provide a first material application property, whereby the second bristle zone (20) can provide a second material application property different from the first material application property and whereby the third bristle zone (22) can produce a third material application effect.

2. The cosmetic applicator (10) of claim 1 **characterized in that** the first bristle zone (18) is round and

of a generally consistent diameter from a proximal end of the brush head (16) to a proximal end of the second bristle zone (20) and wherein the second bristle zone (20) terminates in a frusto-conical distal portion.

3. The cosmetic applicator (10) of claim 1 **characterized in that** the first bristle zone (18) has a unique bristle count relative to the second bristle zone (20).
4. The cosmetic applicator (10) of claim 1 **characterized in that** the bristles of the first bristle zone (18) are of a first color and wherein the bristles of the second bristle zone (20) are of a second color different than the first color.
5. The cosmetic applicator (10) of claim 1 **characterized in that** the first bristle zone (18) is disposed over a proximal portion and comprises approximately 28 percent of the brush head (16), the second bristle zone (20) is disposed over a mid-portion and comprises approximately 44 percent of the brush head (16), and the third bristle zone (22) is disposed over a distal portion and comprises approximately 28 percent of the brush head (16).
6. The cosmetic applicator (10) of claim 1 **characterized in that** the first bristle zone (18) terminates in a frusto-conical proximal portion and wherein the third bristle zone (22) terminates in a frusto-conical distal portion whereby the brush head (16) has a double taper configuration.
7. The cosmetic applicator (10) of claim 1 **characterized in that** the cosmetic applicator (10) further comprises an oversleeve (24) with a proximal, tubular base portion (46), a distal tip portion (32), at least one base strip (28, 30) with a proximal end coupled to the base portion (46) and a distal end coupled to the distal tip portion (32), at least one open channel between the at least one base strip (28, 30), and a plurality of tines (26) that project from the base strip (28, 30), the oversleeve (24) received over the brush head (16) with the wire core (34) disposed through the base portion (46) of the oversleeve (24), the distal end (38) of the wire core (34) received into the tip portion (32), and the bristles of the first and second bristle zones (18, 20) passed through the at least one channel.
8. The cosmetic applicator (10) of claim 7 **characterized in that** the distal end of the wire core (34) comprises a tip (38) that extends distally beyond the bristle zones (18, 20, 22) of the brush head (16) and wherein the distal tip portion (32) comprises a conical cap with a conical exterior and an inner receiving indentation that receives the tip (38) of the wire core (34), and wherein the oversleeve (24) has first and

second base strips (28, 30) separated by channels, each base strip (28, 30) with a row of tines (26) that project therefrom.

9. The cosmetic applicator (10) of claim 1 **characterized in that** the cosmetic applicator (10) further comprises an applicator rod (12) with a proximal end, a distal end, and an annular shoulder (45) disposed at the proximal end of the applicator rod (12) wherein the proximal end of the wire core (34) is fixed to the distal end of the rod (12) and wherein the cosmetic applicator (10) further comprises a cosmetic bottle (52) wherein the cosmetic bottle (52) has an open inner volume (56) for retaining a volume of cosmetic material, an opening at a proximal end thereof for permitting an insertion and removal of the brush head (16) and the rod (12), a wiper (58) retained relative to the opening of the bottle (52) for wiping excess cosmetic material from the brush head (16) and the rod (12) wherein the wiper (58) has a flexible inner ring (76) with an inner annular opening (80) for permitting passage of the brush head (16) and the rod, and a cosmetic material passageway (78) in the flexible inner ring (76) of the wiper (58) wherein the cosmetic material passageway (78) is supplemental to the inner annular opening (80) of the flexible inner ring (76) and wherein the cosmetic material passageway (78) comprises a semicircular lobe contiguous with the inner annular opening (80) in the flexible inner ring (76), wherein the flexible inner ring (76) of the wiper (58) has a proximal surface sloped at an angle away from the opening of the cosmetic bottle (52), wherein the shoulder (45) has a distal surface sloped at an angle away from the proximal end of the applicator rod (12), and wherein the angles at which the proximal surface of the flexible inner ring (76) of the wiper (58) and the distal surface of the shoulder (45) are sloped are approximately equal, and further comprising an annular base portion (64) fixed to the annular shoulder (45) wherein the annular base portion (64) has a diameter smaller than an inner diameter of the cylindrical outer wall (70) of the wiper (58) whereby the annular shoulder (45) and the annular base portion (64) can be received into the cylindrical outer wall (70) of the wiper (58) to press cosmetic material through the cosmetic material passageway (78).

Patentansprüche

1. Ein kosmetisches Auftragsgerät (10) mit unterschiedlichen Materialauftragszonen, um eine Mehrzahl von Auftragungseffekten mit kosmetischen Materialien mit dem Auftragsgerät (10) zu ermöglichen, wobei das kosmetische Auftragsgerät (10) umfasst:

einen Drahtkern (34), gebildet aus ersten und

zweiten Drähten, die in eine Helixkonfiguration verdreht sind, um eine Vielzahl von Windungen zu bilden, wobei der Drahtkern (34) ein proximales Ende, ein distales Ende und einen Hauptteilabschnitt aufweist, der eine Längsachse definiert;

eine Mehrzahl von radial angeordneten Borsten, die zwischen den ersten und zweiten Drähten des Drahtkerns (34) befestigt sind, um einen Bürstenkopf (16) zu bilden, der geeignet ist, um in ein Volumen eines kosmetischen Materials eingetaucht zu werden;

wobei die Borsten des Bürstenkopfes (16) in zumindest erste, zweite und dritte voneinander verschiedene Borstenzonen (18, 20, 22) angeordnet sind, wobei die erste Borstenzone über einen proximalen Abschnitt des Bürstenkopfes angeordnet ist, die zweite Bürstenzone über einen mittleren Abschnitt des Bürstenkopfes angeordnet ist und die dritte Zone über einen distalen Abschnitt des Bürstenkopfes angeordnet ist,

dadurch gekennzeichnet, dass die Borsten der ersten Borstenzone (18) aus einem ersten Borstentyp entlang einer ersten Reihe von Windungen des Drahtkerns (34) angeordnet sind, die Borsten der zweiten Borstenzone (20) entlang einer zweiten Reihe von Windungen des Drahtkerns (34) angeordnet sind, und aus einem zweiten Borstentyp gefertigt sind, der vom ersten Borstentyp verschieden ist, und die Borsten der dritten Borstenzone (22) entlang einer dritten Reihe von Windungen des Drahtkerns (34) angeordnet sind, und aus einem dritten Borstentyp gefertigt sind, der vom ersten und vom zweiten Borstentyp verschieden ist,

wobei die Borsten der ersten Borstenzone (18) einen ersten Durchmesser aufweisen, die Borsten der zweiten Borstenzone (20) einen zweiten Durchmesser aufweisen, der vom ersten Durchmesser verschieden ist, und die Borsten der dritten Borstenzone (22) einen dritten Durchmesser aufweisen, der vom ersten und zweiten Durchmesser verschieden ist;

wobei die Borsten der ersten Borstenzone (18) massive Stäbchen aufweisen, wobei die Borsten der zweiten Borstenzone (20) hohle Röhrchen aufweisen und wobei die Borsten der dritten Borstenzone (22) massive, runde Borsten aufweisen, die in definierten Filamentreihen angeordnet sind, wie die der ersten Zone,

wodurch die erste Borstenzone (18) eine erste Materialauftragungseigenschaft bereitstellen kann, wodurch die zweite Borstenzone (20) eine zweite Materialauftragungseigenschaft bereitstellen kann, die von der ersten Materialauftragungseigenschaft verschieden ist und wodurch die dritte Borstenzone (22) einen dritten Mate-

rialauftragungseffekt erzeugen kann.

2. Das kosmetische Auftragsgerät (10) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die erste Borstenzone (18) rund ist und einen allgemein gleichbleibenden Durchmesser von einem proximalen Ende des Bürstenkopfes (16) bis zu einem proximalen Ende der zweiten Borstenzone (20) aufweist, und wobei das zweite Borstenfeld (20) in einem kegelstumpfförmigen, distalen Abschnitt endet. 5
3. Das kosmetische Auftragsgerät (10) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die erste Borstenzone (18) eine eindeutige Borstenzahl gegenüber der zweiten Borstenzone (20) aufweist. 10
4. Das kosmetische Auftragsgerät (10) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die Borsten der ersten Borstenzone (18) eine erste Farbe aufweisen, und wobei die Borsten der zweiten Borstenzone (20) eine zweite Farbe aufweisen, die von der ersten Farbe verschieden ist. 15
5. Das kosmetische Auftragsgerät (10) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die erste Borstenzone (18) entlang eines proximalen Abschnittes angeordnet ist und etwa 28 Prozent des Bürstenkopfes (16) umfasst, die zweite Borstenzone (20) entlang eines mittleren Abschnittes angeordnet ist und etwa 44 Prozent des Bürstenkopfes (16) umfasst, und die dritte Borstenzone (22) entlang eines distalen Abschnittes angeordnet ist und etwa 28 Prozent des Bürstenkopfes (16) umfasst. 20
6. Das kosmetische Auftragsgerät (10) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die erste Borstenzone (18) in einem kegelstumpfförmigen, proximalen Abschnitt endet und wobei die dritte Borstenzone (22) in einem kegelstumpfförmigen, distalen Abschnitt endet, wodurch der Bürstenkopf (16) eine Doppelkegelgestaltung aufweist. 25
7. Das kosmetische Auftragsgerät (10) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** das kosmetische Auftragsgerät (10) ferner eine Hülse (24) aufweist mit einem proximalen, röhrenförmigen Basisabschnitt (46), einem distalen Spitzenabschnitt (32), mindestens einer Basisleiste (28, 30), die mit einem proximalen Ende an den Basisabschnitt (46) gekoppelt ist und mit einem distalen Ende an den distalen Spitzenabschnitt (32) gekoppelt ist, mindestens einem offenen Kanal zwischen dem mindestens einen Basisabschnitt (28, 30), und eine Vielzahl von Zinken (26), die von dem Basisabschnitt (28, 30) hervorstehen, wobei die Hülse (24) über den Bürstenkopf (16) gestülpt ist, wobei der Drahtkern (34) durch den Basisabschnitt (46) der Hülse (24) hindurch angeordnet ist, wobei das distale Ende (38) des Draht-

kerns (34) innerhalb des Spitzenabschnittes (32) aufgenommen wird und die Borsten der ersten und zweiten Borstenzonen (18, 20) durch den mindestens einen Kanal hindurchgehen.

8. Das kosmetische Auftragsgerät (10) gemäß Anspruch 7, **dadurch gekennzeichnet, dass** das distale Ende des Drahtkerns (34) eine Spitze (38) aufweist, die sich distal über die Borstenzonen (18, 20, 22) des Bürstenkopfes (16) hinaus erstreckt und wobei der distale Spitzenabschnitt (32) eine konische Kappe mit einer konischen Außenseite und einer inneren Aufnahmevertiefung aufweist, die die Spitze (38) des Drahtkerns (34) aufnimmt, und wobei die Hülse (24) erste und zweite Basisleisten (28, 30) aufweist, die durch Kanäle getrennt sind, wobei jede Basisleiste (28, 30) mit einer Reihe von Zinken (26) versehen ist, die von dieser vorstehen.
9. Das kosmetische Auftragsgerät (10) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** das kosmetische Auftragsgerät (10) ferner einen Auftragsstiel (12) mit einem proximalen Ende, einem distalen Ende, und einer ringförmigen Schulter (45) aufweist, die an dem proximalen Ende des Auftragsstiels (12) angeordnet ist, wobei das proximale Ende des Drahtkerns (34) an dem distalen Ende des Stiels (12) befestigt ist, und wobei das kosmetische Auftragsgerät (10) ferner ein kosmetisches Fläschchen (52) aufweist, wobei das kosmetische Fläschchen (52) ein offenes, inneres Volumen (56) aufweist, zur Aufbewahrung eines Volumens eines kosmetischen Materials, eine Öffnung an einem proximalen Ende desselben, um ein Einführen und Herausziehen des Bürstenkopfes (16) und des Stiels (12) zu ermöglichen, einen Abstreifer (58), der an der Öffnung des Fläschchens (52) angeordnet ist, um überschüssiges kosmetisches Material von dem Bürstenkopf (16) und von dem Stiel (12) abzustreifen, wobei der Abstreifer (58) einen flexiblen Innenring (76) mit einer inneren Ringöffnung (80) für den Durchgang des Bürstenkopfes (16) und des Stiels aufweist, und einen Durchgang (78) für kosmetisches Material in dem flexiblen Innenring (76) des Abstreifers (58), wobei der Durchgang (78) für das kosmetische Material zusätzlich zur inneren Ringöffnung (80) des flexiblen Innenrings (76) vorgesehen ist, und wobei der Durchgang (78) für das kosmetische Material eine halbkreisförmige Einbuchtung in dem flexiblen Innenring (76) darstellt, die an die innere Ringöffnung (80) grenzt, wobei der flexible Innenring (76) des Abstreifers (58) eine proximale Fläche aufweist, die von der Öffnung des Kosmetikfläschchens (52) in einem Winkel weg geneigt ist, und wobei die Schulter (45) eine distale Fläche aufweist, die von dem proximalen Ende des Auftragsstiels (12) in einem Winkel weg geneigt ist, und wobei die Winkel, um die die proximale Fläche des flexiblen Innenrings (76) des Ab-

streifers (58) und die distale Fläche der Schulter (45) geneigt sind, ungefähr gleich sind, und ferner enthaltend einen ringförmigen Basisabschnitt (64), der an der ringförmigen Schulter (45) fixiert ist, wobei der ringförmige Basisabschnitt (64) einen Durchmesser aufweist, der kleiner ist als der Innendurchmesser der zylindrischen Außenwand (70) des Abstreifers (58), wobei die ringförmige Schulter (45) und der ringförmige Basisabschnitt (64) in die zylindrische Außenwand (70) des Abstreifers (58) aufgenommen werden können, um kosmetisches Material durch den Durchgang für das kosmetische Material (78) zu pressen.

Revendications

1. Un applicateur de cosmétique (10) avec zones d'application distinctes afin de permettre la réalisation de nombreux effets d'application de cosmétiques avec l'applicateur (10), où l'applicateur de cosmétique (10) comprend :

un fil de branche métal (34) formé à partir des premier et deuxième segments de fil entortillés en une configuration hélicoïdale afin de former une pluralité de tours où le fil de branche métal (34) a une extrémité proximale, une extrémité distale et une partie du corps qui définit un axe longitudinal ;

une pluralité de poils disposés radialement et maintenus entre les premier et deuxième segments de fil du fil de branche métal (34) afin de former une tête de pinceau (16) pour être trempé dans un volume de matériel cosmétique ;

où les poils de la tête du pinceau (16) sont disposés au moins dans les première, deuxième et troisième zones de poils distinctes (18, 20, 22), la première zone de poils (18) étant disposée sur une partie proximale de la tête du pinceau, la deuxième zone de poils étant disposée sur une mi-partie de la tête du pinceau, et la troisième zone de poils étant disposée sur une partie distale de la tête du pinceau, **caractérisée par le fait que** les poils de la première zone de poils (18) soient d'un premier type de poils disposés sur une première série de tours du fil de branche métal (34), les poils de la deuxième zone de poils (20) soient disposés sur une deuxième série de tours du fil de branche métal (34) et soient d'un deuxième type de poils différent du premier type de poils, et que les poils de la troisième zone de poils (22) soient disposés sur une troisième série de tours du fil de branche métal (34) et soient d'un troisième type de poils différent des premier et deuxième types de poils, où les poils de la première zone de poils (18) ont un premier diamètre, les poils de la deuxième

me zone de poils (20) ont un deuxième diamètre différent du premier, et les poils de la troisième zone de poils (22) ont un troisième diamètre différent des premier et deuxième diamètres;

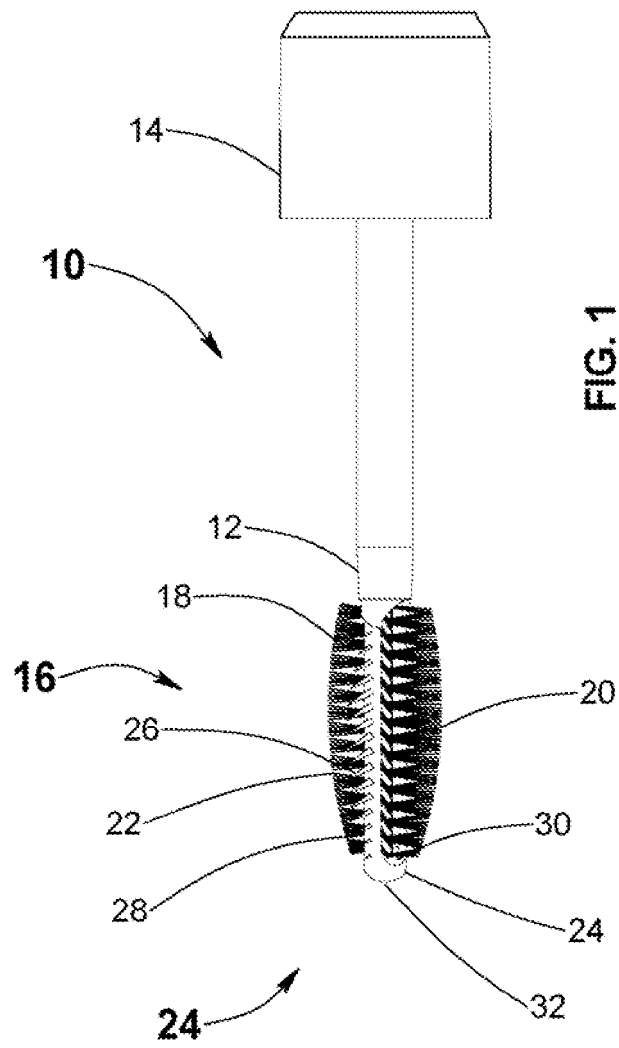
où les poils de la première zone de poils (18) comprennent des tiges solides, où les poils de la deuxième zone de poils (20) comprennent des tubes vides et où les poils de la troisième zone (22) comprennent des poils solides et ronds, disposés en rangées de filaments définies comme celles de la première zone,

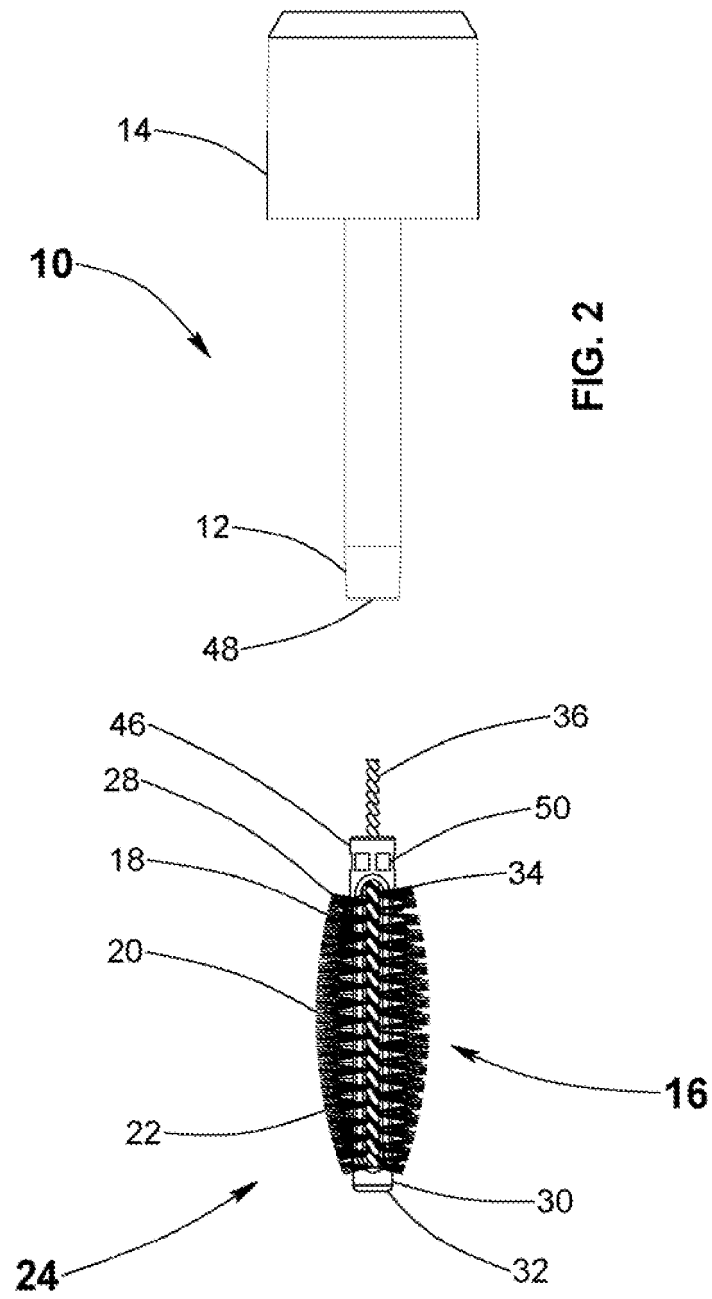
où la première zone de poils (18) peut fournir une première propriété d'application de matériel, où la deuxième zone de poils (20) peut fournir une deuxième propriété d'application de matériel différente de la première propriété d'application de matériel et où la troisième zone de poils (22) peut produire un troisième effet d'application de matériel.

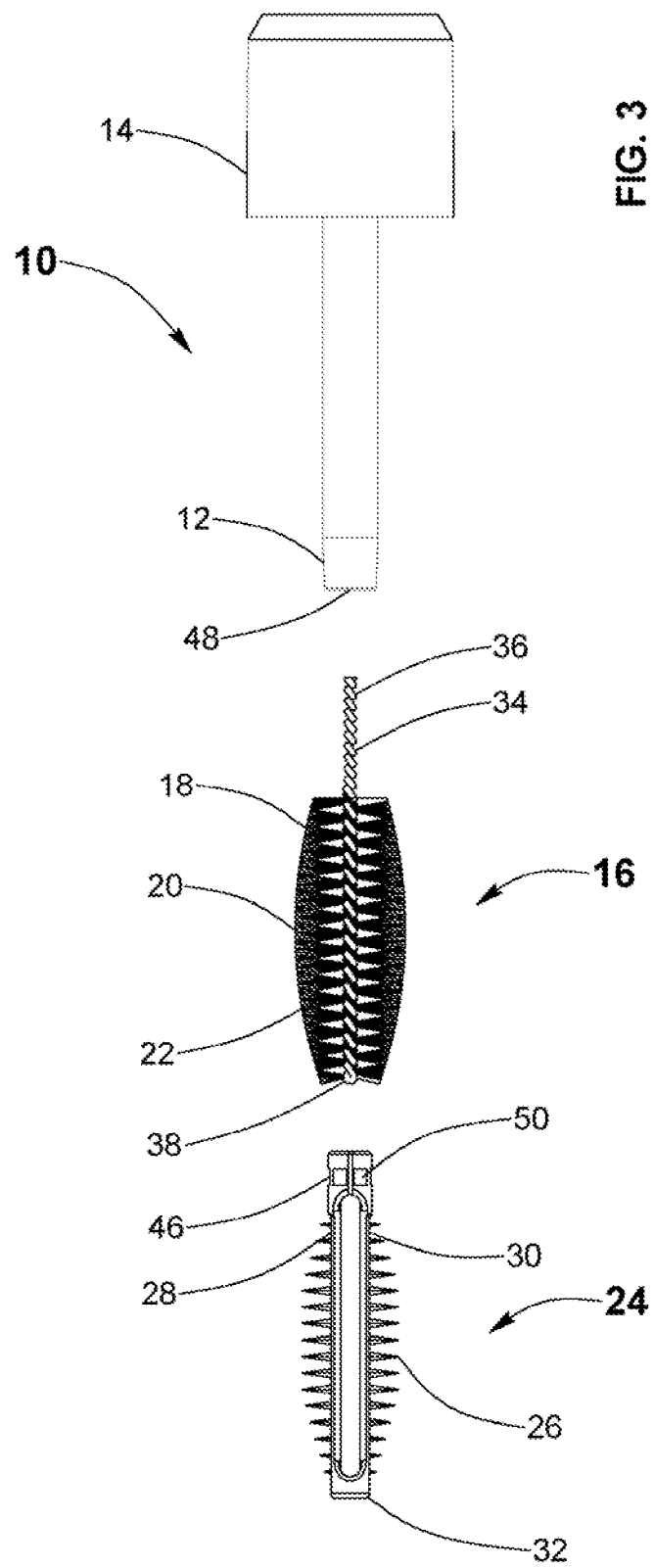
2. L'applicateur de cosmétique (10) de revendication 1 **caractérisé par le fait que** la première zone de poils (18) est ronde et d'un diamètre généralement consistant à partir d'une extrémité proximale de la tête du pinceau (16) jusqu'à l'extrémité proximale de la deuxième zone de poils (20) et où la deuxième zone de poils (20) se termine par une partie distale tronconique.
3. L'applicateur de cosmétique (10) de revendication 1 **caractérisé par le fait que** la première zone de poils (18) dispose d'un nombre unique de poils relatif à la deuxième zone de poils (20).
4. L'applicateur de cosmétique (10) de revendication 1 **caractérisé par le fait que** les poils de la première zone de poils (18) soient d'une première couleur et où les poils de la deuxième zone de poils (20) soient d'une deuxième couleur différente de la première.
5. L'applicateur de cosmétique (10) de revendication 1 **caractérisé par le fait que** la première zone de poils (18) soit disposée sur une partie proximale et comprenne environ 28 % de la tête du pinceau (16), la deuxième zone de poils (20) soit disposée sur une mi-partie et comprenne environ 44 % de la tête du pinceau (16), et la troisième zone de poils (22) soit disposée sur une partie distale et comprenne environ 28 % de la tête du pinceau (16).
6. L'applicateur de cosmétique (10) de revendication 1 **caractérisé par le fait que** la première zone de poils (18) se termine par une partie proximale tronconique et où la troisième zone de poils (22) se termine par une partie distale tronconique selon laquelle la tête du pinceau (16) a une configuration à double conicité.

7. L'applicateur de cosmétique (10) de revendication 1 **caractérisé par le fait que** l'applicateur de cosmétique (10) comprend également une manchette (24) avec une partie proximale à base tubulaire (46), une partie à l'extrémité distale (32), au moins une bande de base (28, 30) avec une extrémité proximale associée à la partie de base (46) et une extrémité distale associée à la portion à extrémité distale (32), au moins un canal ouvert entre au moins une bande de base (28, 30), et une pluralité de dents (26) projetant à partir de la bande de base (28, 30), la manchette (24) reçue sur la tête du pinceau (16) avec le fil de branche métal (34) disposé à travers la partie de base (46) de la manchette (24), l'extrémité distale (38) du fil de branche métal (34) reçue dans une partie de l'extrémité (32), et les poils des première et deuxième zone de poils (18, 20) passés à travers au moins un canal.
8. L'applicateur de cosmétique (10) de revendication 7 **caractérisé par le fait que** l'extrémité distale du fil de branche métal (34) comprend une extrémité (38) s'étendant de façon distale au-delà des zones de poils (18, 20, 22) de la tête du pinceau (16) et où la partie à extrémité distale (32) comprend un bouchon conique avec un extérieur conique et un intérieur recevant une marque qui reçoit l'extrémité (38) du fil de branche métal (34), et où la manchette (24) a des bandes de première et deuxième base (28, 30) séparées par des canaux, chaque bande de base (28, 30) avec une rangée de dents (26) projetant à partir de là.
9. L'applicateur de cosmétique (10) de revendication 1 **caractérisé par le fait que** l'applicateur de cosmétique (10) comprend également une tige d'applicateur (12) avec une extrémité proximale, une extrémité distale, et une épaule annulaire (45) disposée à l'extrémité proximale de la tige de l'applicateur (12) où l'extrémité proximale du fil de branche métal (34) est fixée à l'extrémité distale de la tige (12) et où l'applicateur de cosmétique (10) comprend également une bouteille à cosmétiques (52) où la bouteille à cosmétiques (52) a un volume intérieur ouvert (56) afin de retenir un volume de matériel cosmétique, une ouverture à l'extrémité proximale permettant, à partir de cette dernière, l'insertion et le retrait de la tête du pinceau (16) et la tige (12), un nettoyant (58) retenu relatif à l'ouverture de la bouteille (52) afin de nettoyer l'excès de matériel cosmétique de la tête du pinceau (16) et la tige (12) où le nettoyant (58) a une bague intérieure flexible (76) avec une ouverture annulaire intérieure (80) afin de permettre le passage de la tête du pinceau (16) et la tige, et un passage du matériel cosmétique (78) dans la bague intérieure flexible (76) du nettoyant (58) où le passage du matériel cosmétique (78) est supplémentaire à l'ouverture annulaire intérieure (80) de la bague intérieure

flexible (76) et où le passage du matériel cosmétique (78) comprend un lobe semi-circulaire contigu avec l'ouverture annulaire intérieure (80) dans la bague intérieure flexible (76), où la bague intérieure flexible (76) du nettoyant (58) a une surface proximale inclinée à un angle loin de l'ouverture de la bouteille à cosmétiques (52), où l'épaule (45) a une surface distale inclinée à un angle loin de l'extrémité proximale de la tige de l'applicateur (12), et où les angles auxquels la surface proximale de la bague intérieure flexible (76) du nettoyant (58) et la surface distale de l'épaule (45) sont inclinées et presque égales, et comprennent également une partie à base annulaire (64) fixée à l'épaule annulaire (45) où la partie à base annulaire (64) a un diamètre plus petit qu'un diamètre intérieur de la paroi extérieure cylindrique (70) du nettoyant (58), selon lequel l'épaule annulaire, (45) et la partie à base annulaire (64) peuvent être reçues dans la paroi extérieure cylindrique (70) du nettoyant (58) afin de pousser le matériel cosmétique à travers le passage du matériel cosmétique (78).







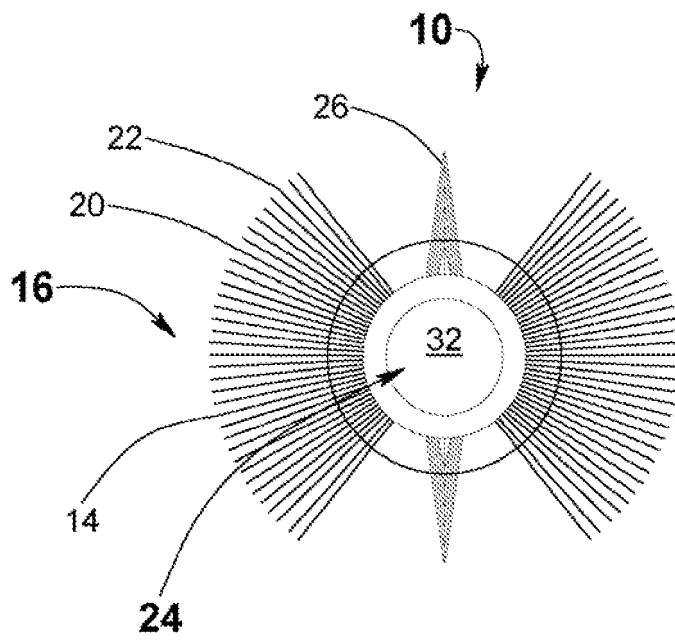


FIG. 4

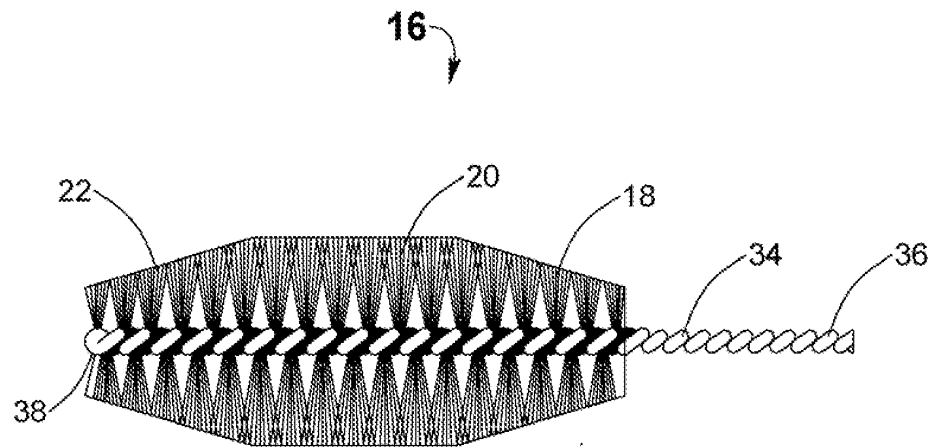


FIG. 5A

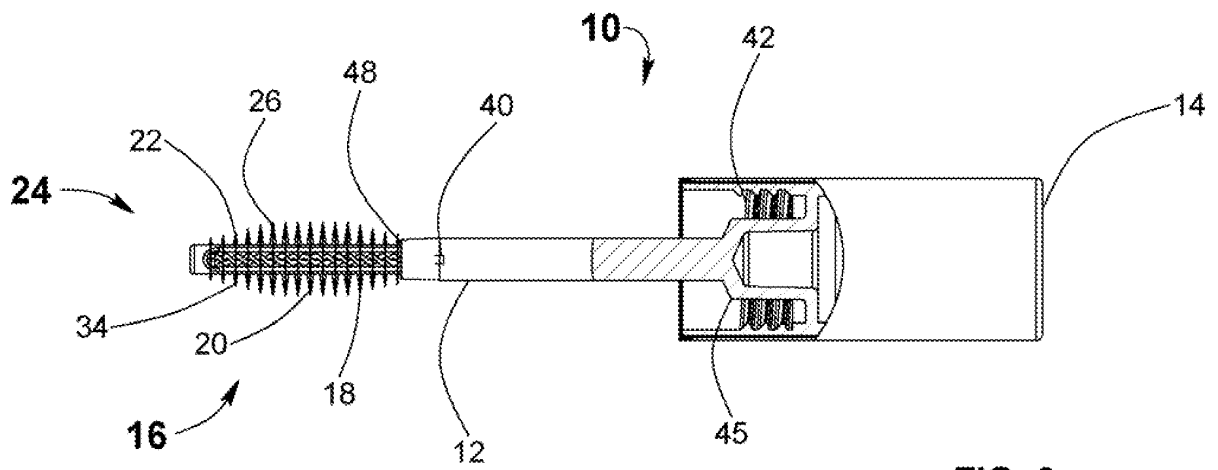


FIG. 6

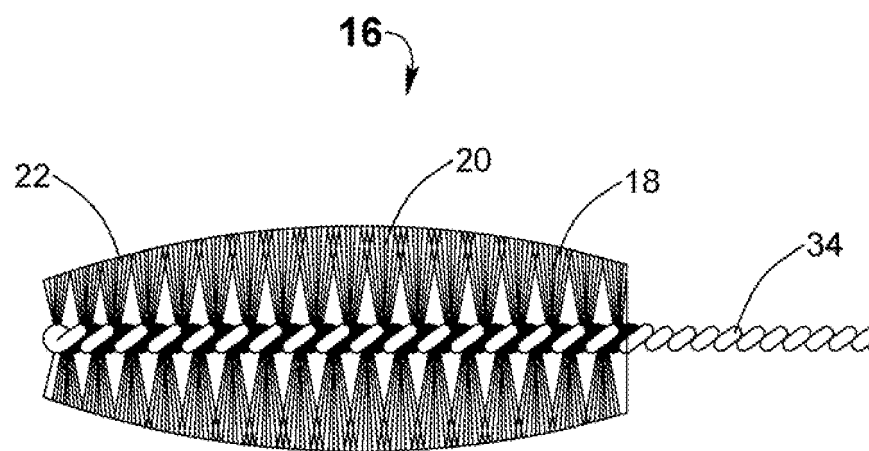


FIG. 5B

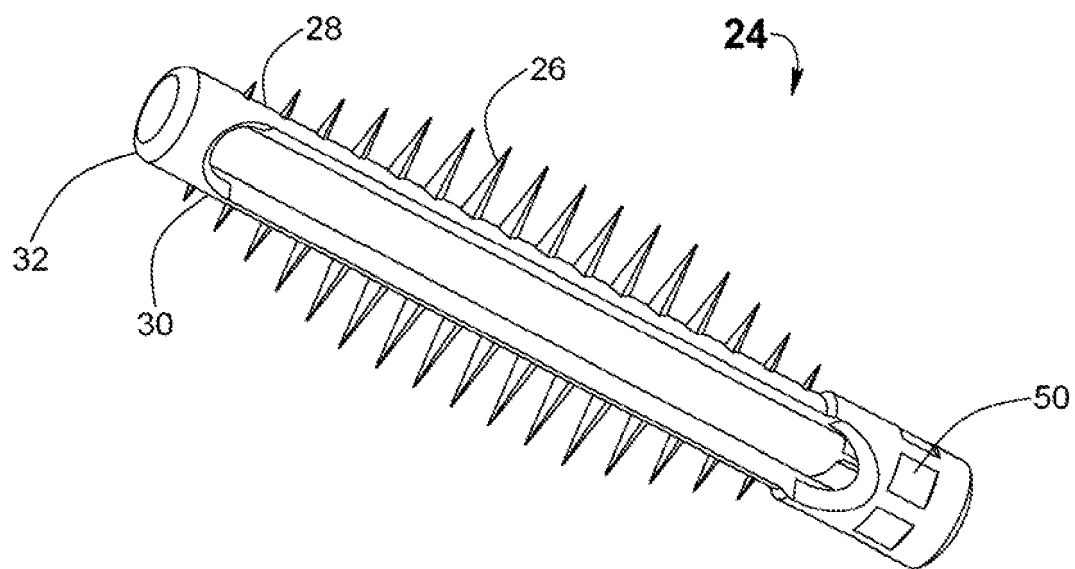


FIG. 7

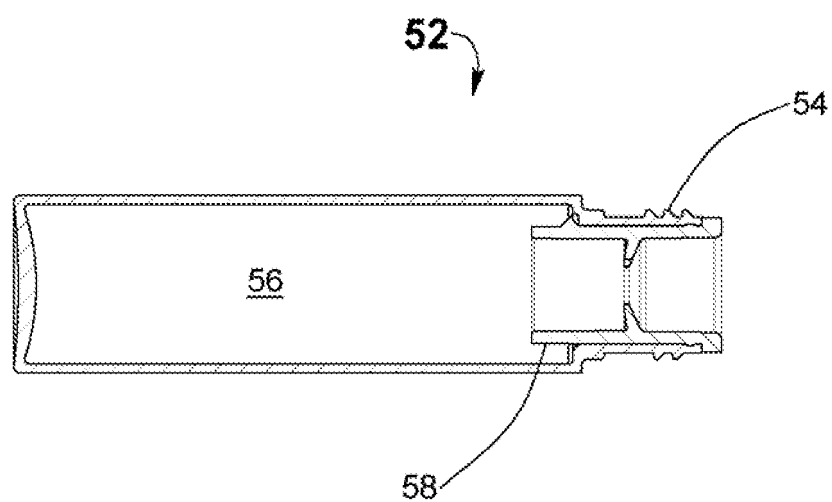


FIG. 8

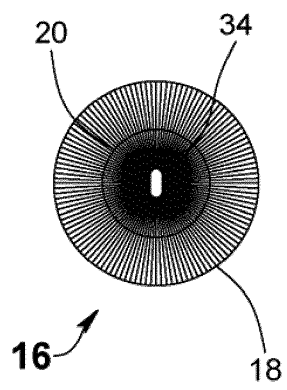


FIG. 10

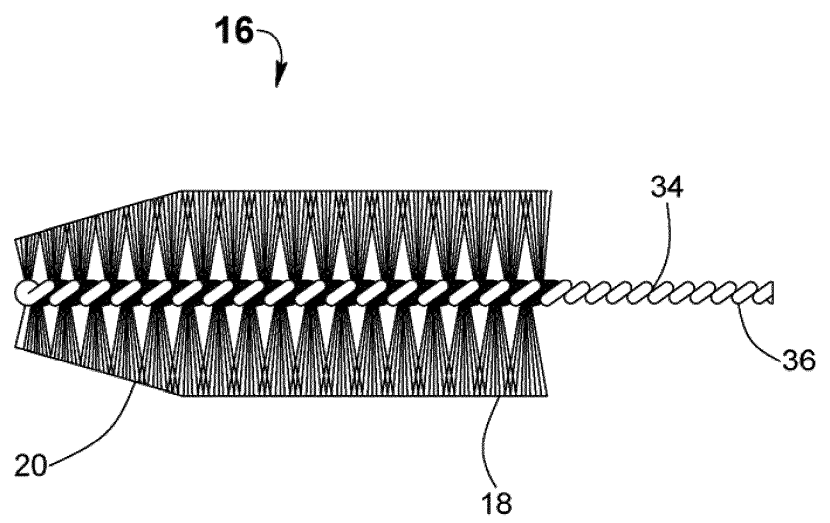
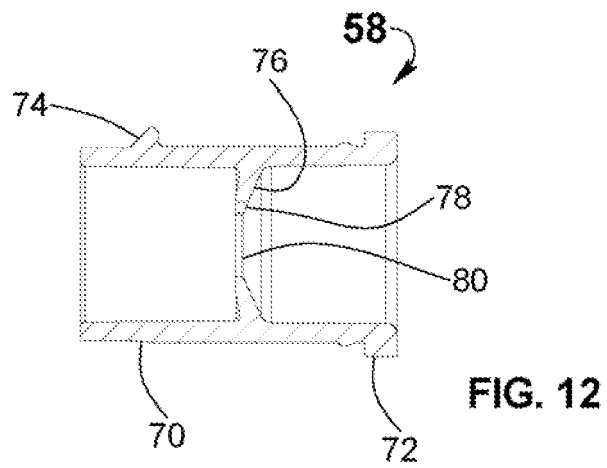
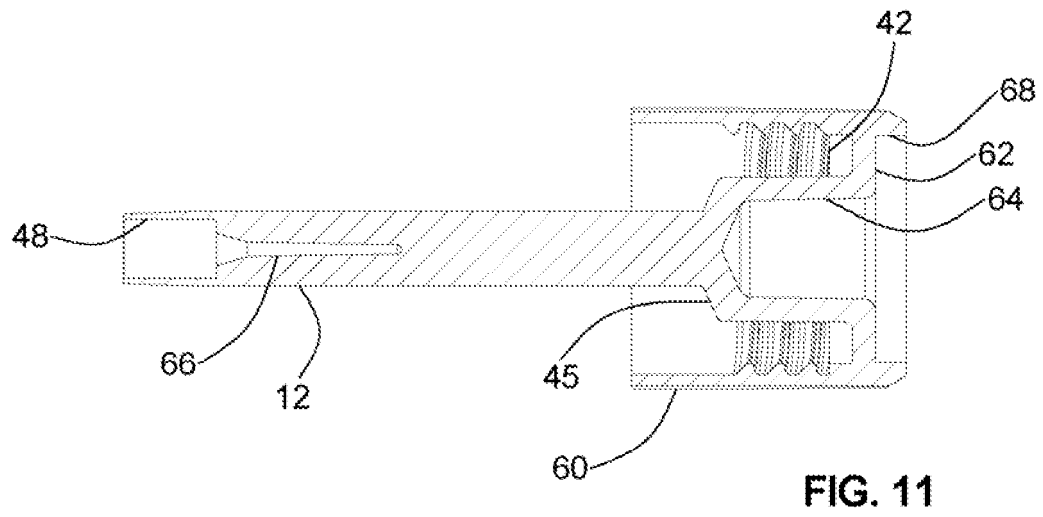
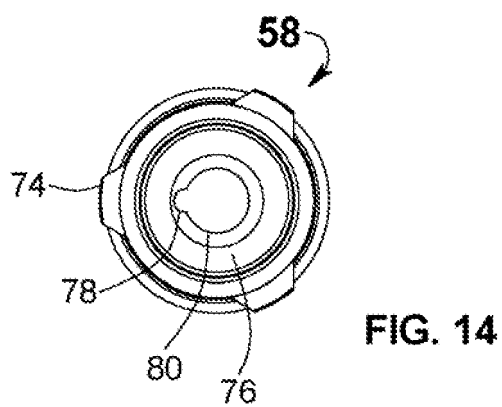
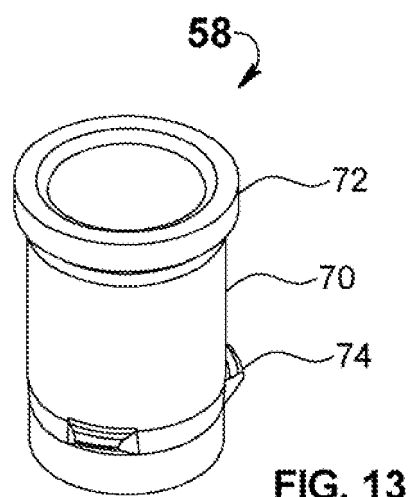


FIG. 9





REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 3214782 A [0003]
- US 5482059 A [0004]
- US 5951185 A, Kingsford [0010]