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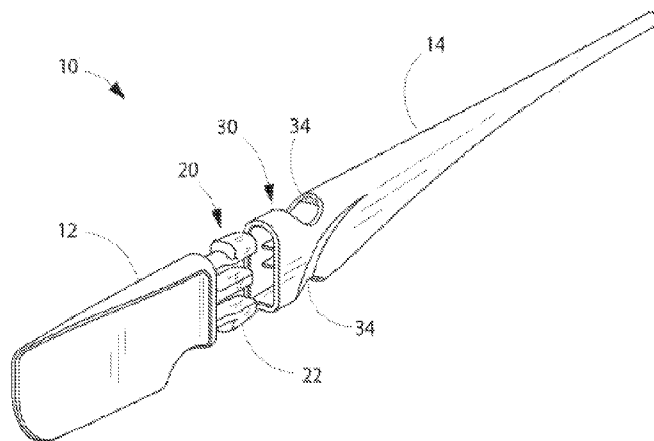


Fig. 26

(57) Abstract: A two-piece hair material applicator wand system and device for treating hair with hair treatment compositions, the wand having a common handle piece and interchangeable head pieces. The head pieces can include blades, combs, brushes, separators, spatulas, applicators, squeeze bottles or other material containers, and a sponge cover. The handle piece can include a timer, various grip configurations, various hair handling configurations such as a rattail or comb, squeeze bottles or other material containers, and the ability to connect to and communicate with a microprocessor. The handle piece and the head piece can be releasably connected together using a quick connect system, a friction fit system, or any other system that allows the handle piece and the head piece to be releasably connected together so as to allow the interchangeability of the head piece relative to the handle piece.



HAIR MATERIAL APPLICATION DEVICE

STATEMENT OF RELATED APPLICATIONS

[0001] This application claims the benefit of US Provisional Patent Application No. 61/452,312 having a filing date of 14 March 2011, US Design Patent Application No. 29/384,396 having a filing date of 31 January 2011, US Design Patent Application No. 29/384,410 having a filing date of 31 January 2011, and US Design Patent Application No. 29/384,417 having a filing date of 31 January 2011, each of which is incorporated herein in its entirety by this reference.

BACKGROUND OF THE INVENTION

1. Technical Field.

[0002] This invention relates generally to the field of devices and implements for treating and styling hair, and relates more specifically to the field of devices and implements for applying hair care and styling materials to hair.

2. Prior Art.

[0003] The hair care and styling field is rife with implements and devices for applying materials to hair. Such devices and implements range from the simple comb and brush to more complex color and tint brushes and specialized combs to even more complex curling irons and electrical devices.

BRIEF SUMMARY OF THE INVENTION

[0004] Briefly, the present invention is a two-piece hair material applicator wand having a common handle piece and interchangeable head pieces. The head pieces can include blades, combs, brushes, separators, spatulas, applicators, squeeze bottles or other material containers, and a sponge cover. The handle piece can include a timer, various grip configurations, various hair handling configurations such as a rattail or comb, squeeze bottles or other material containers, and the ability to connect to and communicate with a microprocessor.

[0005] The handle piece and the head piece can be releasably connected together using a quick connect system, a friction fit system, or any other system that allows the handle piece and the head piece to be releasably connected together so as to allow the interchangeability of the head piece relative to the handle piece.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 is a perspective view of a first embodiment of a hair material application device of the present invention.

[0007] FIG. 2 is a left side view of a first embodiment of a hair material application device of the present invention.

[0008] FIG. 3 is a right side view of a first embodiment of a hair material application device of the present invention.

[0009] FIG. 4 is a front view of a first embodiment of a hair material application device of the present invention.

[0010] FIG. 5 is a rear view of a first embodiment of a hair material application device of the present invention.

[0011] FIG. 6 is a top end view of a first embodiment of a hair material application device of the present invention.

[0012] FIG. 7 is a bottom end view of a first embodiment of a hair material application device of the present invention.

[0013] FIG. 8 is a perspective view of a second embodiment of a hair material application device of the present invention.

[0014] FIG. 9 is a left side view of a second embodiment of a hair material application device of the present invention.

[0015] FIG. 10 is a right side view of a second embodiment of a hair material application device of the present invention.

[0016] FIG. 11 is a front view of a second embodiment of a hair material application device of the present invention.

[0017] FIG. 12 is a rear view of a second embodiment of a hair material application device of the present invention.

[0018] FIG. 13 is a top end view of a second embodiment of a hair material application device of the present invention.

[0019] FIG. 14 is a bottom end view of a second embodiment of a hair material application device of the present invention.

[0020] FIG. 15 is a perspective view of a third embodiment of a hair material application device of the present invention.

[0021] FIG. 16 is a left side view of a third embodiment of a hair material application device of the present invention.

[0022] FIG. 17 is a right side view of a third embodiment of a hair material application device of the present invention.

[0023] FIG. 18 is a front view of a third embodiment of a hair material application device of the present invention.

[0024] FIG. 19 is a rear view of a third embodiment of a hair material application device of the present invention.

[0025] FIG. 20 is a top end view of a third embodiment of a hair material application device of the present invention.

[0026] FIG. 21 is a bottom end view of a third embodiment of a hair material application device of the present invention.

[0027] FIG. 22 is a perspective view of a two-piece embodiment of a hair material application device of the present invention.

[0028] FIG. 23 is a side view, partly in section, of an embodiment of a hair material application device of the present invention.

[0029] FIG. 24 is a sectional view of cooperating connectors of an embodiment of a hair material application device of the present invention.

[0030] FIG. 25 is a perspective view of an embodiment of a hair material application device of the present invention with the two pieces connected together.

[0031] FIG. 26 is a perspective view of an embodiment of a hair material application device of the present invention with the two pieces disconnected.

[0032] FIG. 27 is a perspective view of an embodiment of a hair material application device of the present invention with the two pieces connected together.

[0033] FIG. 28 is a perspective view of an embodiment of a hair material application device of the present invention with the two pieces disconnected.

[0034] FIG. 29 is a perspective view of an embodiment of a hair material application device of the present invention with the two pieces connected together.

[0035] FIG. 30 is a perspective view of an embodiment of a hair material application device of the present invention with the two pieces disconnected.

[0036] FIG. 31 is a side view of a fourth embodiment of a hair material application device of the present invention with a timer.

[0037] FIG. 32 is a side view of an embodiment of a hair material application device of the present invention connected to an input/output cable.

[0038] FIG. 33 is a side view of an embodiment of a hair material application device of the present invention connected to an input/output cable.

[0039] FIG. 34 is a side view of an embodiment of a hair material application device of the present invention connected to an input/output cable.

[0040] FIG. 35 is a side view of an embodiment of a hair material application device of the present invention connected to a smart phone.

[0041] FIG. 36A is a side view of an embodiment of a hair material application device of the present invention with an accessory sponge.

[0042] FIG. 36B is a side view of an embodiment of a hair material application device of the present invention with an accessory sponge as a head piece.

[0043] FIG. 37 are side views of embodiments of hair material application devices of the present invention showing alternative grips, with FIG. 37A having a squeeze bottle for containing hair treatment materials, FIG. 37B having a first type of soft finger grip, and FIG. 37C having a second type of soft finger grip.

[0044] FIG. 38 is a side view of an embodiment of a hair material application device of the present invention having a container and with the two pieces disconnected.

[0045] FIG. 39 is a side view of an embodiment of a hair material application device of the present invention having a container and with the two pieces connected together.

[0046] FIG. 40 is a side view of an embodiment of a hair material application device of the present invention having a head piece useful for mixing color application and other chemical compositions for applying to the hair.

[0047] FIG. 41 is a side view of an embodiment of a hair material application device of the present invention having measurements engraved or located on the head piece.

[0048] FIG. 42 is a perspective view of an embodiment of a hair material application device of the present invention having measurements engraved or located on the head piece and within a bowl of a mixing color application or other chemical composition.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0049] Many attempts have been made over the years using different devices to apply or deliver various chemicals, such as relaxers, colors, etc., onto a client's hair in a faster and neater way, but many have fallen short. The present invention is a quick disconnect system comprising a separable handle piece and head piece, with an optional timer indicator, that allows a hair stylist to effectively and quickly apply hair materials, such as chemical relaxers and colors in a salon setting. The present invention is an applicator that allows for a stylist to choose multiple shapes and textured heads to apply whatever desired chemical service to a client's hair. With a

push of two buttons a stylist can change out different head shapes to perform any popular service in a salon.

[0050] One embodiment of the present invention comprises an applicator quick disconnect multiple head changer and a built in lighted time indicator. In a first example, if a stylist is going to do a relaxer, the stylist can choose the flat tip applicator head piece, insert the head piece into the handle piece, apply the relaxer to the client's hair, and then the stylist can set the timer indicator with a light that is built inside the handle of the Applicator. In a second example, the stylist can set the time for 0 to 1 hour for determining when the service is ready on the client's hair. In a third example, if a stylist desires to apply a color service, the stylist can click the buttons on the side of the handle piece to quickly release the current head piece and the stylist then can attach a brush head piece to the handle piece for applying any color desired. After the color is applied, the stylist then can time that service for processing by pressing the timer buttons and setting the desired time on the built in timer, which then will notify the stylist when the color has fully processed.

[0051] The incorporation of a timer into the handle of the applicator device is exceptionally useful to the stylist. This timer is crucial in most chemical applications because there is a desired time needed for appropriate chemical processing. For example, the stylist will be able to set the timer from 0 to 1 hour depending on desired time for chemical service. The timer can have both an audible alarm (beep) and a visual alarm (light) to indicate the appropriate time for the chemical process has elapsed.

[0052] One feature of the present invention is the long rattail divider body of the handle piece that is used to separate a client's hair while applying any chemical service. The rattail body handle piece is unique because it remains the same size but can fit all of the multiple heads, such as a brush, a foam tip, different spatula shapes, and different geometrical shapes. In other words, a single rattail body handle piece can be used in connection with many different types of head pieces.

Having a handle with the specific rattail shape of the taper that can be used with a myriad of different heads also is useful to the stylist. The specific shape of the taper is important as this shape makes the handle part of the device work better.

[0053] The present applicator invention also can comprise or work with a tint bottle that a stylist will pour color into, and then this tint bottle can quickly connect right into the body of the rattail divider. The stylist now can separate the client's hair with the rattail divider and also can apply the color from the tint bottle. Other chemical or hair treatment materials also can be applied from the bottle.

[0054] The present invention also includes a product line built around the quick disconnect system. For example, a company can take color directly from the store shelf, connect it directly to the rattail divider body, and apply the chemical to the client's hair. Normally in a salon setting a stylist will dip the back of a rattail comb into a container of relaxer and apply the desired chemical to the client's hair. The back of the comb is bulky and the relaxer often will get stuck inside the teeth of the comb allowing for chemical waste. Because the flat spatula blade tip of the present invention used for the relaxer is angled very thin, using the present invention, the stylist can go directly into the parting of a client's hair and keep the relaxer off the scalp, thus controlling unnecessary burning.

[0055] Another blade tip that can be used in conjunction with the flat spatula blade tip for relaxer application is a sponge track system. This sponge track system is unique because it can slide right on top of the relaxer flat spatula blade tip and the stylist can apply color without disconnecting the head. Optionally, the sponge heads can be disposable or can be a separate head piece in and of itself.

[0056] Additionally, as disclosed, the disposable sponge head that can fit over a spatula blade tip allows for the conversion of the relaxer flat tip quickly into a color applicator. This also is useful to the stylist in the salon atmosphere because there are times when the stylist does not have time to clean off the brush to move to

another color service. This allows a stylist to change out coloring heads quickly. Also, the sponge absorbs the color very well, minimizing color dripping and waste. Further, because this is a quick disconnect and connect system, it allows a stylist to attach a comb on top converting back from a chemical service, now allowing a stylist to have an all-around product that gives him the option to use the present invention to style and act as a tool will curling the client's hair.

[0057] Additionally, the applicator device of the present invention can have a soft gripper at the neck of the applicator such that the stylist can rest his or her fingers while applying any chemical service.

[0058] As a result, it can be seen that the applicator of the present invention will work with every major chemical service applied in today's salon, from relaxers, virgin color, color touchups, highlights, and any creative application in between.

[0059] Another embodiment of the present invention comprises means for communication between the applicator wand and a smart phone or other microprocessor. For example a stylist can record what type of service they are performing and the type of brand of color along with the coded number, client name, measurement of color that is being used on that particular, and the amount of service. If the stylist is performing a relaxer service the stylist can record the brand name that is used, client sensitivity level (regular, mild, or super), where to start first on client's (head front or back), amount of product normally used, and amount of service. All of this information can be downloaded with a USB cord connected to the applicator device directly to or from a smart phone or computer. If the applicator wand handle piece comprises a digital storage media, the information can be stored directly on the device, and the handle can be personalized for a specific client. One also can record the speed of the service, which will allow the manager of the salon understand which stylist is performing at an appropriate speed in the salon. As such, the present invention is a useful tool for inventory control and accounting. Appropriate computer software can be developed by those of ordinary skill in the art.

[0060] Now, referring to the drawings, several embodiments of the invention are shown in more detail.

[0061] FIGs. 1 through 7 illustrate a first embodiment of the device 10 with a first spatula 122 as the head 12. FIG. 1 is a perspective view of a first embodiment of a hair material application device 10 of the present invention. Generally, the device 10 comprises a head 12 and a handle 14 releasably connected to each other. The head 12 can comprise a blade or spatula, a brush, a sponge, or any other hair material application structure. In the embodiment shown in FIG. 1, the head 12 is a type of spatula 122. Head 12 is releasably attached to handle 14 and can be removed, as disclosed herein, upon the activation of buttons 16. Handle 14 preferably has a rattail 18 end, which is a type of hair styling device used by stylists. Other handle 14 types also are suitable, such as combs, picks, rods, and the like.

[0062] FIG. 2 is a left side view of the embodiment of the device 10 shown in FIG. 1. In this view, two buttons 16 can be seen, which, when pressed towards each other, that is inwardly into the handle 14, release the head 12 from the handle 14. Buttons 16 are a part of the head 12 and cooperatively fit within a receiving end of the handle 14, as disclosed in more detail herein. FIG. 3 is a right side view of the embodiment of the device 10 shown in FIG. 1. FIG. 4 is a front view of the embodiment of the device 10 shown in FIG. 1 illustrating a representative curvature or shape of the spatula 122 and the rattail 18. FIG. 5 is a rear view of the embodiment of the device 10 shown in FIG. 1. FIG. 6 is a top end view and FIG. 7 is a bottom end view of the embodiment of the device 10 shown in FIG. 1.

[0063] FIGs. 8 through 14 illustrate a second embodiment of the device 10 with a brush head 124 as the head 12. FIG. 8 is a perspective view of a second embodiment of a hair material application device 10 of the present invention. FIG. 9 is a left side view of the embodiment of the device 10 shown in FIG. 8. FIG. 10 is a right side view of the embodiment of the device 10 shown in FIG. 8. FIG. 11 is a front view of the embodiment of the device 10 shown in FIG. 8. FIG. 12 is a rear view of

the embodiment of the device 10 shown in FIG. 8. FIG. 13 is a top end view of the embodiment of the device 10 shown in FIG. 8. FIG. 14 is a bottom end view of the embodiment of the device 10 shown in FIG. 8. As can be seen from FIGS. 8-14, brush head 124 connects to handle 14 in the same manner as the embodiment shown in FIGS. 1-7.

[0064] FIGS. 15 through 21 illustrate a third embodiment of the device 10 with a second spatula blade 126 as the head. FIG. 15 is a perspective view of a third embodiment of a hair material application device 10 of the present invention. FIG. 16 is a left side view of the embodiment of the device 10 shown in FIG. 15. FIG. 17 is a right side view of the embodiment of the device 10 shown in FIG. 15. FIG. 18 is a front view of the embodiment of the device 10 shown in FIG. 15. FIG. 19 is a rear view of the embodiment of the device 10 shown in FIG. 15. FIG. 20 is a top end view of the embodiment of the device 10 shown in FIG. 15. FIG. 21 is a bottom end view of the embodiment of the device 10 shown in FIG. 15. As can be seen from FIGS. 15-21, brush head 126 also connects to handle 14 in the same manner as the embodiments shown in FIGS. 1-14.

[0065] FIGS. 22 through 30 illustrate the two-piece construction of the present invention, with a common rattail 18 type handle 14 and interchangeable heads 12. FIG. 22 is a perspective view of a two-piece embodiment of the device 10 with the head 12 separated from the handle 14. In this embodiment, head 12 comprises a male snap-in component 20 comprising two outer locking pins 22 and one inner central guiding pin 24. Also in this embodiment, handle 14 comprises a female snap-in component 30 comprising slots 32 for each of the pins 22, 24, and holes 34 for accessing the buttons 16 of each of the locking pins 22. When connected, buttons 16 engage the rims 36 of holes 34 for releasably securing the head 12 in the handle 14. Pressing on the buttons 16 disengages the buttons from the rims 36 and allows the head 12 to be removed from the handle 14. If so desired, male component 20 can be on the handle 14 and female component 30 can be on the head 12.

[0066] FIG. 23 is a side view, partly in section, of the embodiment of the device 10 shown in FIG. 22. In this view, it can be seen how pins 22, 24 align with slots 32 prior to connecting head 12 to handle 14. FIG. 24 is a sectional view of cooperating connectors 20, 30 of the embodiment the device 10 shown in FIGs. 22 and 23. In this view, it can be seen in greater detail how pins 22, 24 engage and cooperate with slots 32 and how buttons 16 engage and cooperate with holes 34. As is known in the art, central slot 32C can be generally nearly form-fitting with pin 24 to prevent or reduce the head 12 from wiggling when attached to the handle 14. Side slots 32A, 32B are somewhat wider relative to pins 22A, 22B so as to allow buttons 16A, 16B to be depressed within slots 32A, 32B to allow buttons 16A, 16B to disengage from rims 36 and allow the head 12 to be removed from the handle 14.

[0067] FIG. 25 is a perspective view of an embodiment of the device 10 showing a different head 12, with the two pieces 12, 14 connected together. FIG. 26 is a perspective view of the embodiment of the device 10 of FIG. 25 with the two pieces disconnected. FIG. 27 is a perspective view of an embodiment of a device 10 showing a different head 12, with the two pieces connected together. FIG. 28 is a perspective view of the embodiment of the device 10 of Fig. 27 with the two pieces disconnected. FIG. 29 is a perspective view of an embodiment of the device 10 showing a different head 12, with the two pieces connected together. FIG. 30 is a perspective view of the embodiment of the device 10 of FIG. 29 with the two pieces disconnected.

[0068] FIG. 31 illustrates the incorporation of a timer 50 into the device 10. FIG. 31 is a side view of a fourth embodiment of a hair material application device 10 of the present invention with a timer 50. Timer 50 can be controlled by typical means, such as buttons (not shown), or by other means, such as a smart phone, computer or other microprocessor-based devices (see FIGs. 32-35). Timer 50 also can include a light (not shown) for ease of reading. Timer 50 can be used for timing chemical processes, as disclosed herein, and for any other purpose a timer is necessary.

[0069] FIGs. 32 through 35 illustrate smart versions of the device 10 that can be connected to and communicate with a smart phone, a computer, or another microprocessor-based device. FIG. 32 is a side view of an embodiment of a hair material application device 10 of the present invention connected to an input/output cable 60. Input/output cable 60 can be connected to a smart phone 70, a computer 70A, or another microprocessor-based device, and also can be used to, for example, power timer 50 or to recharge a battery (not shown) contained in the handle 14 to power timer 50. Information can be downloaded with the input/output cable 60 connected to the applicator device directly to or from a smart phone 70 or computer. If the applicator wand handle 14 comprises a digital storage media, the information can be stored directly on the device 10, and the handle 14 can be personalized for a specific client.

[0070] FIG. 33 is a side view of another embodiment the device 10 with a different head 12, with the handle 14 connected to an input/output cable 60 and to a smart phone 70. FIG. 34 is a side view of another embodiment of the device 10 with a different head 12, with the handle 14 also connected to an input/output cable 60 and a computer 70A. For another example, the device 10 can be connected to a smart phone 70 to utilize a clock or timer on the smartphone. For yet another example, the device 10 can further comprise a sampling means for sampling the composition of the hair treatment composition and comparing the composition to a database stored on the smart phone 70, and alerting the user if the composition deviates from an acceptable composition.

[0071] FIG. 35 is a side view of an embodiment of a hair material application device 10 of the present invention connected to a smart phone 70. As disclosed herein, a stylist can record what type of service they are performing and the type of brand of color along with the coded number, client name, measurement of color that is being used on that particular, and the amount of service. All of this information can be downloaded with through the input/output cable 60 connected to the device 10 directly to or from the smart phone 70 or computer. One also can record any number

of other data. Appropriate computer software can be developed by those of ordinary skill in the art.

[0072] FIG. 36A illustrates removable and disposable sponge covers 80 that can be placed over the blade tips of certain heads 12 for the device 10. FIG. 36 is a side view of an embodiment of a hair material application device 10 of the present invention with an accessory sponge cover 80. Sponge cover 80 comprises sponge 82 and support 84. To use, the support 84, which has an internal slot or hollow core, can be slid over the head 12. Preferably, the internal slot or hollow core of the support 84 has a shape and structure that cooperates with the shape and structure of the head 12. Sponge cover 80 preferably is releasably secured to head 12 and can be disposable. In use, sponge cover 80 will cover and/or surround at least a portion of head 12 such that sponge pad 82 will be available for use.

[0073] FIG. 36B illustrates a sponge cover 80 that can be a separate head 128 comprising a sponge pad 82 and a snap-in male component 20 for being releasably secured to cooperating female component 30 on the handle 14. Sponge head 128 is attached to and removed from the handle 14 in the same manner as previously disclosed for other heads 12.

[0074] FIG. 37 illustrates different grips 90 that can be incorporated onto the handle 14 of the device 10. FIG. 37 are side views of embodiments of hair material application devices 10 of the present invention showing alternative grips 90, with FIG. 37A representing a squeeze bottle 90A for containing hair treatment materials, FIG. 37B representing a first type of soft finger grip 90B, and FIG. 37C representing a second type of soft finger grip 90C. Grips 90 are designed to allow the stylist to better hold and operate the device 10. Grips 90 also can comprise timers. Additionally, grips 90 can comprise containers for hair materials so as to allow the stylist to apply the hair materials to the hair when using the device 10.

[0075] FIG. 37A represents a squeeze bottle 90A for containing hair treatment materials. For example, a container 92 that is a part of grip 90 can be a squeeze bottle 90A and by squeezing the container 92, hair material 94 can be expelled from the container 92 onto or proximal to the head 12 via a port (not shown, by generally in the area of 96). The container 92 can be refilled via the port or by other means. FIG. 37B represents a first type of a soft finger grip 90B that can be manufactured onto the handle 14 or permanently or releasably attached to the handle 14. For example, the grip 90B can be manufactured from a soft material and comprise an axial passageway through which the handle 14 can pass when mounting the grip 90B onto the handle 14. FIG. 37C represents a second type of a soft finger grip 90C that also can be manufactured onto the handle 14 or permanently or releasably attached to the handle 14. As with the grip 90B, the grip 90C can be manufactured from a soft material and comprise an axial passageway through which the handle 14 can pass when mounting the grip 90C onto the handle 14. The grip 90C further comprises a bulbous appendage 92C for additional gripping or for cooperating with the user's palm for added stability.

[0076] FIGs. 38 and 39 illustrate an embodiment of the device 10 comprising, as head 12, a separate container 100 for hair materials 102. FIG. 38 is a side view of an embodiment of a hair material application device 10 of the present invention having a container 100 and with the two pieces disconnected, and FIG. 39 is a side view of the embodiment shown in FIG. 38 with the two pieces connected together. Container 100 functions as an alternative head 12 that snaps onto handle 14. On one end of container is male connector 20 that cooperates with female connector 30 on handle 14. On another end of container is applicator nozzle 104, which can be attached to container 100 via connector 106. Connector 106 can be a screw, snap, or friction fitting, or any other means for connection. Hair material 102 can be contained within container 100. Preferably, container 100 is a squeeze-type container, such that by squeezing container 100, hair material 102 is expelled from container 100 through

nozzle 104. Hair material 102 can be loaded into container 100 by removing nozzle 104 via connector 106.

[0077] FIG. 40 is a side view of an embodiment of a hair material application device 10 of the present invention having a head piece 12 useful for mixing color application and other chemical compositions for applying to the hair. In this example, the head piece 12 is a whisk head 130 comprising a plurality of shaped wire loops 132 and a connector 20 for releasably connecting the whisk head 130 to the connector 30 of the handle 14. The whisk head 130 can be used for mixing materials, such as hair treatment materials. After the materials have been prepared, the whisk head 130 can be removed from the handle 14 and replaced with a treatment head piece 12 such as a spatula head piece 122.

[0078] FIG. 41 is a side view of an embodiment of a hair material application device 10 of the present invention having measurements engraved or located on the head piece 12. In this example, the head piece 12 is a spatula head piece 122 further comprising markings 132 at regular or chosen intervals. The markings 132 can be linear, such as for gauging the depth of a material in a container, or fluid, such as for representing the amount of fluid or material in a container or on the head piece 12. For representing the amount of fluid or material, the device 10 preferably should be used in conjunction with a container sized to cooperate with the markings 132.

[0079] FIG. 42 is a side view, partly in cross section, of an embodiment of a hair material application device 10 of the present invention having measurements engraved or located on the head piece 12 and within a bowl 134 of a mixing color application or other chemical composition 136. In this view, it can be seen that the markings 132 illustrate a representation of the amount of the composition 136 in the bowl 134.

[0080] In use, the device 10 is used in assisting a user to treat hair. The user, such as a salon stylist, can select the specific head piece 12 desired to attach to the

handle 14 for use in the specific treatment to be performed on the hair. A spatula head piece 122 can be used to apply chemicals or colors. The spatula head piece 122 then can be removed from the handle 14 and replaced with a brush or comb head piece 124 that can be used to smooth the chemicals or colors into the hair. The brush or comb head piece 124 then can be removed from the handle 14 and replaced with a whisk head piece 130 for mixing another set of chemicals or colors. The whisk head piece 130 then can be removed from the handle 14 and replaced with a head piece 12 comprising markings 132 for measuring the amount of chemical or color to apply to the hair. For each or any of these steps, the timer 50 can be used to ensure that the chemicals or color is left on the hair for a sufficient period of time, or to help prevent the chemicals or color from being left on the hair for too long of a period of time. Any or all of the information can be recorded on a smart phone 70 or other device for later retrieval, referral or other use.

[0081] The head pieces 12 can be easily attached to and removed from the handle 14. The male connector 20 on the head piece 12 snaps into the female connector 30 on the handle 14. The rims 36 of the female connector 30 force the pins 22 to bend inwards when being inserted into the female connector 30 in a conventional manner. Buttons 16 pass into holes 34 and snap outwards, thus securing the head piece 12 onto the handle 14. To remove the head piece 12 from the handle, the buttons 16 are pressed inwards to allow the buttons 16 to clear the rims 36 and allow the removal of the male connector 20 from the female connector 30.

[0082] The foregoing detailed description of the preferred embodiments and the appended figures have been presented only for illustrative and descriptive purposes. They are not intended to be exhaustive and are not intended to limit the scope and spirit of the invention. The embodiments were selected and described to best explain the principles of the invention and its practical applications. One skilled in the art will recognize that many variations can be made to the invention disclosed in this specification without departing from the scope and spirit of the invention.

CLAIMS

What is Claimed is:

1. A system for treating hair with hair treatment compositions, the system comprising:

a hair material applicator device comprising a common handle piece and a plurality of interchangeable head pieces, wherein

each of the plurality of interchangeable head pieces comprises a first connector, and

the handle piece comprises a second connector for cooperating with and releasably securing at a single time one of the plurality of interchangeable head pieces to the handle piece; and

whereby the one of the plurality of interchangeable head pieces that is releasably secured to the handle piece at a single time is removable and replaceable with a different one of the plurality of interchangeable head pieces.
2. The system as claimed in Claim 1, wherein the handle piece further comprises a rattail structure for treating hair.
3. The system as claimed in Claim 1, wherein the handle piece further comprises a timer.
4. The system as claimed in Claim 1, wherein the handle piece further comprises a finger grip.

5. The system as claimed in Claim 4, wherein the finger grip further comprises a container for the hair treatment compositions, the container being structured to allow the application of the hair treatment compositions to the hair.
6. The device as claimed in Claim 1, wherein the handle piece further comprises a container for the hair treatment compositions, the container being structured to allow the application of the hair treatment compositions to the hair.
7. The device as claimed in Claim 1, further comprising a sponge cover for placement over at least one of the interchangeable head pieces.
8. The device as claimed in Claim 1, further comprising means for connecting the device to and communicating with a microprocessor for storing and manipulating data relevant to the treatment of the hair
9. The device as claimed in Claim 8, wherein the microprocessor is contained within the handle piece.
10. The device as claimed in Claim 8, wherein the microprocessor is contained within a device separate from the handle piece.
11. The device as claimed in Claim 1, wherein at least one of the interchangeable head pieces further comprises a spatula.
12. The device as claimed in Claim 11, wherein the spatula comprises measuring markings.
13. The device as claimed in Claim 1, wherein at least one of the interchangeable head pieces further comprises a comb.
14. The device as claimed in Claim 1, wherein at least one of the interchangeable head pieces further comprises a brush.

15. The device as claimed in Claim 1, wherein at least one of the interchangeable head pieces further comprises a whisk.
16. A hair material applicator device for treating hair with hair treatment compositions, the device comprising a common handle piece and interchangeable head pieces, wherein

each of the interchangeable head pieces comprises a first connector;

the handle piece comprises a second connector for cooperating with and releasably securing one of the interchangeable head pieces to the handle piece;

whereby the one of the interchangeable head pieces that is releasably secured to the handle piece is removable and replaceable with a different one of the interchangeable head pieces.
17. The device as claimed in Claim 16, wherein the handle piece further comprises a rattail structure for treating hair.
18. The device as claimed in Claim 16, wherein the handle piece further comprises a timer.
19. The device as claimed in Claim 16, wherein the handle piece further comprises a finger grip.
20. The device as claimed in Claim 19, wherein the finger grip further comprises a container for the hair treatment compositions, the container being structured to allow the application of the hair treatment compositions to the hair.
21. The device as claimed in Claim 16, wherein the handle piece further comprises a container for the hair treatment compositions, the container being structured to allow the application of the hair treatment compositions to the hair.

22. The device as claimed in Claim 16, further comprising a sponge cover for placement over at least one of the interchangeable head pieces.
23. The device as claimed in Claim 16, further comprising means for connecting the device to and communicating with a microprocessor.
24. The device as claimed in Claim 23, wherein the microprocessor is contained within the handle piece.
25. The device as claimed in Claim 23, wherein the microprocessor is contained within a device separate from the handle piece.
26. The device as claimed in Claim 16, wherein at least one of the interchangeable head pieces further comprises a spatula.
27. The device as claimed in Claim 26, wherein the spatula comprises measuring markings.
28. The device as claimed in Claim 16, wherein at least one of the interchangeable head pieces further comprises a comb.
29. The device as claimed in Claim 16, wherein at least one of the interchangeable head pieces further comprises a brush.
30. The device as claimed in Claim 16, wherein at least one of the interchangeable head pieces further comprises a whisk.

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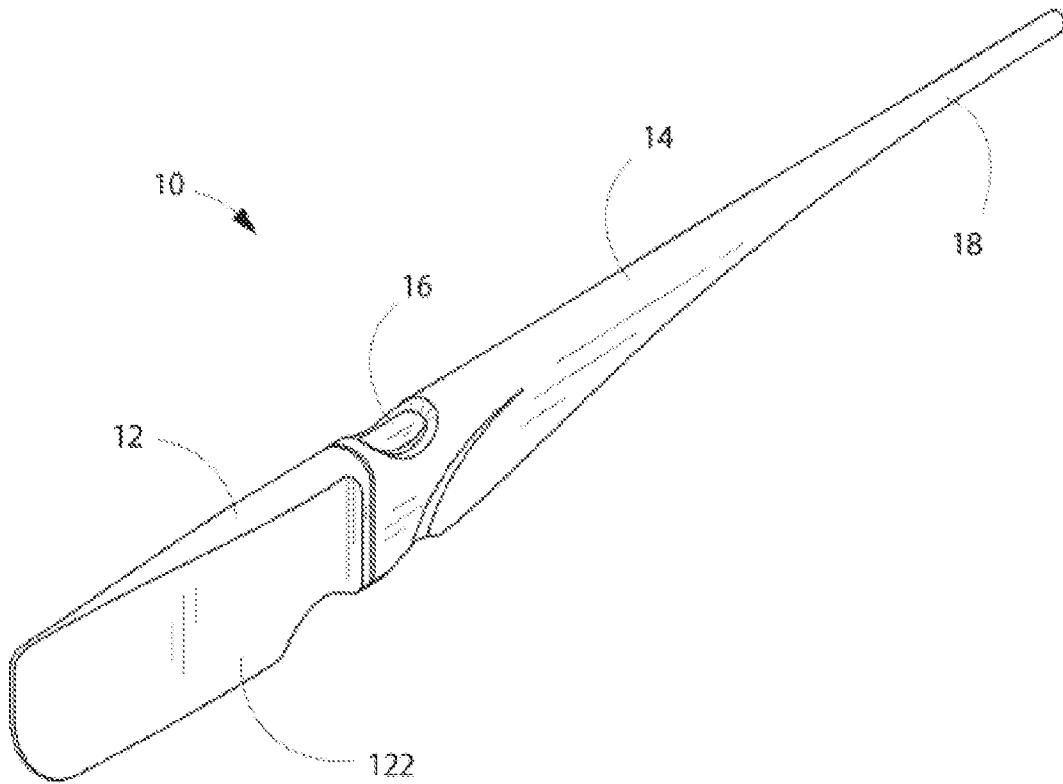


Fig. 1

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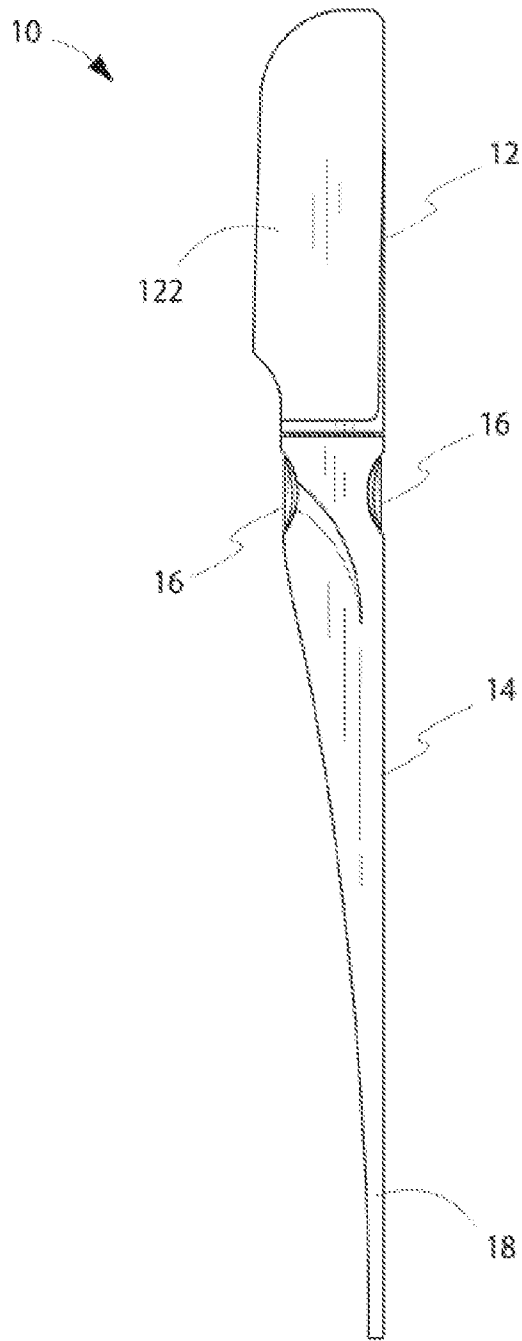


Fig. 2

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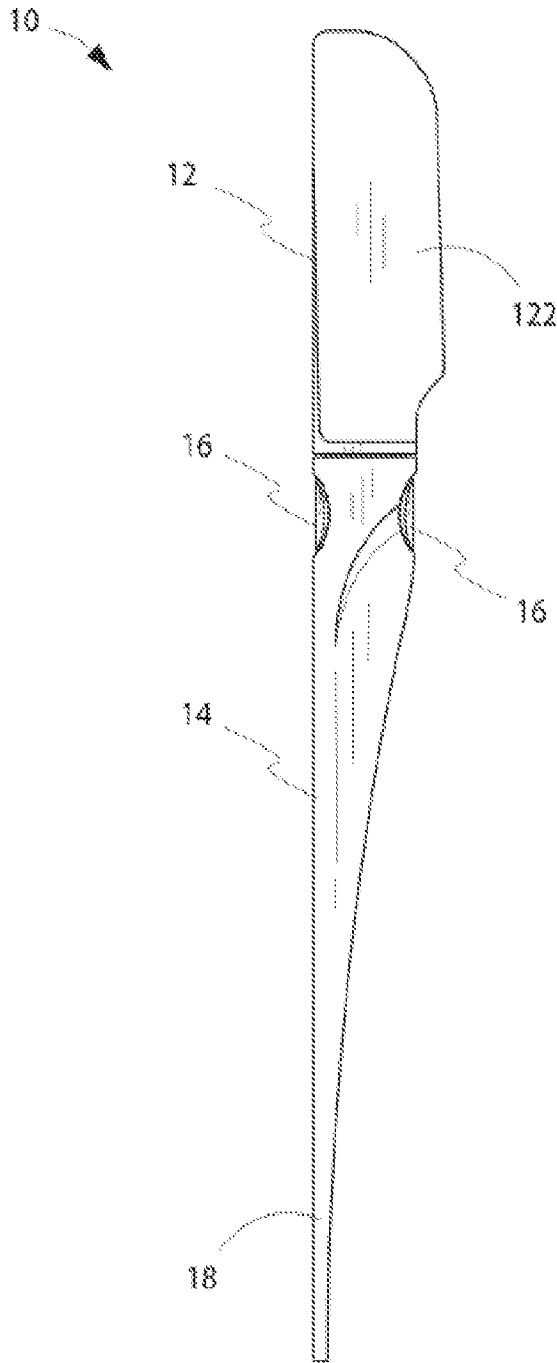


Fig. 3

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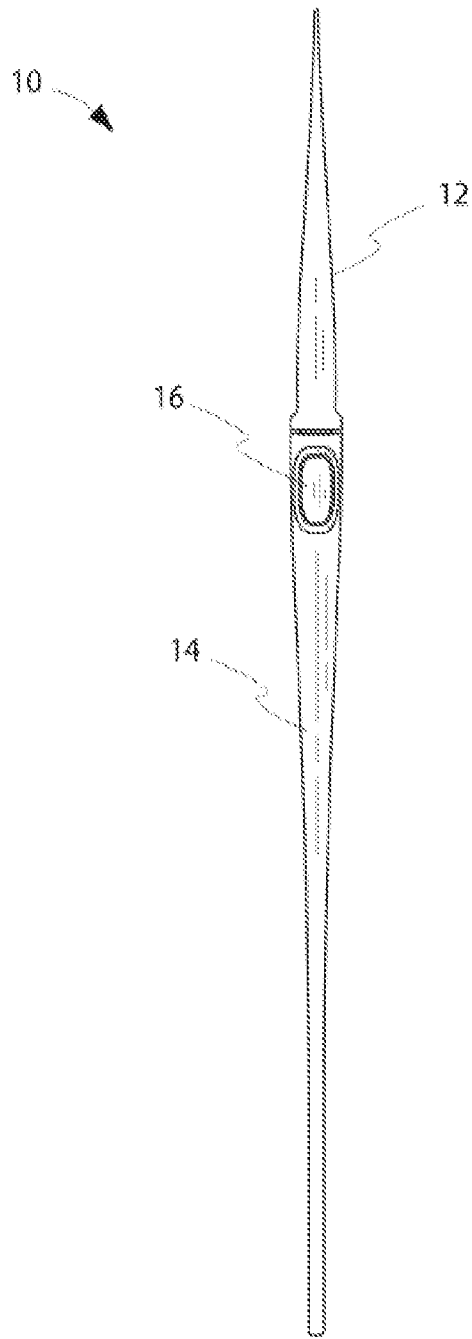


Fig. 4

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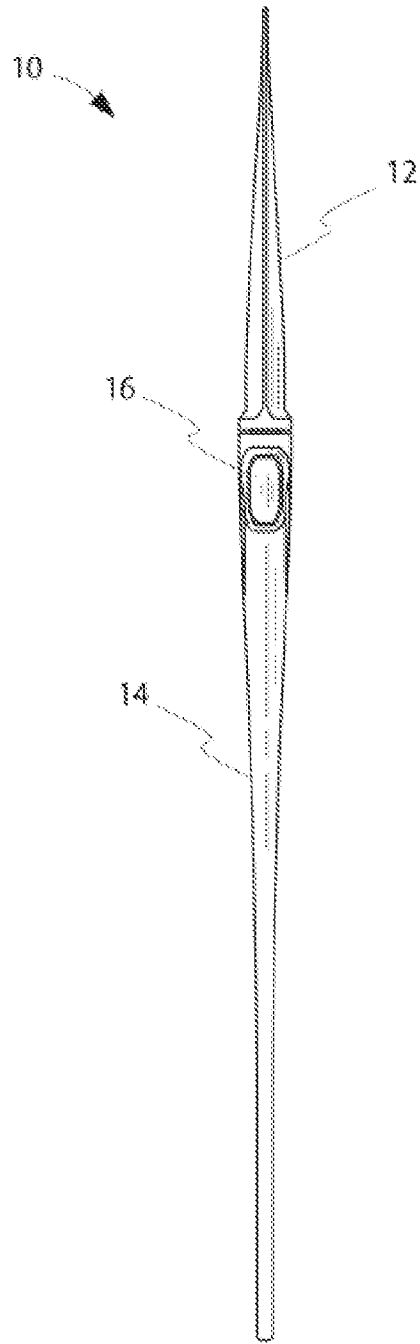


Fig. 5

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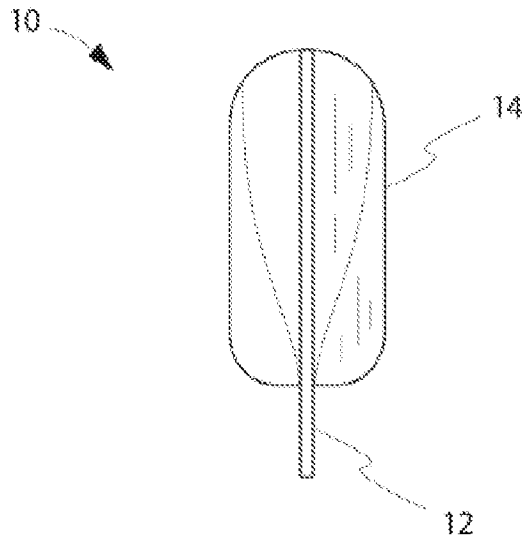


Fig. 6

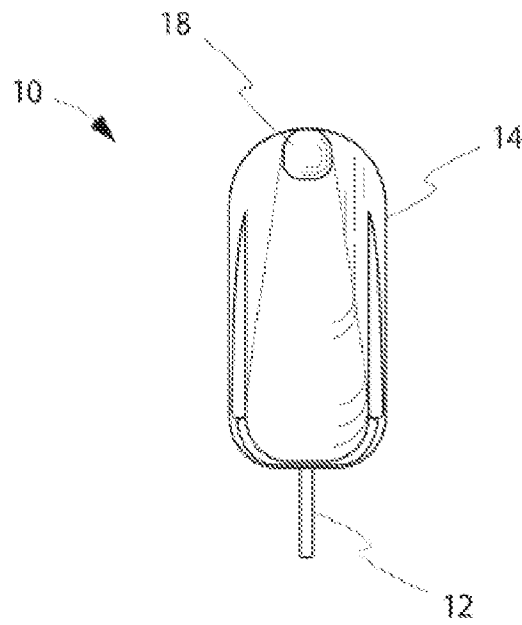


Fig. 7

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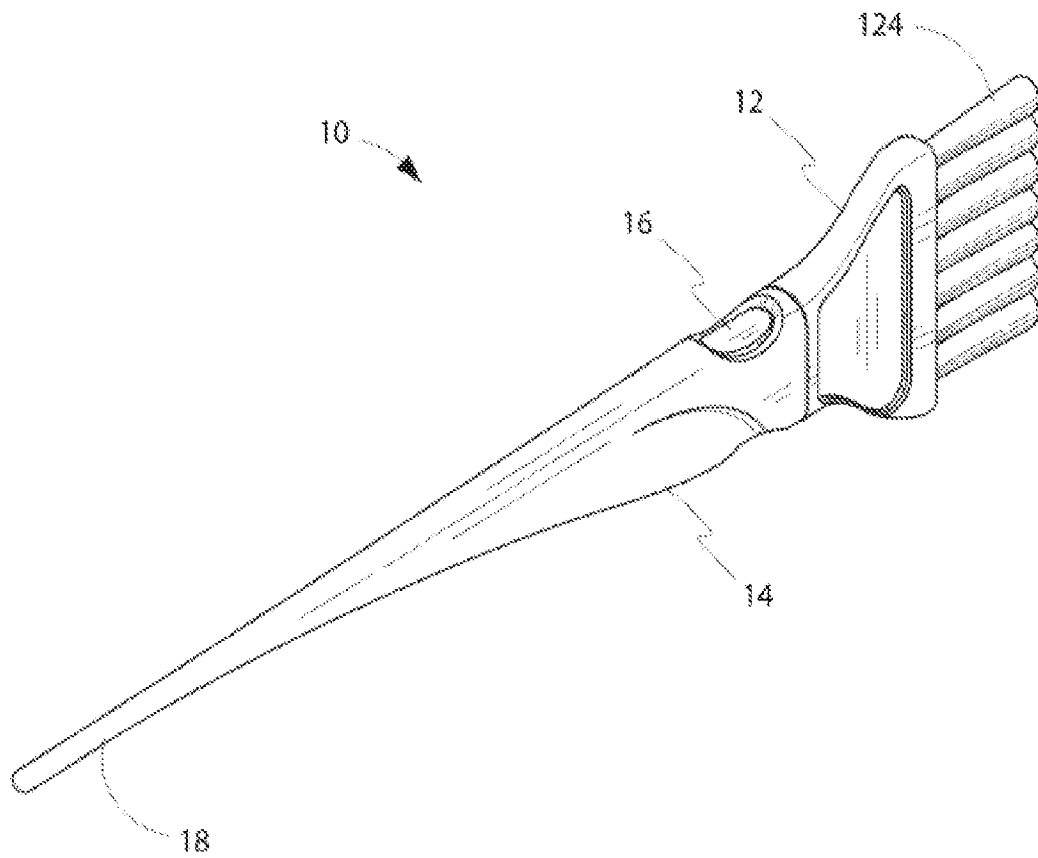


Fig. 8

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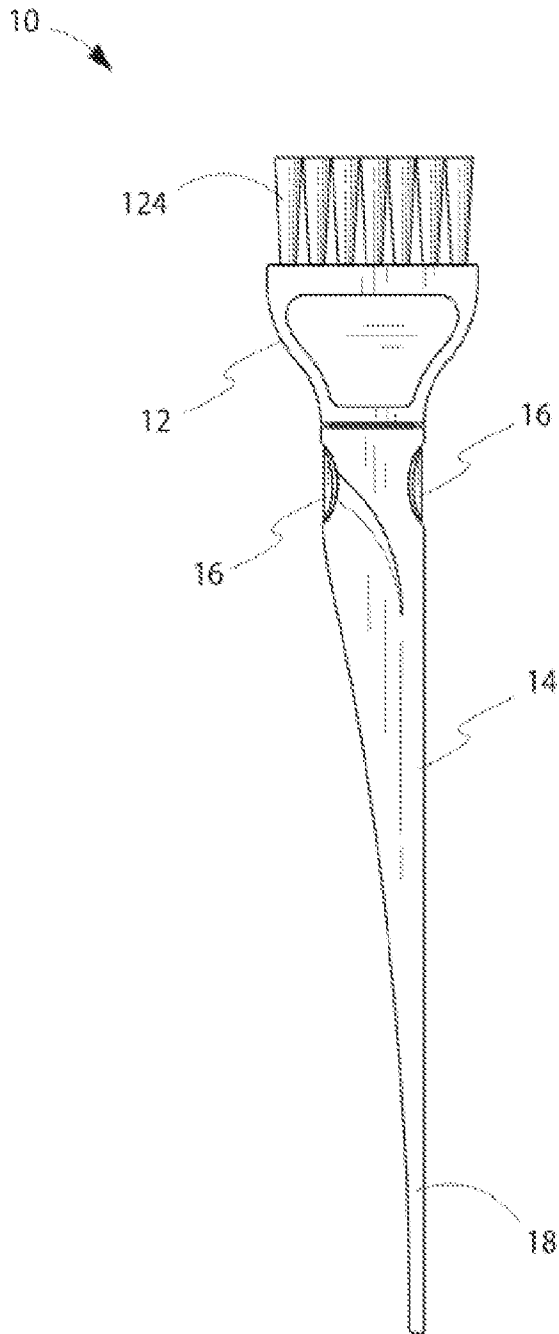


Fig. 9

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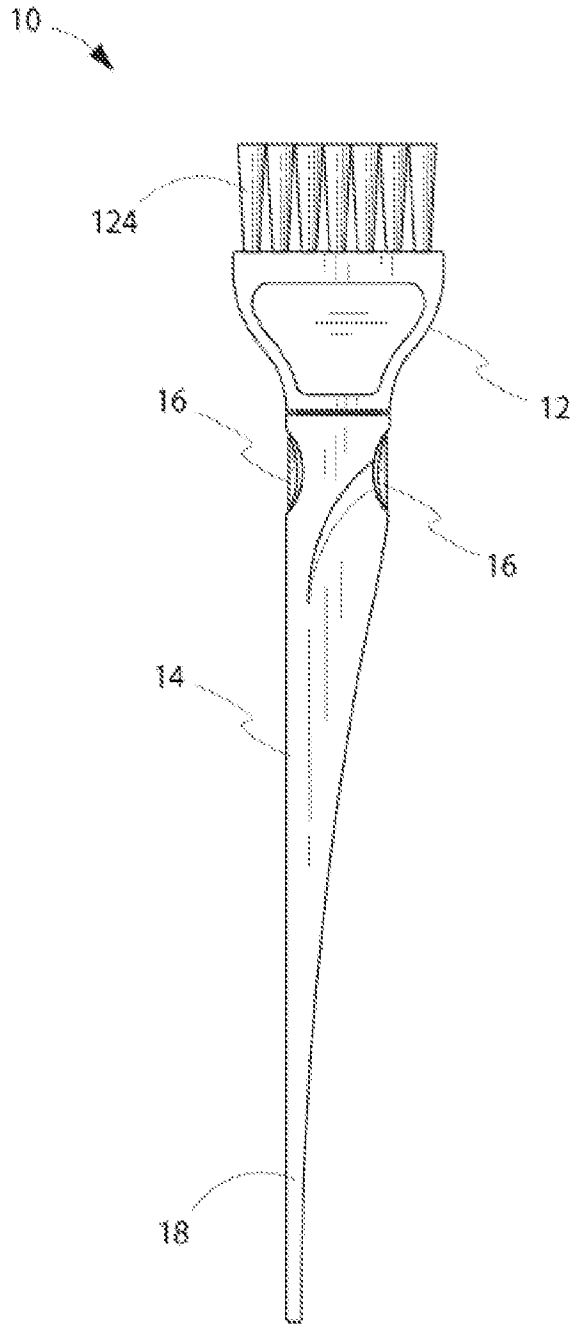


Fig. 10

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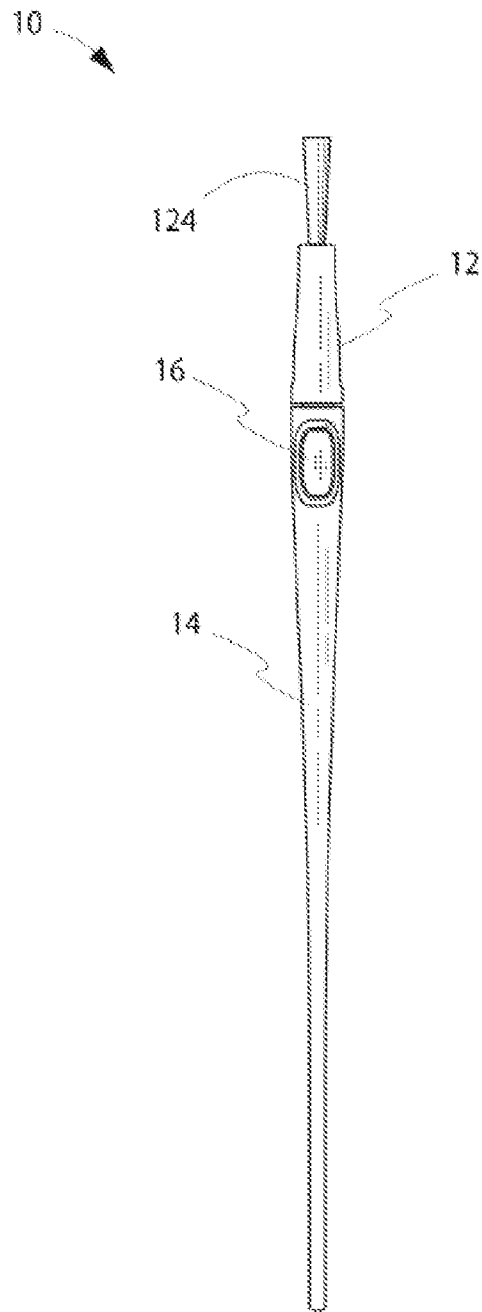


Fig. 11

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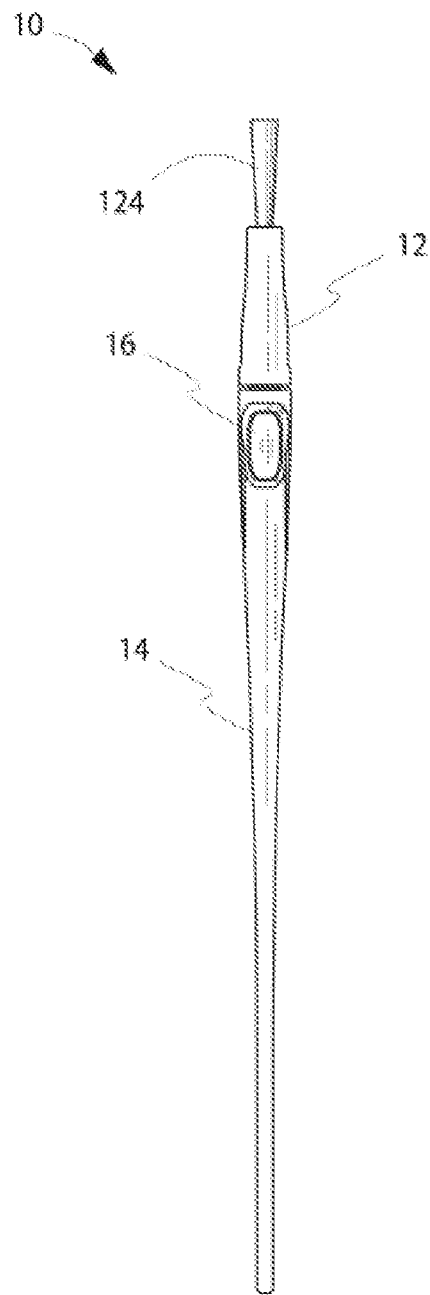


Fig. 12

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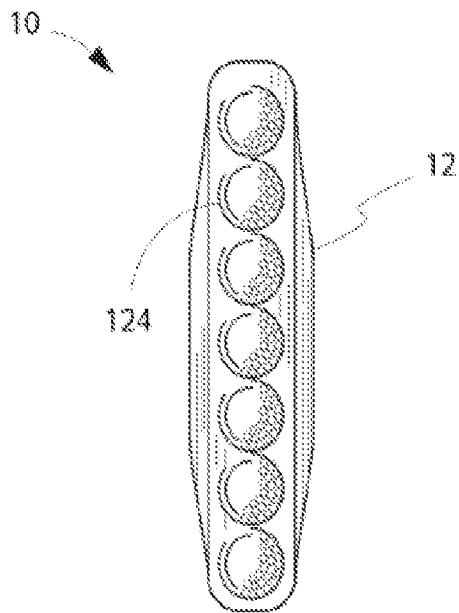


Fig. 13

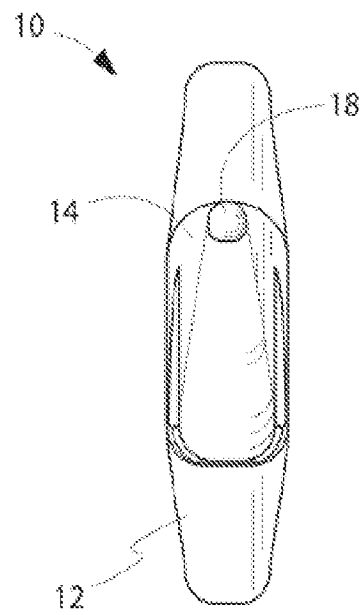


Fig. 14

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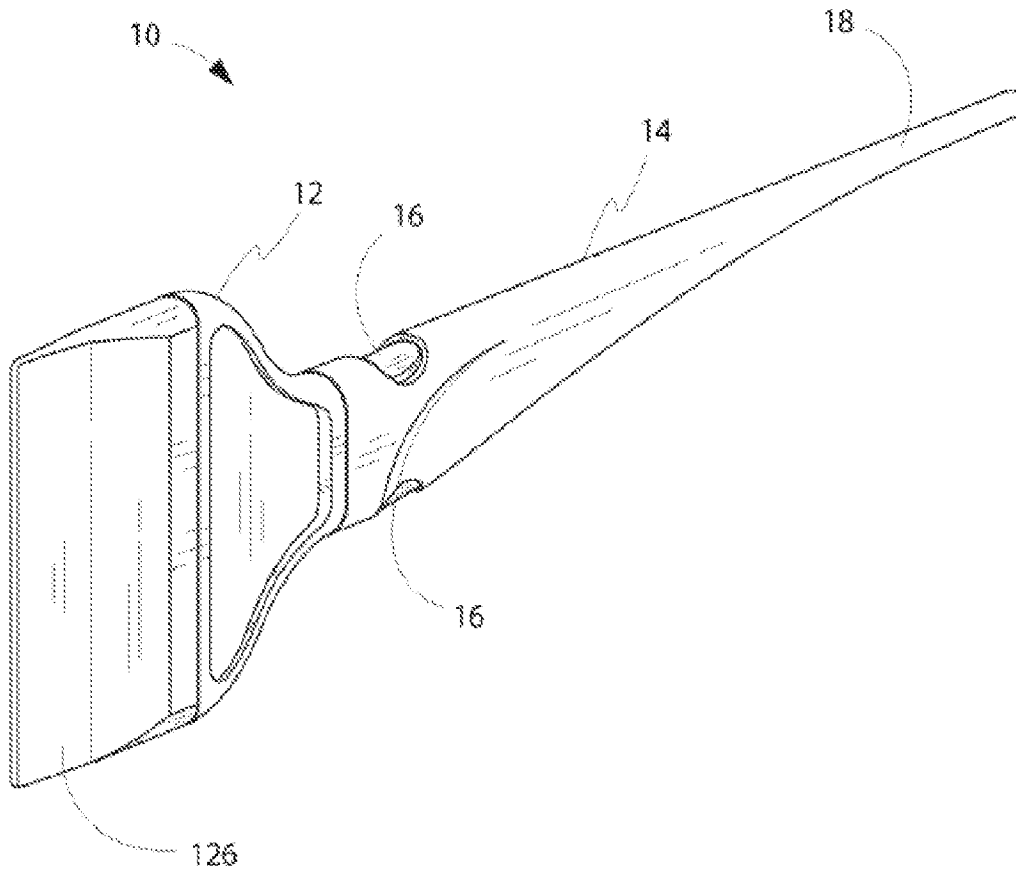


Fig. 15

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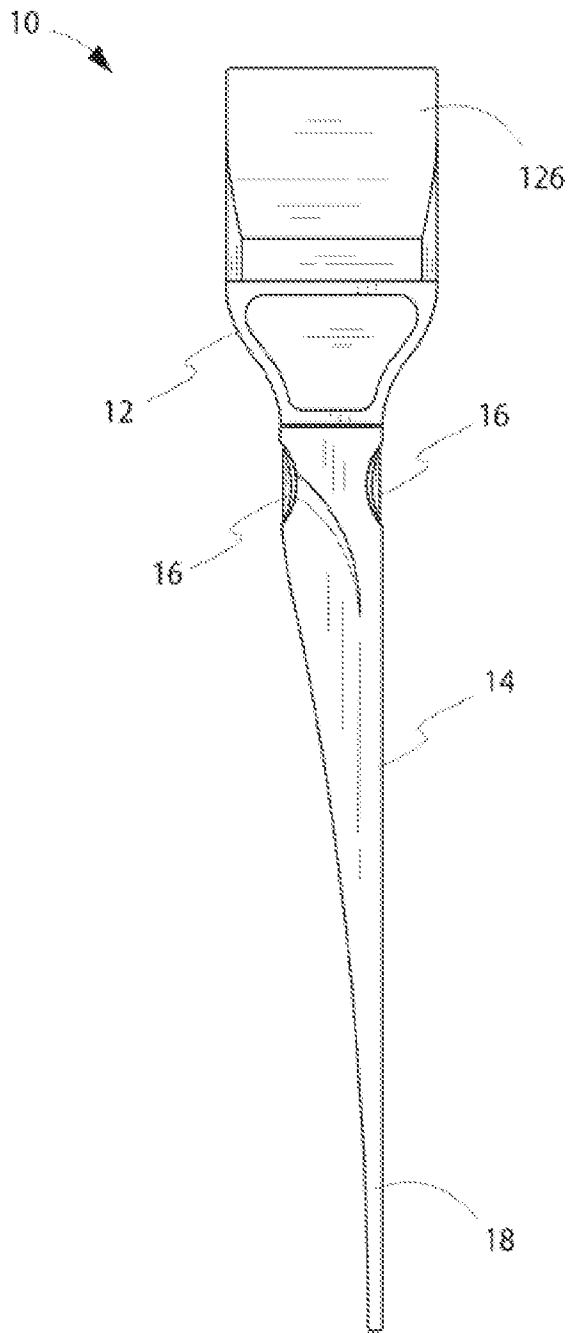


Fig. 16

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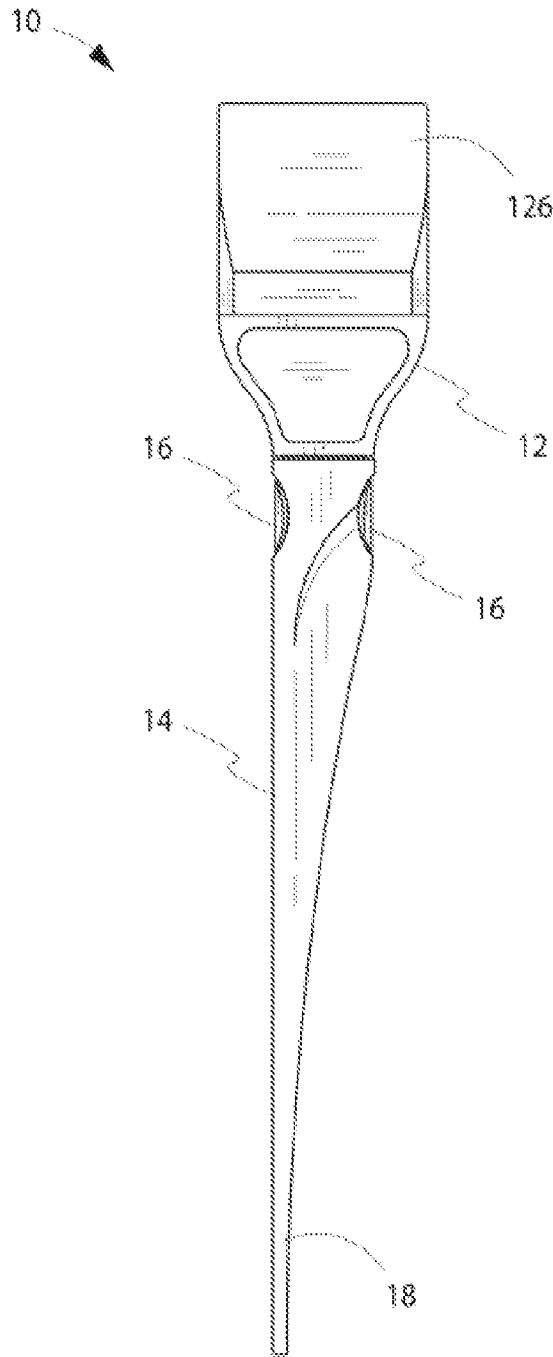


Fig. 17

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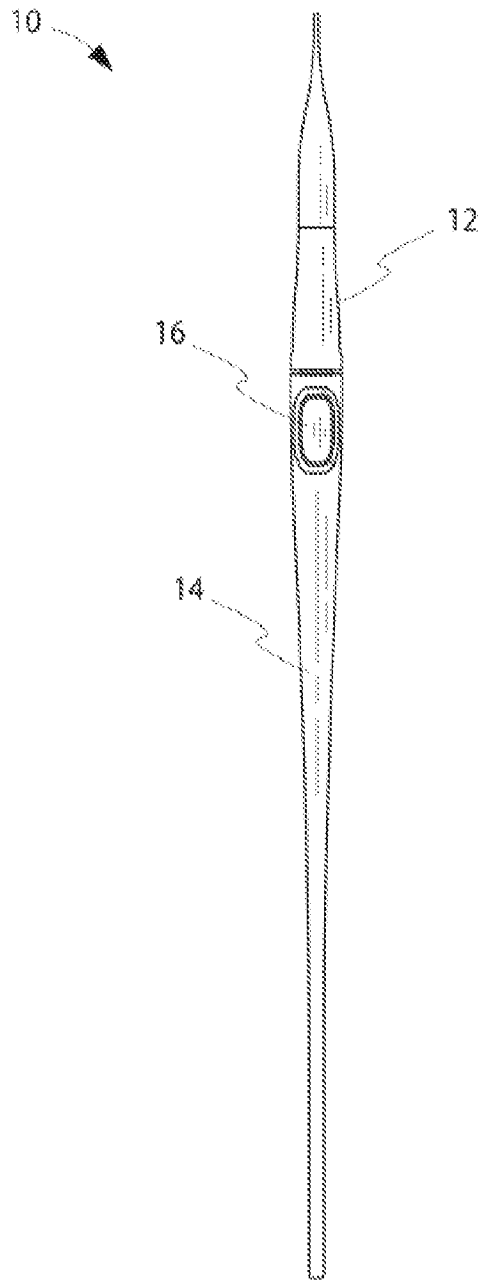


Fig. 18

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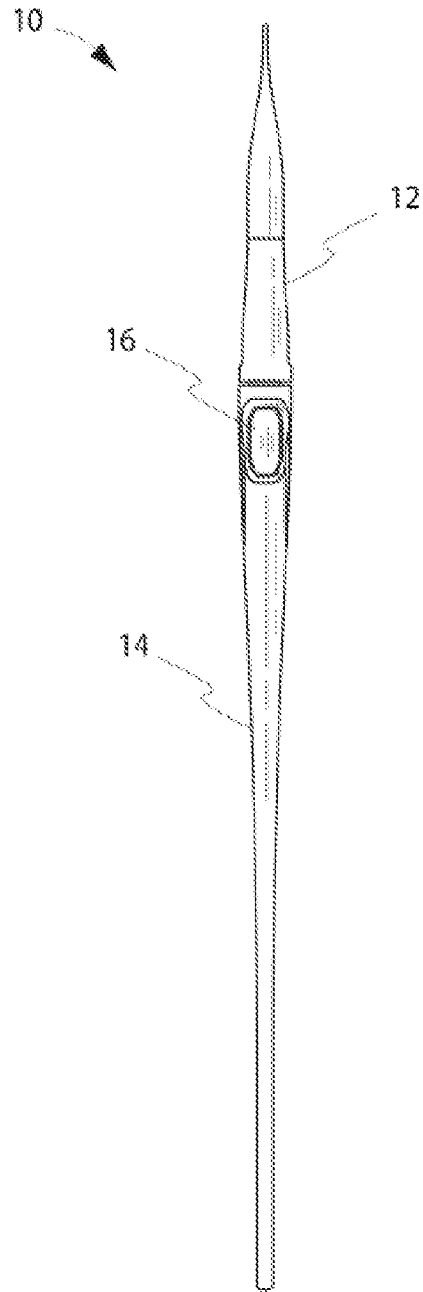


Fig. 19

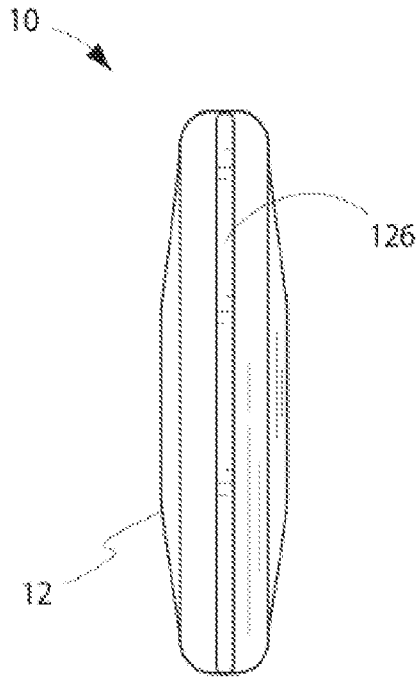


Fig. 20

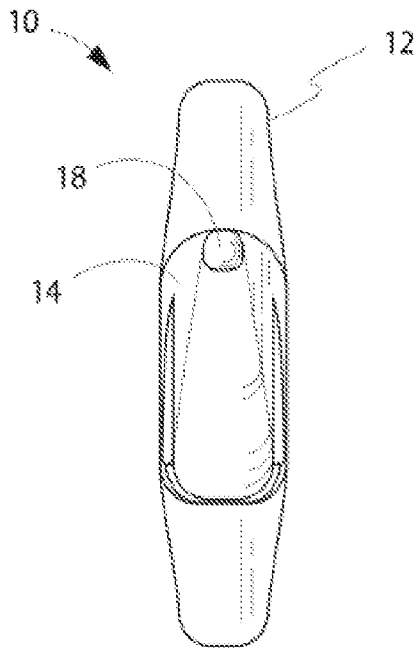


Fig. 21

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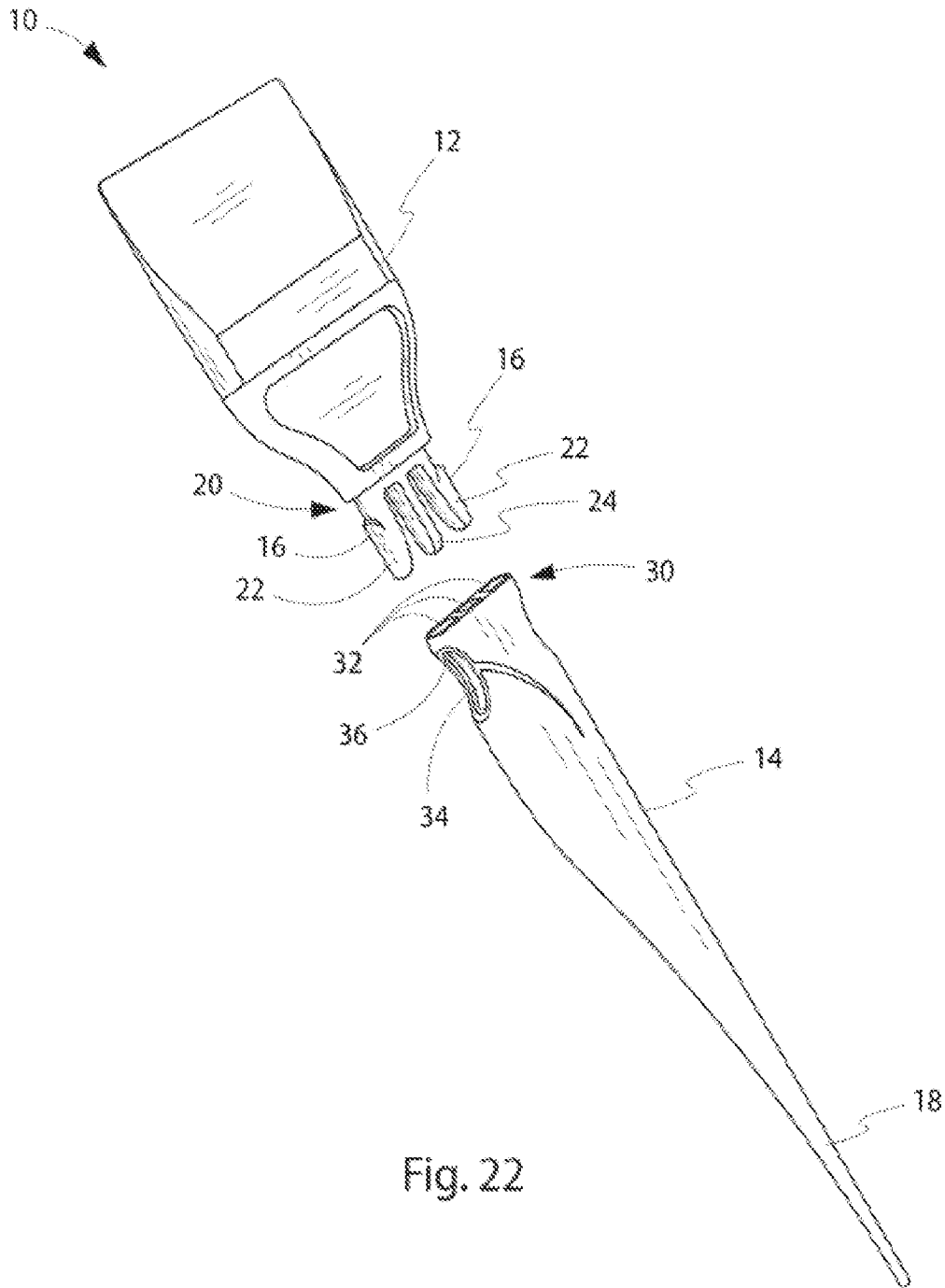


Fig. 22

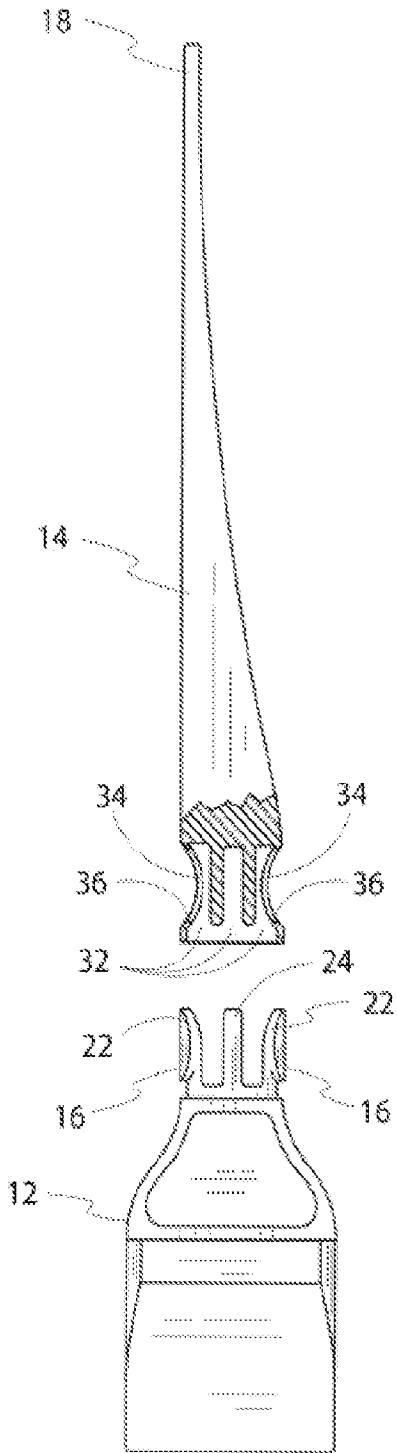


Fig. 23

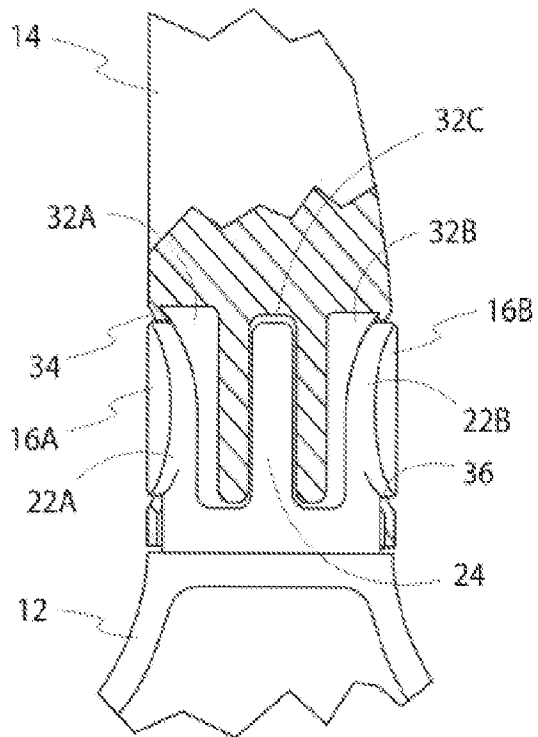


Fig. 24

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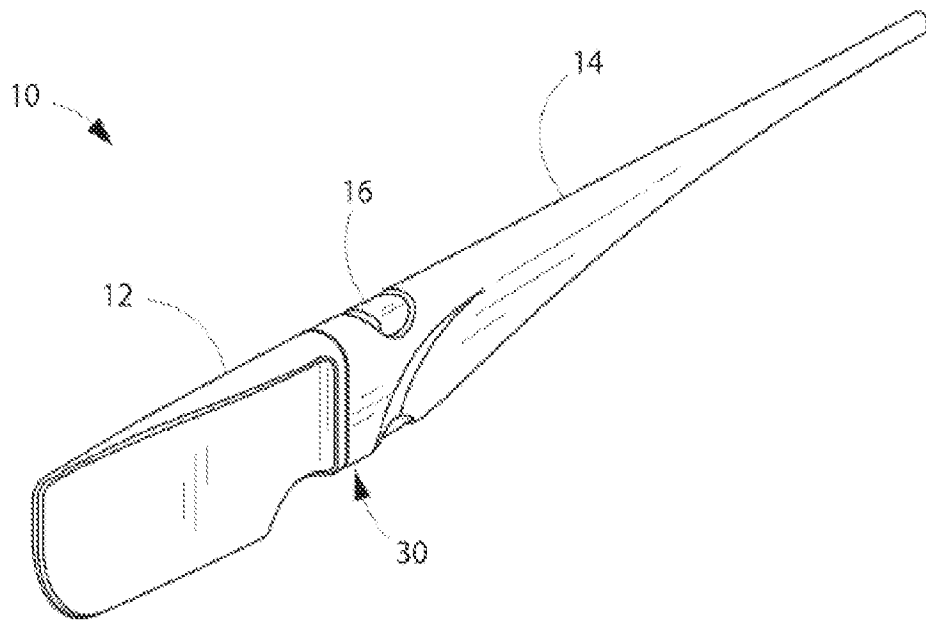


Fig. 25

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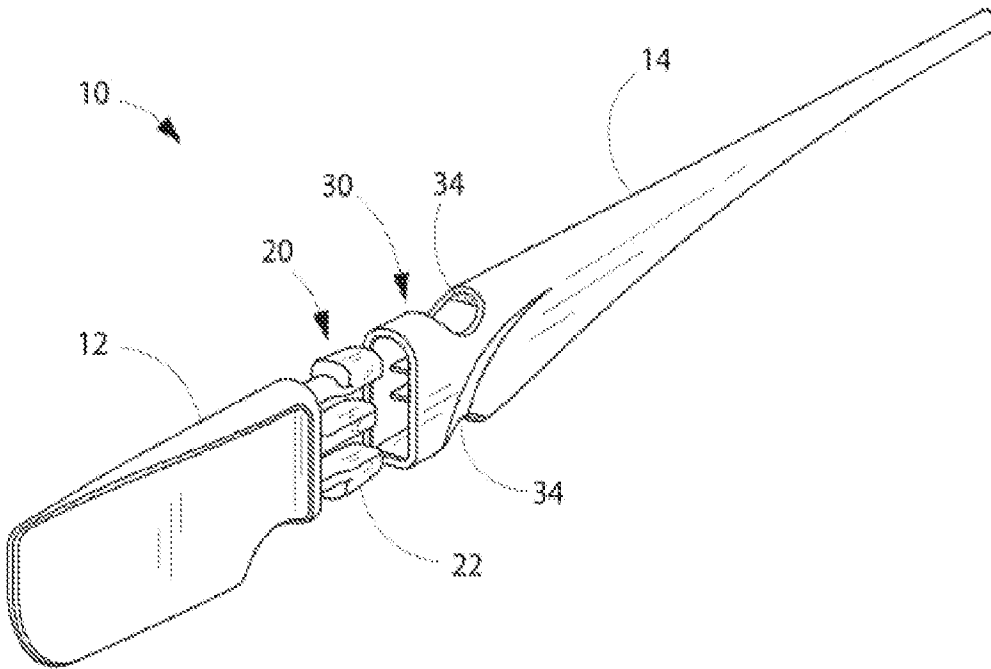


Fig. 26

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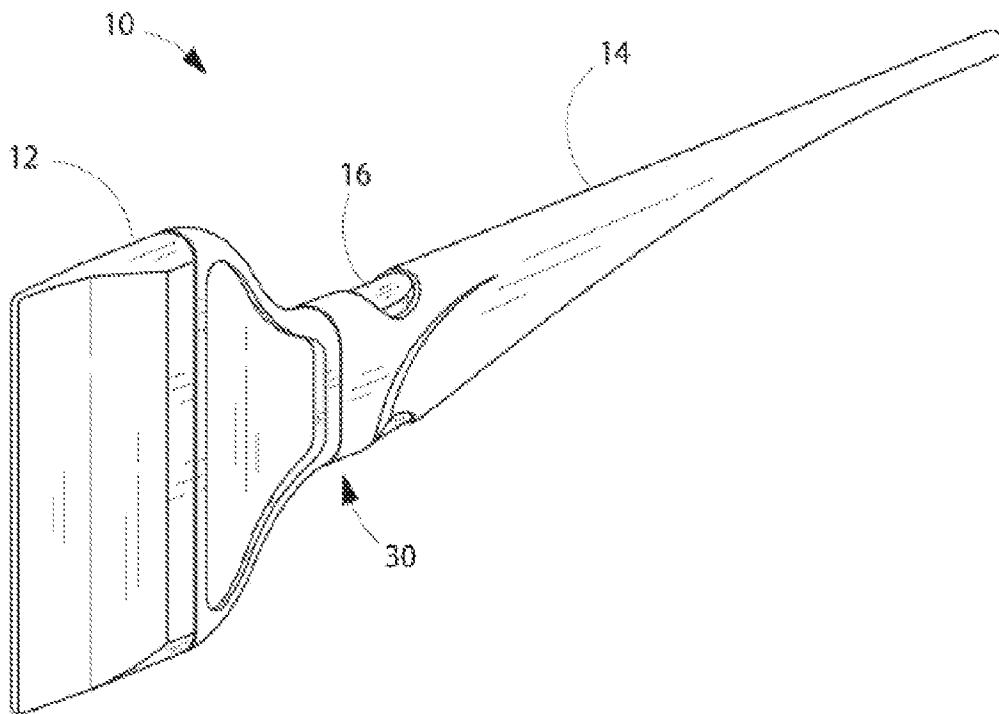


Fig. 27

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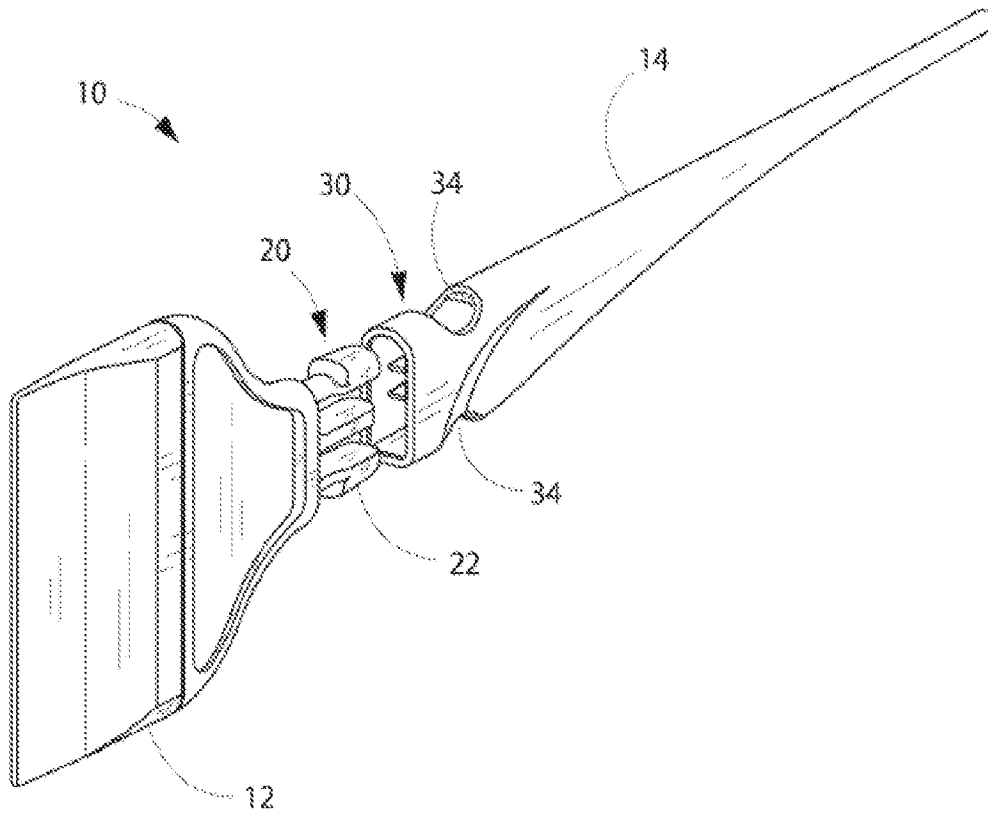


Fig. 28

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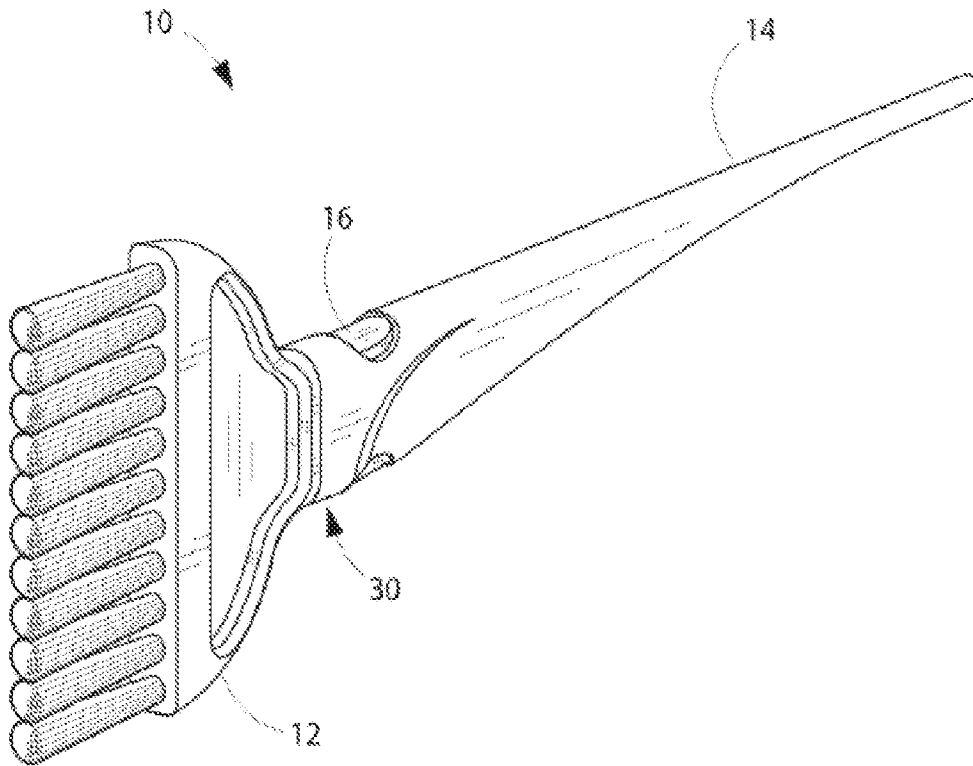


Fig. 29

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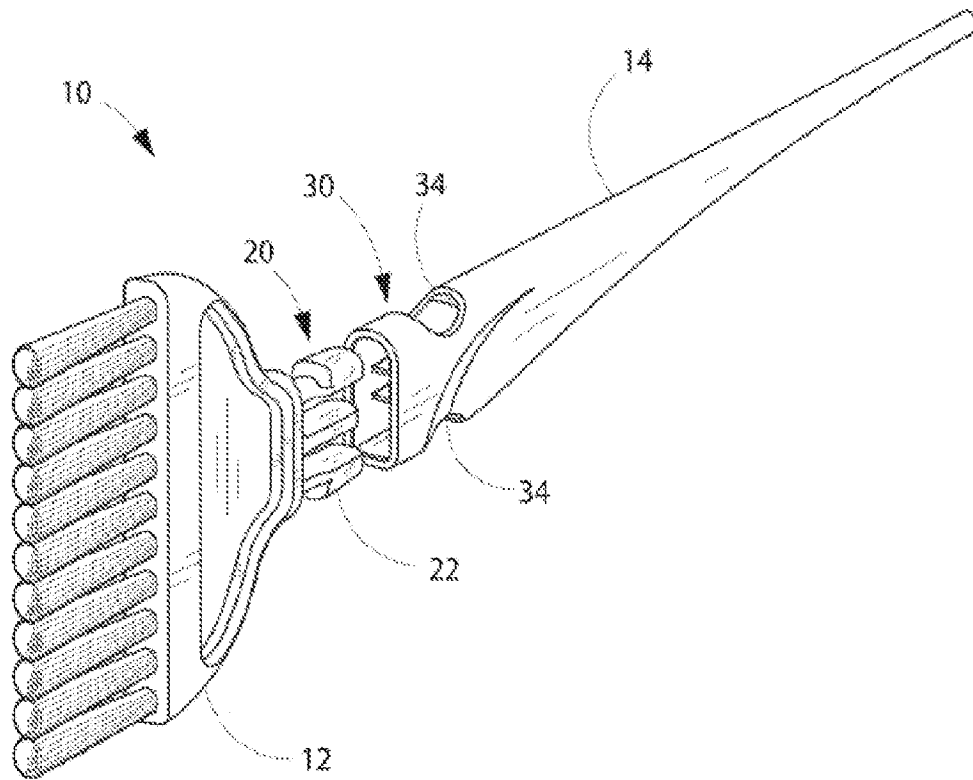


Fig. 30

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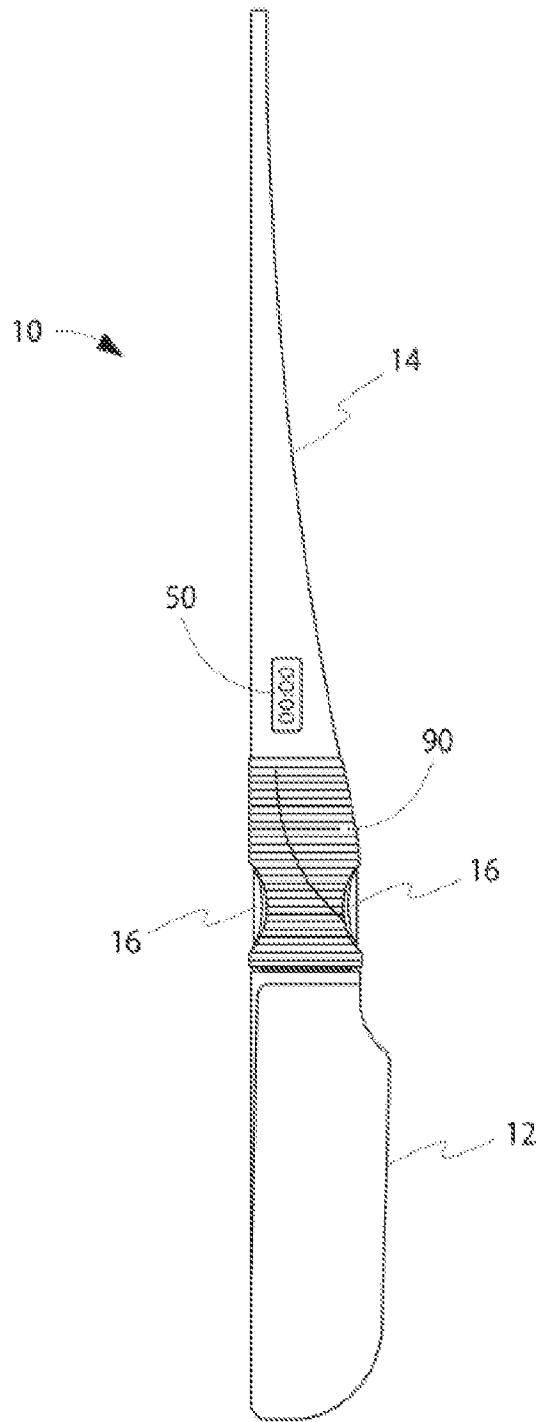
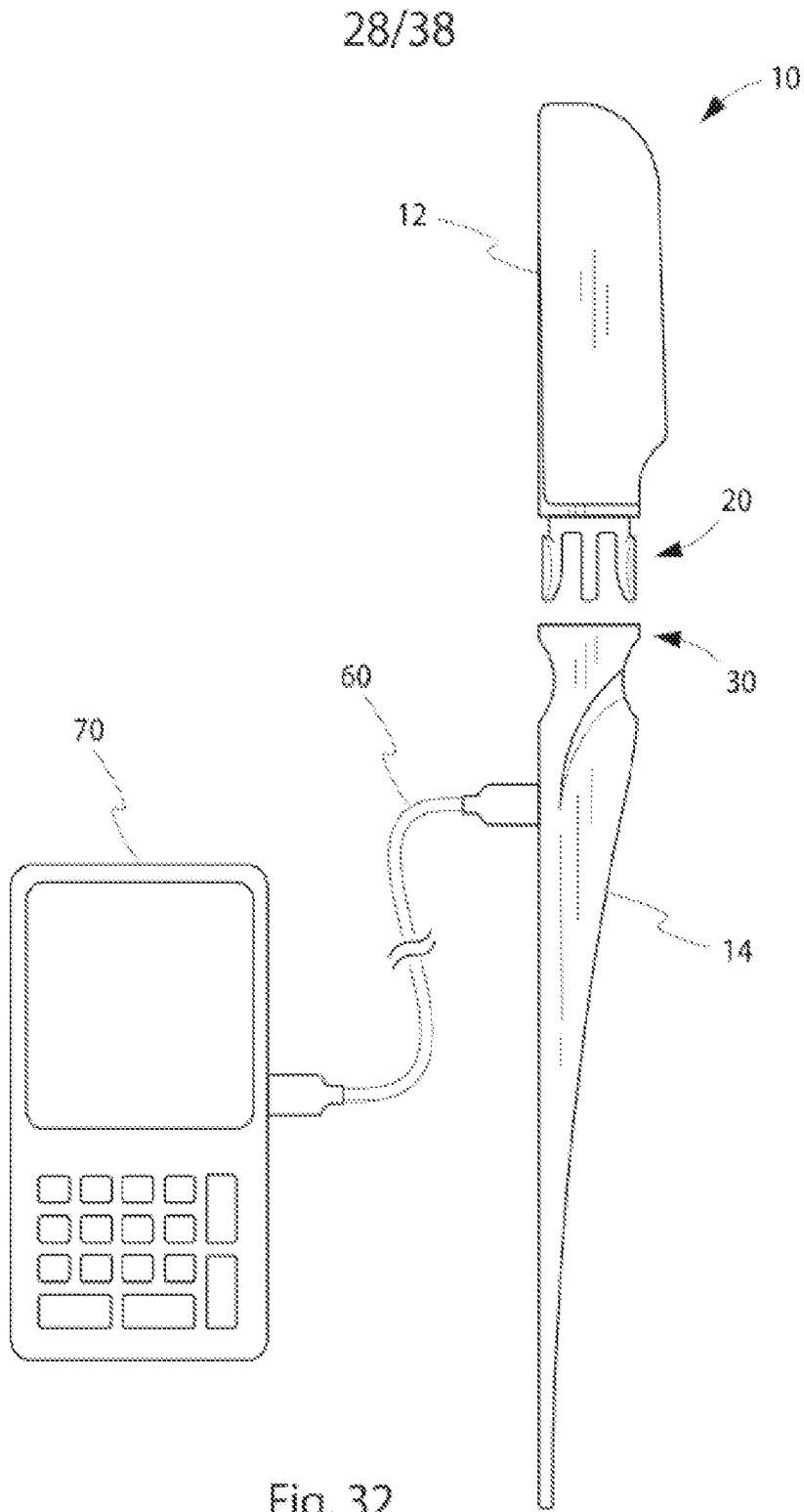


Fig. 31



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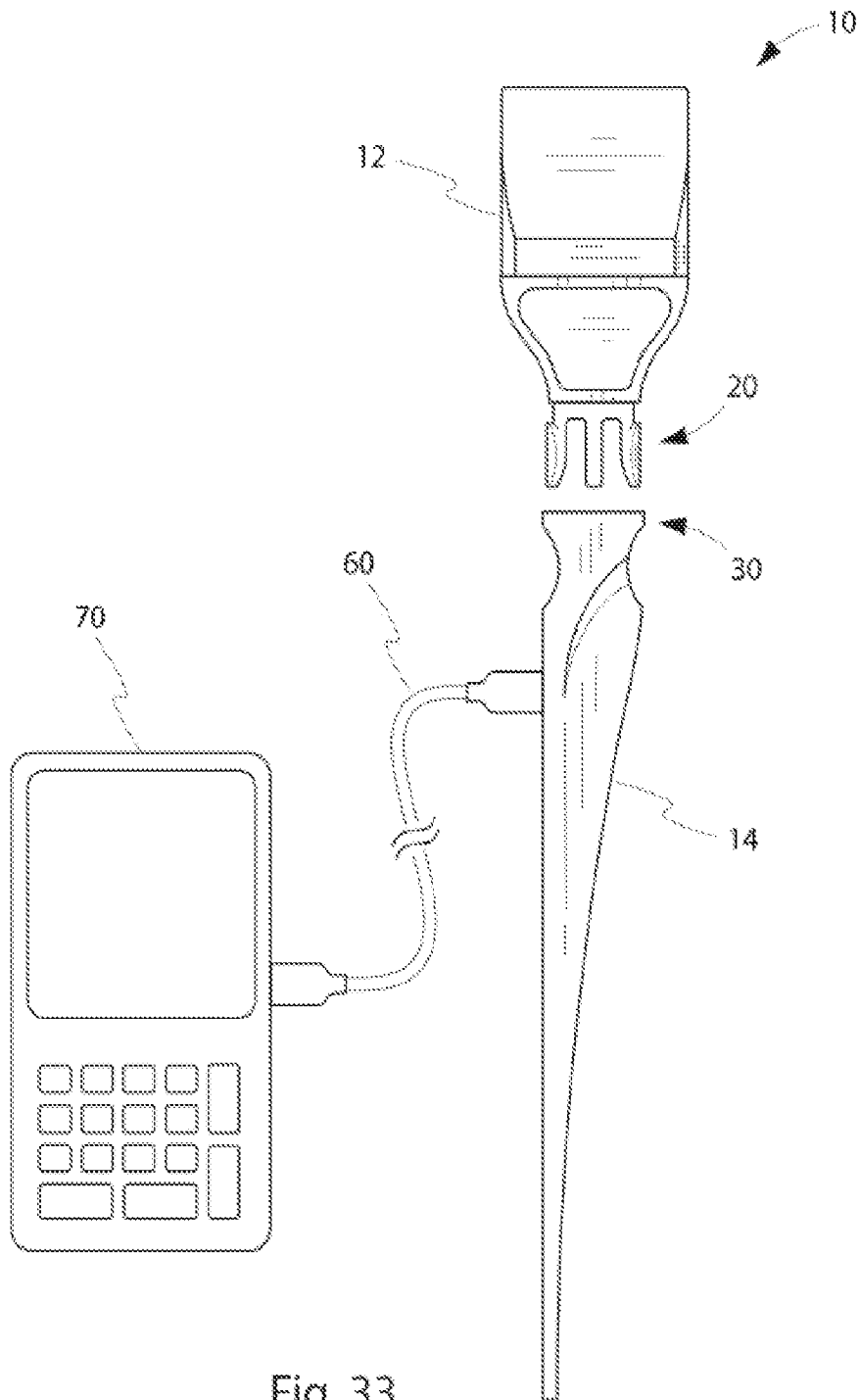


Fig. 33

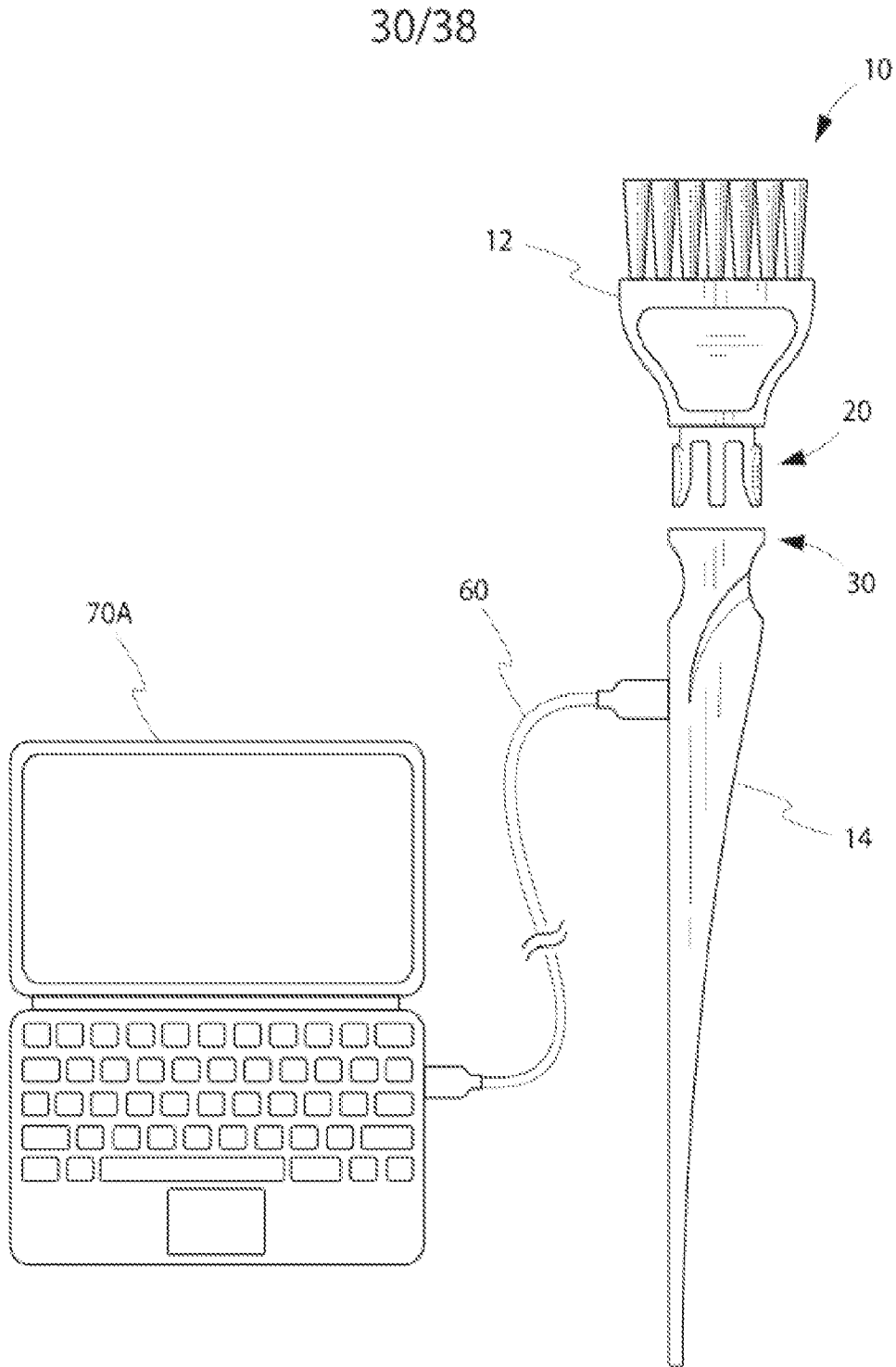


Fig. 34

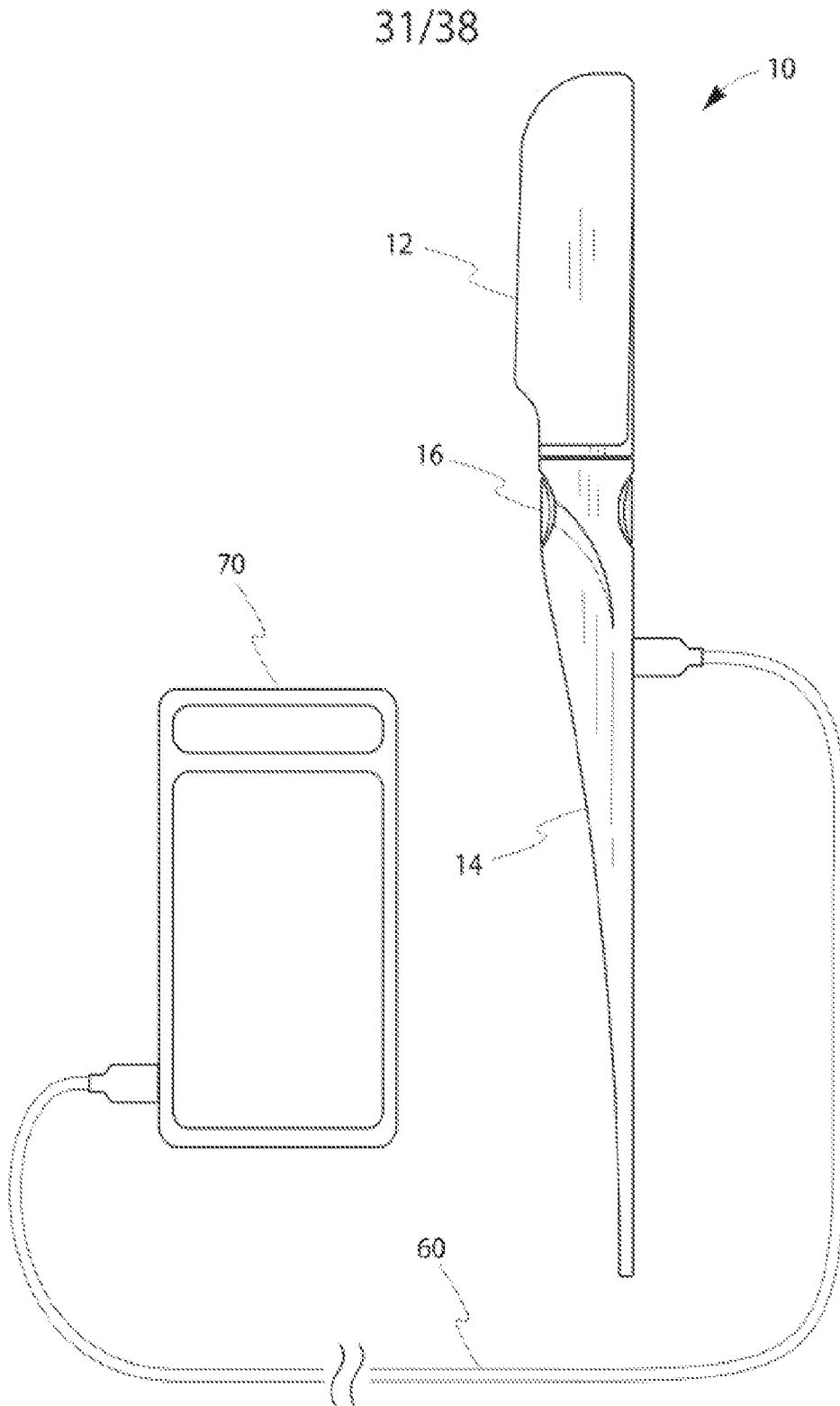
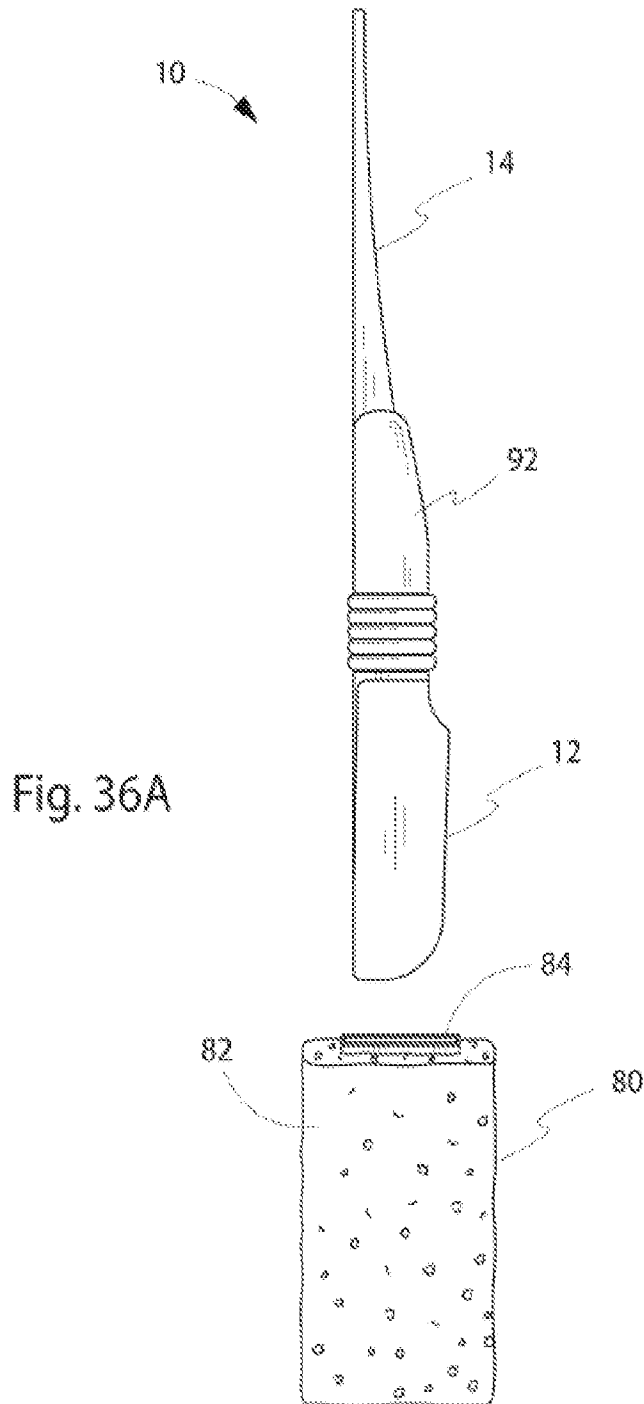
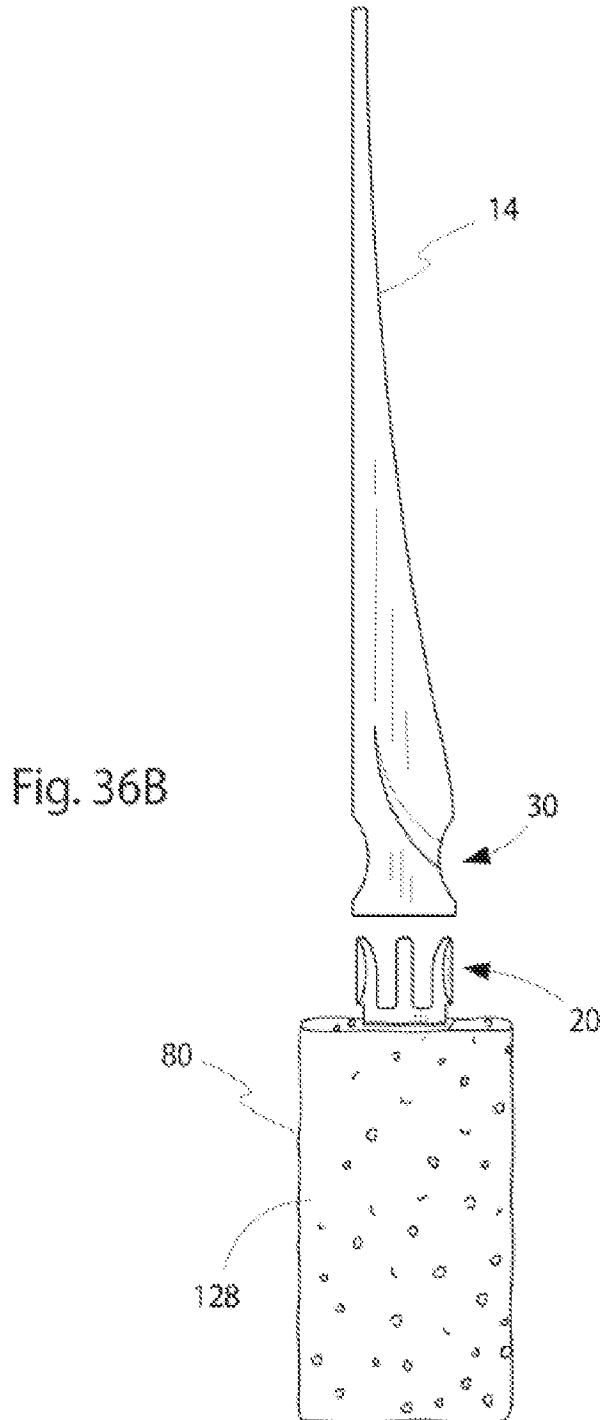


Fig. 35

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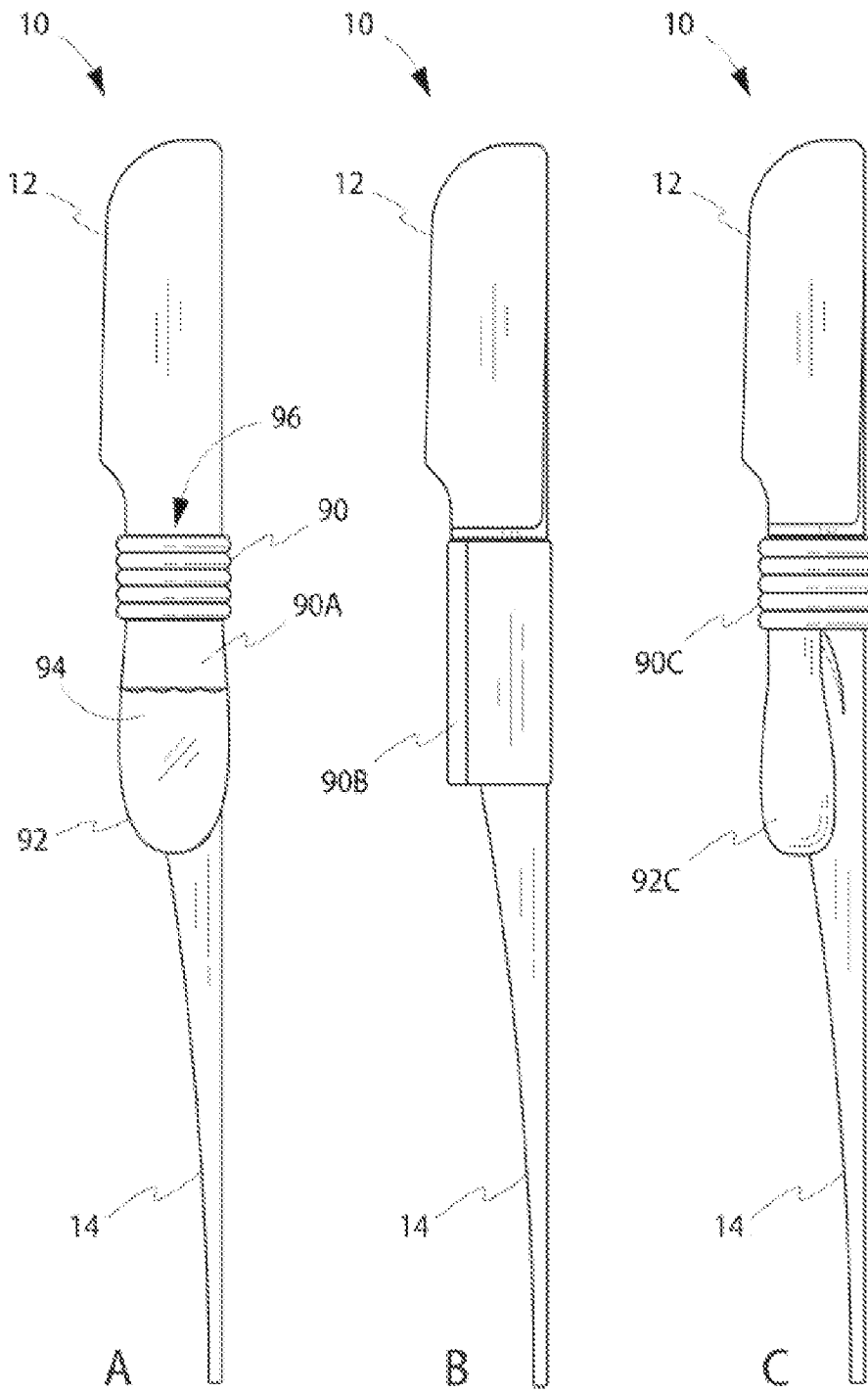
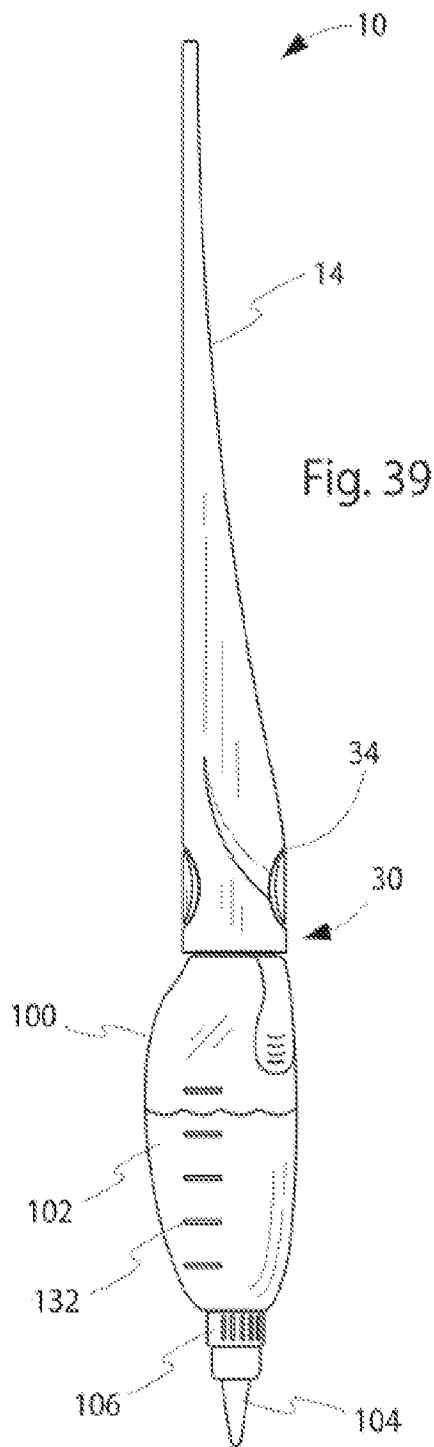
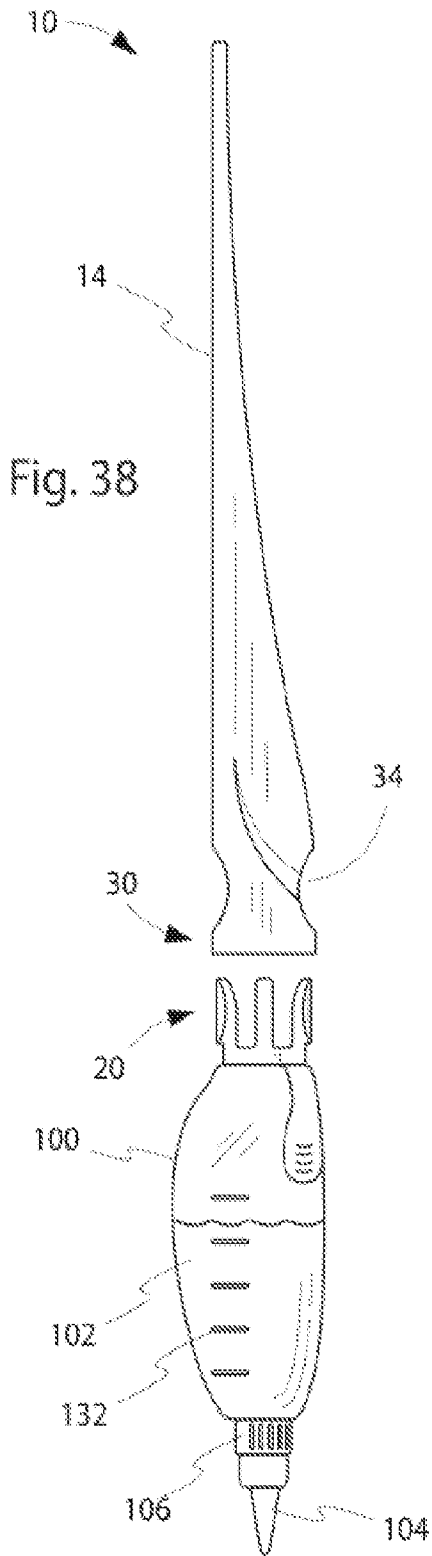


Fig. 37

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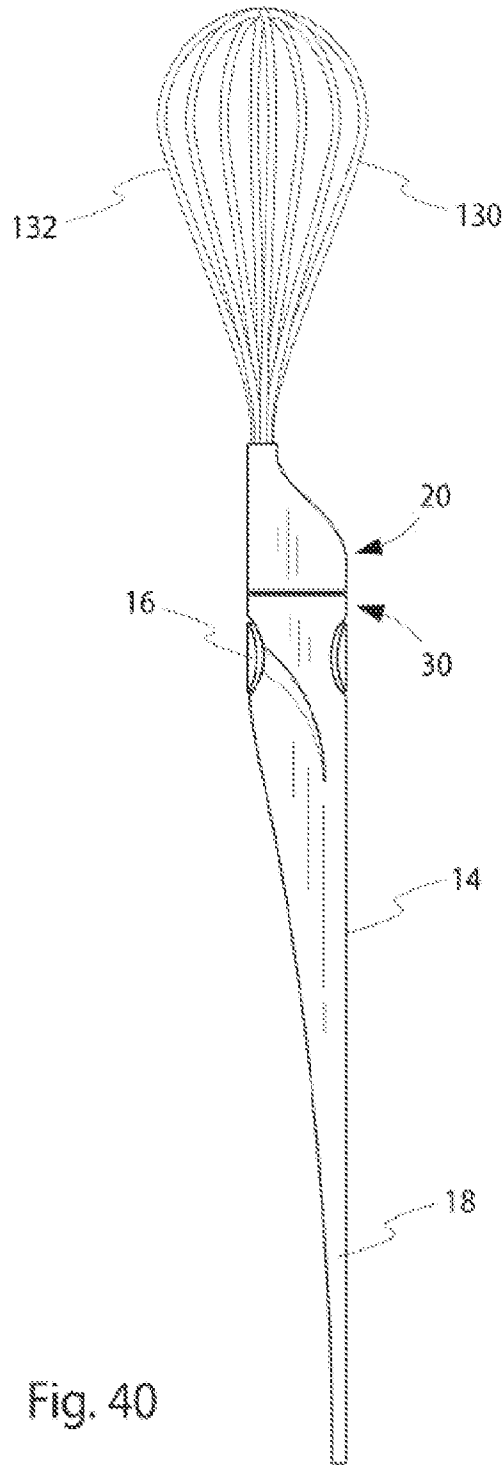


Fig. 40

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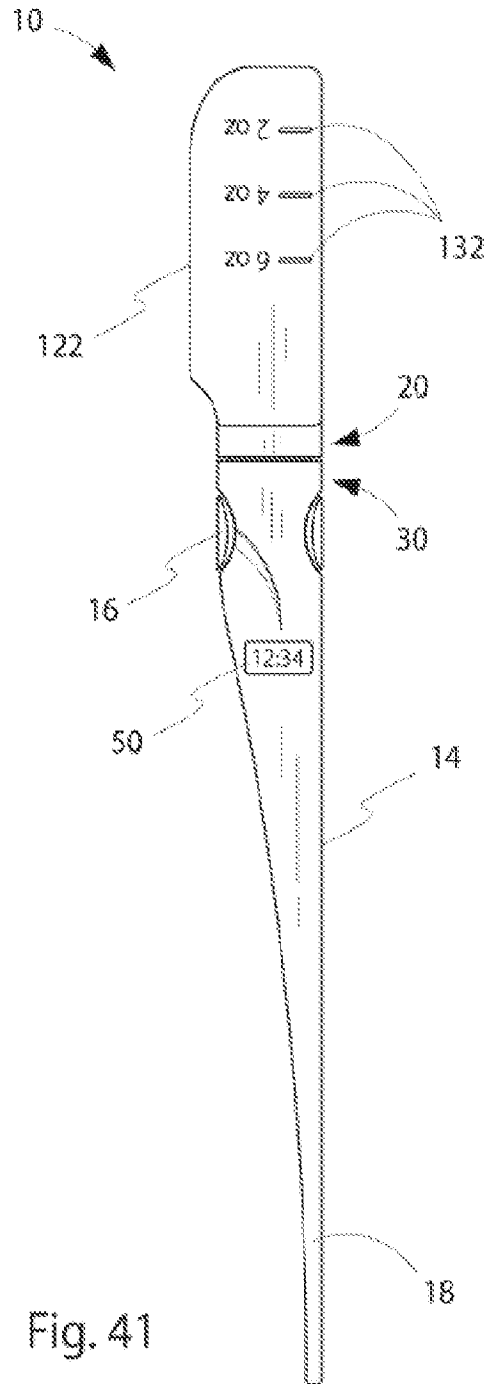


Fig. 41

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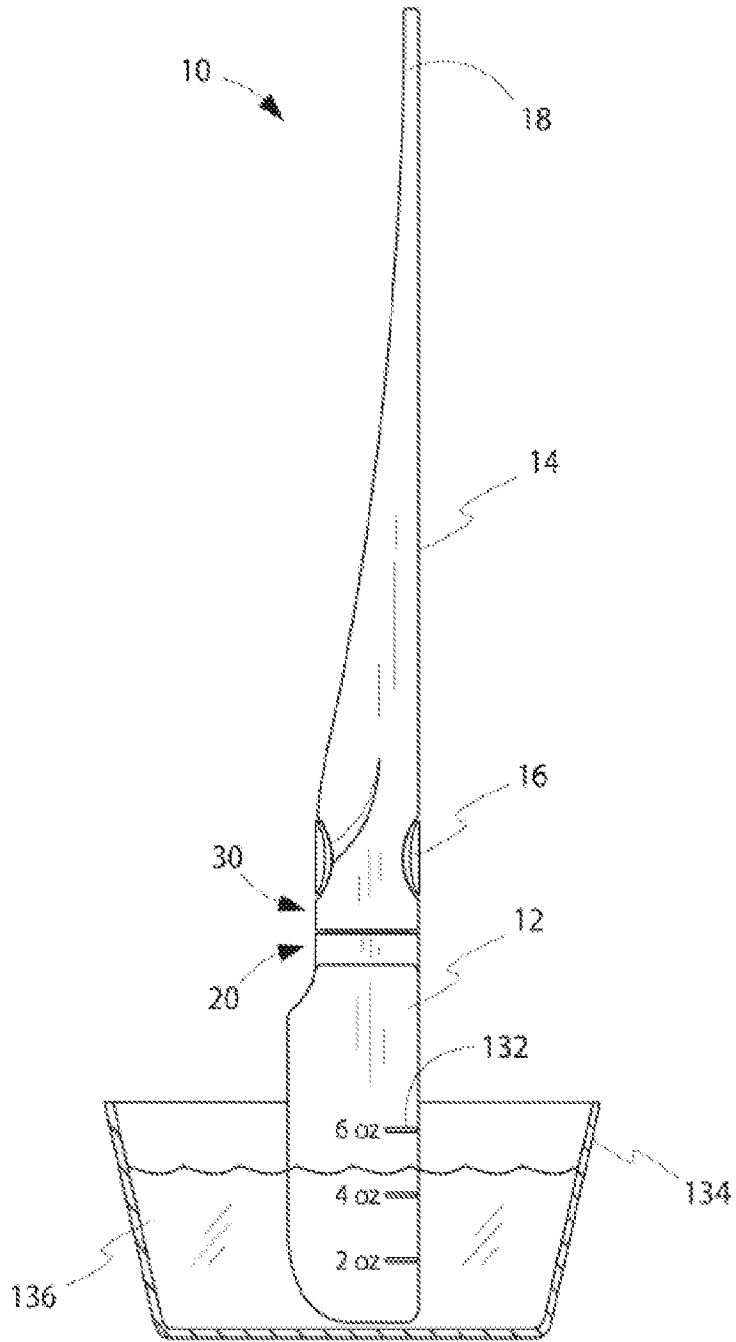


Fig. 42

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2012/023104

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A45D 24/22 (2012.01)

USPC - 132/112

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - A45D 24/22 (2012.01)

USPC - 132/112, 148, 150, 221, 228, 271; 401/16, 18

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Delphion

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2005/0072442 A1 (LICARI et al) 07 April 2005 (07.04.2005) entire document	1, 6-7, 11, 14, 16, 21-22, 26, 29 ----- 2-5, 8-10, 12-13, 15, 17-20, 23-25, 27-28, 30
Y	US 6,684,887 B2 (ALEXANDER) 03 February 2004 (03.02.2004) entire document	2, 13, 17, 28
Y	US 2002/0069890 A1 (SCHWEICKERT et al) 13 June 2002 (13.06.2002) entire document	3, 18
Y	US 3,968,805 A (SOBECK JR) 13 July 1976 (13.07.1976) entire document	4-5, 19-20
Y	US 2009/0147081 A1 (HANSON) 11 June 2009 (11.06.2009) entire document	8-10, 23-25
Y	US 5,554,197 A (ASSINI et al) 10 September 1996 (10.09.1996) entire document	12, 27
Y	US 2006/0215484 A1 (SOKOLOFF) 28 September 2006 (28.09.2006) entire document	15, 30

 Further documents are listed in the continuation of Box C.

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

01 May 2012

Date of mailing of the international search report

09 MAY 2012

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