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(54) **DISPENSING AND APPLICATION HEAD FOR A LIQUID COSMETIC PRODUCT, IN PARTICULAR A HAIR PRODUCT**

ABGABE- UND AUFTRAGEKOPF FÜR EIN FLÜSSIGES KOSMETISCHES PRODUKT,
INSBESONDERE EIN HAARPRODUKT

TÊTE DE DISTRIBUTION ET D'APPLICATION POUR UN PRODUIT COSMÉTIQUE LIQUIDE, EN
PARTICULIER UN PRODUIT CAPILLAIRE

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(73) Proprietor: **L'OREAL**
75008 Paris (FR)

(72) Inventors:
• **LECHANOINE, Marc**
Kawasaki 213-0012
Kanagawa (JP)

• **SHEREGAR, Venkatesh**
Mumbai, Maharashtra 400071 (IN)

(74) Representative: **L'Oreal**
Service D.I.P.I.
9, rue Pierre Dreyfus
92110 Clichy (FR)

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Description

[0001] The present invention relates to a dispensing and application head for a liquid product, in particular a cosmetic product.

[0002] In the present application, a « cosmetic product » means a product as defined in Regulation (CE) N°1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products.

[0003] The product may be in the form of a liquid, a lotion, a cream, a gel or in any other suitable flowable state allowing for its dispensing through the claimed head.

[0004] The dispensing and application head according to the present application is more particularly designed for the dispensing and application of a hair product such as a hair dye liquor or a hair care product especially a hair cleaning and / or a hair surface coating product.

[0005] Application of a cosmetic product consists in applying a desired amount of a cosmetic product onto a targeted body part in order to obtain the desired effect and performance.

[0006] Application of a product to the hairs of a person in particular, is often troublesome as it may require multiple steps, including for example a dispensing step, followed by an application and spreading step, in association or followed by a combing step.

[0007] Application of the product may require the use of several tools, including the user's hands, in order to properly achieve each step.

[0008] Moreover, hair products are often applied to the hands, sometimes with gloves on, and then spread onto the area in which the cosmetic product is desired to be placed.

[0009] This is not desirable and not convenient for a quick and simple application.

[0010] Furthermore, application by hand is not really optimum for hair product in order to ensure homogeneous application and even spreading of the product.

[0011] Consequently, there is a general need for a simple and convenient dispensing and application tool that ensures proper and efficient application of the product while ensuring detanglement and combing of the hairs.

[0012] The present dispensing and application head allows for the product to be dispensed, applied, combed and spread onto the hairs of a person.

[0013] Several prior art documents have been trying to solve some of these issues and have proposed various devices.

[0014] In particular, document GB2243766 discloses a dispensing and application device for hair product having a removable comb. The product is dispensed through a fixed foam wick to a brush applicator. Brush applicator provides limited contact with the hair and does not lead to an optimum application of the product.

[0015] A device according to GB2243766 is a complex arrangement of multiple parts for actuated dispensing system. The arrangement is more specifically made for

a very limited usage of product and a very specific targeted area rather than for a holistic & wide coverage on hair. The arrangement in GB2243766 is specifically designed for targeting area hair color on specific strands in thinner sections. The comb is a separate removable piece in the assembly and the product can be used without the comb to act more like a brush applicator. The arrangement of such multiple parts with limited high precision can only be limited to very expensive production and assembly process.

[0016] Document US6675812B1 discloses a dispensing and application head for a hair product comprising separate comb and foam applicator. Foam pad applicator allows for a good contact with the hairs and an optimum spreading of the product. In addition, for a cleaning hair product, it offers a better retention of the impurities present on the hairs. The foam pad can then be removed and washed or changed. However, such a device according to US667581 still requires several gesture movements and lacks convenience.

[0017] From WO 2017/162556 A1 a dispensing and application head according to the preamble of claim 1 is known. The present application aims at solving these problems and at proposing a simple, hygienic dispensing and application device allowing for an optimum and handy application of the product onto the hairs of a user.

[0018] To this end, the present application is directed to a dispensing and application head for a container according to claim 1, intended to store a liquid product, the dispensing and application head comprising a back feeding side and a front application side, the back feeding side comprising at least one inlet port for receiving an amount of the product to dispense, the front application side comprising at least one outlet port for dispensing the amount of product to apply, the inlet and outlet ports being fluidly connected by at least one dispensing duct, the front application side being further equipped with an application foam pad, the outlet port exiting at a back surface of the foam pad, said dispensing and application head further comprises a plurality of comb teeth being arranged at least partially around the foam pad.

[0019] Preferably, the comb teeth are arranged around the whole periphery of the foam pad.

[0020] By providing a dispensing head equipped with both a foam pad applicator and surrounding comb teeth, the user can simply load up the foam pad with the intended cosmetic product, then apply the product and comb its hairs in a simple and convenient gesture.

[0021] The product moves through the foam pad and can be deposited onto the hairs. The application foam pad provides optimal application of the product onto the hairs while helping to retain the impurities (such as sebum, dust, dirt) and clean the hairs.

[0022] The foam pad ensures wide coverage and even distribution and spreading of the product onto the targeted area.

[0023] The foam pad also ensures cleanliness in that it limits the risk of dripping and loss of product.

[0024] Depending on the application and cleaning desired properties of the foam pad, the application foam pad may present a substantially flat top application surface or a textured top application surface as it will be further described below.

[0025] In addition, product application is assisted at all times by the comb teeth for a better spreadability across the layer of hairs and consumer desired area of parting in the hairs.

[0026] The surrounding comb teeth ensure proper separation of the hair strands, thus enhancing the contact with the foam pad application surface and application of the product. The surrounding comb teeth also ensure proper detanglement and combing of the hairs.

[0027] The foam pad may be made from an open cells foam, preferably a polyurethane based foam (PU foam) or an expanded polyethylene based foam (EPE foam). Alternately or in association, the foam may also be made from NBR or SBR. Other foams used in protective cushioning industry such as EPDM / Polyester, Polyether foams, EVA foam or NR / latex foams may also be used.

[0028] Porosity shall be adapted depending on the desired amount and flow of product.

[0029] Depending on the desired properties, the foam pad may also be made from a combination of foam and tissue lamination and / or a combination of different foam types for soft and hard feel touch feel.

[0030] As such, the proposed assembly offers a simple design that not only deposits the product while combing but also allows for various combinations with specific foam pad made from materials that can help in cleansing the sebum, dust, dirt and small particles from the hair assisted by the product formula.

[0031] Design of the comb teeth may be adapted to the type of hairs to comb. More specifically, teeth may be tapered so as to present a pointy free end and a larger base. Such a design allows for an easier detangling even for Caucasian hair type.

[0032] Alternately, thinner bristles with softer pointed tip may be considered, in particular for all type of hairs except for braided African hairs.

[0033] According to a preferred embodiment, the comb teeth are adjacent to a side free surface of the foam pad. The comb teeth may come in contact with said side surface of the foam pad or be slightly spaced from said surface.

[0034] Preferably, maximum distance between the side surface of the foam pad and a comb teeth is around 3 to 4mm. Increasing the gap can still work but will lead to tangling of the hair and hence breakage. Preferably, the gap between bristle lower edge and sponge is within 1mm tolerance. As the bristles taper from bottom (base) to top (free end), there may be no gap between the sponge and the bristles.

[0035] According to the invention, the foam pad is detachable from the head. This way, after use, the foam pad can be removed and cleaned or changed for a new one or one with different application properties.

[0036] The foam pad is attached to a support plate equipped which detachable mounting means, said support plate having at least one dispensing through opening corresponding to the outlet port when the foam pad is in place on the dispensing head. According to a preferred embodiment, there is possibility of injected foam which can, for example, be injected and molded directly with the support plate.

[0037] Preferably, the support plate comprises at least one additional through opening configured to cooperate with a corresponding comb teeth in order to help maintaining and positioning the foam pad and its support plate in place.

[0038] Preferably again, the support plate shows a peripheral edge protruding from the attached foam pad, said peripheral edge comprising the additional openings designed to cooperate with the comb teeth.

[0039] This way, the foam pad can also be more easily handled and the user does not need to touch the foam.

[0040] Alternately, the comb teeth are arranged on the support plate so as to be removable with the foam pad.

[0041] Advantageously, the dispensing opening of the support plate is equipped with a peripheral sealing element, such as a rib or groove, configured to cooperate with a complementary sealing element, such as a complementary groove or rib, of the front side of the head. The presence of such sealing elements around the dispensing opening of the support plate prevents the product from flowing between the support plate and the front side of the dispensing head.

[0042] According to a preferred embodiment, the detachable mounting means are clipping means. By using clipping means, the foam pad can be easily attached and detached from the dispensing head.

[0043] Advantageously, the front side of the head comprises at least one lateral notch having a side and top opening, the top opening being configured to be at least partially covered by the support plate when in place, the side opening of said lateral notch being further configured to allow insertion of a part of a finger so as to facilitate the unclipping of the support plate by exerting an underneath pressure.

[0044] Preferably, the comb teeth are substantially flush with or project above a front application surface of the foam pad. This way, the foam pad can simply and gently apply the product onto the hairs. The protruding comb teeth prevent excess squeezing of the foam pad which may result in delivering excess product.

[0045] Having projecting teeth is particularly intended for the application of a coating product.

[0046] In case of application of a cleansing product, it will preferable to have teeth substantially flush with a top application surface of the foam pad.

[0047] Preferably, the maximum projection height of the comb teeth above the front application surface of the foam pad is of about half the thickness of the foam pad. By limiting the protruding height of the teeth, optimum contact between the hairs and the foam pad is still en-

sured.

[0048] The present application also relates to a dispensing and application assembly comprising a reservoir for storing a product, namely a cosmetic product, in particular a cosmetic hair product, said reservoir having an outlet for exiting the product, said outlet being equipped with a dispensing head according to the invention.

[0049] The reservoir may be any suitable container. In particular, the reservoir may be in the form of a flexible or squeezable container such as a squeeze tube. The reservoir may also be equipped with a metered dispensing system such as a pump or a click pen or a spring loaded dosing mechanism. The reservoir may also be an aerosol.

[0050] Preferably, the outlet of the reservoir is in the form of a neck configured to cooperate with the inlet port of the dispensing and application head, in particular by way of a complementary threading. According to another embodiment, the outlet of the reservoir can be closed by a spring loaded mechanism which can be pressurized by container squeezing for dispensing.

[0051] Advantageously, connection between the reservoir and the dispensing head is detachable so that the reservoir can be removed and changed, in particular when empty.

[0052] Alternately, the dispensing and applying head can be made integral with the reservoir, which may be, for example, back filled before being sealed.

[0053] An application foam pad for a dispensing head according to the invention, can comprise at least one block of foam having a back surface, a free top surface and at least a free side surface, the back surface being attached to a support plate.

[0054] Preferably, the support plate is equipped with detachable mounting means, for example clipping means, said mounting means being preferably located on a face opposite the foam pad.

[0055] Preferably again, the support presents a peripheral edge protruding from the foam pad. Having a protruding peripheral edge facilitates handling of the foam pad.

[0056] Advantageously, the peripheral edge presents through-openings able to cooperate with complementary comb teeth of a dispensing and application head according to the invention.

[0057] The subject of the present application will be better understood in view of the following detailed description made in reference with the attached drawings in which:

- Figures 1 shows an exemplary embodiment of a dispensing and application assembly comprising a dispensing and application head according to the present application.
- Figures 2 shows the embodiment of figure 1 in which the applicator foam pad has been removed.
- Figure 3 and Figure 4 are views in longitudinal cross-section of the assembly of figures 1 and 2 and of the

dispensing and application head of said assembly.

- Figure 5a and 6a are top views of a dispensing and application head according to the present application respectively without and with the support plate of the applicator foam pad (without said foam pad).
- Figure 5b and 6b are views in longitudinal cross-section corresponding to figures 5a and 6a.
- Figures 7 and 8 are front and back views of a support plate for a foam pad according to the present application.
- Figure 9 is a view of a cap for the assembly of figures 1 and 2.
- Figures 10 and 11 are exemplary embodiments of textured foam pad.
- Figure 12 shows an alternate exemplary embodiment of a dispensing and application device according to the present application.

[0058] Figure 1 shows a dispensing and application assembly 100 according to the present application.

[0059] The dispensing and applicator assembly 100 comprises a reservoir 110 equipped with a dispensing and application head 120.

[0060] The reservoir 110 is intended to store a product, in particular a cosmetic product, especially a hair product, for example a shampoo or cleaning product or a hair coating product.

[0061] Preferably, the reservoir 110 can be handheld and has an ergonomic shape allowing for its easy handling. In particular, as illustrated, the reservoir 110 can be substantially pear-shaped.

[0062] The reservoir 110 may be any suitable container. In particular, the reservoir 110 may be in the form of a flexible or squeezable (by hand) container such as a squeeze tube. The reservoir may also be equipped with a metered dispensing system such as a pump or a click pen. The reservoir 110 may also be an aerosol.

[0063] The reservoir 110 has an outlet 113 for exiting the product. In the illustrated case, the outlet 113 is located at the end of a neck 114.

[0064] The neck 114 shows an outer threading 114a configured to cooperate with a complementary inner threading of the dispensing and application head 120 as it will be described below.

[0065] Connection between the reservoir 110 and the dispensing and application head 120 may be reversible so as to allow a change of the reservoir 110, for example when empty.

[0066] Dispensing and application head 120 will now be described in details.

[0067] Dispensing and application head 120 comprises a back feeding side 130 and a front application side 140.

[0068] The back feeding side 130 is intended to be mounted on to the reservoir 110 and comprises at least one inlet port 131 for receiving an amount of the product to dispense from the reservoir 110 outlet 113.

[0069] To this end, the back side 130 of said dispensing

and application head 120 is equipped with a mounting tubular skirt 132 carrying an inner threading 133 configured to cooperate with the outer threading 114a of the neck 114 of the reservoir 110.

[0070] In order to ensure tightness of the connection, the back side further comprises an inner sealing skirt 135 arranged inside the mounting tubular skirt 132 so as to come in contact with an inner surface of neck 114.

[0071] Inlet port 131 is located at the center of the mounting skirt 132 so as to be in fluid communication with the outlet 113 of the neck 114 and be able to receive product from the reservoir 110.

[0072] The front application side 140 comprises an outlet port 141 for dispensing the amount of product to apply. Outlet port 141 is located substantially at the center of the application side 140.

[0073] Inlet port 131 and outlet port 141 are fluidly connected by a corresponding dispensing duct 142.

[0074] In order to regulate the flow of product, the duct 142 is tapered (smallest diameter being the inlet port 131). This way, said tapered duct 142 acts as a pressure valve and product flows only when reservoir 110 is pressed or product pressurized toward the inlet port 131.

[0075] Alternately, the dispensing duct 142 can be equipped with a valve, for example a spring valve, or any other appropriate delivering system.

[0076] According to the present application, the front application side 140 is equipped with an open cells application foam pad 150.

[0077] The application foam pad 150 comprises a back mounting surface, a front free application surface and a side peripheral free surface.

[0078] As illustrated, the foam pad 150 is substantially cylindrical but other sections, such as square or oblong (ovale), may be considered.

[0079] Typically, in order to ensure good contact and spreading, the optimum area of the front application surface may preferably range from about 100 mm² to about 900 mm². For a cylindrical foam pad, this corresponds substantially to a diameter comprised between 12mm (113,1 mm²) and 32mm (804,35 mm²).

[0080] In addition to its surface area, the front application surface may be substantially flat or textured (examples shown on figures 10 & 11).

[0081] More specifically, the front application surface of the foam pad 550, 650 may be textured in order to present embossments 552, 652 or reliefs. For example, the front application surface may show hills and valleys and / or bumps.

[0082] Preferably, the reliefs are aligned in the direction of parting of hair during combing action. A slightly higher density foam with wave pattern hills and valleys can individually also work without alignment in direction of the combs to help reach scalp and give targeted cleansing.

[0083] A flat surface will preferably be used for coating a product on the hair, while a textured surface will preferably be used for cleansing action.

[0084] The size of the foam pad will be determined according to the adsorption / product retention desired properties. According to a preferred embodiment the thickness of the foam pad shall be higher than 10mm and / or less than 15mm.

[0085] In case of a textured surface, the height of the reliefs may represent up to one third of the total height of the foam pad. Typically, the height of the relief shall be up to 5mm.

[0086] Outlet port 151 of the dispensing and application head exits at the back surface 151 of the foam pad so that the dispensed product can feed said application foam pad and be dispensed through it.

[0087] According to the present application, the front application side 140 of the dispensing and application head 120 is also equipped with comb teeth 145.

[0088] The comb teeth 145 are arranged at least partially around the foam pad 150, preferably around the whole periphery of the foam pad 150.

[0089] More precisely, the comb teeth 145 are adjacent to the free side surface of the foam pad and contact said free side surface.

[0090] Alternately, all or some comb teeth 145 may be slightly spaced from said side free surface of the foam pad. Preferably, maximum distance between the foam pad and the comb teeth 145 is about 3 to 4mm. As the bristles taper there is no gap.

[0091] Depending on the nature of the hairs to comb, comb teeth 145 may have specific shapes and hardness.

[0092] Preferably, comb teeth 145 are tapered and have a larger base. Comb teeth 145 may have a more or less pointy or rounded tip.

[0093] In particular, flexible teeth with a spherical rounded tip may be particularly suitable for massaging of the scalp.

[0094] Tapering may be for example of about 1 degree.

[0095] Spacing between each tooth 145 may vary, but the teeth are preferably substantially regularly spaced one from the other. Depending on the size of the teeth 145, teeth 145 may be advantageously spaced from 3mm to 8mm (taken at their base), preferably between 4 to 7mm.

[0096] The comb teeth 145 project above a front application surface of the foam pad 150. In other terms the teeth 145 have a length greater than the thickness of the foam pad.

[0097] This way, hairs are always combed and strands well separated during application.

[0098] Typically, height of the teeth 145 may range from 10 to 20 mm, preferably be around 15 mm.

[0099] Diameter of the free ends of the teeth may range from 2 to 3 mm, preferably from about 2.2mm to 3.8mm.

[0100] Diameter of the base of the teeth may range from 5mm to 4mm, preferably from about 4.9 to 4.7mm.

[0101] Preferably, the maximum projection height of the comb teeth 145 above the front application surface of the foam pad 150 is about 4 to 5 mm. For use with a cleansing product, it will be important to have a good

dispensing of the product together with an optimum contact between the sponge and the hairs. Thus, it will be preferable to have the comb teeth substantially flush with the front application surface of the foam pad.

[0102] This way, it ensures that the foam top application surface is always in good contact with the hairs.

[0103] According to the invention, the foam application pad 150 is detachable from the dispensing and application head.

[0104] To this end, the foam application pad 150 is attached to a support plate 155 equipped with detachable mounting means.

[0105] Attachment of the foam application pad 150 to the support plate 155 can be obtained by any suitable means, for example, by gluing or welding, especially by ultrasonic welding.

[0106] In order to allow the product to reach the foam pad 150, the support plate 155 has at least one dispensing through opening 156 corresponding to the outlet port 141 when the foam pad 150 is in place on the dispensing head 120, i.e. substantially central in the illustrated embodiment.

[0107] In addition, in order to ensure proper positioning and maintaining of the application foam pad 150, the support plate 155 comprises additional through openings 157 arranged on the periphery of the support plate 155 and configured to cooperate with corresponding comb teeth 145 of the dispensing and application head 120.

[0108] More precisely, size and shape of the additional through openings 157 substantially corresponds to the size and shape of the base of the corresponding teeth 145.

[0109] The additional openings 157 are located on a peripheral edge of the support plate 155 protruding from the application foam pad 150.

[0110] When installing the application foam pad 150 on the dispensing and application head 120, the additional openings 157 are positioned in front of the corresponding teeth 145 and slide down toward the base of the teeth 145.

[0111] Because the teeth 145 are tapered and larger at their base, it helps guiding and centering the support plate 155 when installing the application foam pad 150.

[0112] Once the support plate 155 has been slid down along the teeth 145, it is removably fixed to the front application side 140 of the dispensing and application head 120.

[0113] To this end, a back mounting surface (figure 8) of the support plate 155 is equipped with clipping attaching means. The clipping attaching means are in the form of flexible prongs 170 (in pairs) able to cooperate with corresponding mounting holes 147 arranged in the front application side 140 of the dispensing and application head 120.

[0114] As illustrated, the support plate 155 comprises two pairs of clipping prongs 170, diametrically arranged with regard to the central dispensing opening 156.

[0115] In order to ensure sealing between the front ap-

plication side 140 of the dispensing and application head 120 and the support plate 150 so as no product may leak in between, the central dispensing opening 156 of the support plate is equipped with a surrounding sealing rib 175 able to cooperate with a corresponding complementary sealing groove 148 of the front application side 140 of the dispensing and application head 120.

[0116] In order to facilitate detachment of the application foam pad 150 and its support plate 150, the front side 140 of the dispensing and application head 120 comprises two lateral notches 149 having a side and top opening, the top opening being configured to be at least partially covered by the support plate 155 when in place, the side opening of said lateral notch being further configured to allow insertion of a part of a finger so as to facilitate the unclipping of the support plate 155 by exerting an underneath pressure.

[0117] The two lateral notches 149 are diametrically arranged. The two lateral notches 149 are also preferably arranged in line with the clipping prongs 170 and corresponding mounting holes 147.

[0118] The user can release the support plate 155 by inserting part of a finger inside one or both lateral notches 149 and push under the support plate 155 in order to force the clipping mounting means 170 out of their corresponding mounting holes 149.

[0119] In order to facilitate handling, the area on the support plate 155 corresponding to the notches 149 is preferably free from teeth 145.

[0120] Finally, the dispensing and application head 120 is equipped with a cap 180 for closing and protecting the head 120. The cap 180 presents an inner threading 181 configured to cooperate with a corresponding outer threading of the dispensing and application head 120.

[0121] When in place, the cap 180 covers both the set of peripheral teeth 145 and the application foam pad 150.

[0122] According to a preferred embodiment, the cap 180 comprises a spigot 182, preferably central, extending inside the cap 180, said spigot 182 being configured so that, when in place, a free end of said spigot 182 closes the corresponding the outlet port 141 of the dispensing and application head 120.

[0123] In order to achieve this, the foam pad 150 comprises a corresponding central bore allowing for the spigot to be inserted through said foam pad 150 and to reach the outlet port 141.

[0124] Closure of the outlet port 141 by the spigot 182 is also ensured when the foam pad 150 is removed.

[0125] During application, the reservoir 110 is squeezed or shaken so as to bring an amount of product through the dispensing opening 113 to the inlet port 131 of the dispensing and application head 120. The product thus moves through the outlet port 141 and load up the application foam pad 150.

[0126] In an alternate embodiment 500, as shown on figure 12, the comb teeth 145 can be directly arranged on the support plate 155 so as to be removable with the foam pad 150, 550, 650. Thus, the comb teeth can be

washed as well.

[0127] The user can then bring the application foam pad 150 in contact with the targeted body part (hairs) in order to transfer some product from the applicator foam pad 150 to said body part. Foam will help retain the product and spread it evenly. Impurities such as sebum, dust and dirt are also easily adsorbed, especially with the assistance of an appropriate cleaning hair product. The application foam pad can easily be detached and washed or changed for a new one or for another applicator with different properties.

Claims

1. Dispensing and application head (120) for a container (110) intended to store a liquid product, the dispensing and application head comprising a back feeding side (130) and a front application side (140), the back feeding side comprising at least one inlet port (131) for receiving an amount of the product to dispense, the front application side comprising at least one outlet port (141) for dispensing the amount of product to apply, the inlet and outlet ports being fluidly connected by at least one dispensing duct (142), the front application side being further equipped with an application foam pad (150, 550, 650) that is detachable from the application head, the outlet port exiting at a back surface of the foam pad, said dispensing and application head comprising a plurality of comb teeth (145) being arranged at least partially around the foam pad, **characterized in that** the foam pad (150, 550, 650) is attached to a support plate (155) equipped with detachable attaching means (170), said support plate having at least one dispensing through opening (156) corresponding to the outlet port when the foam pad is in place on the dispensing head.
2. Dispensing and application head (120) according to claim 1, **characterized in that** the comb teeth (145) are adjacent to a side free surface of the foam pad (150, 550, 650).
3. Dispensing and application head (120) according to claims 1 or 2, **characterized in that** the support plate (155) comprises at least one additional through opening (157) configured to cooperate with a corresponding comb teeth (145) in order to help maintaining and positioning the foam pad (150, 550, 650) and its support plate in place.
4. Dispensing and application head (120) according to claims 1 to 3, **characterized in that** the support plate (155) shows a peripheral edge protruding from the attached foam pad (150, 550, 650), said peripheral edge comprising the additional openings (157) designed to cooperate with the comb teeth (145).

5. Dispensing and application head (120) according to claims 1 to 4, **characterized in that** the comb teeth (145) are arranged on the support plate (155) so as to be removable with the foam pad (150, 550, 650).
6. Dispensing and application head (120) according to any one of claims 1 to 5, **characterized in that** the dispensing opening (156) of the support plate (155) is equipped with a peripheral sealing element, such as a rib (175) or groove, configured to cooperate with a complementary sealing element, such as a complementary groove (148) or rib, of the front side of the head.
7. Dispensing and application head (120) according to claims 1 to 6, **characterized in that** the detachable attaching means (170) are clipping means.
8. Dispensing and application head (120) according to claim 7, **characterized in that** the front side (130) of the head comprises at least one lateral notch (149) having a side and top opening, the top opening being configured to be at least partially covered by the support plate (155) when in place, the side opening of said lateral notch being further configured to allow insertion of a part of a finger so as to facilitate the unclipping of the support plate by exerting an under-pressure.
9. Dispensing and application head (120) according to any one of claim 1 to 8, **characterized in that** the comb teeth (145) are substantially flush with or project above a front application surface of the foam pad (150, 550, 650).
10. Dispensing and application head (120) according to claim 9, **characterized in that** the maximum projection height of the comb teeth (145) above the front application surface of the foam pad (150, 550, 650) is of the foam pad is of about half the thickness of the foam pad.
11. Dispensing and application assembly (100, 500) comprising a reservoir (110) for storing a product, namely a cosmetic product, in particular a cosmetic hair product, said reservoir having an outlet (113) for exiting the product, said outlet being equipped with a dispensing head (120) according to any one of claims 1 to 10.

Patentansprüche

1. Abgabe- und Auftragekopf (120) für einen Behälter (110), der für die Lagerung eines flüssigen Produkts beabsichtigt ist, wobei der Abgabe- und Auftragekopf eine hintere Zufuhrseite (130) und eine vordere Auftrageseite (140) umfasst, wobei die hintere Zu-

- führseite mindestens einen Einlass-Port (131) zur Aufnahme einer Menge des abzugebenden Produkts umfasst, wobei die vordere Auftrageseite mindestens einen Auslass-Port (141) zur Abgabe der aufzutragenden Produktmenge umfasst, wobei der Einlass- und der Auslass-Port über mindestens einen Abgabekanal (142) fluidisch verbunden sind, wobei die vordere Auftrageseite ferner mit einem Auftrageschaumstoffkissen (150, 550, 650) versehen ist, das von dem Auftragekopf abtrennbar ist, wobei der Auslass-Port an einer hinteren Fläche des Schaumstoffkissens mündet, wobei der Abgabe- und Auftragekopf eine Vielzahl von Kammzähnen (145) umfasst, die mindestens teilweise um das Schaumstoffkissen herum angeordnet sind, **dadurch gekennzeichnet, dass** das Schaumstoffkissen (150, 550, 650) an einer Stützplatte (155) angebracht ist, die mit abtrennbaren Anbringmitteln (170) versehen ist, wobei die Stützplatte mindestens eine Abgabedurchgangsöffnung (156) hat, die dem Auslass-Port entspricht, wenn das Schaumstoffkissen an dem Abgabekopf platziert ist.
2. Abgabe- und Auftragekopf (120) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Kammzähne (145) einer freien Seitenfläche des Schaumstoffkissens (150, 550, 650) benachbart sind.
 3. Abgabe- und Auftragekopf (120) nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** die Stützplatte (155) mindestens eine zusätzliche Durchgangsöffnung (157) umfasst, die zum Zusammenwirken mit einem entsprechenden Kammzahn (145) ausgestaltet ist, um dazu beizutragen, das Schaumstoffkissen (150, 550, 650) und seine Stützplatte an Ort und Stelle zu halten und zu positionieren.
 4. Abgabe- und Auftragekopf (120) nach Ansprüchen 1 bis 3, **dadurch gekennzeichnet, dass** die Stützplatte (155) einen Umfangsrand zeigt, der von dem angebrachten Schaumstoffkissen (150, 550, 650) vorragt, wobei der Umfangsrand die zusätzlichen Öffnungen (157) umfasst, die zum Zusammenwirken mit den Kammzähnen (145) ausgelegt sind.
 5. Abgabe- und Auftragekopf (120) nach Ansprüchen 1 bis 4, **dadurch gekennzeichnet, dass** die Kammzähne (145) an der Stützplatte (155) angeordnet sind, um mit dem Schaumstoffkissen (150, 550, 650) entfernbare zu sein.
 6. Abgabe- und Auftragekopf (120) nach einem der Ansprüche 1 bis 5, **dadurch gekennzeichnet, dass** die Abgabeöffnung (156) der Stützplatte (155) mit einem Umfangsabdichtungselement wie einer Rippe (175) oder einer Nut versehen ist, das zum Zusammenwirken mit einem komplementären Abdichtungselement wie einer komplementären Nut (148) oder Rippe der vorderen Seite des Kopfs ausgestaltet ist.
 7. Abgabe- und Auftragekopf (120) nach Ansprüchen 1 bis 6, **dadurch gekennzeichnet, dass** die abtrennbaren Anbringmittel (170) Klipsmittel sind.
 8. Abgabe- und Auftragekopf (120) nach Anspruch 7, **dadurch gekennzeichnet, dass** die vordere Seite (130) des Kopfs mindestens eine seitliche Kerbe (149) mit einer seitlichen und einer oberen Öffnung umfasst, wobei die obere Öffnung dazu ausgestaltet ist, dass sie mindestens teilweise von der Stützplatte (155) abgedeckt wird, wenn sie an Ort und Stelle ist, wobei die seitliche Öffnung der seitlichen Kerbe ferner dazu ausgestaltet ist, das Einführen eines Teils eines Fingers zu gestatten, um das Abklipsen der Stützplatte zu erleichtern, indem Druck von unten ausgeübt wird.
 9. Abgabe- und Auftragekopf (120) nach einem der Ansprüche 1 bis 8, **dadurch gekennzeichnet, dass** die Kammzähne (145) mit einer vorderen Auftrageseite des Schaumstoffkissens (150, 550, 650) im Wesentlichen bündig sind oder von dieser nach oben vorragen.
 10. Abgabe- und Auftragekopf (120) nach Anspruch 9, **dadurch gekennzeichnet, dass** die maximale Höhe, zu der die Kammzähne (145) über die vordere Auftrageseite des Schaumstoffkissens (150, 550, 650) vorragen, von dem Schaumstoffkissen ungefähr die Hälfte der Dicke des Schaumstoffkissens beträgt.
 11. Abgabe- und Auftrageanordnung (100, 500), umfassend ein Reservoir (110) zum Lagern eines Produkts, und zwar eines Kosmetikprodukts, insbesondere eines kosmetischen Haarpflegeprodukts, wobei das Reservoir einen Auslass (113) zum Austragen des Produkts hat, wobei der Auslass mit einem Abgabekopf (120) nach einem der Ansprüche 1 bis 10 versehen ist.

Revendications

1. Tête de distribution et d'application (120) pour un récipient (110) destiné à contenir un produit liquide, la tête de distribution et d'application comprenant un côté d'alimentation arrière (130) et un côté d'application avant (140), le côté d'alimentation arrière comprenant au moins un orifice d'entrée (131) destiné à recevoir une quantité du produit à distribuer, le côté d'application avant comprenant au moins un orifice de sortie (141) destiné à distribuer la quantité de produit à appliquer, les orifices d'entrée et de sortie étant en communication fluidique par le biais d'au

- moins un conduit de distribution (142), le côté d'application avant étant en outre équipé d'un tampon d'application en mousse (150, 550, 650) qui est détachable de la tête d'application, l'orifice de sortie débouchant au niveau d'une surface arrière du tampon en mousse, ladite tête de distribution et d'application comprenant une pluralité de dents de peigne (145) disposées au moins partiellement autour du tampon en mousse, **caractérisée en ce que** le tampon en mousse (150, 550, 650) est attaché à une plaque de support (155) équipée de moyens de fixation détachables (170), ladite plaque de support comportant au moins une ouverture débouchante de distribution (156) correspondant à l'orifice de sortie lorsque le tampon en mousse est en place sur la tête de distribution.
2. Tête de distribution et d'application (120) selon la revendication 1, **caractérisée en ce que** les dents de peigne (145) sont adjacentes à une surface latérale libre du tampon en mousse (150, 550, 650).
 3. Tête de distribution et d'application (120) selon la revendication 1 ou 2, **caractérisée en ce que** la plaque de support (155) comprend au moins une ouverture débouchante supplémentaire (157) conçue pour coopérer avec une dent de peigne correspondante (145) afin d'aider à maintenir et mettre le tampon en mousse (150, 550, 650) et sa plaque de support en place.
 4. Tête de distribution et d'application (120) selon les revendications 1 à 3, **caractérisée en ce que** la plaque de support (155) présente un bord périphérique dépassant du tampon en mousse (150, 550, 650) attaché, ledit bord périphérique comprenant les ouvertures supplémentaires (157) conçues pour coopérer avec les dents de peigne (145).
 5. Tête de distribution et d'application (120) selon les revendications 1 à 4, **caractérisée en ce que** les dents de peigne (145) sont disposées sur la plaque de support (155) de façon à être amovibles avec le tampon en mousse (150, 550, 650).
 6. Tête de distribution et d'application (120) selon l'une quelconque des revendications 1 à 5, **caractérisée en ce que** l'ouverture de distribution (156) de la plaque de support (155) est équipée d'un élément d'étanchéité périphérique, tel qu'une nervure (175) ou une rainure, conçu pour coopérer avec un élément d'étanchéité complémentaire, tel qu'une rainure (148) ou une nervure complémentaire, du côté avant de la tête.
 7. Tête de distribution et d'application (120) selon les revendications 1 à 6, **caractérisée en ce que** les moyens de fixation détachables (170) sont des
- moyens à emboîtement-pression.
8. Tête de distribution et d'application (120) selon la revendication 7, **caractérisée en ce que** le côté avant (130) de la tête comprend au moins une échancrure latérale (149) comportant une ouverture latérale et supérieure, l'ouverture supérieure étant conçue pour être au moins partiellement recouverte par la plaque de support (155) lorsqu'elle est en place, l'ouverture latérale de ladite échancrure latérale étant conçue en outre pour permettre l'insertion d'une partie d'un doigt de façon à faciliter le détachement de la plaque de support en exerçant une pression par le dessous.
 9. Tête de distribution et d'application (120) selon l'une quelconque des revendications 1 à 8, **caractérisée en ce que** les dents de peigne (145) sont essentiellement au même niveau qu'une surface d'application avant du tampon en mousse (150, 550, 650) ou dépassent au-dessus de celle-ci.
 10. Tête de distribution et d'application (120) selon la revendication 9, **caractérisée en ce que** la hauteur de dépassement maximale des dents de peigne (145) au-dessus de la surface d'application avant du tampon en mousse (150, 550, 650) est du tampon en mousse est égale à environ la moitié de l'épaisseur du tampon en mousse.
 11. Ensemble de distribution et d'application (100, 500) comprenant un réservoir (110) destiné à contenir un produit, à savoir un produit cosmétique, en particulier un produit cosmétique capillaire, ledit réservoir comportant une sortie (113) par laquelle sort le produit, ladite sortie étant équipée d'une tête de distribution (120) selon l'une quelconque des revendications 1 à 10.

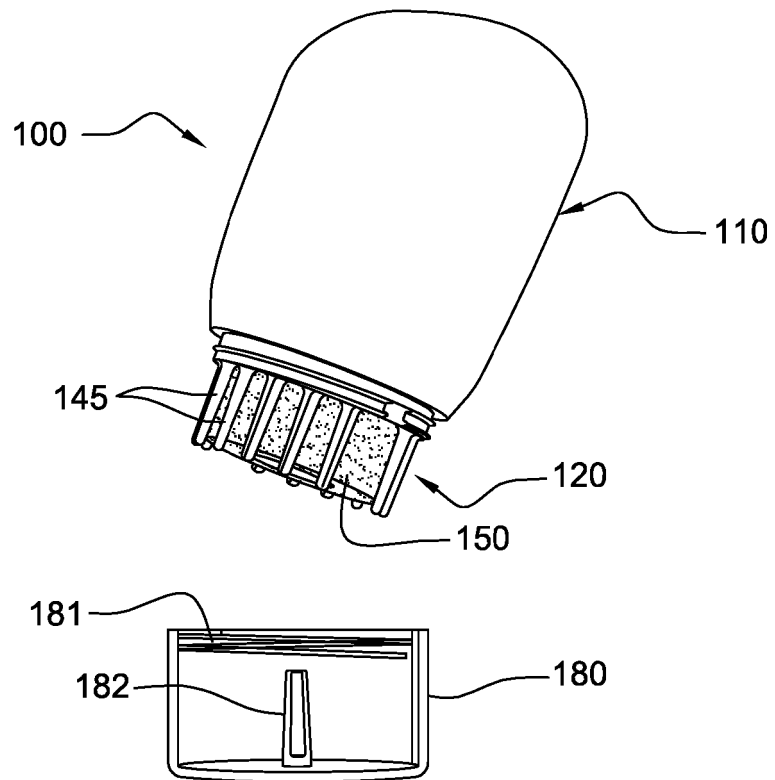


Fig. 1

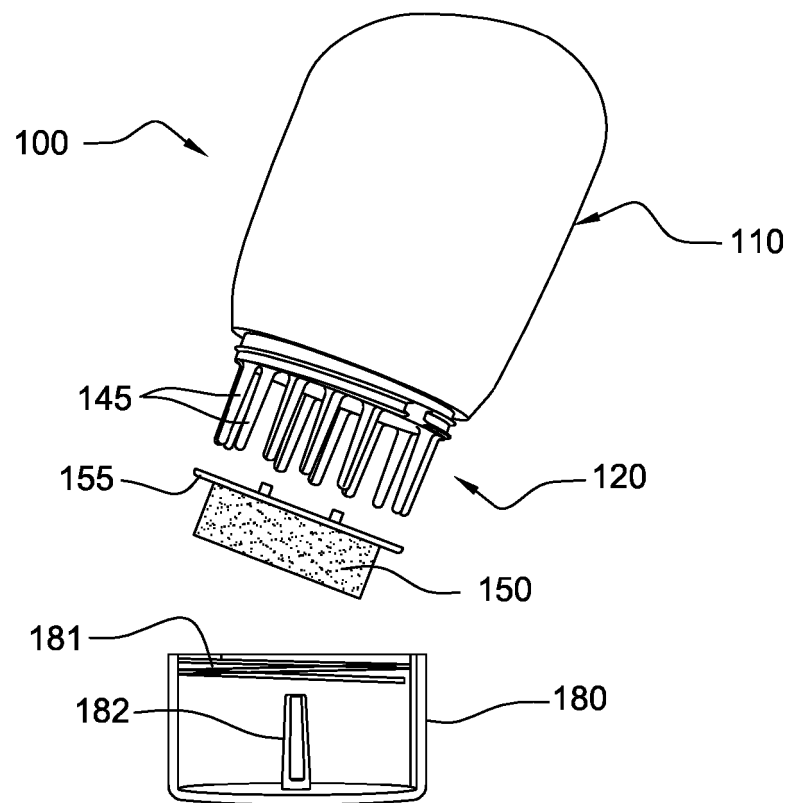


Fig. 2

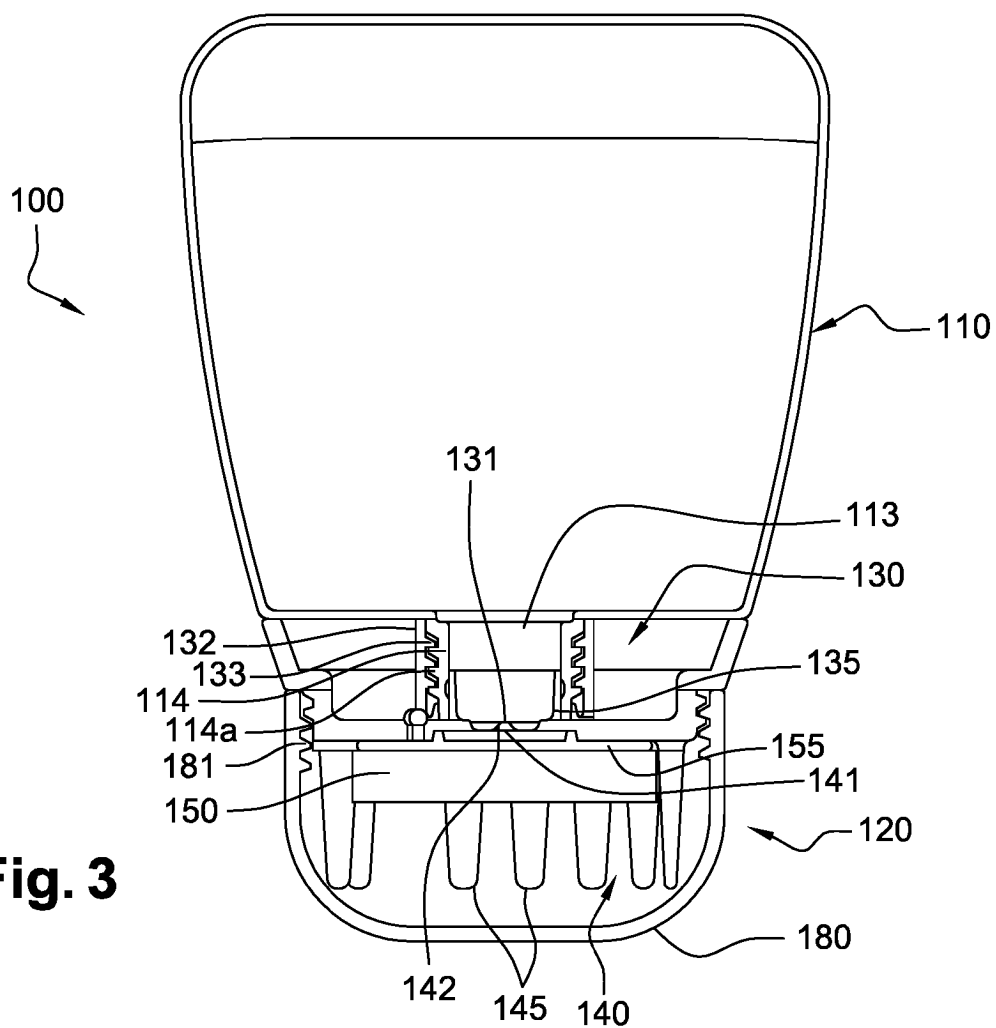


Fig. 3

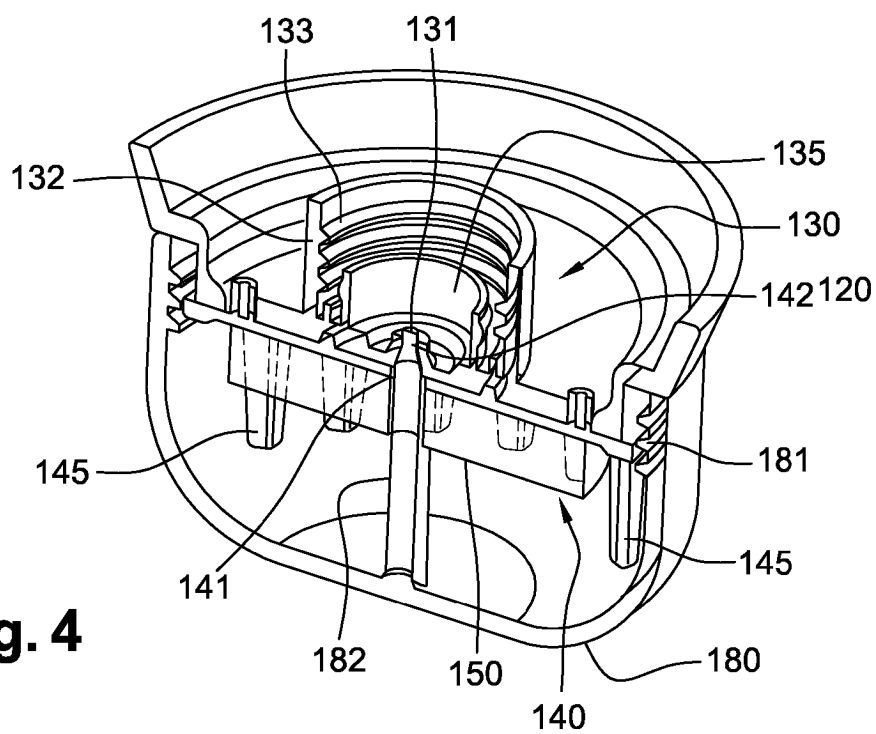


Fig. 4

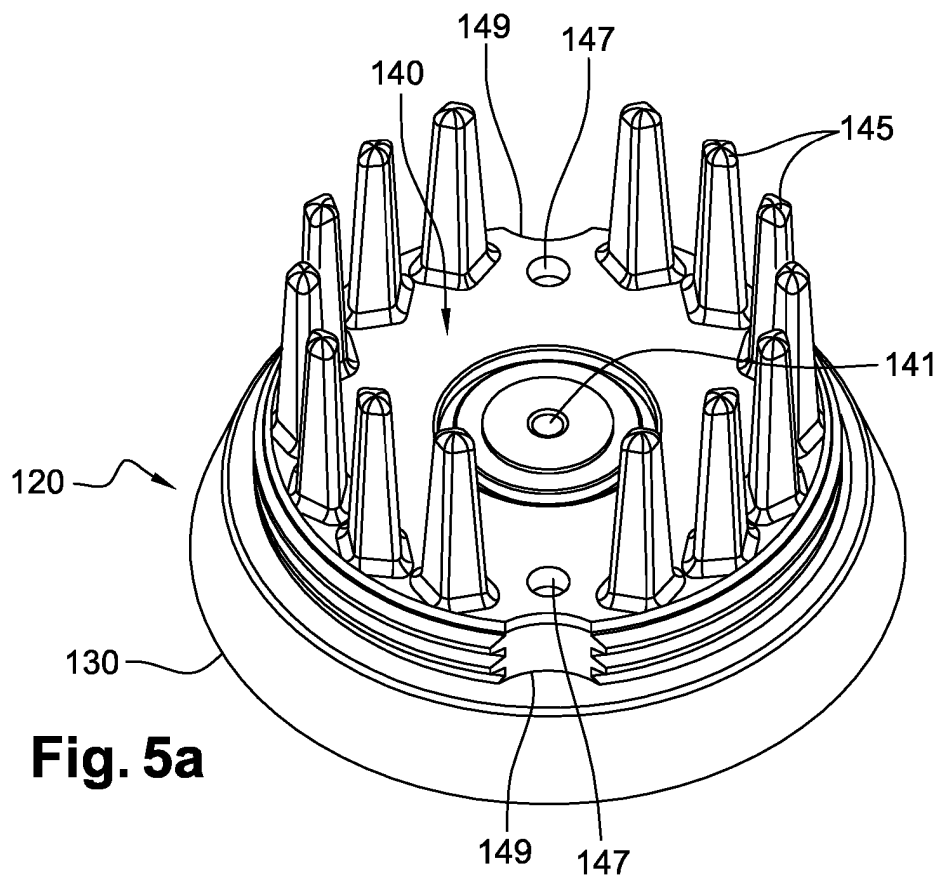


Fig. 5a

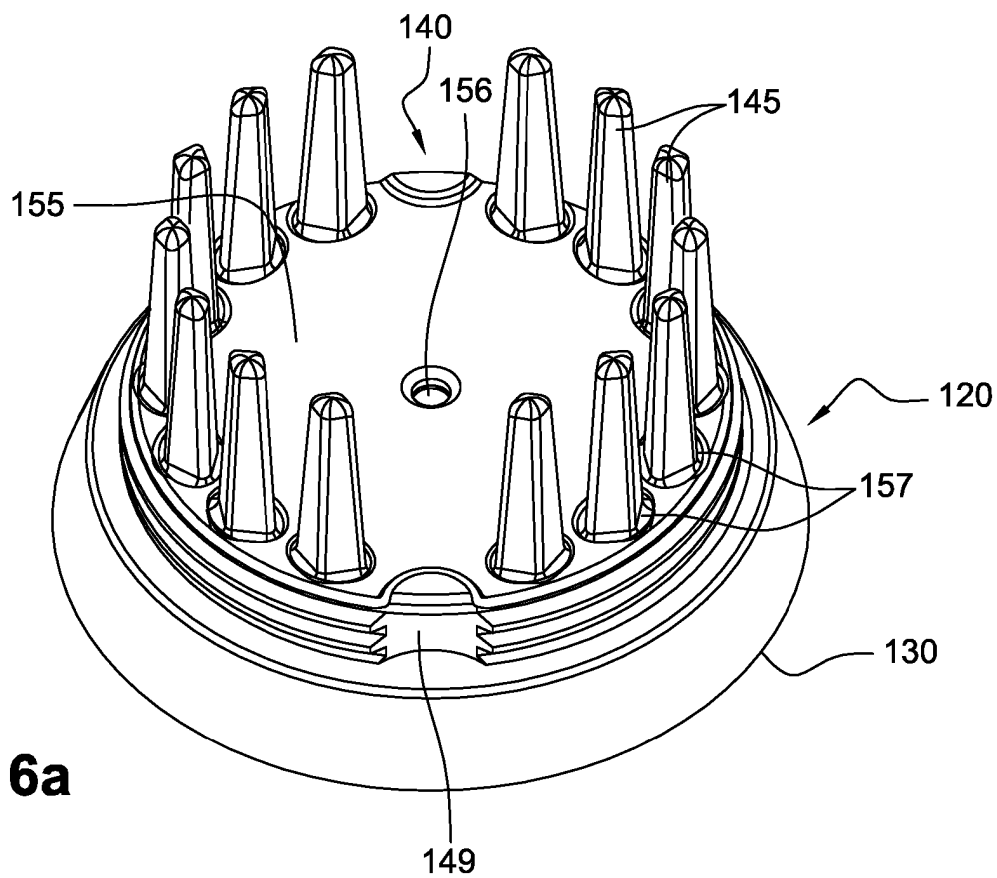


Fig. 6a

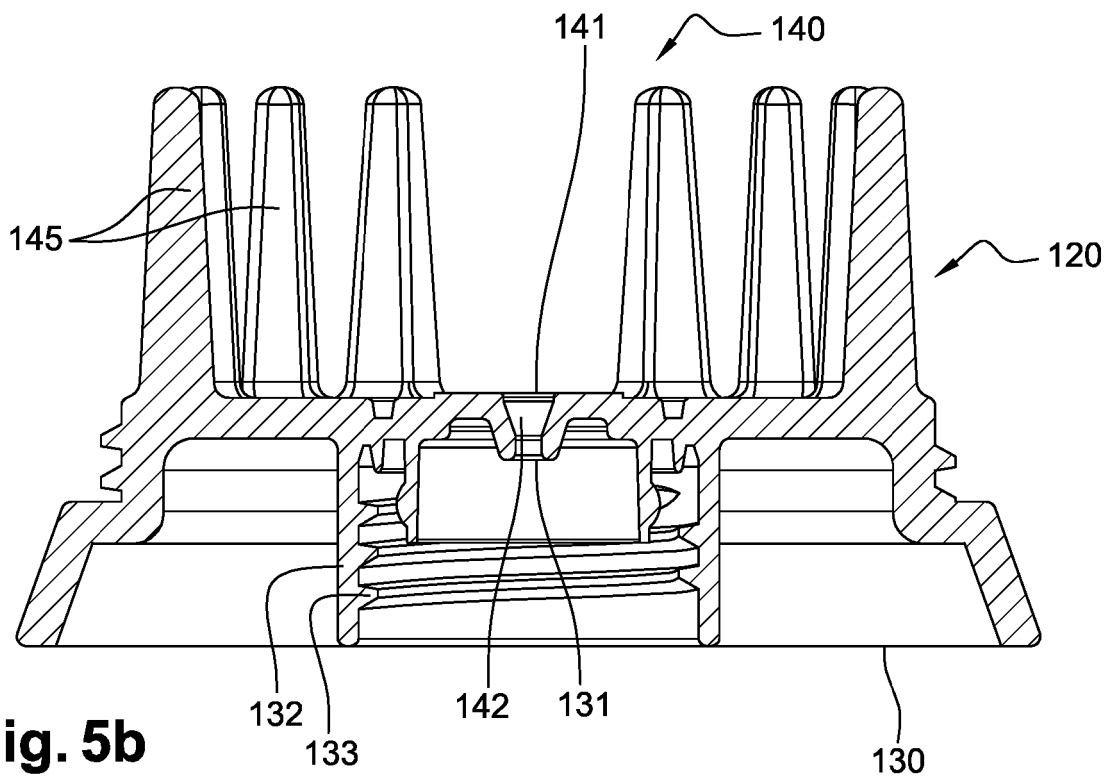


Fig. 5b

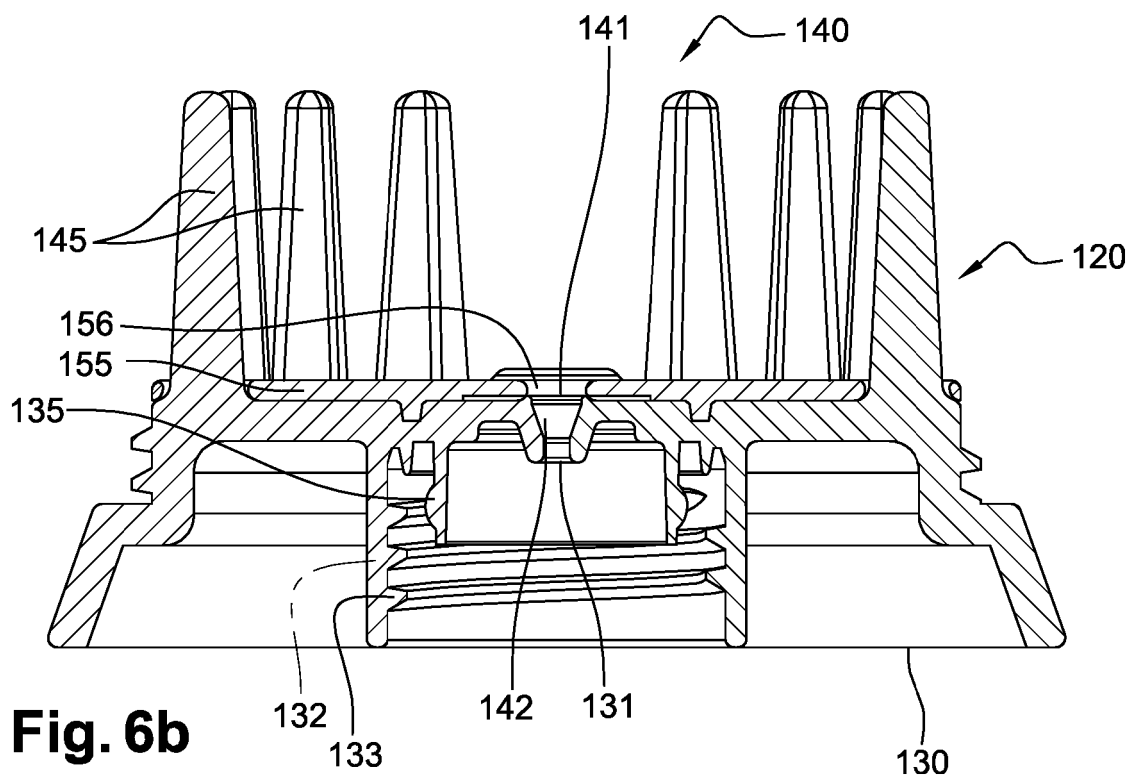


Fig. 6b

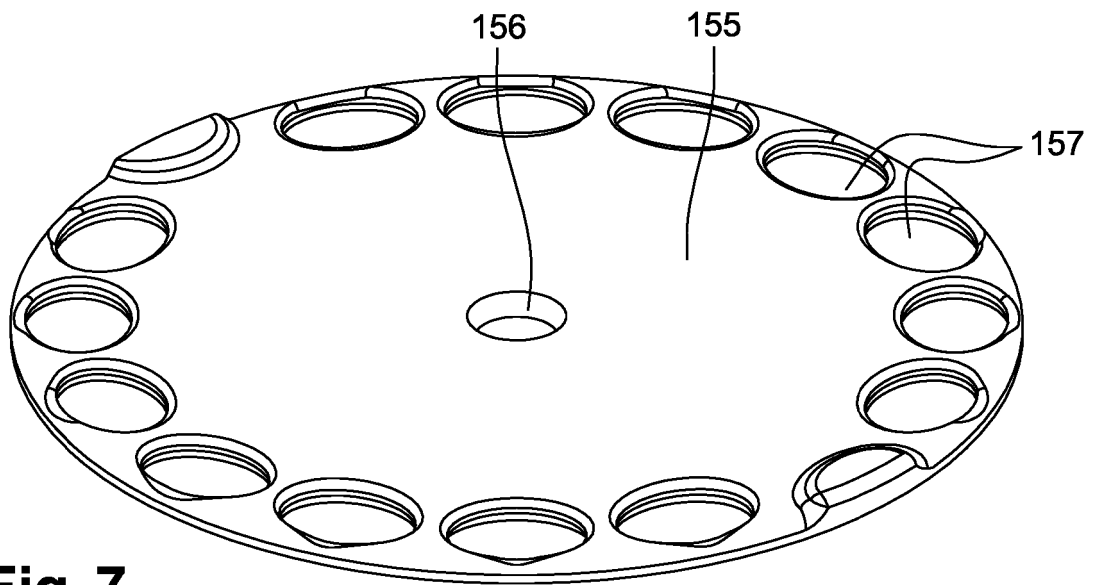


Fig. 7

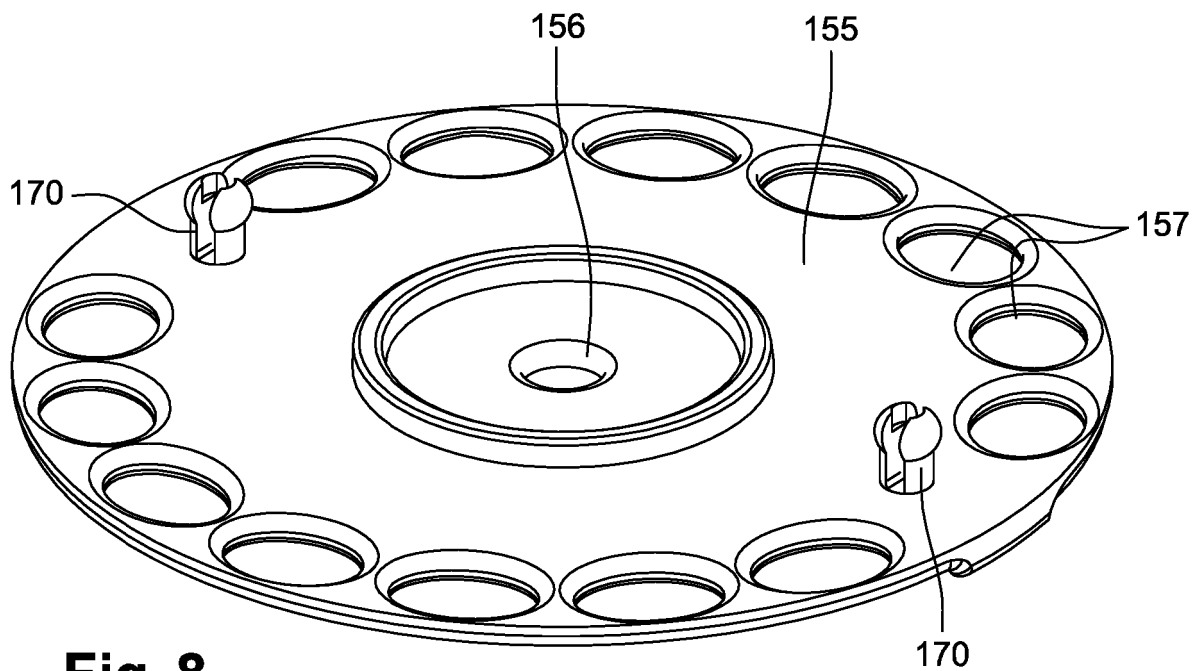


Fig. 8

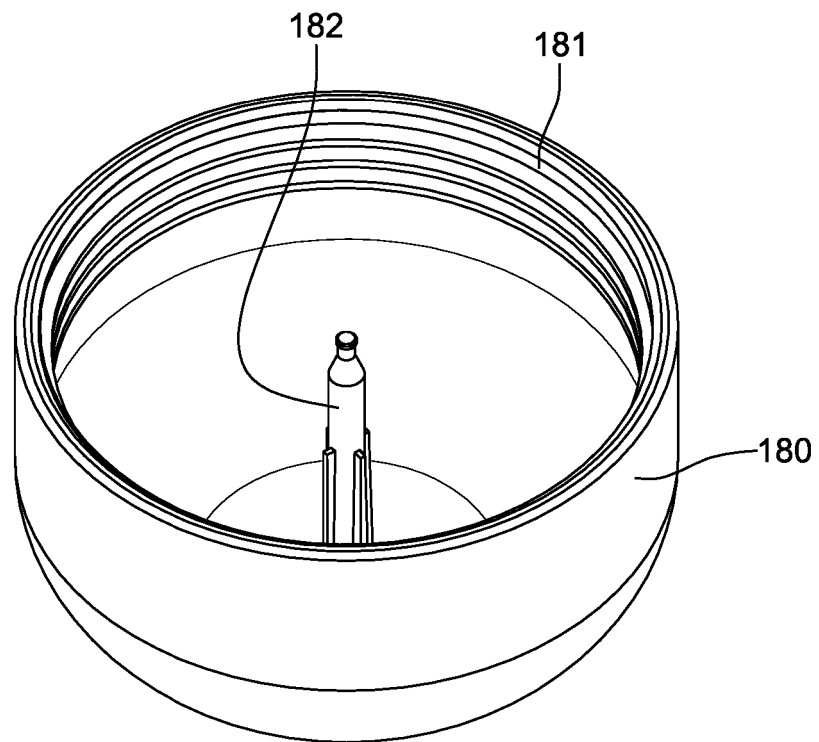


Fig. 9

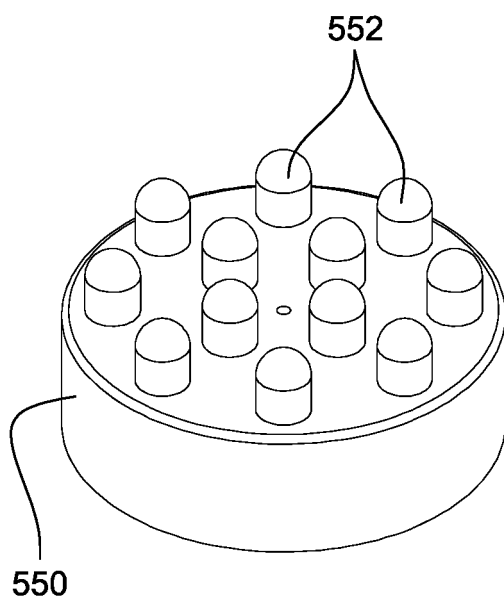


Fig. 10

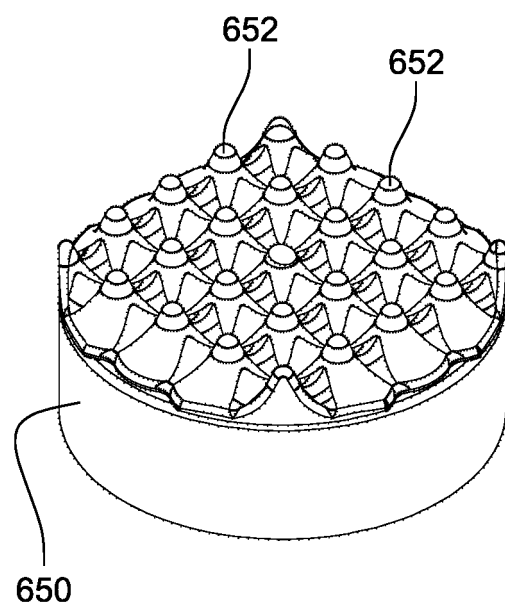


Fig. 11

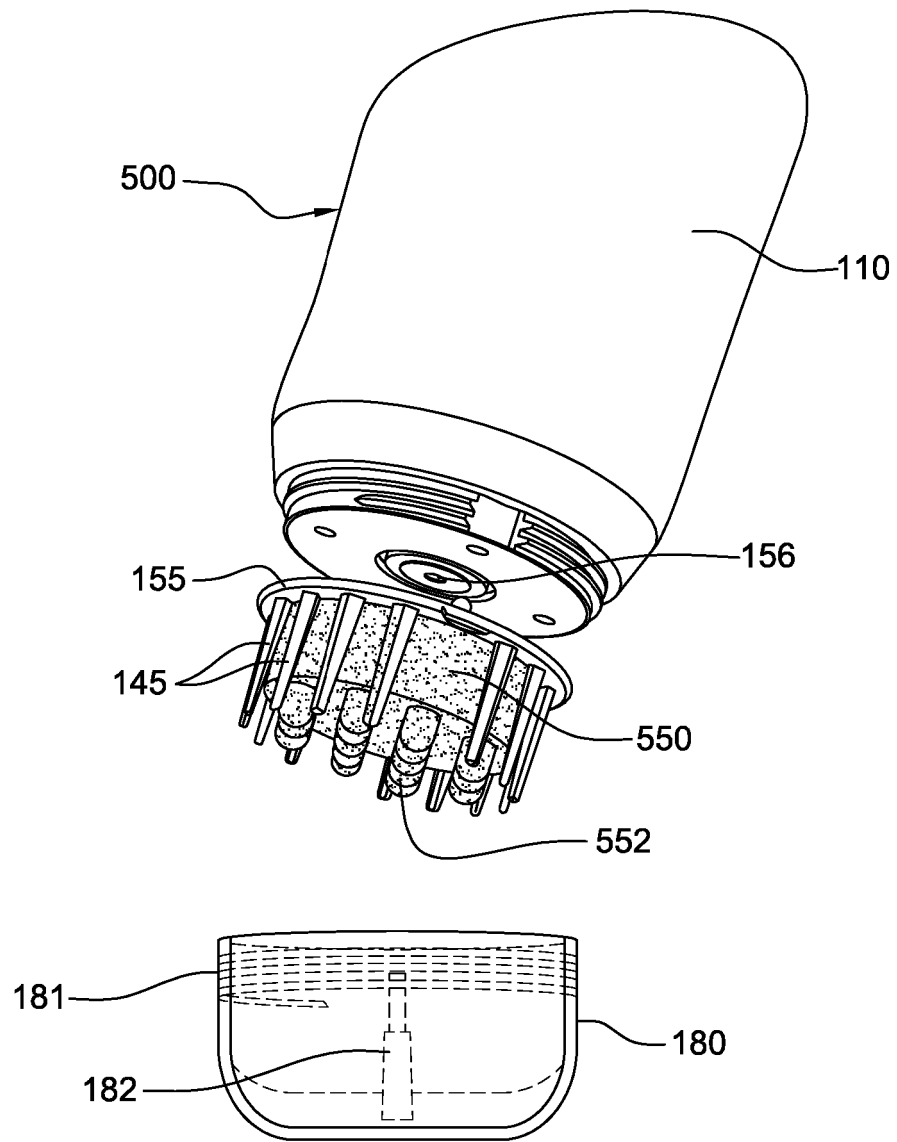


Fig. 12

REFERENCES CITED IN THE DESCRIPTION

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