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(54) **Container with a device to prevent clogging of a dispensing device of the container**

Behälter mit einer Vorrichtung zum Verhindern des Verstopfens der Abgabevorrichtung des Behälters

Conteneur avec dispositif pour empêcher l'engorgement d'un appareil de distribution du conteneur

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Description

FIELD OF THE INVENTION

[0001] The object of the invention relates to a container to collect, mix, dissolve and or disperse a product as well as a dispensing of its flowable content with a device to prevent clogging of an opening of a dispensing device on the container.

BACKGROUND OF THE INVENTION

[0002] It is known that when a powder is dissolved or dispersed into a liquid clumps can form. Undissolved powder particles and/or clumps of poorly dispersed powder particles within the liquid can clog a dispensing device, if the opening is relatively narrow. As controlled dispensing from an opening is desired for some applications, openings with a small cross-section are used to prevent uncontrollable dispensing.

[0003] The problem of clump formation during a mixing process can occur not just when dissolving and / or dispersing a powdery material into a liquid. It can also occur when dissolving and / or dispersing granular material into a liquid, when mixing two liquids together, or when mixing a pasty mass into a liquid. Inhomogeneities can occur with an inhomogeneous flowable mass that is mixed with another flowable mass; these inhomogeneities can also clog up a narrow opening, just like undissolved or poorly dispersed solid particles, due to their high viscosity.

[0004] The problem of clump formation is especially prevalent for hair compositions which are created by mixing a liquid together with a powder and/or granular and/or pasty material, for example hair bleaching compositions. Such compositions typically comprise a bleach activator in the form of a powder, granules or a pasty substance which is mixed together with a hydrogen peroxide containing formulation. The bleach activator will contain at least one persulfate salt, together with at least one solid buffering agent, examples of which include but are not limited to sodium silicate or sodium metasilicate. These primary particles typically have sizes in the order of a hundred microns. Immediately after mixing, only a small proportion of the bleach activator will have dissolved, whilst the majority will be dispersed within the hydrogen peroxide formulation. The undissolved persulfate and solid buffering agents can readily agglomerate together to form into clumps which can block the opening. The combination of large particles, which are not readily dissolved, and the need for controlled dispensing via use of an opening with a small cross section to prevent uncontrollable dispensing, makes clogging of the opening a significant possibility for such hair compositions. In addition, there is a second problem that can arise for hair bleaching compositions. The pH of the mixed product which contains hydrogen peroxide is typically at least 8, more preferably at least 9 and even more preferably between 10 and 11. Whilst not wishing to be bound by the-

ory, it's believed that this elevated pH accelerates the decomposition of hydrogen peroxide. A consequence of such an accelerated hydrogen peroxide decomposition is that the mixed highlighting composition can evolve a significant amount of gas over a relatively short period of time. The combination of clumps which can clog up the narrow opening, combined with a rapid evolution of gas by the product can lead to an increase in pressure within the container. The clog will be removed when the pressure within the container exceeds a critical value, causing the clump to be ejected from the narrow opening. This makes the container hazardous to handle such hair compositions.

[0005] Publications DE 76 39 177 U and DE 299 17 054 U1 disclose a sieve-like and spring-ball-type device to hold back particles in a bottle equipped with a pacifier for infant formula. Infant formula is created by dissolving a fine small particle size dissolvable milk powder in warm water. WO 98/16438 discloses a fine mesh to retain undissolved detergent composition pre-mixed with water prior to application onto fabrics.

[0006] WO 2004/041020 A2 discloses a prior art container which relates to methods and systems for hair coloring and highlighting.

[0007] These publications disclose containers for collecting a product with a dispensing device connected to the reservoir, wherein said dispensing device has an opening to dispense a flowable agent, particularly a powdery or granular product to be dissolved into a liquid, with a connection between the dispensing device and the container as well as a device to hold back excessively large particles or the undissolved product so that the opening of the dispensing device cannot clog up, wherein the device is fixed into position using a mount between the reservoir and the dispensing device, and wherein the device has a multiplicity of passages, which enable the passage of enough small particles and/or at least some of the dissolved product up to the opening.

[0008] The known containers have the disadvantage that they have passages the diameter of which is either significantly greater or alternatively significantly smaller than the opening to be protected.

[0009] These approaches do not securely protect the opening from clogging when used with a hair composition created by mixing together a liquid with a powder / granular / pasty material, such as a hair bleaching composition. The dispersed agglomerates of particles will either pass through the large passages of the device and clog the opening, or the dispersed particles will clog the narrow passages preventing the dispensing of product from the opening, or retain the particles on the device, thereby altering the nature of the mixed composition dispensed from that which is desired.

[0010] Thus, the object of the present invention is to protect the opening on containers of the type described from clogging, in a secure manner, whilst enabling it to continue to dispense the composition.

SUMMARY OF THE INVENTION

[0011] The object is achieved according to the characterizing portion of Claim 1. Accordingly, the diameter or the minimum width of the passages is less than or equal to the diameter or the minimum width of the opening.

DETAILED DESCRIPTION OF THE INVENTION

[0012] The container provided has the advantage that it offers secure protection for the opening against clogging when used with hair compositions which are created by mixing a liquid together with a powder / granular / pasty material, such as hair bleaching compositions, while still enabling it to have controlled dispensing. Particles and clumps that would be capable of blocking the opening because of their size are held back from reaching the opening by the device, yet well mixed particles that are dispersed within the liquid can pass through and be dispensed. If a particle or clump has a diameter that is greater than the minimum width of a passage, it is held back at that location. Because the device has a multiplicity of passages, it is extremely unlikely that all of these passages could be blocked. The passages are large enough to enable well dispersed particles to pass through and be dispensed through the opening. This makes the container suitable to handle chemical solutions, such as those found in hair bleaching compositions. A passage has a diameter or minimum width of between about 0.5 mm and 5.0 mm, preferably between about 1.0 mm and 4.0 mm, more preferably between about 1.2 mm and 3.5 mm, and even more preferably between about 2.0 and 3.0mm. In a preferred embodiment, the device comprises a multiplicity of passages; typically from about 3 to 150, more preferably from about 5 to 100, even more preferably from about 10 to 75 and most preferably from about 10 to 40. Preferably, said device comprises at least 80%, preferably at least 90%, more preferably at least 95% and most preferably at least 99% of said multiplicity of passages having a diameter or minimum width of from about 0.5mm to 5.0mm, preferably about 1.0mm to 4.0mm, more preferably about 1.2mm to 3.5mm. In a particularly preferred embodiment said device comprises from 10 to 40 passages wherein 99% have a diameter or minimum width of from about 1.2mm to 3.5mm. The passages may be of an identical or non identical shape and size. Preferably, the passages have a substantially regular shape and more preferably are substantially circular and or oblong/slot shaped. In a particularly, preferred embodiment the device comprises two types of passages circular and slot shaped. The passages may also be distributed in a random manner or in a pattern. Preferably the slot shaped passages, if present, are distributed around the perimeter edge of the device. In another embodiment the slot shaped passages are distributed around the perimeter edge of the device and the circular passages are distributed within the centre area

of the device formed by the slot shaped passages. The device may also comprise a part which is passage free, this part is preferably located in substantially the centre of the device. The device itself may also have any shape, but is preferably substantially flat or has an upright or inverted arch shape. The depth of the device is preferably constant and is preferably from about 0.1mm to 10mm, more preferably from about 0.5mm to 5.0mm, most preferably from about 0.5 to 2mm. Advantageous embodiments of the proposed container are described in Claims 2 through 10.

[0013] A spout (Claim 2), which can be attached or screwed onto the container, is suitable as the dispensing device; this spout can be used to apply a cosmetic agent for hair to a precise location. In particular, a colorant can be applied to the hairline. Alternatively, a hair composition can be precisely loaded into an applicator, which is then subsequently used to apply the composition to the hair, or selection of hair strands.

[0014] The device functions effectively and provides the maximum possible room in the container for the product to be dissolved / dispersed, along with the liquid in which the product is to be dissolved / dispersed, for the purpose of agitating the liquid to support the dissolving / dispersion processes if, similarly to Claim 3, the device is mounted at a connection point between the container and the mounting ring of the dispensing device.

[0015] If, according to Claim 4, there is a circumferential edge of the device clamped in between the mounting ring on the dispensing device and the upper end of a container neck, the device can be easily inserted into the container by placing it on the front of the container and then fixing it into position through placement of the dispensing device.

[0016] The container reservoir is suitable, in an advantageous manner, for collecting a product to color or bleach hair. In doing so, the product can be provided in the container in the form of a powder, a granular material, or a pasty mass to be dissolved / dispersed therein in a liquid, especially a hydrogen peroxide solution.

[0017] A particular advantage is achieved if, according to Claim 5, a centre part of the device, which is preferably circular, is free of any passage. The closed center part then protects the opening from the powder, granular material or cream to be dissolved / dispersed in a liquid during the shaking of the container to facilitate mixing. Whilst not wishing to be bound by theory, it is believed having a closed centre part can prevent the powder / granular / pasty material from becoming lodged within the opening during the shaking process. With a round container neck, a rotationally symmetrical dispensing device, or a round device to hold back particles, a closed center part on the device enables the protection of the opening in a secure manner.

[0018] To increase the passage surface and thus achieve less outflow resistance after the components have been mixed, it is advantageous, in a known manner, if a recess is provided in the device. For space consid-

erations, it is helpful to extend this recess up to the reservoir, as is known from the prior art. To keep the recess from extending too far into the reservoir, it is advantageous if according to Claim 6, the recess forms a platform that is connected to the edge of the device via a circumferential flank and an annular connection area. Based on the results obtained in experiments, it is helpful if, in accordance with the invention, round passages with a certain diameter as well as slot-shaped passages with a certain length and width are recessed in the device. If only slot-shaped passages are provided in the flank (Claim 7), smaller particles that move somewhat parallel with respect to the flank can better pass through the passages.

[0019] The proposed container is described in more detail in the following by means of figures representing the exemplary embodiments.

[0020] The following is shown:

Fig. 1 is a side view with a partial vertical section showing a container with a separate dispensing device, which has an opening to apply a dispensed agent, as known prior art;

Fig. 2 is a side view with a partial vertical section showing the container from Fig. 1, but with the dispensing device attached;

Fig. 3 is a side view with a partial vertical section showing the container from Fig. 1, but with a device inserted into the dispensing device to hold back larger particles or clumps of poorly dispersed particulates;

Fig. 4 is a side view with a partial vertical section showing the container from Fig. 3, but with the dispensing device attached;

Fig. 5 is a side view with a partial vertical section in another exemplary embodiment showing a container with a device that can be attached to the container neck;

Fig. 6 is a side view with a partial vertical section showing the container from Fig. 5, but with the dispensing device screwed on;

Fig. 7 is a side view with a partial vertical section showing the container from Fig. 4 with filled liquid and added granular product, wherein the granular product is pushed upward during the process of mixing via shaking the container;

Fig. 8 is a view from above showing a device to hold back particles or clumps of poorly dispersed particulates with a platform closed in the center from a recess and with passages of varying diameters which are less than or equal to the diameter or the

minimum width of the opening.

Fig. 9 is a view from above showing a device that has six slot-shaped passages in a circumferential flank of a platform;

Fig. 10 is a view from above showing a device similar to that in Fig. 9, but with only four slot-shaped passages;

Fig. 11 is a vertical section showing the device from Fig. 10;

Fig. 12 is a view from above showing a flat device with passages that have two different diameters;

Fig. 13 is a view from above showing a device similar to that in Fig. 12, but with slot-shaped passages;

Fig. 14 is a view from above showing a device with a dome-shaped center without passages in the center;

Fig. 15 is a vertical section showing the device from Fig. 14;

Fig. 16 is a view from above showing a device with a closed center platform, an annular arrangement of round passages, and a plurality of slot-shaped passages in a circumferential flank of the platform;

Fig. 17 is a schematic vertical section showing the device from Fig. 16;

Fig. 18 is a view from above showing a device similar to that in Fig. 16, but with only four slot-shaped passages; and

Fig. 19 is a vertical section showing the device from Fig. 18.

Fig. 20 is a view of the kit according to the invention

Fig. 21 is a perspective view of the implement comprising marking tools.

[0021] A reservoir 2 is used to collect a product 3 in a container 1 (Fig. 1, Fig. 2). A dispensing device 4 connected to the reservoir 2 has an opening 5 to dispense a flowable agent, particularly a powdery or granular product 3 to be dissolved / dispersed in a liquid 8. A connection 6 between the dispensing device 4 and the container 1 is designed as a plug connection with a snap-on cam 15. The dispensing device 4 is a spout 14 that can be attached to the container 1.

[0022] A plate-type device 7 inserted into the dispensing device 4 is used to hold back excessively large particles and / or clumps so that they cannot reach the open-

ing 5 of the dispensing device 4 and cause the opening 5 to become clogged yet enables well dispersed particles to pass through (Figs. 3 through 6). The device 7 is fixed into position using a mount 9 between the reservoir 2 and the dispensing device 4 and has a multiplicity of passages 10, which enable the passage of clump free mixed product 3 up to the opening 5. The multiplicity of passages are from about 3 to about 150 passages, more preferably from about 5 to about 100 passages and even more preferably from about 10 to about 75 passages. The device 7 can be mounted to the dispensing device 4 in the area of a connection 6 between the container 1 and a mounting ring 16. In the exemplary embodiment from Figs. 3 and 4, the device 7 is attached to the mounting ring 16 at an edge-side connection area 23. In the exemplary embodiment from Figs. 5 and 6, the device 7 is placed on a container neck 18 designed specifically for this purpose before the dispensing device 4 is screwed onto the container 1 using a threaded connection 25. Once the dispensing device 4 is screwed into place, the circumferential connection area 23 of the device 7 is clamped between the mounting ring 16 and the upper end 17 of the container neck 18.

[0023] With the exemplary embodiment from Fig. 7, the edge-side connection area 23 of a round device 7 is clamped in the area of a mount 9 of the dispensing device 4. Common among all of the exemplary embodiments is that the diameter 11 or the minimum width 12 of the passages 10 is less than or equal to the diameter 13 or the minimum width of the opening 5 (Figs. 8 through 19) in order to securely protect the opening 5 of the dispensing device 4 designed as a spout 14 from excessively large particles and / or clumps of a product 3 to be dissolved / dispersed in a liquid 8, yet enable the well dispersed particles to pass through the opening (Fig. 7). With the exemplary embodiment from Fig. 7, the reservoir 2 contains a peroxide solution as the liquid 8, in which a granular-type product 3, which is part of a persulfate bleaching composition, is added to be dispersed into the liquid 2. Shortly after the product 3 is added, a portion of the product 3 is better dispersed than the rest of the product 3. The areas which are poorly dispersed and which form clumps, which could clog the opening 5, cannot pass through the passages 10. These clumps cannot therefore clog up the opening 5. If a clump of the powder remains poorly dispersed after the mixing of a powdery product and if the solution is supposed to be dispensed through the opening 5, the liquid 8 along with well dispersed product 3 could pass through the device 7 and the opening 5 and only the large particles together with these clumps would be held back at the device 7 in order, thereby preventing the clogging of the opening 5.

[0024] If the center part 19 of the device 7 is designed without a passage 10 (Figs. 8 through 11 and 14 through 19), a particle located in the center of the reservoir 2 is less likely to become lodged in the opening 5 during shaking. Whilst not wishing to be bound by theory, it is believed that the act of shaking can lead to the powder particulates

becoming compacted within the inside of the spout 14, forming a block which can then prevent dispensing through the opening. The device 7 designed without a passage 10 in the center part 19, reduces the chance of the powder particulates becoming compacted within the inside of the spout 14. A recess 20 in the device 7 enlarges the surface area of the device 7 and enables a larger number of passages 10 to be present on the device 7 and hence a better dispensing of the liquid 8 from the spout 14.

[0025] Contrary to a flat design of the device 7 (Figs. 3, 5, 7, 12, and 13), a device 7 may be designed as an arch and form a platform (21) that is connected to the edge of the device 7 via a circumferential flank 22 and an annular connection area 23 (Figs. 8 to 11 and 16 through 19) or it can form a dome in the center (Figs. 14 and 15). Such arch or dome designs may be oriented such that they extend upwards towards the opening 5 or more preferably down towards the reservoir 2. Round passages 10 with a certain diameter 11 as well as slot-shaped passages 10 with a certain length 24 and width 12 can be recessed in the device 7. With some of the exemplary embodiments (Figs. 9, 10, 11, and 16 through 19), only slot-shaped passages 10 are provided in one flank 22 to achieve lower flow resistance of the device 7 for improved dispensing of the liquid 8. In general, a slot-shaped passage 10 is advantageous in that it only allows small particles to pass through and still offers a large passage area for the liquid 8 to be dispensed.

[0026] According to a further aspect of the present invention, for the purpose of sale and/or use, a kit (26) for creating hair bundle effects may be assembled in a package, preferably a box (31) as shown in Fig. 20. In one embodiment as shown in Fig. 20, the kit (26) comprises the container (1) as disclosed herein and at least one product (3). Preferably the product (3) is a hair treatment composition. More preferably, the hair treatment composition is selected from the group consisting of highlighting compositions, dyeing compositions, perming compositions, styling compositions and combinations thereof. Even more preferably, the hair treatment composition is selected from the group consisting of highlighting compositions, dyeing compositions and combinations thereof, yet even more preferably the hair treatment composition is a highlighting composition. The highlighting composition is prepared by mixing a first component and a second component. The first component is preferably comprised within the container (1) whereas the second component is separately packed. The second component is then added to the first component to form a hair treatment composition. The first component preferably comprises from about 3% to about 12% of hydrogen peroxide by weight of the first component. The second component is preferably in the form of a powder, granules or paste and comprises from about 10% to about 60% of persulfate salt selected from the group consisting of sodium persulfate, potassium persulfate, ammonium persulfate and mixtures thereof, by weight of the second

component. The kit (26) optionally comprises a third component comprising from about 3% to about 25% of an alkalinizing agent in an aqueous vehicle, by weight of the third component.

[0027] In another embodiment of the present invention, the hair treatment composition is prepared by mixing a first component comprising from about 1.5% to about 12% of hydrogen peroxide by weight of the first component and a second component comprising from about 0.01 % to about 6% of a dye selected from the group consisting of direct dyes, oxidative dye precursors, oxidative dye couplers and mixtures thereof, by weight of the second component.

[0028] The hair treatment compositions may further comprise components known, conventionally used, or otherwise effective for use in hair treatment compositions particularly oxidative bleaching and dye compositions which include but are not limited to: developer dye compounds; coupler dye compounds; direct dyes; oxidizing agents; reducing agents; thickeners; chelants; pH modifiers and buffering agents; alkalinizing agents, carbonate ion sources and radical scavenger systems; glycine; amodimethicone, ethylenediamine disuccinic acid; anionic, cationic, non-ionic, amphoteric or zwitterionic surfactants, or mixtures thereof; anionic, cationic, non-ionic, amphoteric or zwitterionic polymers, hydrophobically modified polymers or mixtures thereof; fragrances; dispersing agents; solvents, peroxide stabilizing agents; chelants, humectants, proteins and derivatives thereof, plant materials (e.g. aloe, chamomile and henna extracts); silicones (volatile or non-volatile, modified or non-modified), film-forming agents, cellulose polymers and their derivatives, ceramides, preserving agents, gel networks, colour indicators and opacifiers. Some adjuvants which are suitable are listed in the International Cosmetics Ingredient Dictionary and Handbook, (8th ed.; The Cosmetics, Toiletry, and Fragrance Association). Particularly, vol. 2, sections 3 (Chemical Classes) and 4 (Functions) and are useful in identifying specific adjuvants to achieve a particular purpose or multipurpose. A representative but not exhaustive list of polymers and thickening agents can be found in "The Encyclopaedia of Polymers and Thickeners for Cosmetics" compiled and edited by Robert Y. Lochhead, PhD and William R. Fron, Department of Polymer Science, University of Southern Mississippi.

[0029] The kit (26) may further comprise an applicator (27) for applying the hair treatment composition to the hair. The applicator (27) is selected from the group consisting of comb applicators, brush applicators, wand-like applicators, two-parts movably joined applicators and combinations thereof. Preferably the applicator is a two-part movably joined applicator as shown in Fig. 20.

[0030] The kit (26) may also comprise one or more marking tools (28; 29) for marking and separating a hair bundle from the remaining hair. Many types of marking tools (28; 29) can be used, including clips, such as those conventionally used for hair care. Preferably the marking

tools (28; 29) are substantially flat as shown in Fig. 20.

[0031] In another embodiment, the kit (26) further comprises an implement (30), wherein the implement (30) comprises a plurality of marking tools (28; 29) for marking and separating a hair bundle from the remaining hair. Preferably, each marking tool of the plurality of marking tools (28; 29) is independently associated to but removable from the implement (30) as shown in Fig. 21. Finally, the kit (26) preferably comprises instructions (32).

1	Container
2	Reservoir
3	Product
4	Dispensing device
5	Opening
6	Connection
7	Device
8	Liquid
9	Mount
10	Passage
11	Diameter of passage
12	Width of passage
13	Diameter of opening
14	Spout
15	Snap-on cam
16	Mounting ring
17	End
18	Container neck
19	Center part
20	Recess
21	Platform
22	Flank
23	Connection area
24	Length of passage
25	Threaded connection
26	Kit
27	Applicator
28, 29	Marking tools
30	Implement
31	Box
32	Instructions

[0032] The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as "40mm" is intended to mean "about 40 mm".

Claims

1. A container (1) with a reservoir (2) to collect a product (3); a dispensing device (4) connected to the reservoir (2), wherein the dispensing device (4) has an opening (5) to dispense a flowable agent, particularly a powdery or granular product (3) to be dissolved

- and / or dispersed in a liquid (8); a connection (6) between the dispensing device (4) and the container (1); as well as a device (7) to hold back excessively large particles and / or clumps of poorly dispersed particles of the product (3), so that these particles cannot reach the opening (5) of the dispensing device (4), and so that the opening (5) cannot become clogged, wherein the device (7) is fixed into position using a mount (9) between the reservoir (2) and the dispensing device (4), and the device (7) has a multiplicity of passages (19), which enable the passage of smaller particles or already partially dissolved product or well dispersed product (3) up to the opening (5), **characterized in that** the diameter (11) or the minimum width (12) of said passages (10) is from 0.5mm to 5mm and is less than or equal to the diameter (13) or the minimum width of said opening (5); and wherein a recess (20) is provided in said device (7) and that this recess preferably extends down towards the reservoir (2); and wherein circular passages (10) with a certain diameter (11) as well as slot-shaped passages (10) with a certain length (24) and width (12) arc recessed in said device (7).
2. The container according to Claim 1, **characterized in that** said dispensing device (4) has a spout (14) that can be attached or screwed onto said container (1).
 3. The container according to Claim 1 or Claim 2, **characterized in that** said device (7) is mounted at a connection (6) between said container (1) and a mounting ring (16) of said dispensing device (4).
 4. The container according to Claim 3, **characterized in that** a circumferential connection area (23) of said device (7) is clamped between said mounting ring (16) and the upper end (17) of a container neck (18).
 5. The container according to any of Claims 1 through 4, **characterized in that** a centre part (19) of said device (7), which is preferably circular, is free of said passage (10).
 6. The container according to any of Claims 1 to 5, **characterized in that** said recess (20) forms a platform (21), which is connected to the edge of the device (7) via a circumferential flank (22) and an annular connection area (23).
 7. The container according to any of Claims 1 to 6 **characterised in that** only slot-shaped passages (10) are provided in the flank (22).
 8. The container according to any of Claims 1 through 7, wherein said device (7) comprises from 3 to 150, preferably from 5 to 100, more preferably from 10 to 73 of said passages (10).
 9. The container according to any of Claims 1 to 8, wherein said passage (10) has a diameter or a minimum width of from 1.0 to 4.0mm, more preferably from 1.2 to 3.5mm.
 10. The container according to claim 9, wherein at least 80% of said passages have a diameter or minimum width of 1.2mm to 3.5mm.
 11. The container according to any of claims 1 to 10, comprising oblong shaped passages.
 12. A kit (26) for creating hair bundle effects comprising at least one container (1) according to any one of claims 1 to 9 and at least one product (3), which is a hair treatment composition selected from the group consisting of highlighting compositions, dyeing compositions, styling compositions, perming compositions and combinations thereof, preferably highlighting compositions, dyeing compositions and a combination thereof, more preferably, highlighting compositions.
 13. The kit (26) according to claim 12, wherein the kit (26) further comprises one or more marking tools (28; 29) for marking and separating a hair bundle (11) from the remaining hair.
 14. The kit (26) according to claims 12 or 13, wherein the kit (26) further comprises an applicator (27) for applying the hair treatment composition to the hair, wherein the applicator (27) is selected from the group consisting of comb applicators, brush applicators, wand-like applicators, two-parts movably joined applicators and combinations thereof, preferably the applicator is a two-part movably joined applicator.

Patentansprüche

1. Behälter (1) mit einem Reservoir (2), um ein Produkt (3) aufzunehmen; einer Abgabevorrichtung (4), die mit dem Reservoir (2) verbunden ist, wobei die Abgabevorrichtung (4) eine Öffnung (5) aufweist, um ein fließfähiges Mittel abzugeben, insbesondere ein pulverförmiges oder körnchenförmiges Produkt (3), das in einer Flüssigkeit (8) gelöst und / oder verteilt werden soll; einer Verbindung (6) zwischen der Abgabevorrichtung (4) und dem Behälter (1); sowie einer Vorrichtung (7), um zu große Teilchen und/oder Klumpen aus schlecht verteilten Teilchen des Produkts (3) zurückzuhalten, so dass diese Teilchen nicht zur Öffnung (5) der Abgabevorrichtung (4) gelangen können, und die Öffnung (5) **dadurch** nicht verstopft werden kann, wobei die Vorrichtung (7) unter Verwendung einer Befestigungseinrichtung (9) zwischen dem Reservoir (2) und der Abgabevorrichtung (4) festgelegt ist, und die Vorrichtung (7) eine

- Vielzahl von Kanälen (19) aufweist, welche die Passage kleinerer Teilchen oder von bereits teilweise gelöstem Produkt oder gut verteilterm Produkt (3) bis hinauf zur Öffnung (5) erlauben, **dadurch gekennzeichnet, dass** der Durchmesser (11) oder die Mindestbreite (12) der Kanäle (10) 0,5 mm bis 5 mm beträgt und höchstens so groß ist wie der Durchmesser (13) oder die Mindestbreite der Öffnung (5); und wobei eine Aussparung (20) in der Vorrichtung (7) vorgesehen ist, und diese Aussparung vorzugsweise nach unten in Richtung auf das Reservoir (2) verläuft; und wobei kreisförmige Kanäle (10) mit einem bestimmten Durchmesser (11), ebenso wie spaltförmige Kanäle (10) mit einer bestimmten Länge (24) und Breite (12) in die Vorrichtung (7) eingetieft sind.
2. Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** die Abgabevorrichtung (4) eine Tülle (14) aufweist, die an dem Behälter (1) befestigt oder angeschraubt werden kann.
 3. Behälter nach Anspruch 1 oder Anspruch 2, **dadurch gekennzeichnet, dass** die Vorrichtung (7) an einer Verbindung (6) zwischen dem Behälter (1) und einem Befestigungsring (16) der Abgabevorrichtung (4) befestigt ist.
 4. Behälter nach Anspruch 3, **dadurch gekennzeichnet, dass** eine Umfangsrand-Verbindungsfläche (23) der Vorrichtung (7) zwischen dem Befestigungsring (16) und dem oberen Ende (17) eines Behälterhalses (18) eingeklemmt ist.
 5. Behälter nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** ein mittlerer Teil (19) der Vorrichtung (7), der vorzugsweise kreisförmig ist, keinen Kanal (10) aufweist.
 6. Behälter nach einem der Ansprüche 1 bis 5, **dadurch gekennzeichnet, dass** die Aussparung (20) eine Plattform (21) bildet, die mit dem Rand der Vorrichtung (7) über eine in Umfangsrichtung verlaufende Flanke (22) und einen ringförmigen Verbindungsbereich (23) verbunden ist.
 7. Behälter nach einem der Ansprüche 1 bis 6, **dadurch gekennzeichnet, dass** nur spaltförmige Kanäle (10) in der Flanke (22) bereitgestellt sind.
 8. Behälter nach einem der Ansprüche 1 bis 7, wobei die Vorrichtung (7) 3 bis 150, vorzugsweise 5 bis 100, stärker bevorzugt 10 bis 75 solcher Kanäle (10) aufweist.
 9. Behälter nach einem der Ansprüche 1 bis 8, wobei der Kanal (10) einen Durchmesser oder eine Mindestbreite von 1,0 bis 4,0 mm, stärker bevorzugt von 1,2 bis 3,5 mm aufweist.
 10. Behälter nach Anspruch 9, wobei mindestens 80 % der Kanäle einen Durchmesser oder eine Mindestbreite von 1,2 mm bis 3,5 mm aufweisen.
 11. Behälter nach einem der Ansprüche 1 bis 10, länglich geformte Kanäle umfassend.
 12. Kit (26) zur Erzeugung von Haarsträhneeffekten, mindestens einen Behälter (1) gemäß einem der Ansprüche 1 bis 9 und mindestens ein Produkt (3) umfassend, bei dem es sich um eine Haarbehandlungs-Zusammensetzung handelt, die ausgewählt ist aus der Gruppe bestehend aus Aufhellungs-Zusammensetzungen, Tönungs-Zusammensetzungen, Styling-Zusammensetzungen, Dauerwellungs-Zusammensetzungen und deren Kombinationen, vorzugsweise Aufhellungs-Zusammensetzungen, Tönungs-Zusammensetzungen und einer Kombination davon, stärker bevorzugt Aufhellungs-Zusammensetzungen.
 13. Kit (26) nach Anspruch 12, wobei das Kit (26) ferner eines oder mehrere Markierungswerkzeuge (28; 29) enthält, um eine Haarsträhne (11) zu markieren und vom übrigen Haar zu trennen.
 14. Kit (26) nach einem der Ansprüche 12 oder 13, wobei das Kit (26) ferner einen Applikator (27) zum Auftragen der Haarbehandlungs-Zusammensetzung auf das Haar umfasst, wobei der Applikator (27) ausgewählt ist aus der Gruppe bestehend aus Kammapplikatoren, Pinselapplikatoren, stiftartigen Applikatoren, Applikatoren aus zwei beweglich miteinander verbundenen Teilen und Kombinationen davon, vorzugsweise ist der Applikator ein Applikator aus zwei beweglich miteinander verbundenen Teilen.

Revendications

1. Récipient (1) avec un réservoir (2) pour recueillir un produit (3) ; un dispositif dispensateur (4) attaché au réservoir (2), dans lequel le dispositif dispensateur (4) a une ouverture (5) pour dispenser un agent qui peut s'écouler, en particulier un produit pulvérulent ou granulaire (3) destiné à être dissous et / ou dispersé dans un liquide (8) ; un raccordement (6) entre le dispositif dispensateur (4) et le récipient (1) ; ainsi qu'un dispositif (7) pour retenir les particules excessivement grandes et / ou les grumeaux des particules du produit (3) mal dispersées, de sorte que ces particules ne puissent pas atteindre l'ouverture (5) du dispositif dispensateur (4), et de sorte que l'ouverture (5) ne puisse pas se colmater, dans lequel le dispositif (7) est fixé en position en utilisant une monture (9) entre le réservoir (2) et le dispositif dispen-

- sateur (4), et le dispositif (7) a une multiplicité de passages (19), qui permettent le passage des particules plus petites ou du produit déjà partiellement dissous ou du produit bien dispersé (3) jusqu'à l'ouverture (5), **caractérisé en ce que** le diamètre (11) ou la largeur minimale (12) desdits passages (10) va de 0,5 mm à 5 mm et est inférieure ou égale au diamètre (13) ou à la largeur minimale de ladite ouverture (5) ; et dans lequel une cavité (20) est fournie dans ledit dispositif (7) et **en ce que** cette cavité s'étend de préférence vers le bas en direction du réservoir (2) ; et dans lequel des passages circulaires (10) avec un certain diamètre (11), ainsi que des passages en forme d'encoche (10) avec une certaine longueur (24) et largeur (12) sont renforcés dans ledit dispositif (7).
2. Récipient selon la revendication 1, **caractérisé en ce que** ledit dispositif dispensateur (4) a un bec (14) qui peut être fixé ou vissé sur ledit récipient (1).
 3. Récipient selon la revendication 1 ou la revendication 2, **caractérisé en ce que** ledit dispositif (7) est monté à un raccordement (6) entre ledit récipient (1) et un anneau de montage (16) dudit dispositif dispensateur (4).
 4. Récipient selon la revendication 3, **caractérisé en ce qu'**une zone de raccordement circonférentielle (23) dudit dispositif (7) est serrée entre ledit anneau de montage (16) et l'extrémité supérieure (17) d'un goulot de récipient (18).
 5. Récipient selon l'une quelconque des revendications 1 à 4, **caractérisé en ce qu'**une partie centrale (19) dudit dispositif (7), qui est de préférence circulaire, est dépourvue dudit passage (10).
 6. Récipient selon l'une quelconque des revendications 1 à 5, **caractérisé en ce que** ladite cavité (20) forme une plate-forme (21), qui est reliée au bord du dispositif (7) par le biais d'un flanc circonférentiel (22) et une zone de raccordement annulaire (23).
 7. Récipient selon l'une quelconque des revendications 1 à 6, **caractérisé en ce que** seuls des passages en forme d'encoche (10) sont fournis dans le flanc (22).
 8. Récipient selon l'une quelconque des revendications 1 à 7, dans lequel ledit dispositif (7) comprend de 3 à 150, de préférence de 5 à 100, plus préféralement de 10 à 75 desdits passages (10).
 9. Récipient selon l'une quelconque des revendications 1 à 8, dans lequel ledit passage (10) a un diamètre ou une largeur minimale allant de 1,0 à 4,0 mm, plus préféralement de 1,2 à 3,5 mm.
 10. Récipient selon la revendication 9, dans lequel au moins 80 % desdits passages ont un diamètre ou une largeur minimale de 1,2 mm à 3,5 mm.
 11. Récipient selon l'une quelconque des revendications 1 à 10, comprenant des passages de forme oblongue.
 12. Trousse (26) pour créer des effets de mèches de cheveux comprenant au moins un récipient (1) selon l'une quelconque des revendications 1 à 9 et au moins un produit (3), qui est une composition de traitement capillaire choisie dans le groupe constitué de compositions d'éclaircissement, compositions de teinture, compositions de coiffage, compositions de permanente et leurs combinaisons, de préférence des compositions d'éclaircissement, des compositions de teinture et une de leurs combinaisons, plus préféralement des compositions d'éclaircissement.
 13. Trousse (26) selon la revendication 12, où la trousse (26) comprend en outre un ou plusieurs outils de marquage (28 ; 29) pour marquer et séparer une mèche de cheveux (11) des cheveux restants.
 14. Trousse (26) selon les revendications 12 ou 13, où la trousse (26) comprend en outre un applicateur (27) pour appliquer la composition de traitement capillaire sur les cheveux, dans laquelle l'applicateur (27) est choisi dans le groupe constitué d'applicateurs de type peigne, applicateurs de type brosse, applicateurs de type baguette, applicateurs joints de manière mobile en deux parties et leurs combinaisons, de préférence l'applicateur est un applicateur joint de manière mobile en deux parties.

Fig. 1.

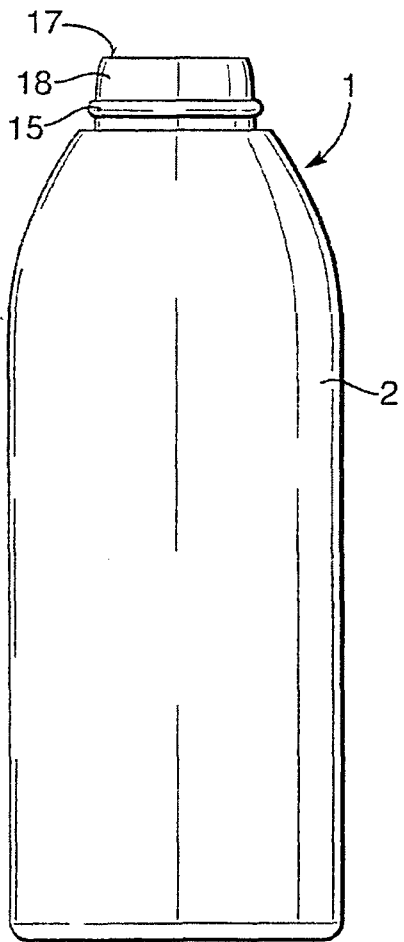
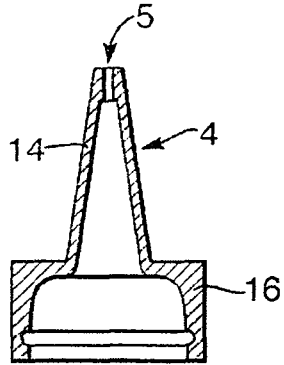


Fig. 2.

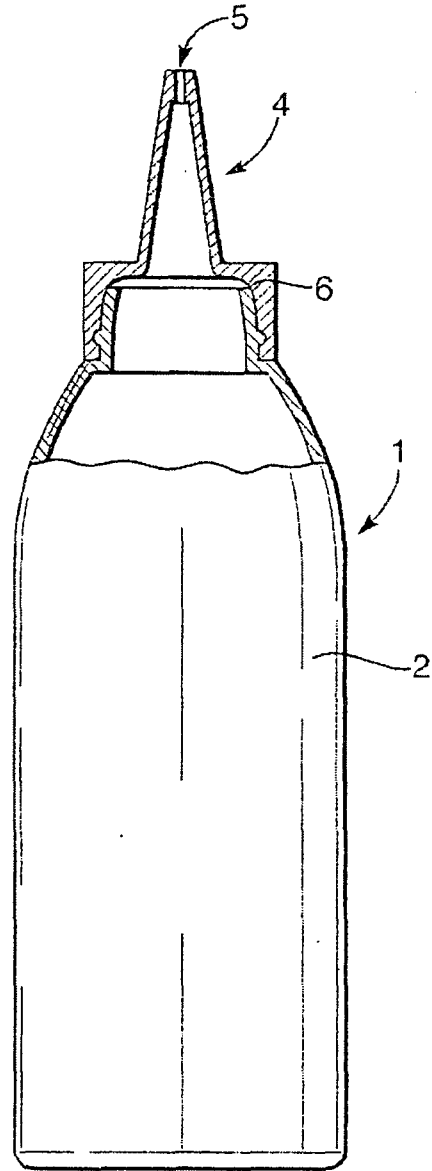


Fig.3.

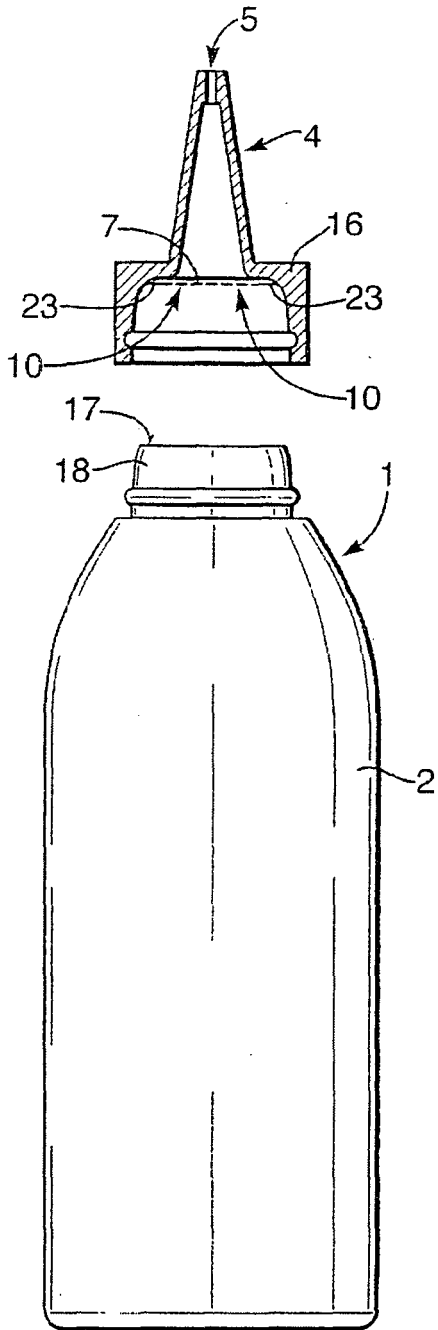


Fig.4.

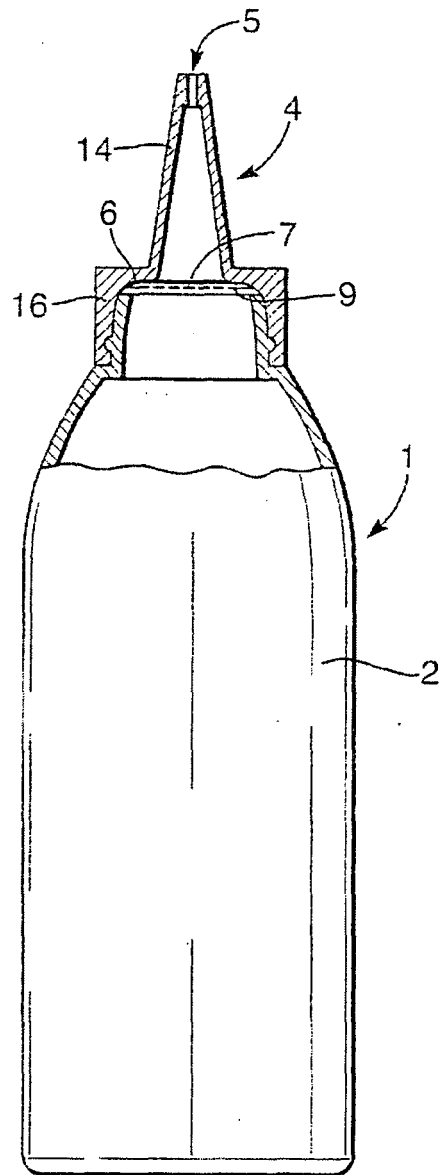


Fig.5.

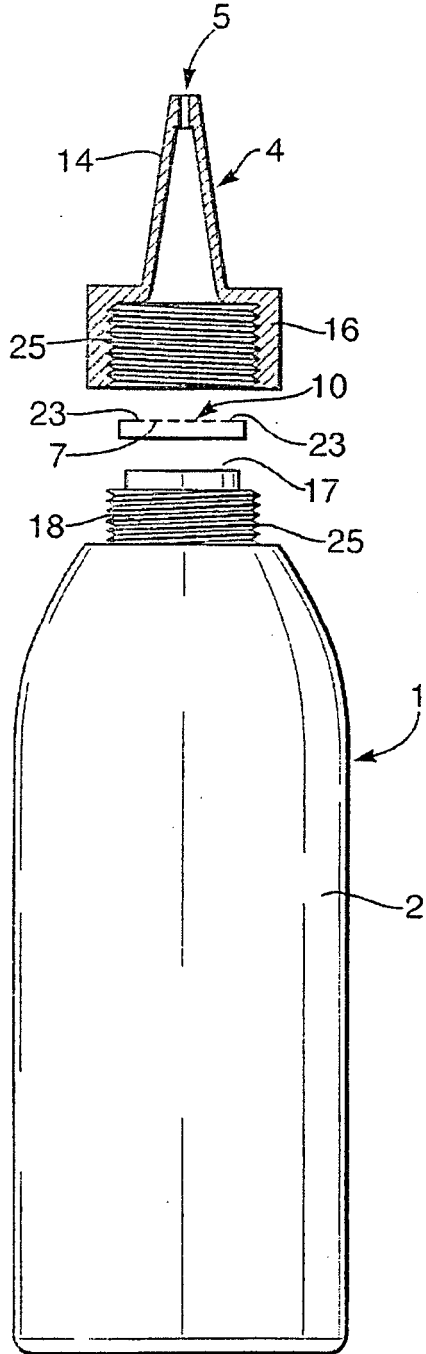


Fig.6.

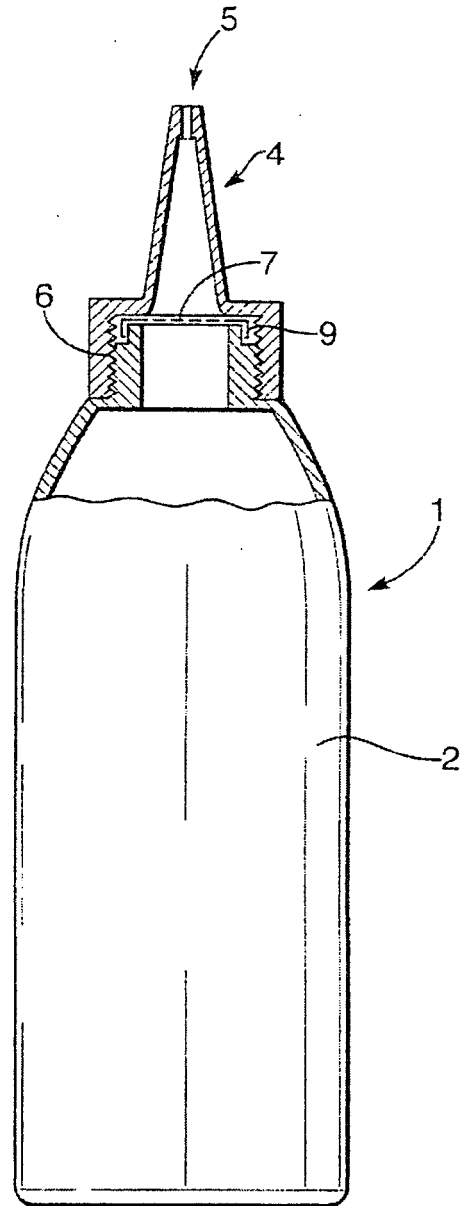


Fig.7.

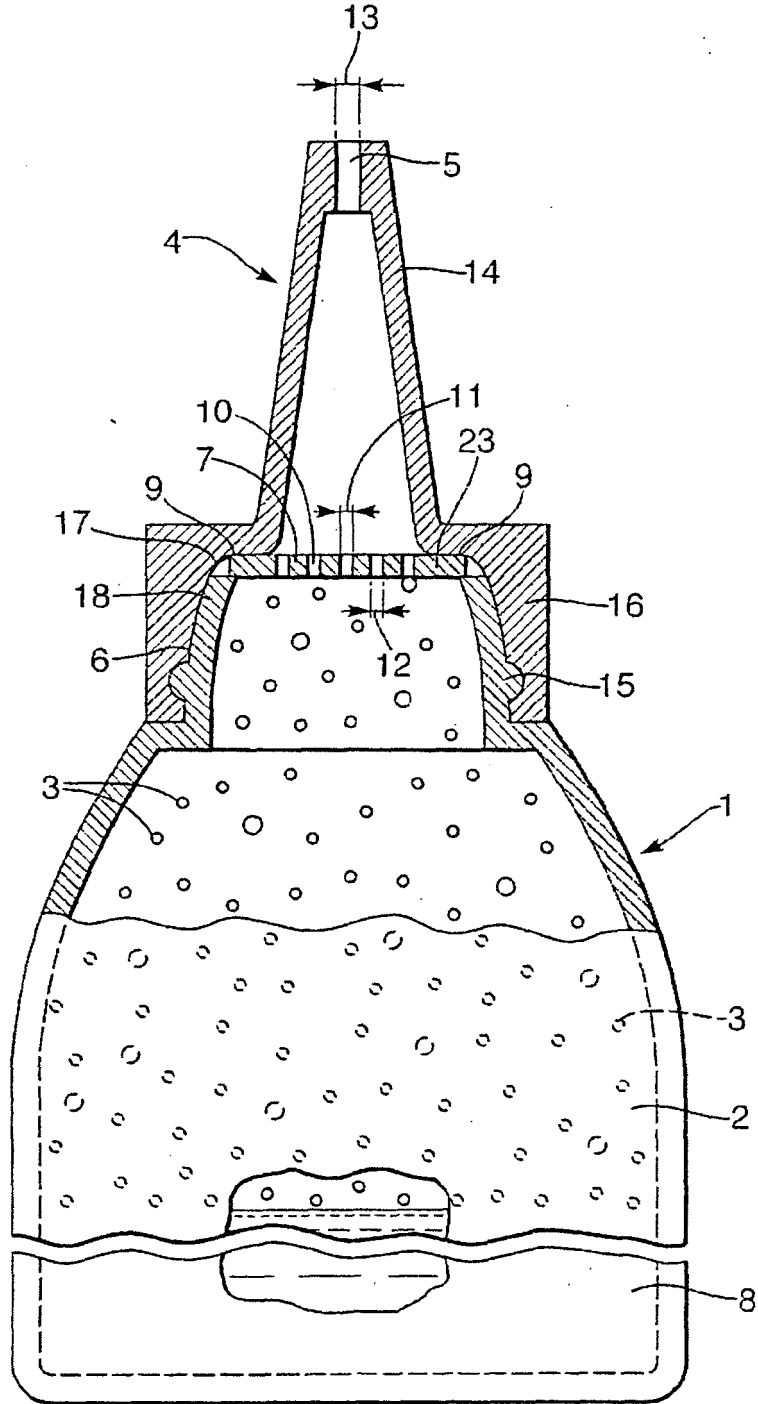


Fig.8.

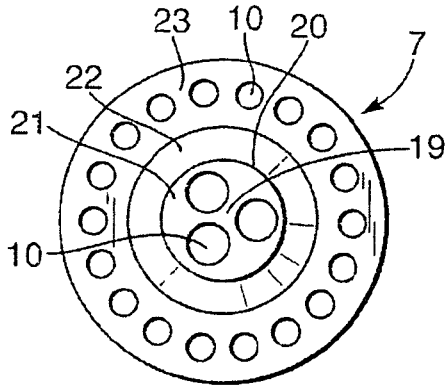


Fig.9.

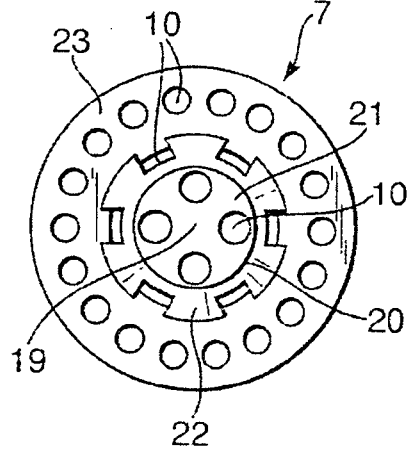


Fig.10.

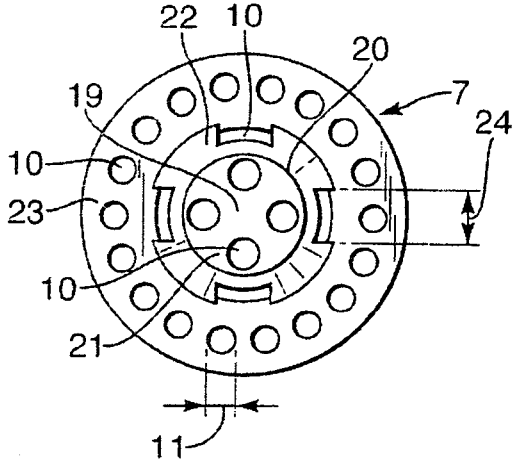


Fig.11.

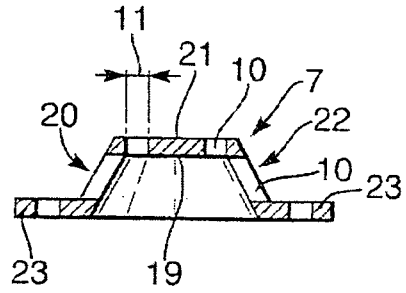


Fig.12.

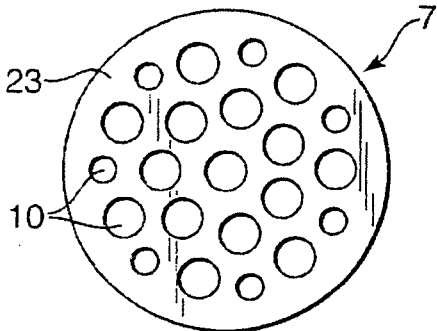


Fig.13.

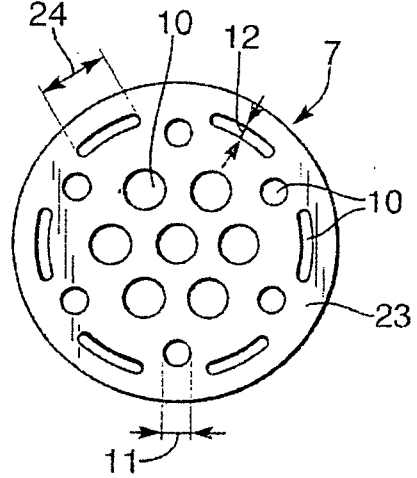


Fig.14.

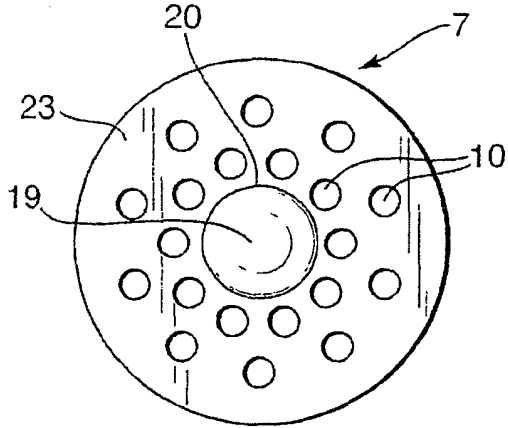


Fig.15.

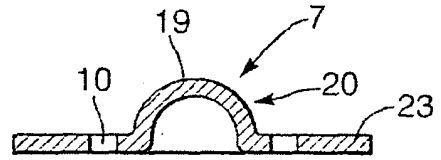


Fig.16.

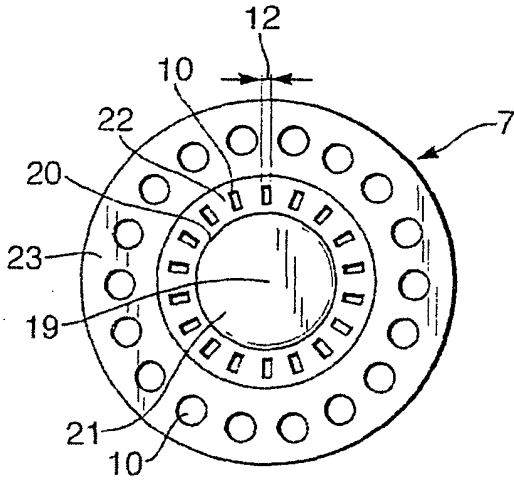


Fig.17.

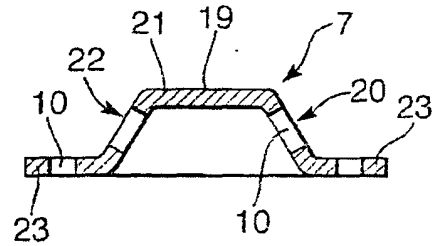


Fig.18.

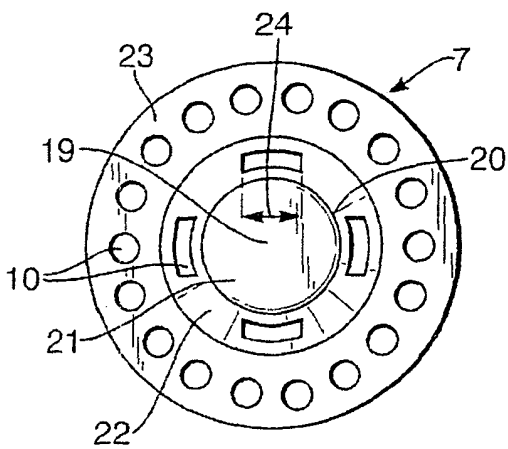


Fig.19.

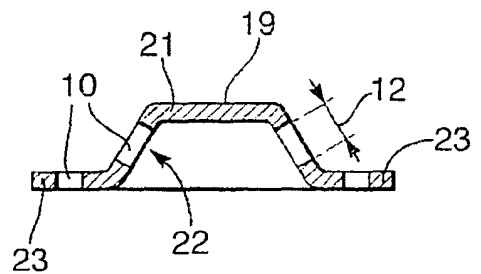


Fig.20.

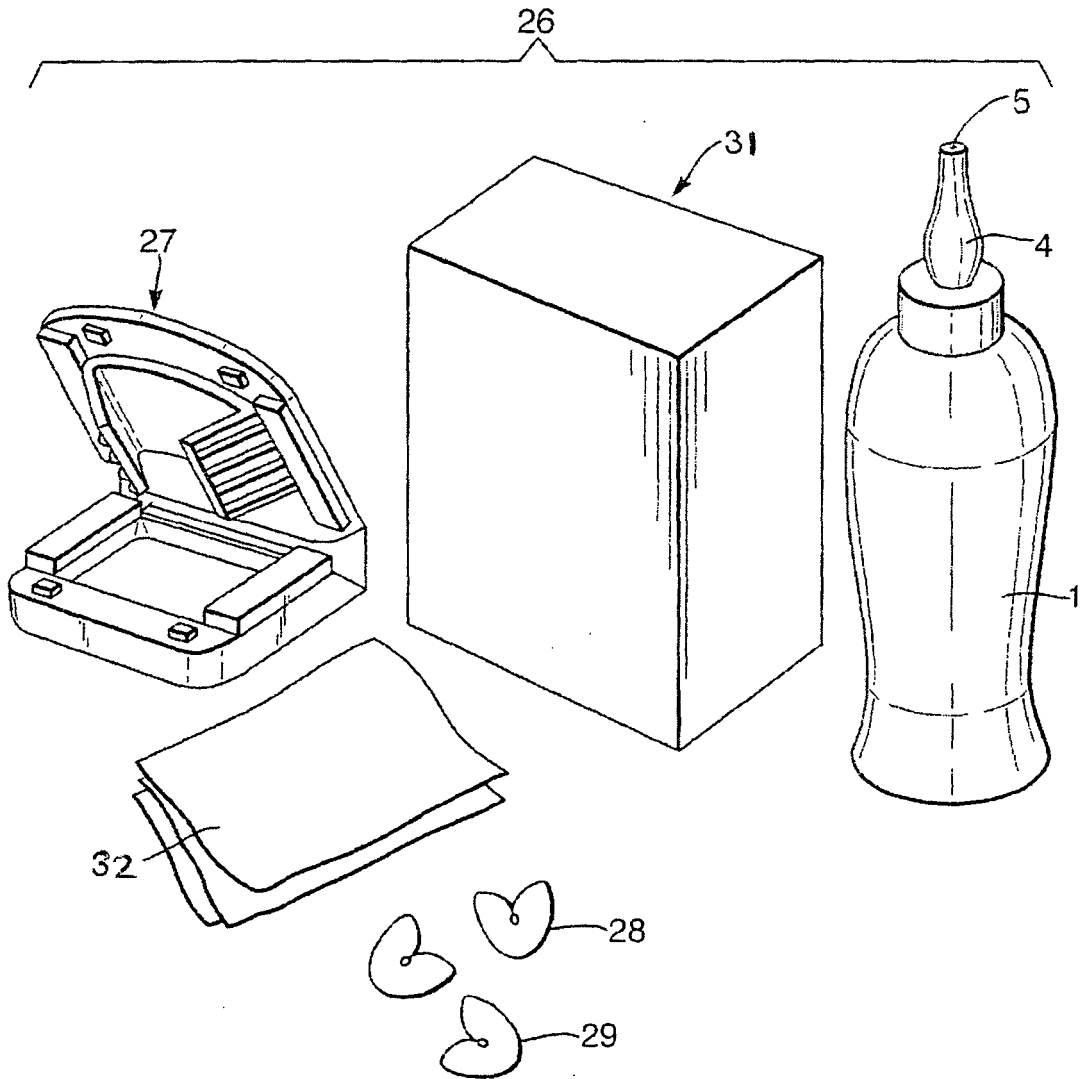
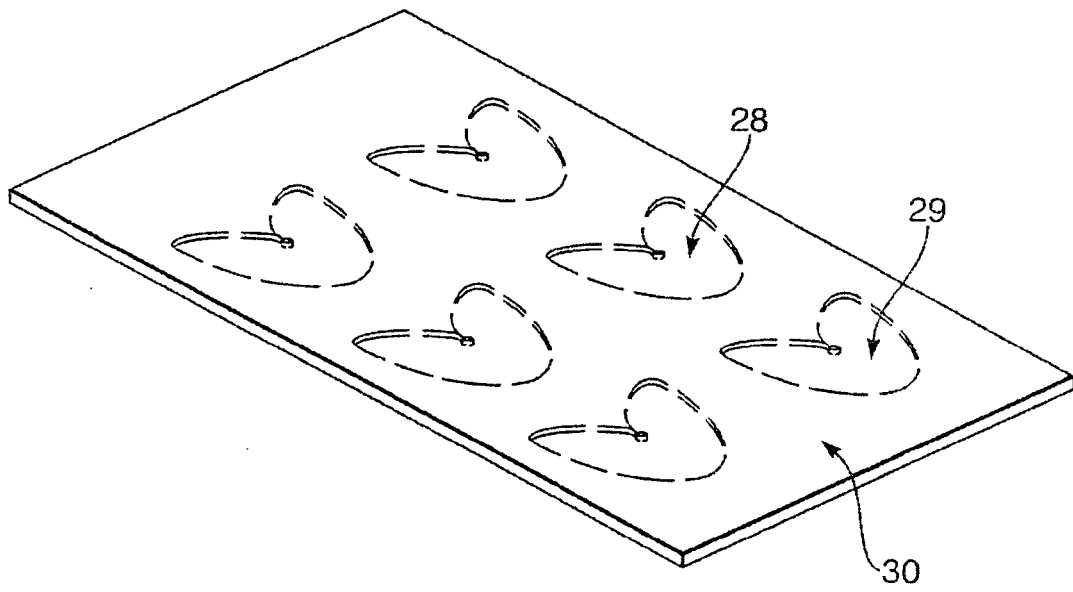


Fig.21.



REFERENCES CITED IN THE DESCRIPTION

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