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(54) **A HAIR OIL APPLICATOR**

HAARÖLAPPLIKATOR

APPLICATEUR D'HUILE POUR CHEVEUX

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Description

Field of the Invention

[0001] The present invention relates to a hair oil applicator. The invention more particularly relates to a container fitted with a closure comprising an applicator that ensures highly uniform application of the oil on to the hair and especially the scalp while eliminating leakage from the screwed on closure threads that is often observed with conventional bottle closures.

Background of the Invention

[0002] Oiling of hair is a habit in many countries especially in South Asia. The application of hair oil of vegetable origin like coconut oil is believed to keep the head cool, especially in the hot and humid tropical countries. Further, hair oil is blended with herbal actives that are believed to nourish the hair and provide desired attributes like low breakage, less split ends, shine, low hair fall etc. In more recent times, vegetable oils are blended with synthetic oils like paraffin oils, silicones etc to provide a more light feel, less stickiness and improved conditioning.

[0003] Traditionally hair oil is stored in containers from which it is poured out in the cupped palm, rubbed with both palms and applied on to the hair and scalp. Of late, people are less amenable to applying oil using their hands as it requires them to wash their hands with soap after such application. To solve this problem containers fitted with one or more applicator nozzles have been manufactured and sold.

[0004] One problem encountered with such containers is the flowback of the residual oil from the nozzles into the container lid portion to cause leakage from the threaded joints. Another problem, especially with containers having multiple applicator nozzles is the uneven flow of oil through the various nozzles.

[0005] JP2004321708 A (Kanebo) discloses a comb to apply a liquid to the hair.

[0006] US5152305 A (Niv Lundy) discloses a dye applicator which includes a hollow tubular housing with screw-threaded caps on both longitudinal ends thereof. One of the caps includes a centrally located outlet through which a hollow stem of an integrally formed nozzle unit is fitted. A manually actuable piston is provided within the tubular housing and includes an actuator member longitudinally slidable along the length of and external to the tubular housing. To ensure that the piston does not axially rotate within the tubular housing during a longitudinal sliding motion thereof, a protruding track is longitudinally provided on the inner wall of the tubular housing and mates with a corresponding recess of the piston. A liner such as a disposable plastic bag is provided within the tubular housing above the piston for receiving a hair dispensable product therein. The screw-threaded end caps confine the contents of the applicator during use

thereof.

[0007] JP 2004 321708 discloses cap with a comb. The document discloses that the comb body can be rotated to a desired inclined posture angle, it is possible to sufficiently and efficiently apply the content liquid to the hair corresponding to the application position and to smoothly and efficiently apply the contents.

[0008] The present inventors have been trying to solve the problems associated with hair oil containers. We have now determined a non-obvious solution to at least some of the problems, in the form of a breakoff tab on the closure nozzle along with specific configuration of the inner side of the threaded cap.

[0009] It is an object of the present invention to provide for the above benefit of uniform application while ensuring minimal leakage around the threaded joint of the cap and the container body.

[0010] It is another object of the present invention to provide for a hair oil applicator that ensures uniform flow of oil and ease of application in an even manner on to the scalp and hair.

Summary of the Invention

[0011] In accordance with a first aspect the present invention relates to a hair oil applicator comprising:

(a) a container (1) comprising a base (2), upwardly extending walls (3) therefrom, threaded portion (4) at the upper end of the container and a top surface comprising a flat resilient member (5);

(b) a closure cum dispenser (6) comprising a cylindrical cap (7), said cap comprising counter threads (8) on the inner side thereof capable of screw engagement with the threaded portion (4) of the container;

(c) said cylindrical cap comprising an elongated horizontally placed distributor tube (9) on the top surface thereof; and said distributor tube comprising plurality of upwardly extending nozzles (10) configured to dispense the oil from the container;

wherein

the resilient member comprises an upwardly extending breakable tab (11) which when broken ensures that the distributor tube is in fluid communication with the oil in the container; and said cylindrical cap comprising an inner cylindrical stopper (12) and an outer cylindrical stopper (13) on the inner side thereof; said inner cylindrical stopper (12) capable of providing leakproof sealing for the oil when the closure-cum-dispenser (6) is screwed on tightly to the container (1); and said outer cylindrical stopper (13) capable of sitting flush against the perimeter of the top surface; thereby ensuring that the hair oil applicator is leak-proof around the threaded joints and providing uniform dispensing of the oil through the nozzles (10).

[0012] In accordance with a second aspect the present

invention relates to a closure cum dispenser (6) screwable to a container (1) of a hair oil applicator, said dispenser (6) comprising a cylindrical cap (7) which comprises:

- (a) an elongated horizontally placed distributor tube (9) on the top surface thereof where said distributor tube comprises plurality of upwardly extending nozzles (10) configured to dispense the oil from the container (1);
- (b) an inner cylindrical stopper (12) and an outer cylindrical stopper (13) on the inner side thereof, where said inner cylindrical stopper (12) is capable of providing leakproof sealing for the oil when the closure-cum-dispenser (6) is screwed on tightly to the container (1) and said outer cylindrical stopper (13) capable of sitting flush against the perimeter of the top surface of the container (1) thereby ensuring that the hair oil applicator is leak-proof around the threaded joints and provides uniform dispensing of the oil through the nozzles (10); and,
- (c) counter threads (8) on the inner side of said dispenser (6) capable of screw engagement with threaded portion (4) of the container.

[0013] The invention will now be illustrated with the help of the following embodiment described with the help of the following figures. They are meant merely to illustrate one particular embodiment of the invention and are in no way meant to limit the scope of the invention which is to be understood to be defined by the claims herein below.

Detailed Description of the Invention

[0014]

Fig 1 is a perspective view of the hair oil applicator of the invention with the closure cum dispenser screwed on to the container.

Fig 2 is a perspective view of the hair oil applicator with the closure cum dispenser unscrewed from the container with the threads on the container and the counter threads on the closure cum dispenser clearly visible.

Fig 3 is the vertical cross-sectional view of the inner cylindrical stopper and the outer cylindrical stopper on the inside of the cylindrical cap sitting flush against the resilient member and the perimeter of the top surface respectively to ensure the oil does not leak when the closure is in the closed position on the container.

Fig 4 is cut-away view of the actual model of the bottle where the inner cylindrical stopper and the outer cylindrical stopper (as in Fig. 3) are shown in the

respective positions when the closure is in the closed position.

Detailed Description of the Drawings

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[0015] Referring to Fig 1, the hair oil applicator is shown in the perspective view with the closure cum dispenser (6) in the closed position on the container (1). The container (1) comprises a base (2), upwardly extending walls (3) leading up to a shoulder portion (14). Upward of the shoulder position is closure cum dispenser (6) which comprises the cylindrical cap (7) on which is placed a horizontally placed distributor tube (9) on top of which are upwardly extending nozzles (10). In the present embodiment, the hair oil applicator is shown with 10 nozzles.

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[0016] Referring to Fig.2, the closure cum dispenser is shown unscrewed and distant from the container. The upper end of the container contains the threaded portion (4). The top surface of the container comprises a flat resilient member (5). The flat resilient member comprises an upwardly extending breakable tab (11). As can be seen, the cylindrical cap (7) portion of the closure cum dispenser comprises counter threads (8) on the inner side.

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[0017] Referring to Fig. 3, the vertical cross-sectional view of the closure cum dispenser is depicted. As can be seen, the cylindrical cap comprises two stoppers on the inner side thereof. The inner cylindrical stopper (12) presses against the resilient member (5) when the closure cum dispenser is screwed on to the threaded portion of the container. At the same time, the outer cylindrical stopper (13) is biased against the perimeter of the upper end of the container.

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[0018] Referring to Fig 4, a cut out view of the actual model of the closure cum dispenser is shown. As can be seen, the cylindrical cap is screwed tightly on to the threaded portion (4) of the container with the counter threads (8). Like in Fig 3, the inner cylindrical stopper (12) is shown pressed against the resilient member (5) while the outer cylindrical stopper (13) is biased against the perimeter of the upper end of the container. Also shown in Fig 4 is the breakable tab (11) and the nozzles (10).

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[0019] When the hair oil applicator is to be used, the closure cum dispenser (6) is unscrewed from the container (1). The breakable tab (11) is then broken and thrown away. This ensures that the port created (not shown in the figures) on the resilient member (5) is of a uniform size. The uniform size of a port that is created as a result of breaking of the tab ensures that the flow of oil through the port and thereafter out from the nozzles is uniform. This is a significant improvement over prior dispensers where the resilient member had to be manually torn with a knife or a thick pin to create the port. The port thus created was of uneven size and shape thus creating uneven flow of the oil out of the port and into the nozzles. The closure cum dispenser (6) is then tightly screwed back on to the threaded portion (4) on the con-

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tainer (1). As the closure cum dispenser is tightened to the ends of the threads the inner cylindrical stopper (12) is pressed on to the resilient member and the outer cylindrical stopper (13) is biased against the perimeter of the top surface. To dispense the hair oil, the hair oil applicator is inverted with the nozzles (10) placed on the scalp of the person wishing to apply the oil. The container (1) is then squeezed creating a positive pressure on the oil which flows through the port created when the breakable tab was broken, out through the distributor tube(6), into each of the nozzles (10) and on to the desired area of the scalp.

[0020] The oil thus applied may then be rubbed on to the scalp and the hair using the nozzles themselves or using the hands or with the use of a comb. After use, the hair oil applicator may then be placed back on its base (2) at a desired place during which time the residual oil from the nozzles flow back through the distributor tube, through the port and back into the container. The inner cylindrical stopper (12) and the outer cylindrical stopper (13) respectively biased against the resilient member and the perimeter of the upper end of the top surface, ensure no space for the oil to leak out of the threads, thereby ensuring leak tightness.

Detailed Description of the Invention

[0021] The invention relates to a hair oil applicator for dispensing hair oil from a container using the applicator of the invention. The container is preferably square, rectangular, hexagonal or cylindrical shape, preferably it is cylindrical. The container may be of a suitable volume ranging from 10 ml to 2000 ml, preferably from 50 ml to 200 ml. The container is preferably made of a polymeric material which is amenable to be squeezed by hand. Suitable polymeric materials are high density polyethylene (HDPE), poly propylene (PP), polyethylene terephthalate (PET), multilayer of low -density polyethylene (LDPE) and HDPE. The most preferred material of construction of the container is HDPE.

[0022] The flat resilient member on the top surface of the container is preferably disc shaped. Suitable material of construction of the flat resilient member are linear low-density polyethylene (LLDPE), LDPE, elastomer, polyurethane, or HDPE. The most preferred material from which the resilient member is made is LLDPE. The flat resilient member when in the shape of a disc has a diameter preferably in the range of 1 cm to 5 cm, more preferably in the range of 1.5 cm to 2 cm.

[0023] The breakable tab on the resilient member is preferably cylindrical. Suitable material of construction of the breakable tab are LLDPE, LDPE, elastomer, polyurethane, or HDPE, most preferably LLDPE. The outer surface of the breakable tab is preferably knurled to ensure ease of gripping when it is to be broken. It is preferred for the ease of manufacture that the resilient member and the breakable tab are made of the same material of construction and ideally, they are made from a single

mould. The closure cum dispenser is preferably made of PP, HDPE, LDPE, more preferably PP. The hair oil may be dispensed through any number of nozzles preferably from 5 to 15 nozzles, furthermore preferably from 8 to 12 nozzles.

Claims

1. A hair oil applicator comprising:

(a) a container (1) comprising a base (2), upwardly extending walls (3) therefrom, threaded portion (4) at the upper end of the container and a top surface comprising a flat resilient member (5);

(b) a closure cum dispenser (6) comprising a cylindrical cap (7), said cap comprising counter threads (8) on the inner side thereof capable of screw engagement with the threaded portion (4) of the container;

(c) said cylindrical cap comprising an elongated horizontally placed distributor tube (9) on the top surface thereof; and said distributor tube comprising plurality of upwardly extending nozzles (10) configured to dispense the oil from the container;

wherein

the resilient member comprises an upwardly extending breakable tab (11) which when broken ensures that the distributor tube is in fluid communication with the oil in the container; and said cylindrical cap comprising an inner cylindrical stopper (12) and an outer cylindrical stopper (13) on the inner side thereof;

said inner cylindrical stopper (12) capable of providing leakproof sealing for the oil when the closure-cum-dispenser (6) is screwed on tightly to the container (1); and

said outer cylindrical stopper (13) capable of sitting flush against the perimeter of the top surface;

thereby ensuring that the hair oil applicator is leak-proof around the threaded joints; and providing uniform dispensing of the oil through the nozzles (10).

2. A hair oil applicator as claimed in claim 1 wherein said container is cylindrical.

3. A hair oil applicator as claimed in claim 1 or 2 wherein said flat resilient member is disc shaped.

4. A hair oil applicator as claimed in any one of the preceding claims wherein the flat resilient member is made of LLDPE, LDPE, elastomer, polyurethane,

or HDPE, preferably LLDPE.

5. A hair oil applicator as claimed in any one of the preceding claims comprising 5 to 15 nozzles. 5
6. A hair oil applicator as claimed in any one of the preceding claims wherein the breakable tab is cylindrical. 5
7. A hair oil applicator as claimed in any one of the preceding claims wherein the breakable tab has a knurled outer surface. 10
8. A hair oil applicator as claimed in any one of the preceding claims wherein the breakable tab is made of LLDPE, LDPE, elastomer, polyurethane, or HDPE, preferably LLDPE. 15
9. A hair oil applicator as claimed in any one of the preceding claims wherein the container is made of HDPE, PP, PET, multilayer of LDPE and HDPE, preferably HDPE. 20
10. A hair oil applicator as claimed in any one of the preceding claims wherein the closure cum dispenser is made of PP, HDPE, or LDPE, preferably PP. 25
11. A closure cum dispenser (6) screwable to a container (1) of a hair oil applicator, said dispenser (6) comprising a cylindrical cap (7) which comprises: 30
- (a) an elongated horizontally placed distributor tube (9) on the top surface thereof where said distributor tube comprises plurality of upwardly extending nozzles (10) configured to dispense the oil from the container (1); 35
- (b) an inner cylindrical stopper (12) and an outer cylindrical stopper (13) on the inner side thereof, where said inner cylindrical stopper (12) is capable of providing leakproof sealing for the oil when the closure-cum-dispenser (6) is screwed on tightly to the container (1) and said outer cylindrical stopper (13) capable of sitting flush against the perimeter of the top surface of the container (1) thereby ensuring that the hair oil applicator is leak-proof 40
- around the threaded joints and provides uniform dispensing of the oil through the nozzles (10); and,
- (c) counter threads (8) on the inner side of said dispenser (6) capable of screw engagement with threaded portion (4) of the container. 45

Patentansprüche 55

1. Haaröl-Applikator, der Folgendes umfasst:

(a) einen Behälter (1), der eine Grundfläche (2), von dort aus nach oben verlaufende Wände (3), einen Gewindeabschnitt (4) am oberen Ende des Behälters und eine obere Oberfläche, die ein flaches elastisches Element (5) aufweist, umfasst;

(b) einen Verschluss-Spritzspender (6), der eine zylindrische Kappe (7) umfasst, wobei die Kappe an der Innenseite Gegengewinde (8) aufweist, die mit dem Gewindeabschnitt (4) des Behälters in einen Verschraubungseingriff gelangen können;

(c) wobei die zylindrische Kappe an der oberen Oberfläche ein längliches horizontal angeordnetes Verteilungsrohr (9) aufweist, und wobei das Verteilungsrohr mehrere nach oben verlaufende Düsen (10) aufweist, die konfiguriert sind, das Öl aus dem Behälter auszugeben;

wobei das elastische Element eine nach oben verlaufende zerbrechliche Lasche (11) umfasst, die dann, wenn sie zerbrochen ist, sicherstellt, dass das Verteilungsrohr mit dem Öl im Behälter in Fluidkommunikation ist; und wobei die zylindrische Kappe ein inneres zylindrisches Stoppelement (12) und ein äußeres zylindrisches Stoppelement (13) an ihrer Innenseite umfasst, wobei das innere zylindrische Stoppelement (12) eine auslaufsichere Dichtung für das Öl bereitstellt, wenn der Verschluss-Spritzspender (6) fest mit dem Behälter (1) verschraubt ist; und wobei das äußere zylindrische Stoppelement (13) bündig am Umfang der oberen Oberfläche anliegt, wodurch sichergestellt wird, dass der Haaröl-Applikator um die Gewindeverbindungen auslaufsicher ist; und für eine gleichmäßige Ausgabe des Öls durch die Düsen (10) gesorgt wird.

2. Haaröl-Applikator nach Anspruch 1, wobei der Behälter zylindrisch ist.
3. Haaröl-Applikator nach Anspruch 1 oder 2, wobei das flache elastische Element scheibenförmig ist.
4. Haaröl-Applikator nach einem der vorhergehenden Ansprüche, wobei das flache elastische Element aus LLDPE, LDPE, Elastomer, Polyurethan oder HDPE, vorzugsweise aus LLDPE hergestellt ist.
5. Haaröl-Applikator nach einem der vorhergehenden Ansprüche, der 5 bis 15 Düsen umfasst.
6. Haaröl-Applikator nach einem der vorhergehenden Ansprüche, wobei die zerbrechliche Lasche zylindrisch ist.
7. Haaröl-Applikator nach einem der vorhergehenden Ansprüche, wobei die zerbrechliche Lasche eine ge-

rändelte äußere Oberfläche hat.

8. Haaröl-Applikator nach einem der vorhergehenden Ansprüche, wobei die zerbrechliche Lasche aus LLDPE, LDPE, Elastomer, Polyurethan oder HDPE, vorzugsweise aus LLDPE hergestellt ist. 5
9. Haaröl-Applikator nach einem der vorhergehenden Ansprüche, wobei der Behälter aus HDPE, PP, PET, mehreren Lagen LDPE und HDPE, vorzugsweise aus HDPE hergestellt ist. 10
10. Haaröl-Applikator nach einem der vorhergehenden Ansprüche, wobei der Verschluss-Spritzspender aus PP, HDPE oder LDPE, vorzugsweise aus PP hergestellt ist. 15
11. Verschluss-Spritzspender (6), der auf einen Behälter (1) eines Haaröl-Applikators geschraubt werden kann, wobei das Ausgabeelement (6) eine zylindrische Kappe (7) umfasst, die Folgendes umfasst: 20

- (a) ein längliches horizontal angeordnetes Verteilungsrohr (9) an der oberen Oberfläche, wobei das Verteilungsrohr mehrere nach oben verlaufende Düsen (10) aufweist, die konfiguriert sind, das Öl aus dem Behälter (1) auszugeben; 25
- (b) ein inneres zylindrisches Stoppelement (12) und ein äußeres zylindrisches Stoppelement (13) an der Innenseite, wobei das innere zylindrische Stoppelement (12) eine auslaufsichere Dichtung für das Öl bereitstellt, wenn der Verschluss-Spritzspender (6) fest mit dem Behälter (1) verschraubt ist, und wobei das äußere zylindrische Stoppelement (13) bündig am Umfang der oberen Oberfläche des Behälters (1) anliegt, wodurch sichergestellt wird, dass der Haaröl-Applikator um die Schraubverbindungen auslaufsicher ist und für eine gleichmäßige Ausgabe des Öls durch die Düsen (10) gesorgt wird, und 40
- (c) Gegengewinde (8) an der Innenseite des Ausgabeelements (6), die mit dem Gewindeabschnitt (4) des Behälters in Verschraubungseingriff gelangen können. 45

Revendications

1. Applicateur d'huile pour cheveux comprenant :

- (a) un récipient (1) comprenant une base (2), des parois (3) s'étendant vers le haut à partir de cette dernière, une partie filetée (4) au niveau de l'extrémité supérieure du récipient et une surface supérieure comprenant un élément résilient plat (5) ; 55
- (b) un distributeur à fermeture (6) comprenant un capuchon cylindrique (7), ledit capuchon

comprenant des contre-filetages (8) sur son côté interne capables de se mettre en prise par vissage avec la partie filetée (4) du récipient ; (c) ledit capuchon cylindrique comprenant un tube distributeur allongé (9) placé horizontalement sur sa surface supérieure ; et ledit tube distributeur comprenant une pluralité de buses (10) s'étendant vers le haut configurées pour distribuer l'huile du récipient ; dans lequel l'élément résilient comprend une languette cassable (11) s'étendant vers le haut qui, lorsqu'elle est cassée, garantit que le tube distributeur est en communication de fluide avec l'huile dans le récipient ; et ledit capuchon cylindrique comprenant un dispositif d'arrêt cylindrique interne (12) et un dispositif d'arrêt cylindrique externe (13) sur son côté interne ; ledit dispositif d'arrêt cylindrique interne (12) pouvant fournir une étanchéité étanche aux fuites pour l'huile lorsque le distributeur à fermeture (6) est vissé de manière étanche sur le récipient (1) ; et ledit dispositif d'arrêt cylindrique externe (13) pouvant être à fleur contre le périmètre de la surface supérieure ; garantissant ainsi que l'applicateur d'huile pour les cheveux est étanche aux fuites autour des joints filetés ; et fournissant la distribution uniforme de l'huile par les buses (10).

2. Applicateur d'huile pour les cheveux selon la revendication 1, dans lequel ledit récipient est cylindrique.
3. Applicateur d'huile pour les cheveux selon la revendication 1 ou 2, dans lequel ledit élément résilient plat est en forme de disque.
4. Applicateur d'huile pour les cheveux selon l'une quelconque des revendications précédentes, dans lequel l'élément résilient plat est réalisé à partir de LLDPE, LDPE, élastomère, polyuréthane ou HDPE, de préférence LLDPE.
5. Applicateur d'huile pour les cheveux selon l'une quelconque des revendications précédentes, comprenant de 5 à 15 buses.
6. Applicateur d'huile pour les cheveux selon l'une quelconque des revendications précédentes, dans lequel la languette cassable est cylindrique.
7. Applicateur d'huile pour les cheveux selon l'une quelconque des revendications précédentes, dans lequel la languette cassable a une surface externe moletée.
8. Applicateur d'huile pour les cheveux selon l'une quelconque des revendications précédentes, dans

lequel la languette cassable est réalisée à partir de LLDPE, LDPE, élastomère, polyuréthane ou HDPE, de préférence LLDPE.

9. Applicateur d'huile pour les cheveux selon l'une quelconque des revendications précédentes, dans lequel le récipient est réalisé à partir de HDPE, PP, PET, plusieurs couches de LDPE et de HDPE, de préférence HDPE. 5
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10. Applicateur d'huile pour les cheveux selon l'une quelconque des revendications précédentes, dans lequel le distributeur à fermeture est réalisé à partir de PP, HDPE ou LDPE, de préférence PP. 15
11. Distributeur à fermeture (6) pouvant être vissé sur un récipient (1) d'un applicateur d'huile pour les cheveux, ledit distributeur (6) comprenant un capuchon cylindrique (7) qui comprend : 20
- (a) un tube distributeur allongé (9) placé horizontalement sur sa surface supérieure où ledit tube distributeur comprend une pluralité de buses (10) s'étendant vers le haut configurées pour distribuer l'huile du récipient (1) ; 25
- (b) un dispositif d'arrêt cylindrique interne (12) et un dispositif d'arrêt cylindrique externe (13) sur son côté interne, où ledit dispositif d'arrêt cylindrique interne (12) est capable de fournir l'étanchéité aux fuites pour l'huile lorsque le distributeur à fermeture (6) est vissé de manière étanche sur le récipient (1) et ledit dispositif d'arrêt cylindrique externe (13) capable d'être à fleur contre le périmètre de la surface supérieure du récipient (1), garantissant ainsi que l'applicateur d'huile pour les cheveux est étanche aux fuites autour des joints filetés et fournit la distribution uniforme de l'huile par les buses (10) ; et 30 35
- (c) des contre-filetages (8) sur le côté interne dudit distributeur (6) capables de se mettre en prise par vissage avec la partie filetée (4) du récipient. 40
- 45
- 50
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Fig. 1

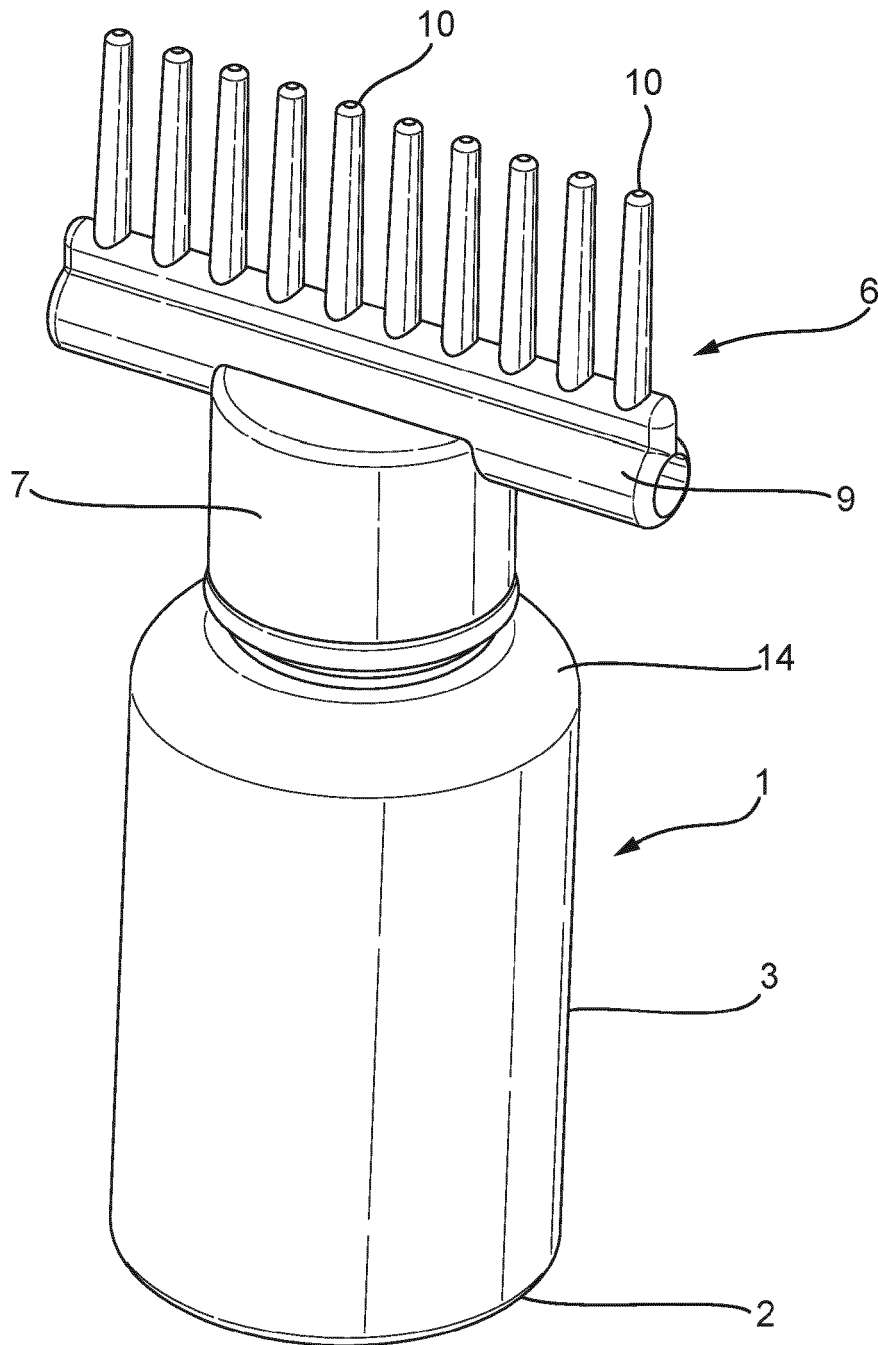


Fig. 2

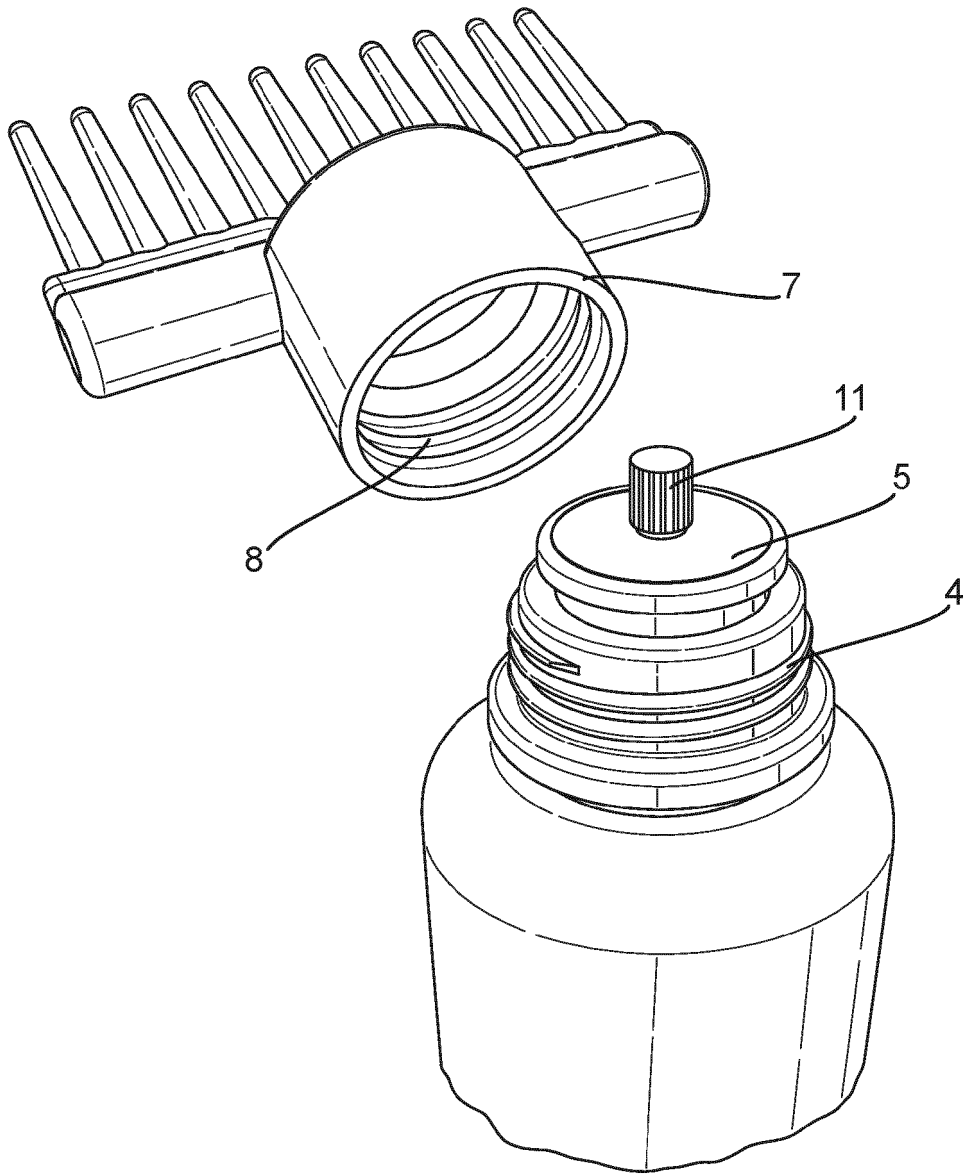


Fig. 3

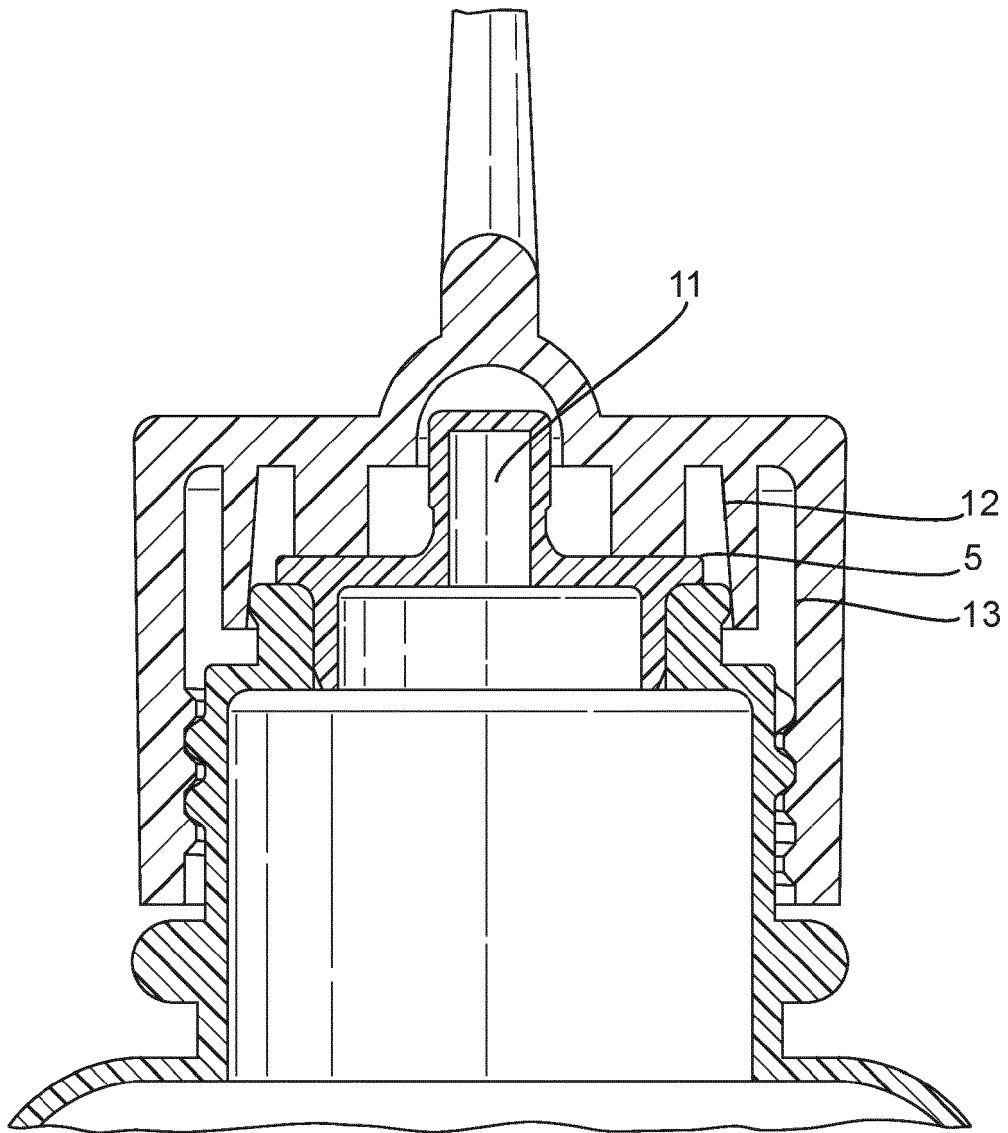
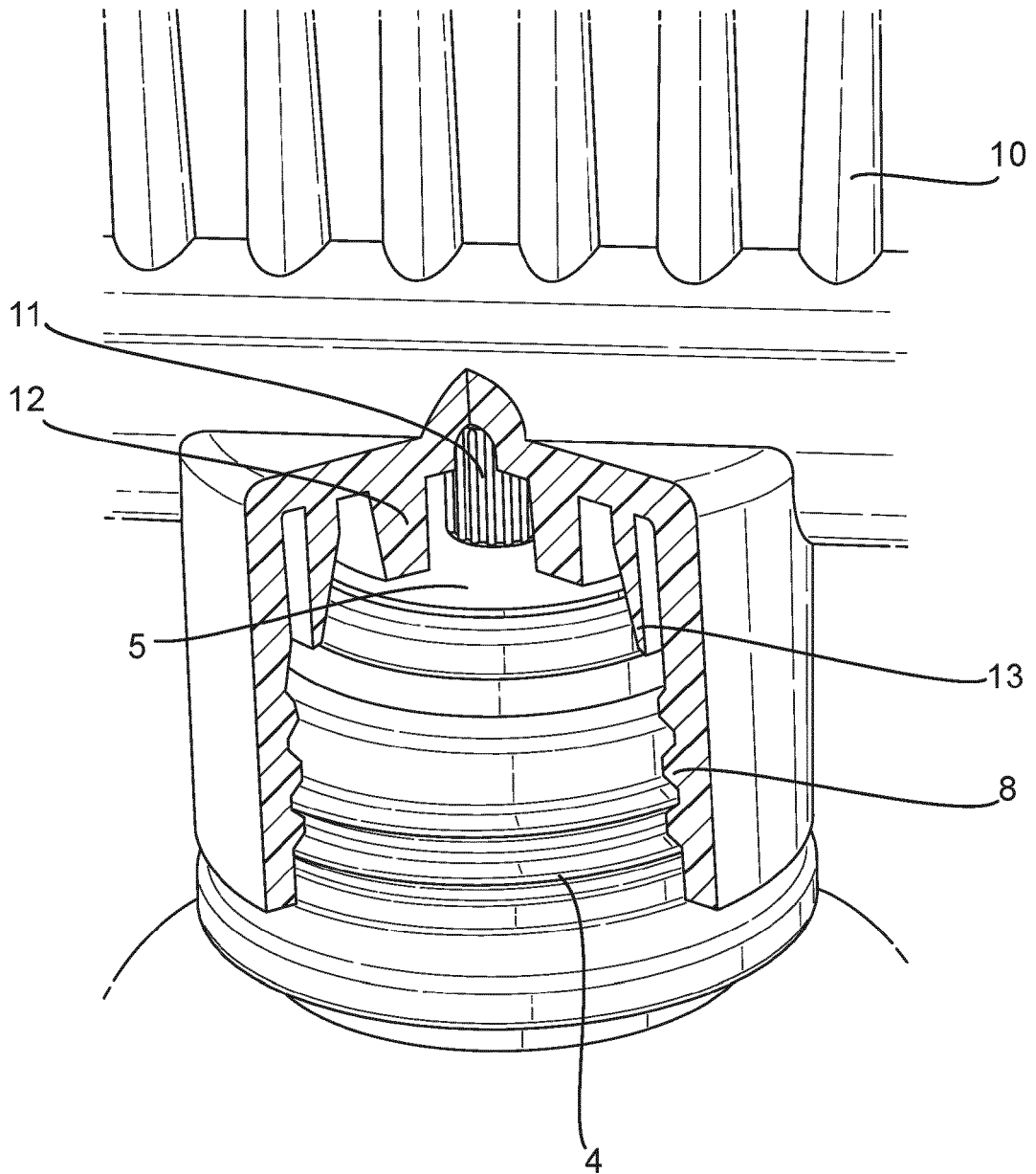


Fig. 4



REFERENCES CITED IN THE DESCRIPTION

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