



(51) International Patent Classification:

B65D 47/08 (2006.01) B65D 75/58 (2006.01)

(21) International Application Number:

PCT/IB2023/056600

(22) International Filing Date:

27 June 2023 (27.06.2023)

(25) Filing Language:

Polish

(26) Publication Language:

English

(30) Priority Data:

P.441556 27 June 2022 (27.06.2022) PL

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(81) Designated States (unless otherwise indicated, for every

kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every

kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,

(54) Title: DISPENSER FOR LIQUID PRODUCTS IN SACHETS

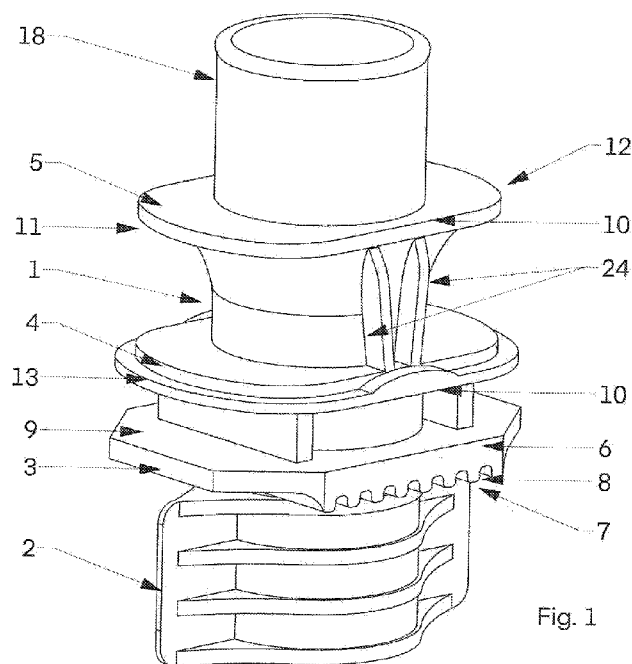


Fig. 1

(57) **Abstract:** The invention solves the problem of developing a dispenser with a cap of a cohesive construction for sachets for liquid products that meets both user expectations and all environmental protection requirements. The dispenser for liquid products in sachets is characterized by having a set of shelves, where the lower shelf (3) has in the central part thickened segments (6) with a bottom surface (7) containing parallel open channels (8). The side areas (9) have polygonal outlines. The middle shelf (4) and the upper shelf (5) have rectilinear side sections connected by an oval outline in the front part (16) and in the rear part (17). The middle shelf (4) also has a circumferential offset (13) constituting the basis for the annular shaped mounting element (14) of the cover cap (15). The upper shelf (5) surrounds the mouthpiece (18) and serves as the upper limiter for the annular shaped mounting element (14) of the cover cap (15) with its hinged cover (19) connected by a hinge (20) and a locking latch (21). Above the locking latch, the external side surface of the hinged cover (19) has a flattened area (22) topped with a hook (23).

LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,
SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
 - *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
 - *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*
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Dispenser for liquid products in sachets

The subject of the invention is a dispenser for liquid products in sachets, particularly designed for permanent connection with a plastic container with flexible walls for dispensing various liquid products, especially food products, cosmetics, etc.

The invention described in US Patent No. 2022119163 discloses a container with a closure cap that is detachably attached to the outlet connector. The container includes a securing strap that permanently connects the closure cap to the outlet connector. The closure cap contains a gripping area for holding the cap. The securing strap includes a first lower end attached to the outlet connector, a second lower end attached to the closure cap, a first strap section, a second strap section, a first tear strip, and a second tear strip.

From the description of the invention No. WO2020240284, a container with a closing assembly for thin-walled elastic packaging is known. The container includes a cap and a connecting element consisting of a strap and a warranty seal equipped with breakable bridges.

From the description of the invention No. EP 3853143, a flip-top closure and a closure connected to a bottle or another container are known. The closure includes a base of the cap, which can be detachably attached to the packaging, wherein the base of the cap includes an opening. The closing flap is movably attached to the base of the cap and is suitable, when in the closed position, for preventing liquid from escaping from the container through the opening in the base of the cap. The closing flap has a blocking flap protruding from it and movably attached to the closing flap. The closure of the blocking flap is designed for detachably securing the blocking flap to the base of the cap or to the packaging to prevent accidental opening of the closure during transport and use by the consumer. The blocking flap can be concealed within the closing flap during normal use and used to block the closing flap during transport. The blocking flap can be positioned in a recess in the base of the cap.

From the description of the invention No. WO 131229940, a beverage container with a closure is known. The container comprises an outer part connected to the container opening, an axially movable inner part with a sealing element to restrict the flow of liquid through the closure, and a ring-shaped

membrane connecting the outer and inner parts configured to provide a returning force for resiliently deflecting the inner part towards the first position.

From the description of the invention in Patent No. WO 2022018536, a closure assembly for flexible thin-walled packaging is known. The assembly comprises a base body with an irreversibly flexing warranty wall, a cap assembly with a cap and a warranty flap (including at least one breakable bridge that, in the intact closed configuration, is integral and connects the warranty flap to the warranty wall), and an elastic hinge that connects the base body to the cap assembly.

From the description of the invention No. WO 2021089149, a container closure is known, comprising a base element, a flip-top lid attached to said base element via a hinge in such a way that the flip-top lid can be moved between an open position and a closed position, and a tamper-indicating unit for indicating whether the flip-top lid has been opened at least once by a user or not. The tamper-indicating unit comprises a first tamper-indicating element and a second tamper-indicating element, which are connected to each other by at least one breakable bridge when the closure is in a factory state or when the flip-top lid has not yet been opened by a user. The first tamper-indicating element is attached to the base element in a manner that allows it to move between a first position and a second position, wherein the first tamper-indicating element is in its first position when the closure is in a factory state or when the lid has not been opened by a user, and the first tamper-indicating element indicating a breach is in its second position when the lid has been opened by a user at least once.

From the description of the invention in Patent No. WO 2014007612, a closure assembly and a container equipped with the closure assembly are known. The assembly consists of a cylindrical neck with a channel forming an outlet at the top of the channel. In the upper part of the cylindrical neck, a rotating cap is installed, designed to be manually rotated from a closed position towards an open position. The rotating cap additionally includes a ring with a warranty bridge that is integrally molded into the diaphragm, and the warranty seal consists of at least two ring segments, each having a base portion and an indicator portion. The rotating cap with the warranty seal ring is shaped in such a way that, upon the user rotating the cap from its closed position towards the opening direction for the first time, the indicator portion of the cap engages with a protrusion, which then prevents further movement towards opening the closure. The breakable bridge between the base portion and the indicator portion is subjected to permanent deformation.

The objective of the invention is to develop a cohesive construction of a dispenser with a cap for sachets of liquid products that fulfills both user expectations and all requirements regarding environmental protection.

The essence of the dispenser for sachets, especially for liquid products according to the invention, is that it comprises a set of shelves, of which the lower shelf has in its central part thickened segments with the bottom surface having open channels parallel to each other, and the side areas have polygonal outlines and are flat on both sides, and the middle shelf and the upper shelf have rectilinear side sections connected by an oval outline in the front part and in the rear part, and the middle shelf also has a circumferential offset constituting the basis for the annular shaped mounting element of the cap, while the upper shelf surrounds the mouthpiece and is the upper limiter of the ring retaining element of the cover cap with a hinged cover connected by a hinge and a locking latch, above whose outer side surface of the hinged cover has a flattening crowned with a hook at the top, and between the middle shelf and the upper shelf the side surface of the body has sets of locking guides located convergently to each other on the middle shelf, and the annular mounting element has arc recesses on the sides and in their area has profiled centering walls for embedding in the locking guides, while the hinged cover is equipped with spacing pins circumferentially located on the edge, while the annular mounting element of the cover cap and the hinged cover have flat side surfaces in the lateral parts, and have an oval outline in the front part and in the rear part.

The hinged cover has a side surface and an upper edge with a streamlined contour, as well as a flat top surface with a contour similar to a rectangle with arcuately profiled corners.

In the variation of the invention presented in Figures 5, 6 and 7, the dispenser has a set of two shelves with a circular outline, a ring-shaped mounting element, and a hinged cover with a rounded outline of the side surface and a rounded contour of the top surface.

The advantage of the dispenser for sachets according to the invention is the simplicity of the construction, which allows for a reduction in the amount of plastic used in its manufacturing. Another advantage is the development of a cohesive construction of a dispenser with a cap for sachets of liquid products that meets both user expectations and all requirements regarding environmental protection.

The subject of the invention is illustrated in the drawings, where Figure 1 depicts the dispenser for liquid products in sachets in a general view without the

cover cap, Figure 2 shows the dispenser with the cover cap from the locking latch side, Figure 3 presents the dispenser with the hinged cover tilted in a general view, Figure 4 illustrates the cover cap in a bottom view, and Figures 5, 6, and 7 show a variation of the dispenser body with a rounded hinged cover cap.

The dispenser for liquid products in sachets is manufactured from plastic polymer material and is designed for permanent attachment to thin-walled, elastic containers, such as a flexible pouch for liquid products.

The sachet dispenser has a cylinder-shaped body **1**, with a sealable segment **2** for sachets in the lower part, and above this segment it has a parallel set of three shelves with a flat upper surface: the lower shelf **3**, the middle shelf **4** and the upper shelf **5**. The lower shelf **3** has in the central part, there are thickened segments **6** with a bottom surface **7** having a set of open channels **8** parallel to each other, with the shelf having flat side areas **9** on both sides with a polygonal outline. The middle shelf **4** has a circumferential offset **13** constituting the basis for the annular shaped mounting element **14** of the cover cap **15**. The middle shelf **4** and the upper shelf **5** have rectilinear side sections connected by an oval outline in the front part **16** and in the rear part **17** of the dispenser. The upper shelf **5** surrounds the mouthpiece **18** and constitutes the upper limiter of the annular shaped mounting element **14** of the cover cap **15** having a hinged cover **19** connected by a hinge **20** in the rear part **17** and a locking latch **21** in the front part **16** of the dispenser. Above the locking latch **21**, the outer side surface of the hinged cover **19** has a flattened surface **22** with an oval outline, topped with a hook **23**. Between the middle shelf **4** and the upper shelf **5**, the side surface of the body **1** has two sets of profiled locking guides **24** located convergently to each other on the middle shelf **4**.

The annular shaped mounting element **14** has arcuate recesses **25** on the side edges, and in their central area on the inner surface, it has profiled centering walls **26** for engagement with the interlocking guides **24**, while the hinged cover **19** is equipped with spacer pins **27** located circumferentially on the edge of the hinged cover **19**.

The annular shaped mounting element **14** of the cover cap **15** and the hinged cover **19** have flat side surfaces in the lateral parts **28** and an oval outline in the front part **16** and the rear part **17**.

The hinged cover **19** has a flat top surface **29** with a contour similar to a rectangle with arcuately profiled corners.

In the variation of the invention presented in Figures 5, 6, and 7, the dispenser **1** has a set of two shelves with a circular outline: the middle shelf **4'** with an offset **13'** and the upper shelf **5'**. It also includes a hinged cover **15'** with an annular shaped mounting element **14'** with a rounded contour of the side surface and a rounded contour of the top surface **29'**.

Patent claims

1. Dispenser for liquid products in sachets, having a cylindrical-shaped body with a sealing segment for the sachets in the lower part, a set of shelves in the middle part and a set of resistance and spacer elements cooperating with a locking element of the protective cap, characterized in that it has a set of shelves, of which the lower shelf (3) has in its central part thickened segments (6) with the bottom surface (7) having open channels (8) parallel to each other, and the side areas (9) have polygonal outlines and are flat on both sides, and the middle shelf (4) and the upper shelf (5) have rectilinear side sections connected by an oval outline in the front part (16) and in the rear part (17) and the middle shelf (4) also has a circumferential offset (13) constituting the basis for the annular shaped mounting element (14) of the cover cap (15), while the upper shelf (5) surrounds the mouthpiece (18) and is the upper limiter of the annular shaped mounting element (14) of the cover cap (15) with a hinged cover (19) connected by a hinge (20) and a locking latch (21), above whose outer side surface of the hinged cover (19) has a flattening (22) crowned with a hook (23) at the top, and between the middle shelf (4) and the upper shelf (5) the side surface of the body (1) has sets of locking guides (24) located convergently to each other on the middle shelf (4), and the annular shaped mounting element (14) has recesses (25) on the sides and in their area has profiled centering walls (26) on the inside of the cover cap (15) for embedding in the locking guides (24), while the hinged cover (19) is equipped with spacing pins (27) circumferentially located on the edge, while the annular shaped mounting element (14) of the cover cap (15) and the hinged cover (19) have flat side surfaces in the lateral parts (28), and have an oval outline in the front part (16) and in the rear part (17).
2. The dispenser, according to claim 1, characterized in that the hinged cover (19) has a flat top surface (29) with an outline similar to a rectangle with arched corners.
3. The dispenser according to claim 1, characterized in that it has a set of two shelves with a circular outline, an annular shaped mounting element (14') and a hinged cover (19') with a rounded outline of the side surface (15') and a rounded outline of the top surface (29').

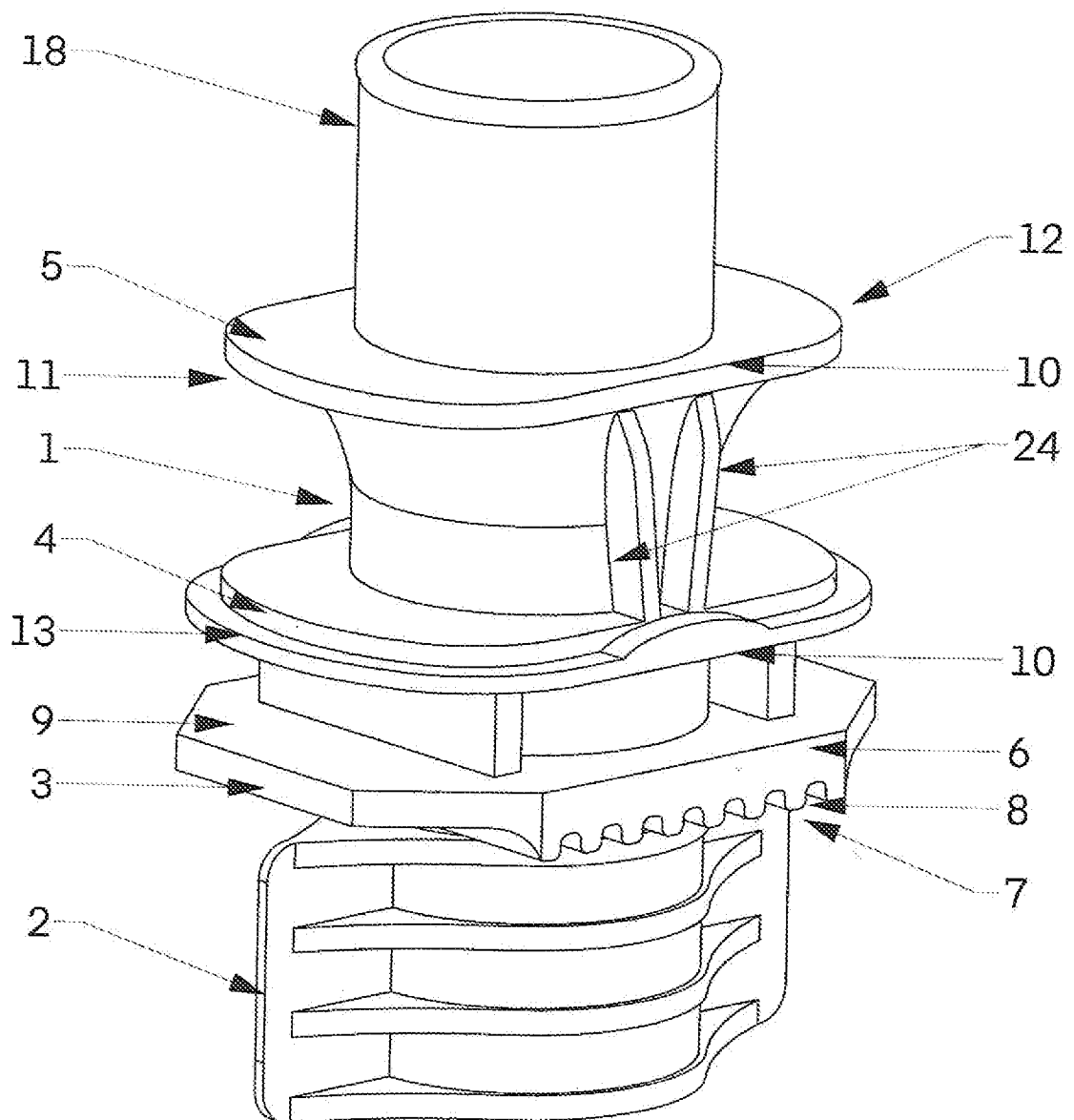


Fig. 1

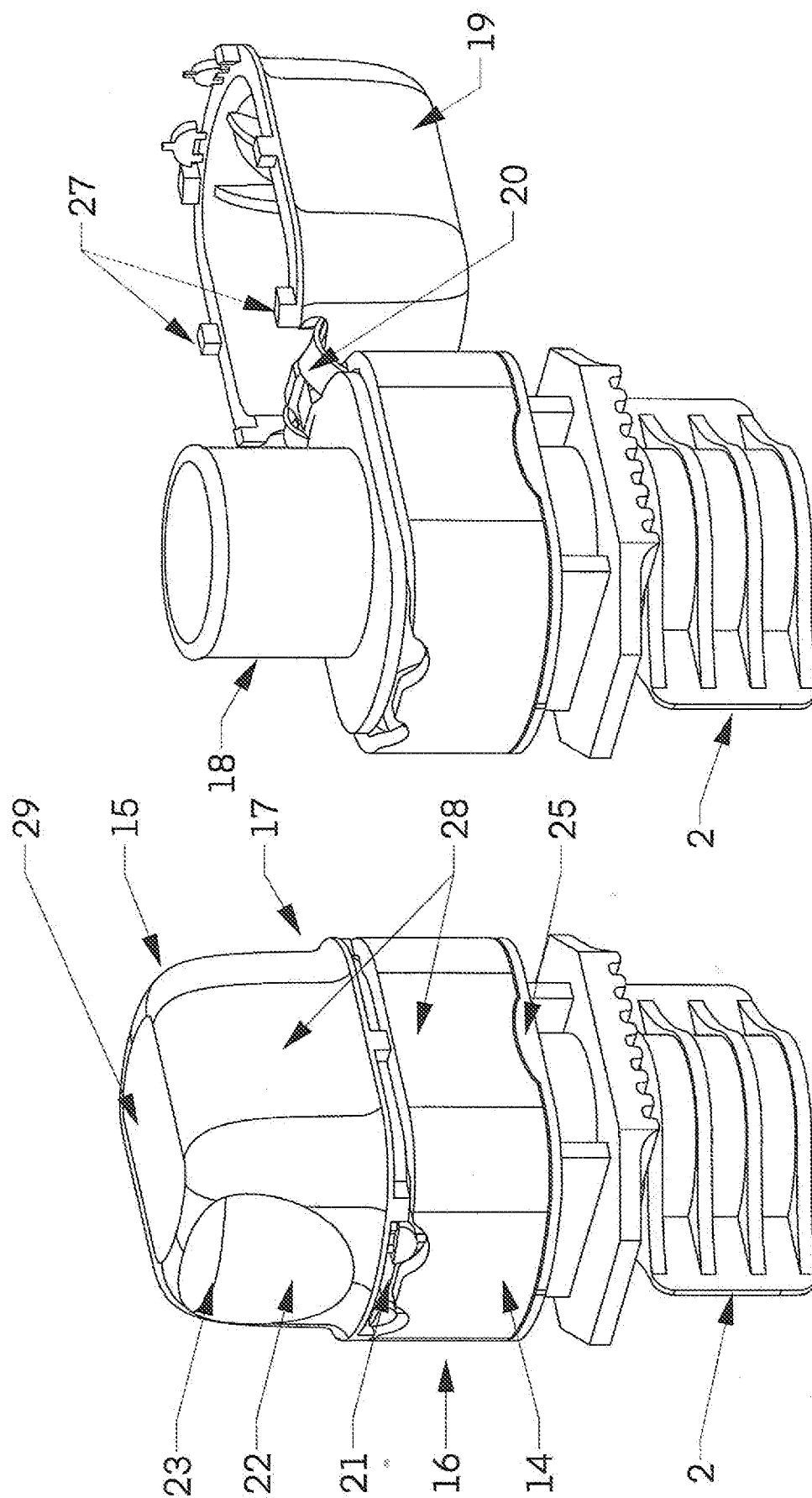


Fig. 3

Fig. 2

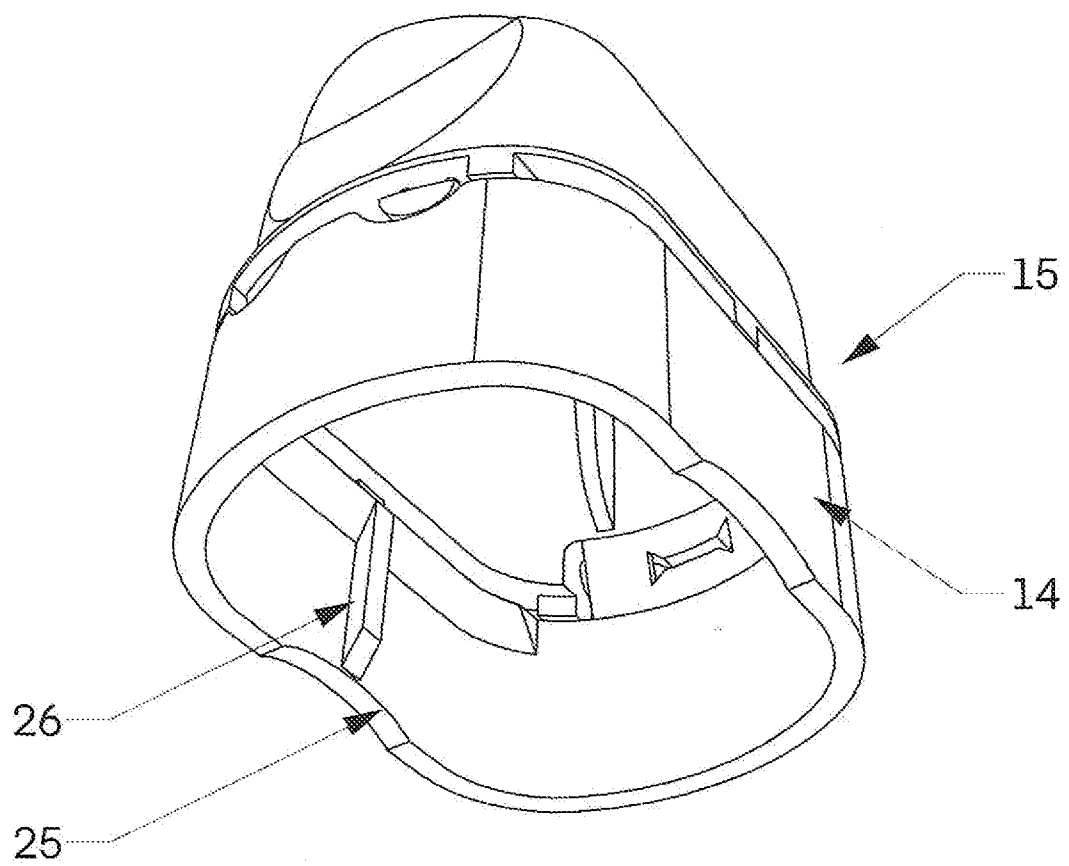


Fig. 4

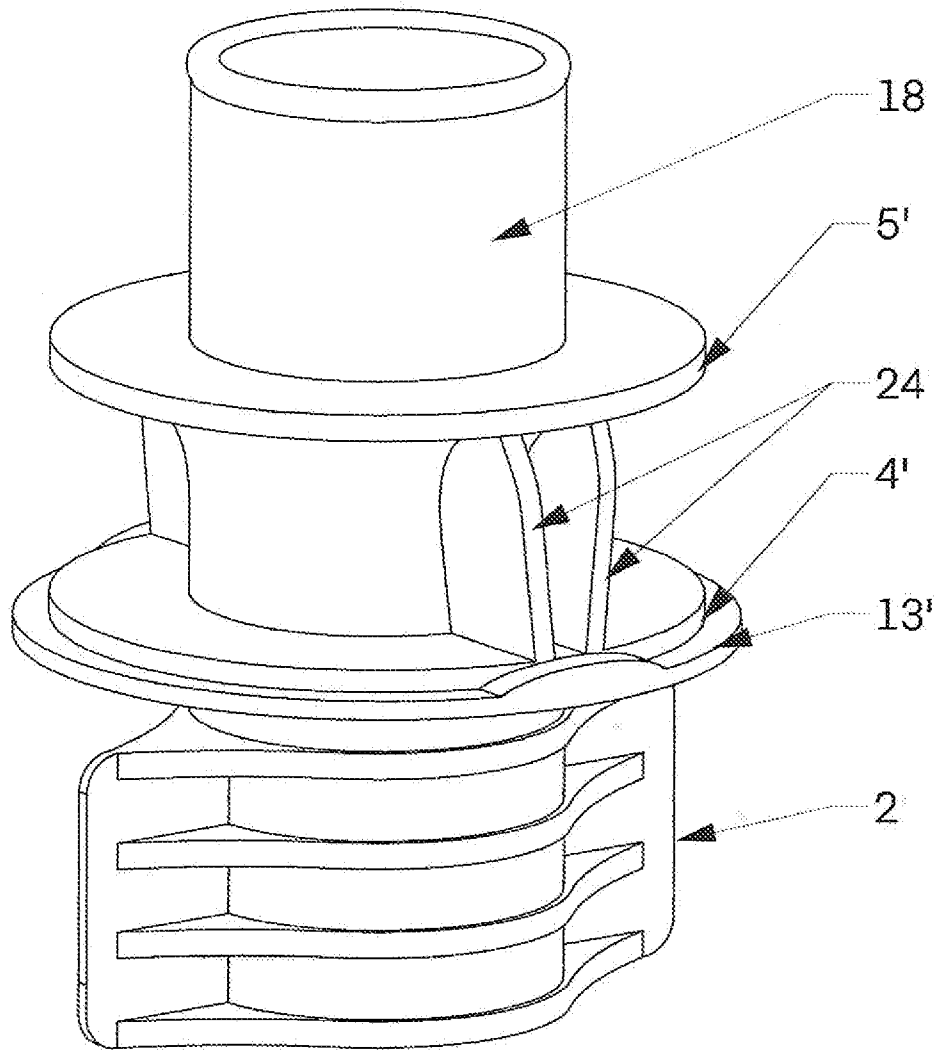


Fig. 5

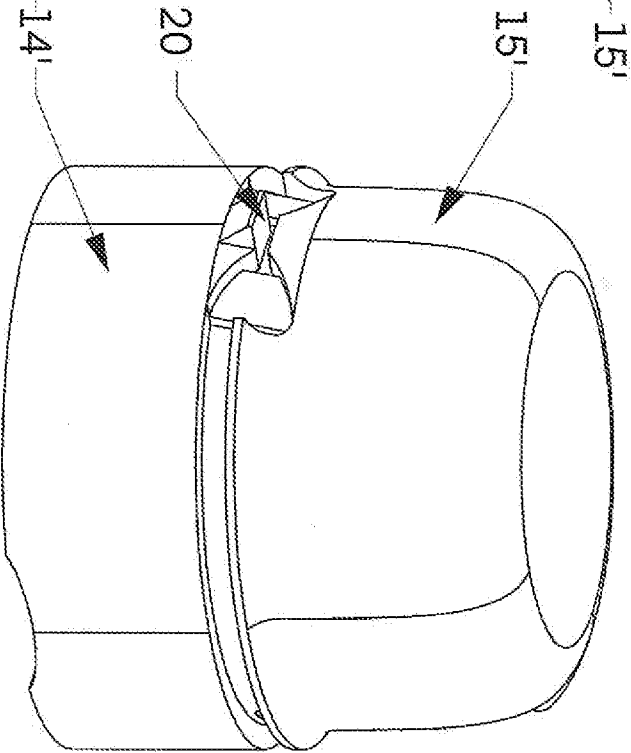
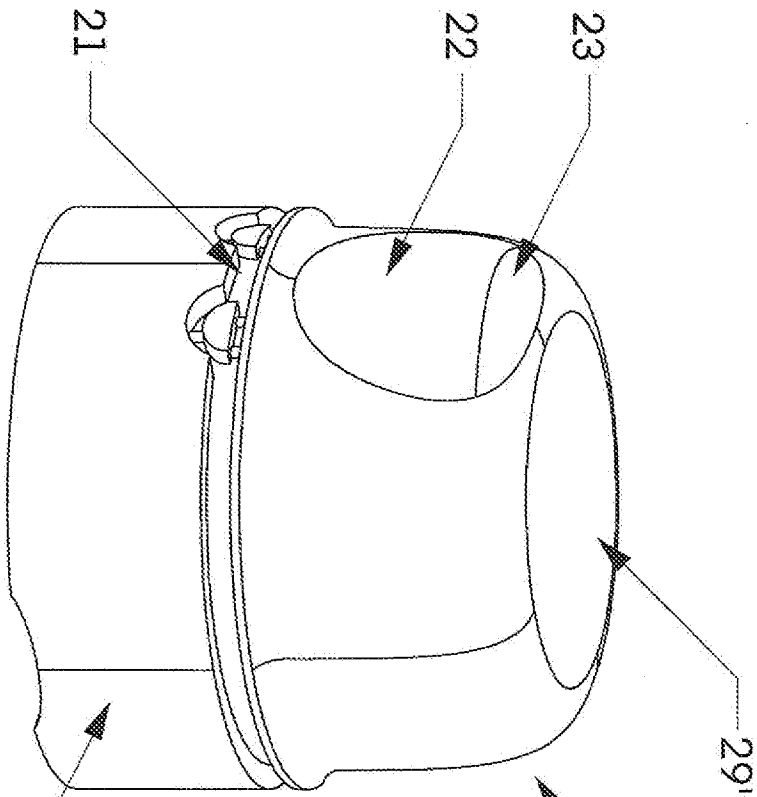


Fig. 6

Fig. 7

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2023/056600

A. CLASSIFICATION OF SUBJECT MATTER

INV. B65D47/08 B65D75/58

ADD.

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B65D

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2020/111939 A1 (SCHOLLE IPN IP BV [NL]) 4 June 2020 (2020-06-04) page 11, line 19 - page 21, line 6; figures 1-25 -----	1-3
A	WO 2015/023829 A1 (MWV SLATERSVILLE LLC [US]) 19 February 2015 (2015-02-19) paragraph [0030] - paragraph [0052]; figures 1-14 -----	1-3
A	WO 2022/018536 A1 (GUALA PACK SPA [IT]) 27 January 2022 (2022-01-27) paragraph [0018] - paragraph [0049]; figures 1-6b -----	1-3
A	US 2021/070511 A1 (KRAJEWSKI DARIUSZ JERZY [CH]) 11 March 2021 (2021-03-11) paragraph [0028] - paragraph [0039]; figures 1-13 -----	1-3



Further documents are listed in the continuation of Box C.



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Date of the actual completion of the international search

10 November 2023

Date of mailing of the international search report

23/11/2023

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2023/056600

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