US 20110036451A1

(19) **United States**

(12) **Patent Application Publication**

(10) **Pub. No.: US 2011/0036451 A1**

(43) **Pub. Date: Feb. 17, 2011**

Maas et al.

(54) **DEVICE FOR DOSED DISPENSING OF A LIQUID FROM A COMPOSITE CONTAINER AND METHOD FOR FILLING THE COMPOSITE CONTAINER ("LIQUID DISPENSING FLAIR")**

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(21) Appl. No.: **12/735,064**

(22) PCT Filed: **Dec. 9, 2008**

(86) PCT No.: **PCT/EP2008/010429**

§ 371 (c)(1),
(2), (4) Date: **Nov. 1, 2010**

(30) **Foreign Application Priority Data**

Dec. 10, 2007 (NL) 1034805
Jul. 28, 2008 (NL) 1035761

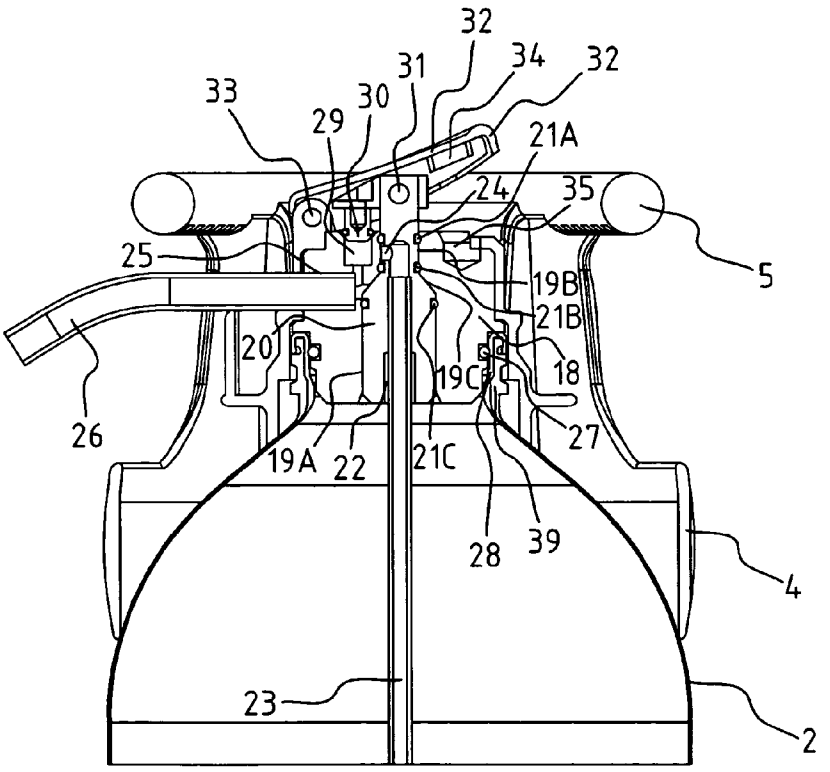
Publication Classification

(51) **Int. Cl.**
B65B 3/12 (2006.01)
B65D 83/44 (2006.01)

(52) **U.S. Cl.** **141/2**; 222/401

(57) **ABSTRACT**

A device for the dosed dispensing of a liquid is presented. In exemplary embodiments of the present invention, the device can include a composite container including (i) a flexible inner container, in which a liquid can be provided, and (ii) a form-retaining outer container in which the inner container can be fixed. The device further comprises a tap unit which is connected to the composite container and which comprises an outflow channel and a valve. In exemplary embodiments of the present invention the inner container has a dispensing opening and the outer container is provided with a neck enclosing the dispensing opening. Further, the inner container can be connected to the outer container both at the area of the dispensing opening as well as at a location remote from the dispensing opening. In exemplary embodiments of the present invention the outer container can have an opening for introducing a displacing medium, such as, for example, air, at a location remote from the neck. In exemplary embodiments of the present invention the tap unit can be sealably provided in the dispensing opening of the inner container. In exemplary embodiments of the present invention a method for filling such a composite container with a liquid so as to be used in the described dispensing device can also be provided.



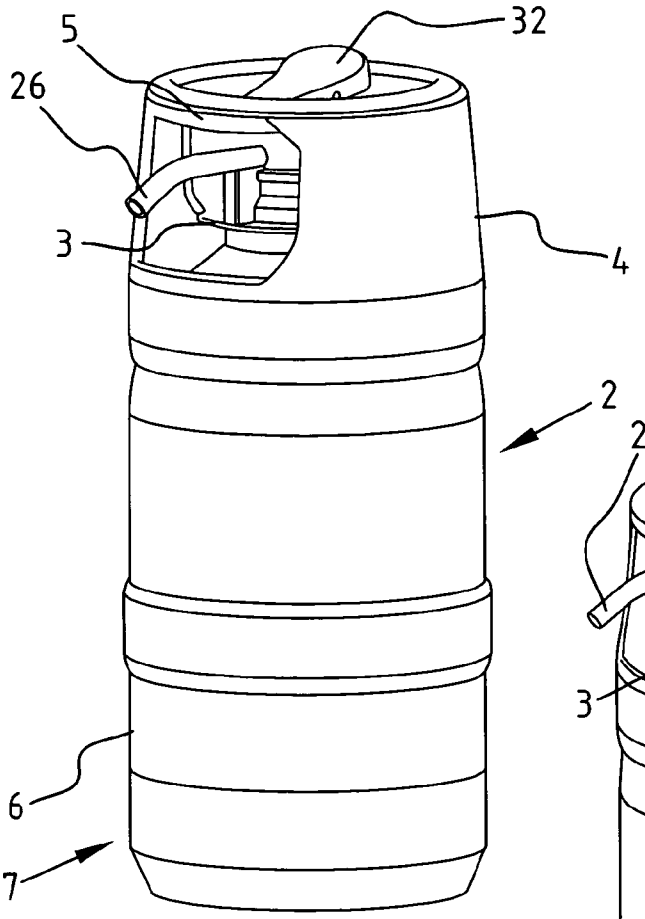


FIG. 1

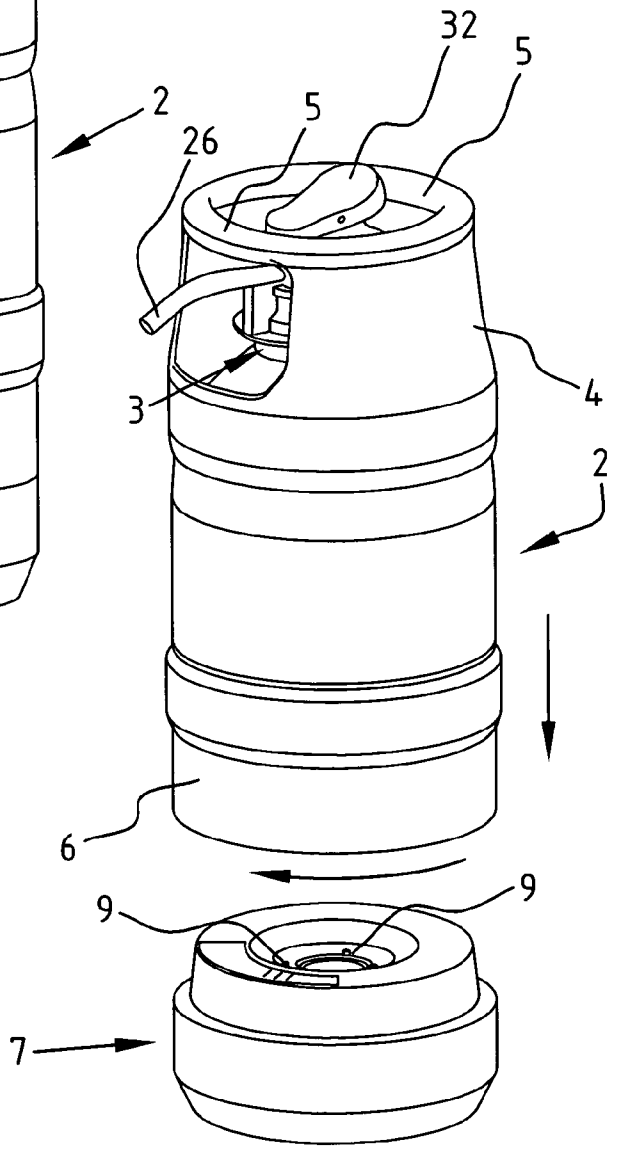


FIG. 2

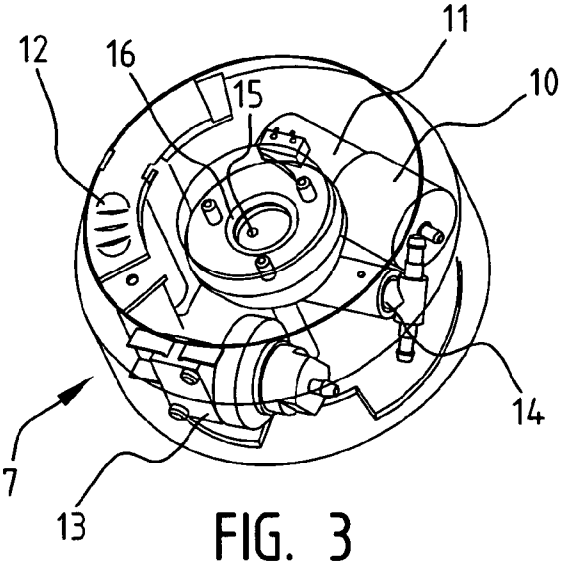


FIG. 3

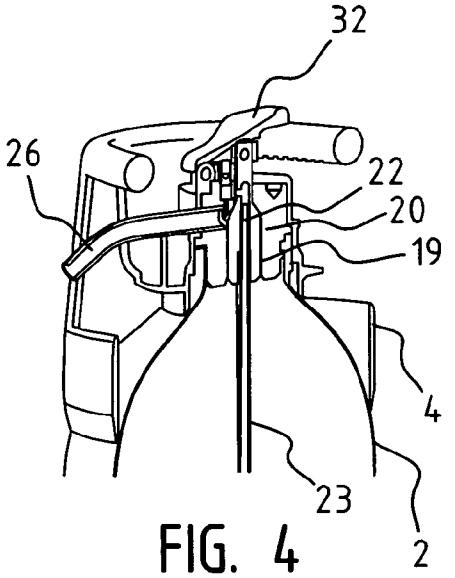


FIG. 4

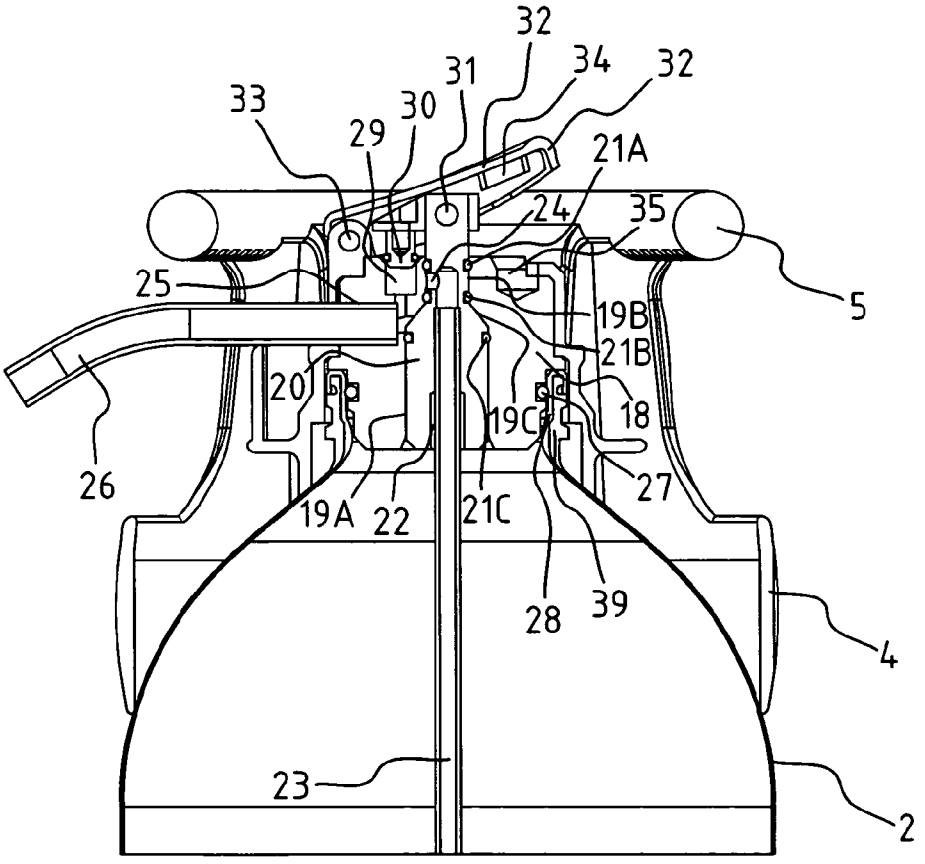


FIG. 5

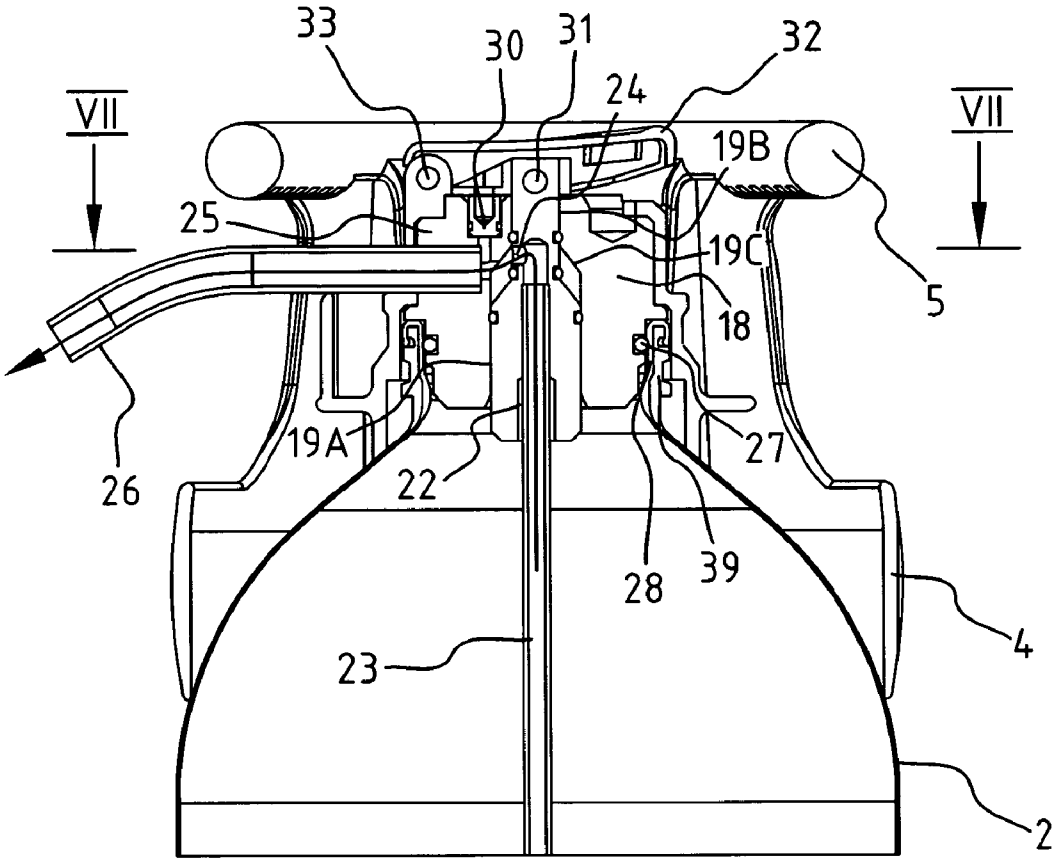

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FIG. 6

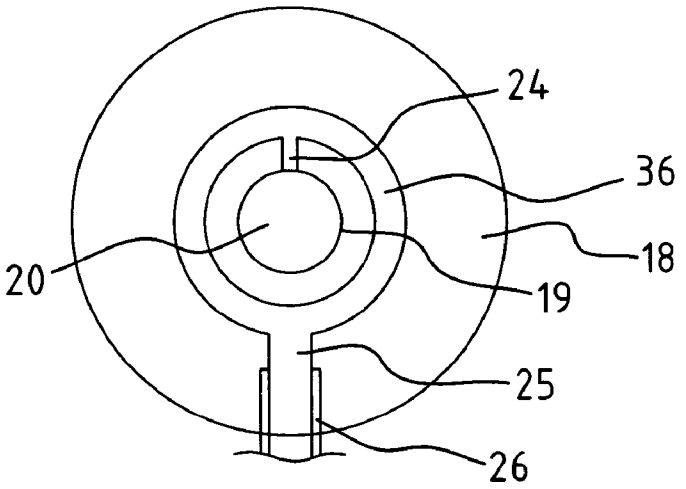
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FIG. 7

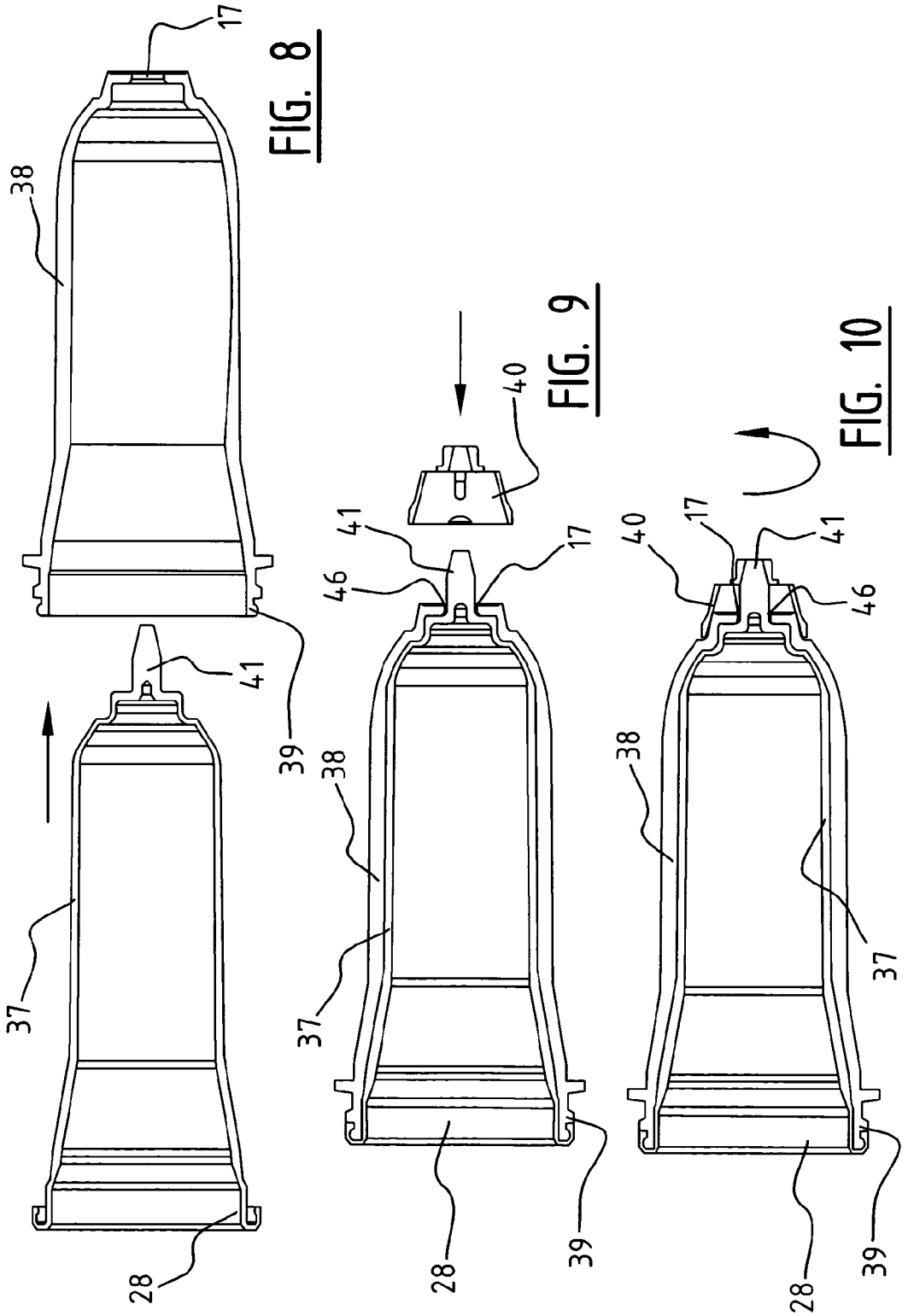
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FIG. 8
FIG. 9
FIG. 10

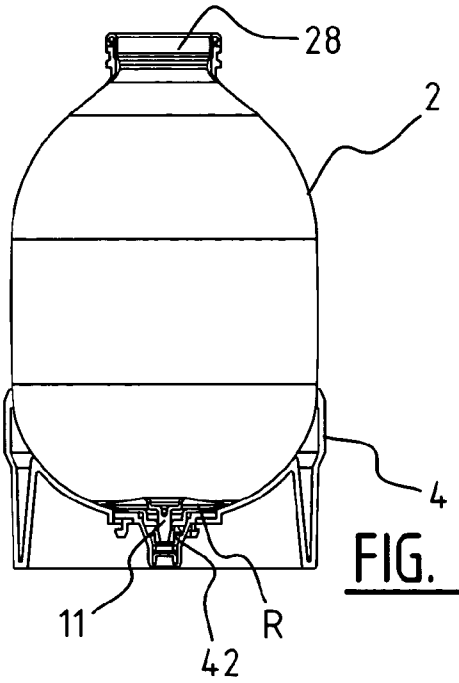

FIG. 11

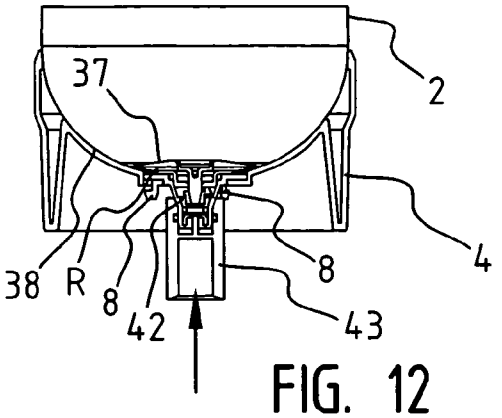

FIG. 12

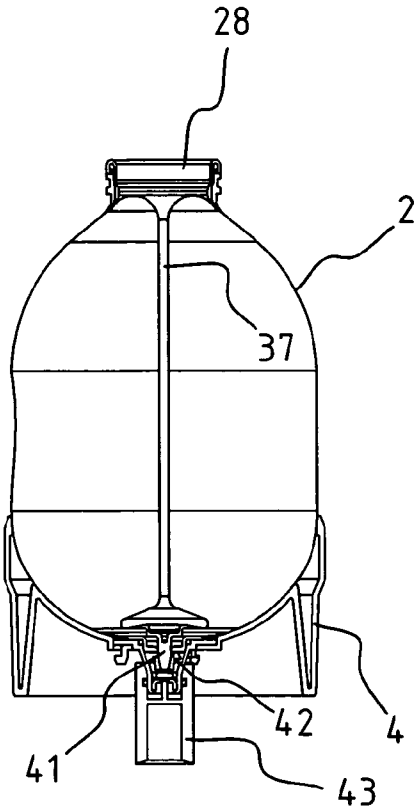

FIG. 13

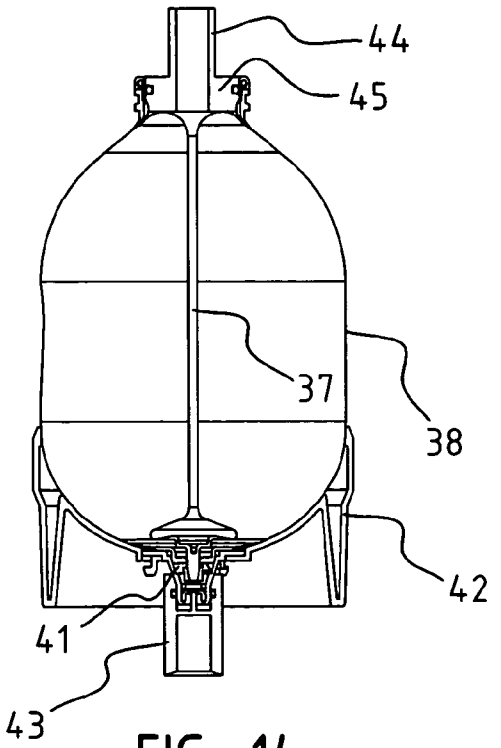

FIG. 14

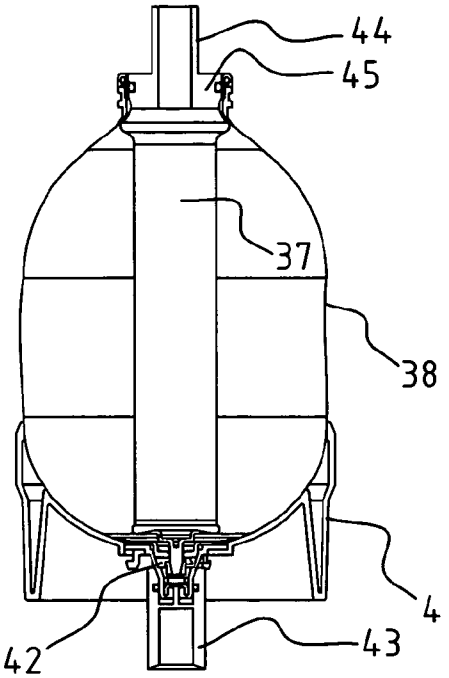

FIG. 15

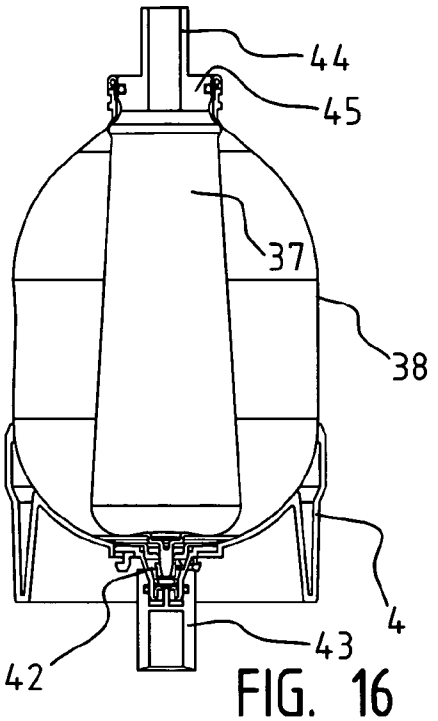

FIG. 16

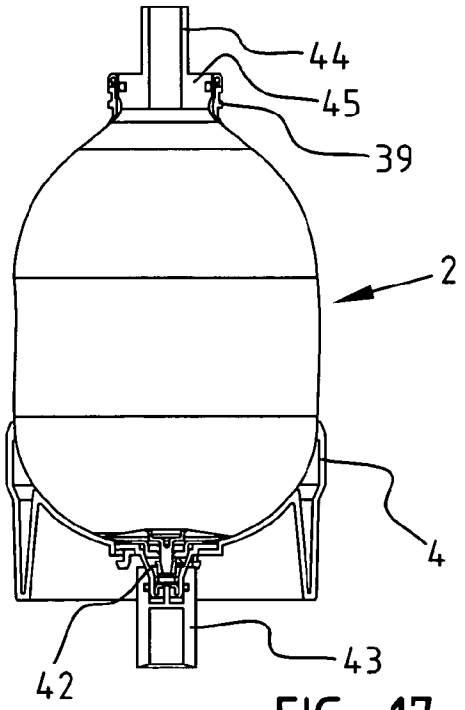

FIG. 17

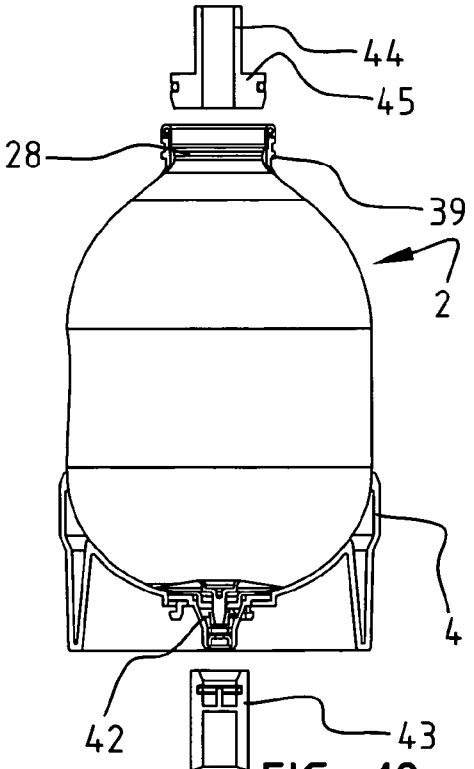

FIG. 18

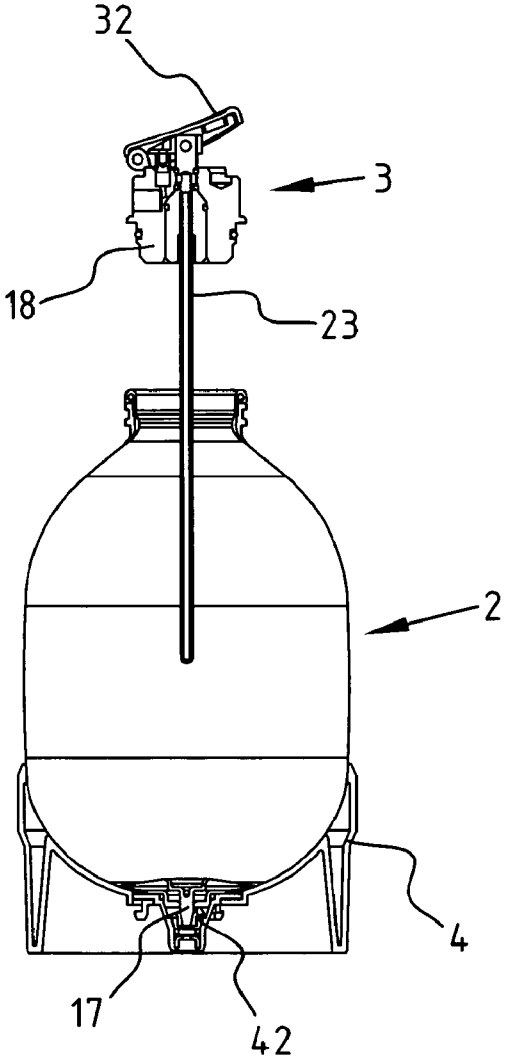

FIG. 19

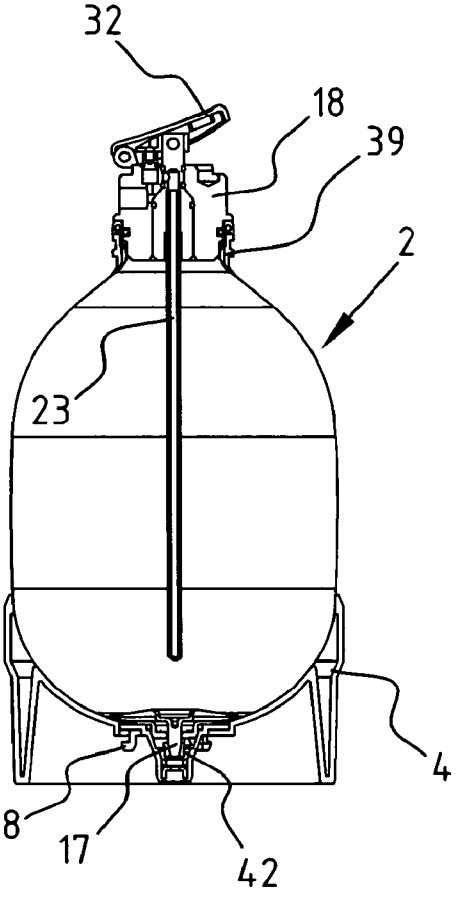

FIG. 20

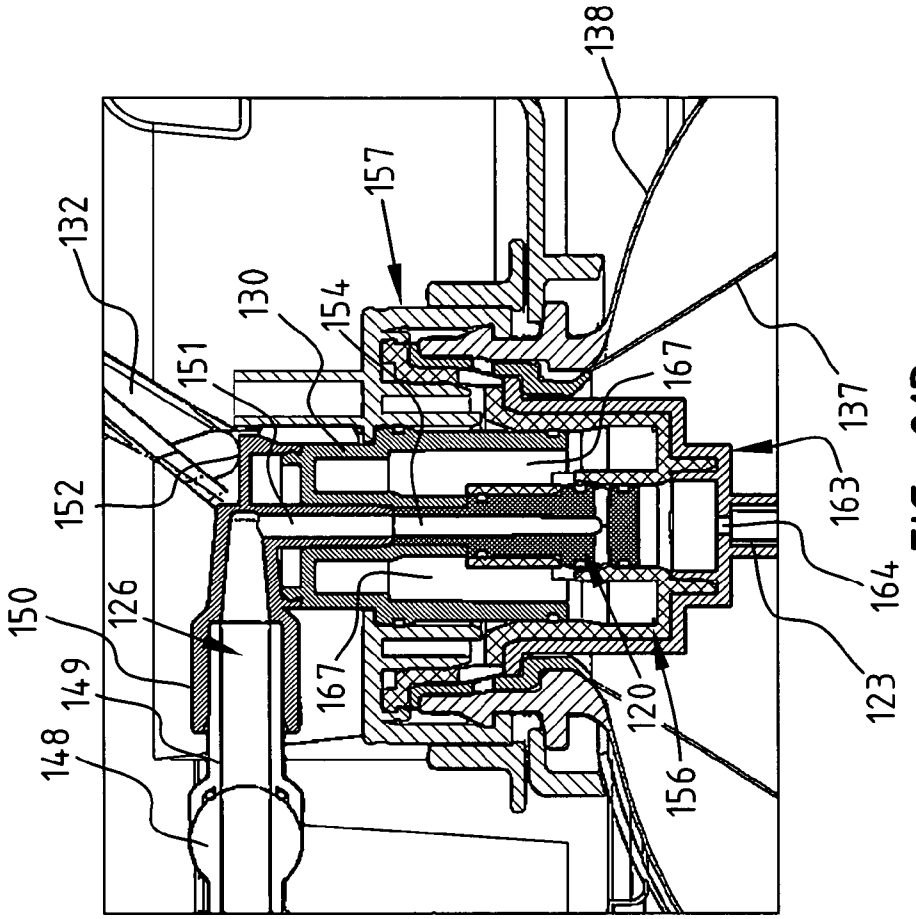

FIG. 21B

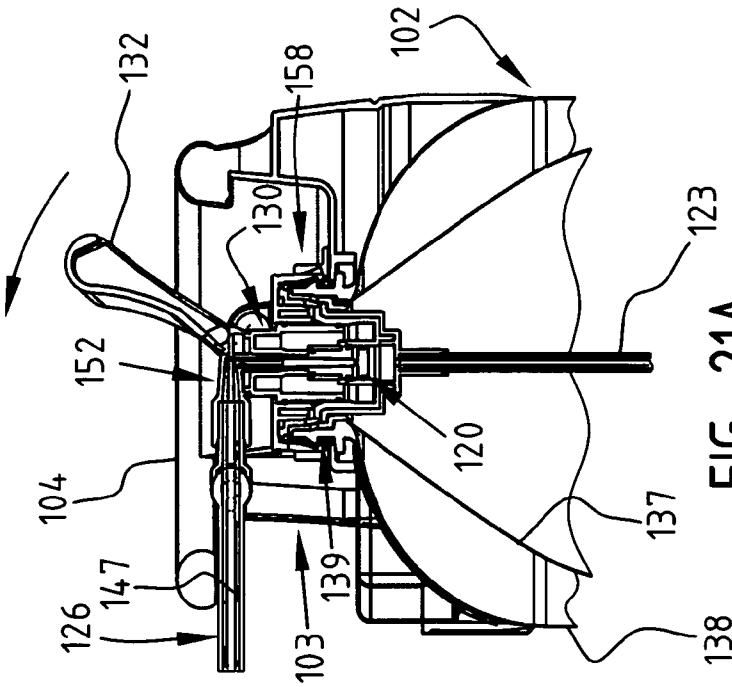

FIG. 21A

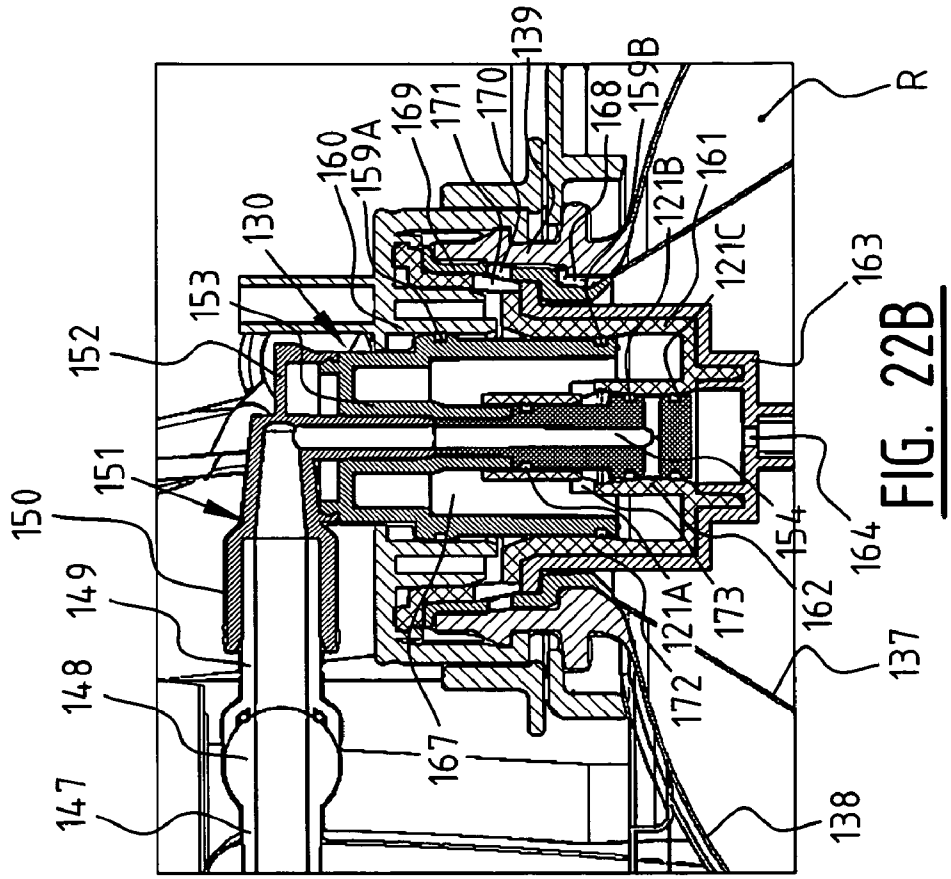

FIG. 22B

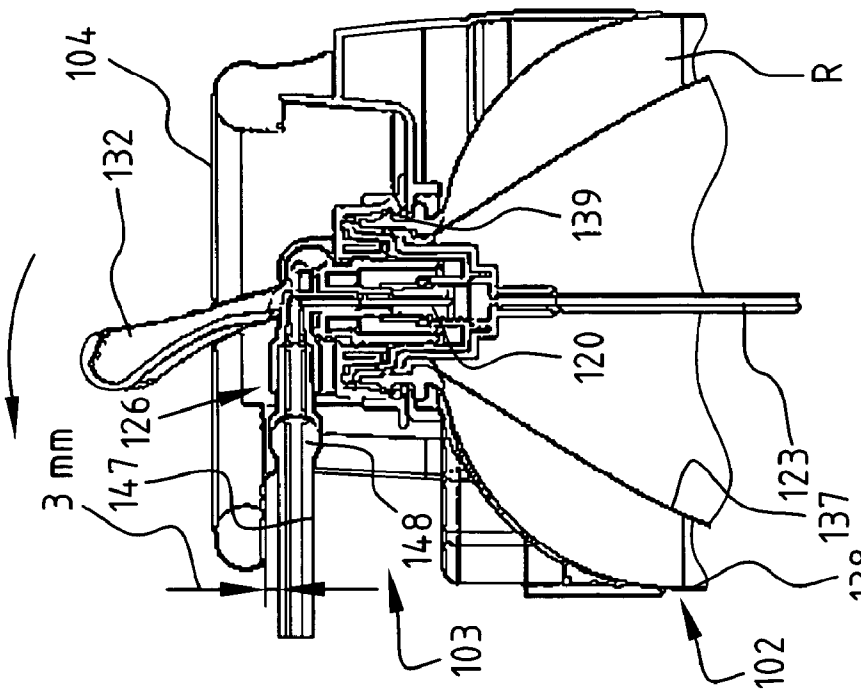

FIG. 22A

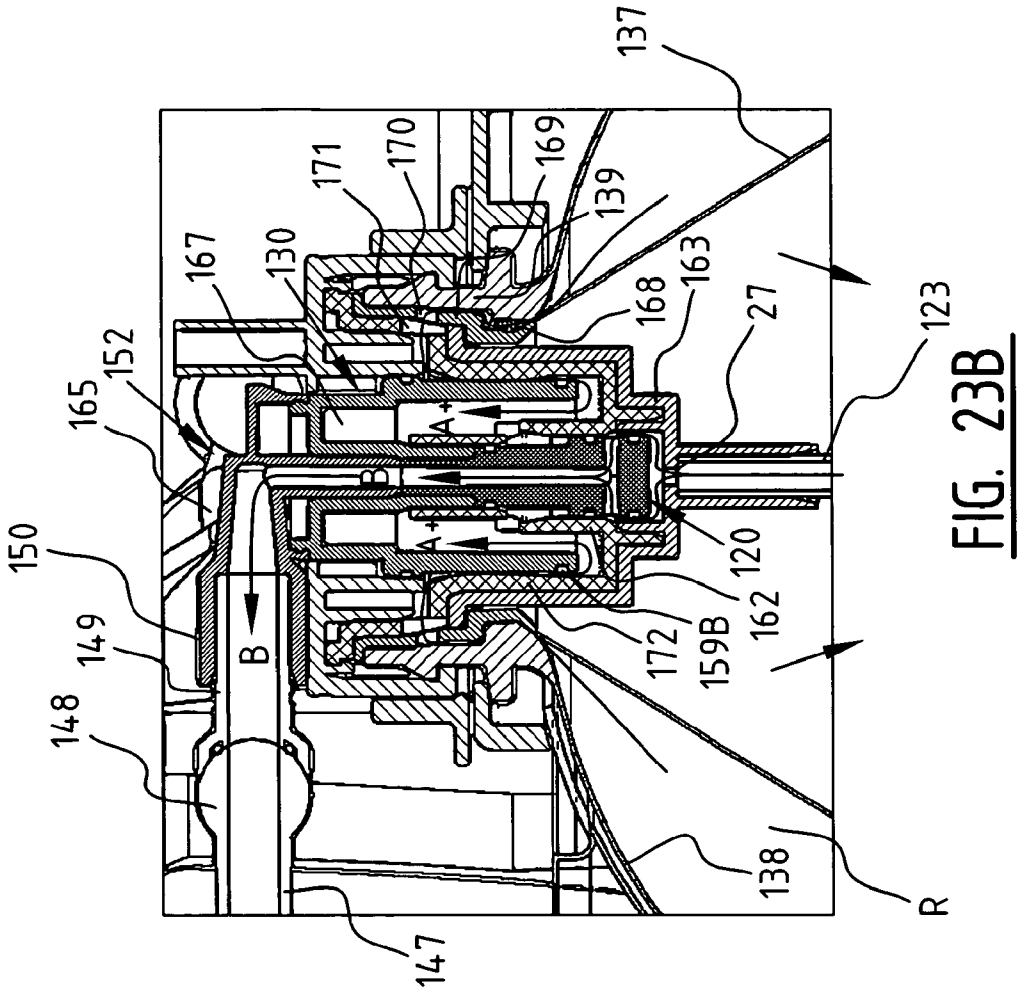

FIG. 23B

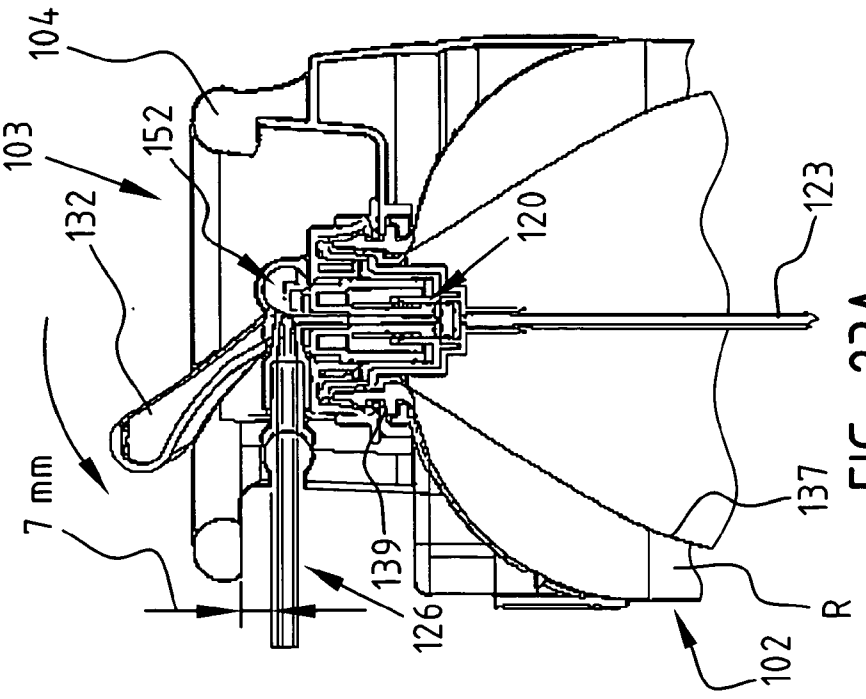

FIG. 23A

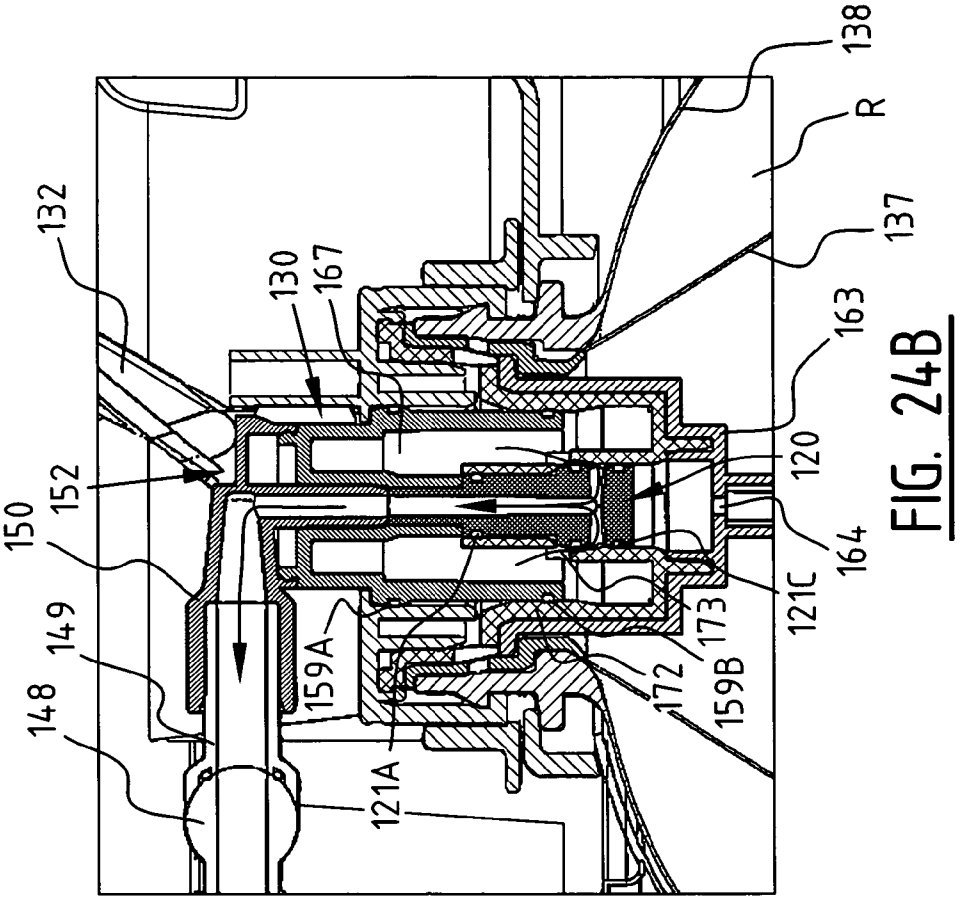

FIG. 24B

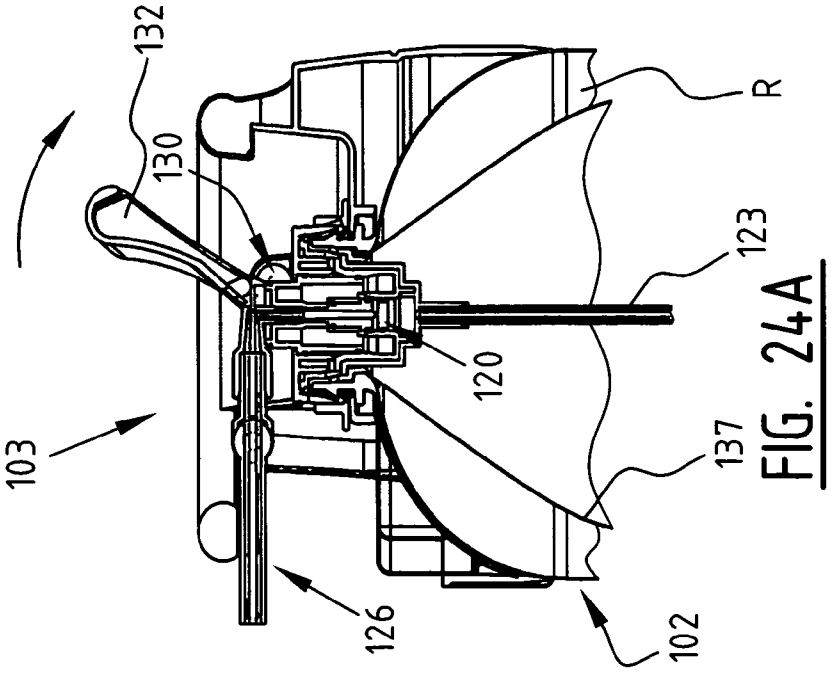

FIG. 24A

DEVICE FOR DOSED DISPENSING OF A LIQUID FROM A COMPOSITE CONTAINER AND METHOD FOR FILLING THE COMPOSITE CONTAINER ("LIQUID DISPENSING FLAIR")

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This is a United States national stage application of PCT/EP2008/010429, which is hereby incorporated herein by reference. PCT/EP2008/010429 was published as WO 2009/074285, on Jun. 18, 2009. PCT/EP2008/010429 claims priority to (i) NL 1034805, filed on Dec. 10, 2007, and to (ii) NL 1035761, filed on Jul. 28, 2008, each of which are hereby incorporated herein by reference.

TECHNICAL FIELD

[0002] The invention relates to a device for dosed dispensing of a liquid from a composite container. Such a dispensed liquid can be, for example, a beverage, such as beer, soda or other carbonated drinks.

BACKGROUND OF THE INVENTION

[0003] Various devices are known for the dispensing of carbonated drinks, such as beer or soda. Additionally, in recent years the use of home tap installations has greatly increased as an alternative to patronizing bars or taverns, where professional installations for dispensing beer on-tap are used. However, most known home on-tap installations are relatively complicated and thus expensive, especially so because they have their own cooling systems.

[0004] Conventionally, there are simple on-tap mechanisms which can, for example, be connected to small kegs for home use. However, such kegs need to be stored in a refrigerator, and, given the geometries of residential refrigerators, they are usually stored lying on their sides. Then, to dispense the beverage, at each use the keg has to be removed from the refrigerator, as conventional tap mechanisms cannot empty a keg positioned on its side.

[0005] Finally, conventional home on-tap systems generally suffer from problems of "dripping." After dispensing a glass of, for example, beer, some liquid tends to remain in the outflow channel. As these remnants are gradually released, dripping occurs. Because home on-tap systems are usually kept either on a kitchen counter or in the refrigerator, such dripping can lead to stains and mess, and is generally a nuisance. Moreover, any liquid remaining in the outflow channel can eventually decay, generating molds and/or bacteria.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] The present invention is described on the basis of various exemplary embodiments, with reference to the accompanying drawings, in which:

[0007] FIG. **1** depicts a perspective view of a dispensing device according to an exemplary embodiment of the present invention, in an assembled configuration;

[0008] FIG. **2** depicts how the exemplary device of FIG. **1** comprises a container with a tap unit mounted on a pressurization unit,

[0009] FIG. **3** depicts a partial cut-away perspective view of the pressurization unit of FIG. **2**;

[0010] FIG. **4** depicts a cross-sectional perspective view of the upper portion of the exemplary container and tap unit of FIGS. **1** and **2**;

[0011] FIG. **5** shows a close-up longitudinal cross-section of the upper portion of the exemplary container of FIG. **1**, where the tap unit is in a resting (non-dispensing) position;

[0012] FIG. **6** depicts a similar view to that of FIG. **5**, where dispensing is occurring;

[0013] FIG. **7** is a horizontal cross-sectional view, along the plane containing line VII-VII of FIG. **6**, of an alternate tap unit according to an exemplary embodiment of the present invention;

[0014] FIGS. **8-10** depict various steps in pre-forming an exemplary composite container for use in exemplary embodiments of the present invention;

[0015] FIG. **11** depicts the exemplary composite container of FIGS. **8-10** after inflation to its final form;

[0016] FIG. **12** depicts the connection of a displacing medium source to an intake opening of the exemplary container according to an exemplary embodiment of the present invention;

[0017] FIGS. **13-19** depict different steps in the filling of an exemplary container according to exemplary embodiments of the present invention;

[0018] FIG. **20** depicts an exemplary container, according to exemplary embodiments of the present invention, in a filled configuration, ready for use;

[0019] FIG. **21**A is a longitudinal cross-section through the upper portion of an exemplary container and a tap unit according to an alternative exemplary embodiment of the present invention in a ready-to-use position;

[0020] FIG. **21**B is an enlarged scale cross-sectional detailed view of a portion of the outflow channel and outflow valve of FIG. **21**A;

[0021] FIGS. **22**A and **22**B are views, respectively corresponding to those of FIGS. **21**A and **21**B, of the exemplary container and tap unit at the beginning of a dispensing operation, just before the outflow valve is opened;

[0022] FIGS. **23**A and **23**B are views, respectively corresponding to those of FIGS. **21**A and **21**B, of the exemplary container and tap unit during dispensing, when the outflow valve is opened but the aerating valve is closed; and

[0023] FIGS. **24**A and **24**B are views, respectively corresponding to those of FIGS. **21**A and **21**B, of the container and tap unit during blow-out of the outflow channel after dispensing, where the outflow valve is closed but the aerating valve is opened.

SUMMARY OF THE INVENTION

[0024] A device for the dosed dispensing of a liquid is presented. In exemplary embodiments of the present invention, the device can include a composite container including (i) a flexible inner container, in which a liquid can be provided, and (ii) a form-retaining outer container in which the inner container can be fixed. The device further comprises a tap unit which is connected to the composite container and which comprises an outflow channel and a valve. In exemplary embodiments of the present invention the inner container has a dispensing opening and the outer container is provided with a neck enclosing the dispensing opening. Further, the inner container can be connected to the outer container both at the area of the dispensing opening as well as at a location remote from the dispensing opening. In exemplary embodiments of the present invention the outer container can

have an opening for introducing a displacing medium, such as, for example, air, at a location remote from the neck. In exemplary embodiments of the present invention the tap unit can be sealably provided in the dispensing opening of the inner container. In exemplary embodiments of the present invention a method for filling such a composite container with a liquid so as to be used in the described dispensing device can also be provided.

DETAILED DESCRIPTION OF THE INVENTION

[0025] In exemplary embodiments of the present invention, an improved and simplified device for the dosed dispensing of liquids, such as, for example, carbonated drinks, can be provided. Such an exemplary device is shown in FIGS. **1-10**. An alternate version of a portion of an exemplary device is shown in FIGS. **21-24**.

[0026] In addition, the present invention includes a method for filling a composite container with a liquid which can be used in an exemplary dispensing device. Conventionally, filling kegs with a liquid, in particular a carbonated liquid, often entails problems. In exemplary embodiments of the present invention an improved method for filling containers with liquid can be provided. Such an exemplary method is illustrated in FIGS. **11-20**.

[0027] FIG. **1** depicts a dispensing device according to an exemplary embodiment of the present invention. With reference thereto, the device **1** comprises a composite container **2**, and a tap unit **3** connected thereto. Arranged on the top side of composite container **2** can be, for example, a ring **4**, in which two handles **5** can be provided (FIG. **1** shows only a front handle, but FIG. **5** depicts a second, rear handle), and in which tap unit **3** can be placed. Similarly, on the underside of container **2** can be, for example, a ring **6**, which can, for example, function as a base during storage and transport of container **2**.

[0028] The underside of container **2** can be further provided with releasable connecting means, with which container **2** can be connected to, for example, a pressurization unit **7**. Such releasable connecting means can, for example, be in the form of protrusions **8**, as shown, for example, in FIGS. **12** and **20**, which can form, for example, a bayonet connection with recesses **9** in the top side of pressurization unit **7**, as shown in FIG. **2**.

[0029] With reference to FIG. **3**, pressurization unit **7** can, for example, comprise a pump **10** which can be driven by an electric motor **11**. Electric motor **11** can be powered by a number of batteries **12**. For example, in the exemplary embodiment of FIG. **3**, these can be four 1.5 V AA batteries. Pressurization unit **7** can be further provided with control means which are connected to (i) electric motor **11**, and to (ii) a sensor for detecting the pressure in container **2**. For example, as in the exemplary embodiment of FIG. **3**, the control means and the pressure detecting means (or sensor) can be formed together into a so-called pressostat **13** (a "pressostat" being a device that maintains a certain constant pressure). Such an exemplary pressostat can be set to a value such that the pressure in container **2** is always higher than the saturation pressure of whichever gas is dissolved in the liquid being dispensed, such as, for example, carbon dioxide (CO_2) in soda or beer. Thus, as a result of this applied pressure the dissolved gas remains in solution in the liquid, and the liquid retains its taste and character.

[0030] In exemplary embodiments of the present invention, pump **10** can be connected via a conduit (not shown in FIG. **3**) to an air inlet **14**, which in turn can be connected to a connecting opening **15** in the center of pressurization unit **7**. Connecting opening **15**, which can, for example, be enclosed by a gasket **16**, can be connected to an intake opening **17** of container **2**, as described below (see FIGS. **19-20**).

[0031] With reference to FIGS. **5-6**, in exemplary embodiments of the present invention tap unit **3** can comprise a stopper body **18** which can, for example, be sealably placed in a dispensing opening **28** of container **2** using an annular gasket **27**. As shown in FIG. **4**, a vertically running central opening **19** can, for example, be provided in stopper body **18**, in which a valve **20** can be moved up and down. Returning to FIGS. **5-6**, central opening **19** can have two cylindrical parts **19**A, **19**B which can, for example, be connected by a third conically tapering part **19**C. Valve **20** can have a similar form and thus can, for example, be provided with three gasket rings **21**A-**21**C. As shown in FIGS. **4-6**, a vertical bore **22** can be formed in valve **20**, to which can be connected a rigid and straight dip tube **23**. Lying transversely to the vertical bore can be a second bore **24** which can define an outflow portion of valve **20**.

[0032] Similarly, a horizontal opening **25** can be formed in stopper body **18**, in which an outflow channel **26** can be provided. Horizontal opening **25** can, for example, be fluidly connected to the second bore **24** of valve **20** when valve **20** is moved to its open position, as shown in FIG. **6**. Further, a second vertical opening **29** can, for example, be formed in the upper side of stopper body **18** to provide an aerating opening. It is noted in this connection that aerating outflow channel **26** can prevent any liquid remaining in the channel due to an underpressure after valve **20** has been closed at the end of a dispensing operation, which could result in decay, as noted above. Thus, aerating valve **30** can be provided in aerating opening **29**, and valve **30** can be operated in a determined sequence with valve **20**. For this purpose the two valves **20**, **30** can be, for example, integrated to form a unit, which itself can be pivotally connected via shaft **31** to a shared operating tab **32**, which can, is in turn, be pivotally connected to ring **4** via shaft **33**.

[0033] Finally, in exemplary embodiments of the present invention, recesses **34**, **35** can also be formed both in operating member **32** as well as in stopper body **18**, between which a resetting spring (not shown) can be tensioned (to return operating tab **32** to its home, or at rest, position).

[0034] In alternative exemplary embodiments of the present invention as shown in FIG. **7**, second bore **24** can be oriented in an opposite direction to outflow channel **26**, and second bore **24** can then, for example, be connected to outflow channel **26** via an annular conduit **36** running around the outside circumference of valve **20**. In this way the outflow of liquid from container **2** can be better guided, and excessive foam formation can be prevented when the liquid in container **2** is under pressure and has carbon dioxide or some other gas dissolved in it.

[0035] Composite container **2** is next described with reference to, inter alia, FIGS. **8-10**. As noted above, in exemplary embodiments of the present invention, container **2** is a "composite" container, which includes a flexible inner container **37** and a form-retaining outer container **38**. The term "form-retaining" is intended to denote that outer container **38** is physically stable and does not deform to any considerable degree under loads encountered during normal use. Inner container **37** can, for example, be made of a relatively soft plastic such as, for example, polypropylene (PP), while a harder plastic, such as, for example, Polyethylene terephtha-

late (PET), can be chosen for outer container **38**. The difference in stiffness between inner container **37** and outer container **38** can also be achieved using different material thicknesses when using the same material for each, or, for example, when using similar materials for each. In exemplary embodiments of the present invention, inner container **37** and outer container **38** can be pre-formed via injection-molding and can then be inflated to their final form. In exemplary embodiments of the present invention, inner container **37** and outer container **38** can be connected to each other in different ways.

[0036] In the example depicted in FIGS. **8-10**, the inner container **37** is connected at the position of its dispensing opening **28** to a neck **39** of the outer container, and, in addition, at least one other connection is formed between them at a location remote from dispensing opening **28**. Thus, inner container and outer container can, for example, be connected in two places. In the depicted example of FIGS. **8-10** this connection can be, for example, a mechanical connection. In exemplary embodiments of the present invention inner container **37** and outer container **38** can be injection-molded separately and then one can be inserted into the other, as shown, for example, in FIG. **8**. In exemplary embodiments of the present invention, a tip-shaped connecting member **41** of inner container **37** can, for example, protrude through intake opening **17** of outer container **38** while leaving a narrow annular gap **46** open.

[0037] As shown in FIG. **9**, in exemplary embodiments of the present invention cap **40** can then placed over tip-shaped connecting member **41** and attached to it via spin welding, as shown in FIG. **10**.

[0038] As shown in FIGS. **11-20**, cap **40** forms part of a valve **42** for a displacing medium, which is described in detail in Netherlands Patent Application No. 1034419, filed on Sep. 22, 2007, and in PCT application WO/2009/041809, published on Apr. 2, 2009, under common assignment herewith, each of which is hereby incorporated herein by reference. When inner container **37** and outer container **38** are thus connected to each other, they can be inflated to their final form, in which the remainder of valve **42** and ring **6** can also be mounted.

[0039] The connection by means of tip-shaped connecting member **41** and spin welded cap **40** is strong enough to withstand the loads to which the inner and outer containers **37**, **38** are subjected by the introduction of a pressurized displacing medium.

[0040] FIGS. **21-24** depict an alternate embodiment of tap unit **103** according to an exemplary embodiment of the present invention. It is noted that the various elements of the exemplary embodiment of FIGS. **21-24** have similar index numbers to those in the exemplary tap unit embodiment of FIGS. **1-6**, except that in that of FIGS. **21-24** the corresponding index numbers are increased by 100.

[0041] With reference to FIGS. **21** and **22**, outflow channel **126** has a dispensing part **147**, which can be connected by a ball joint **148** to a horizontal part **149**, which in turn can be, for example, clamped into a widened part **150** of bend **151**. Bend **151** forms part of knob **152** that can, for example, be snapped onto stepped cylindrical aerating valve **130**.

[0042] In exemplary embodiments of the present invention the vertical part of bend **151** can extend into an inner wall **153** of aerating valve **130**, in which outflow valve **120** can also fixed. As shown in FIG. **21**B, outflow valve **120** can also be formed as a stepped cylinder, and can have a T-shaped channel **154**, of which one leg runs axially through the narrow part of the valve **120**, and the other leg runs transversely through the wider part of the valve **120** and opens into the periphery thereof at both sides.

[0043] Again referring to FIG. **21**B, in exemplary embodiments of the present invention outflow valve **120** and aerating valve **130** can be jointly slidable in a two-part housing **155**, of which an inner and lower part **156** (referred to below as "lower housing part") can be suspended in container neck **139**, while an outer and upper part **157** (referred to below as "upper housing part") can be fixed to neck **139** by connecting means **158** (see FIG. **21**A).

[0044] As shown in FIG. **22**B, aerating valve **130** can have, for example, two gasket rings **159**A, **159**B that can respectively cooperate with (i) an inner wall **160** of upper housing part **157**, and (ii) an outer wall **161** of lower housing part **156**. Additionally, outflow valve **120** can be provided with three gasket rings **121**A-**121**C that can cooperate with the various parts of stepped inner wall **162** of lower housing part **156**.

[0045] Lower housing part **156** can be arranged in tray **163** which can also, for example, be suspended in container neck **139**. Tray **163** can have an opening **164** in its bottom, which can be, for example, connected to the interior of container **102**. At the bottom of tray **126** a dip tube **123** can, for example, be fixed for transporting liquid from the bottom of container **102** to tap unit **103**.

[0046] In exemplary embodiments of the present invention, tap unit **103** can, for example, be operated by means of a handle **132** that is pivotable about a horizontal shaft **133** at the top of upper housing part **157**. Handle **132**, can, for example, have an engaging part **165** that pushes knob **152** when handle **132** pivots around shaft **133**. Handle **134** can further comprise, for example, two arms **166** which engage an edge of knob **152** from below when handle **132** is in its resting position. In this way the movement of knob **152** is blocked.

[0047] Finally, aerating valve **130** can, for example, be arranged to connect outflow channel **126** with a displacing medium present in the space R between inner and outer containers **137**, **138** after outflow valve **120** has been closed. To this end tap unit **103** can include, for example, an intermediate chamber **167** bordered by aerating valve **130** and inner housing part **156**. As shown in FIG. **23**, intermediate chamber **167** can be connected to space R when outflow valve **120** is opened, and, as shown in FIG. **24**, can be connected to outflow channel **126** when outflow valve **120** is closed. In this way a limited amount of the displacing medium can be directed to outflow channel **126**.

[0048] In exemplary embodiments of the present invention, the connection between space R and intermediate chamber **167** can be formed by a channel **168** that is provided in neck **139** of outer container **138**, a space between neck **139** of outer container **138** and neck **169** of inner container **137**, a plurality of openings **170** in neck **169** of inner container **137**, a corresponding plurality of openings **171** in lower housing part **156**, and a gap between lower and upper housing parts **156** and **157**. In exemplary embodiments of the present invention this connection can be opened, for example, as soon as the lowermost gasket ring **159**B of aerating valve **130** is released from a thickened part **172** of outer wall **161** of inner housing part **156**, after which intermediate chamber **167** can be filled with the displacing medium.

[0049] The connection between intermediate chamber **167** and outflow channel **126** can, for example, be formed by a plurality of openings **173** in inner wall **162** of lower housing

part **156**, which opens into a somewhat widened part of said inner wall, and by T-shaped channel **154**. This connection can be opened, for example, as soon as central gasket ring **121**B of outflow valve **120** reaches such widened part of inner wall **162**, after which the displacing medium can, for example, flow from intermediate chamber **167** through outflow channel **126** to the surrounding area. Any liquid remaining in outflow channel **126** can thus be blown out. Because such aerating—i.e., blowing-out—of outflow channel **126** can, for example, take place immediately after dispensing, a user's glass can still be held under outflow channel **126**, such that any remaining liquid being blown out can be caught in the glass.

[0050] Next described is an exemplary method for filling container **2** according to exemplary embodiments of the present invention, with reference to FIGS. **12-20**.

[0051] To fill container **2**, a source of pressurized displacing medium, such as, for example, compressed air, can be first connected to valve **42** by means of a nipple **43**, a shown in FIG. **12**. The compressed air, for example, can then be introduced through annular gap **46** into the space R between inner container **37** and outer container **38**, such that inner container **37** is almost completely compressed, as shown in FIG. **13**. At this stage only the somewhat thickened bottom of inner container **37** around pin **41** retains its form. Next, as shown in FIG. **14**, a filling conduit **44** with a nozzle **45** can then, for example, be placed in dispensing opening **28**, and liquid can be injected into inner container **37** via such conduit **44**, as shown in FIGS. **15** and **16**. As the liquid is injected into the inner container **37**, the air in space R is thus pressed out, and leaves container **2** via intake opening **17**. By holding the pressure of the air (or other displacing medium, as the case may be) in space R above the saturation pressure of the gas dissolved in the liquid, it is possible to prevent the formation of foam during filling.

[0052] In exemplary embodiments of the present invention, when inner container **37** has been completely filled, as shown in FIG. **17**, filling conduit **44** can be detached as shown in FIG. **18**, and inner container **37** can then be sealed, for example, by fastening stopper body **18** of tap unit **3** into dispensing opening **28**, as shown in FIG. **19**. The remaining components of tap unit **3** and ring **4** can then be mounted on container **2**, after which it is ready for use.

[0053] At this juncture it is noted that container **2** provided with tap unit **3** can be used not only for carbonated drinks, but for other drinks or liquids as well where it is important that the drink or liquid not be exposed to the environment, such as, for example, wine or fruit juices. In exemplary embodiments of the present invention It is alternatively possible, of course, to dispense with pressure unit **7** altogether, and instead ambient air can be admitted into the space R between inner container **37** and outer container **38** when the liquid is poured out.

[0054] Thus, in exemplary embodiments of the present invention, a structurally simple device for dosed dispensing of liquids, in particular carbonated liquids and/or liquids under pressure, can be provided, with an easily replaceable container. Additionally, given the construction of the composite container, aging of the liquid can be prevented, as well as the fact that the liquid can be easily kept under pressure, which, inter alia, prevents the escape of a gas dissolved therein.

[0055] Moreover, by connecting the inner and outer containers at a second location, in addition to their connection at the container neck, the inner container can be prevented from crumpling up or crimping near the dispensing opening and thus trapping part of the liquid. In combination with the action of the displacing medium, which keeps the liquid in the inner container under uniform pressure from all sides, this manner of connection allows the inner container to be completely emptied. Aeration of the outflow channel, either, for example, by ambient air or, for example, by using some of the displacing medium, can keep the outflow channel clean and thus prevent dripping. Finally, as described above, the exemplary container is easy to fill.

[0056] Although the present invention has been described with reference to various exemplary embodiments, those skilled in the art will understand that such embodiments are exemplary only, the present invention not being limited to any, or all, of them, and that various variations and modifications are possible, all of which included in the present invention. Rather, the scope of the invention is defined by the following claims.

1. A device for dispensing a liquid, comprising:
a composite container comprising:
a flexible inner container, in which a liquid can be provided;
a form-retaining outer container in which the inner container is fixed; and
a tap unit connected to the composite container, said tap unit comprising at least one outflow channel and an outflow valve,
wherein the inner container has a dispensing opening and the outer container is provided with a neck enclosing the dispensing opening,
wherein the inner container is connected to the outer container at the position of the dispensing opening and at least at one location remote from the dispensing opening,
wherein the outer container has at least one displacing medium intake opening at a location remote from the neck, and
wherein the tap unit is sealably provided in the dispensing opening of the inner container.

2. The dispensing device of claim **1**, wherein the inner container is also connected to the outer container at the position of the displacement medium intake opening.

3. The dispensing device of claim **2**, wherein the inner container is connected to the outer container by means of a connecting element protruding through said intake opening.

4. The dispensing device of claim **1**, further comprising a pressurization unit connected to the intake opening of the outer container to pressurize a displacing medium.

5. The dispensing device of claim **4**, wherein the pressurization unit comprises one of: a motor-driven pump and an electric motor driven pump.

6. (canceled)

7. The dispensing device of claim **5**, further comprising control means communicably connected to (i) the electric motor and to (ii) a sensor arranged to detect the pressure in the inner container.

8. The dispensing device of claim **4**, wherein the pressurization unit is releasably connected to the outer container.

9. The dispensing device of claim **1**, wherein the tap unit comprises a stopper body receivable in the dispensing opening, said stopper body provided with a central opening into which the outflow valve can be received, and wherein the outflow channel extends substantially transversely to said central opening.

10. The dispensing device of claim **9**, further comprising a dip tube connected to the central opening and extending down into the inner container.

11. The dispensing device of claim **1**, wherein the tap unit has an aerating opening connected to the outflow channel and an aerating valve, said aerating opening being closable by the aerating valve.

12. The dispensing device of claim **11**, wherein the aerating valve and the outflow valve can be operated in a determined sequence.

13. The dispensing device of claim **12**, further comprising a shared operating member co-acting with the aerating valve and the outflow valve.

14. The dispensing device of claim **11**, wherein the aerating opening is open to ambient air.

15. The dispensing device of claim **1**, wherein there is a displacing medium provided in a space between the inner container and the outer container.

16. The dispensing device of claim **11**, wherein the aerating opening is in gaseous communication with the displacing medium.

17. The dispensing device of claim **16**, further comprising an intermediate chamber that is:

connected to the space between the inner and outer containers when the outflow valve is opened, and

connected to the outflow channel when the outflow valve is closed.

18. The dispensing device of claim **12**, wherein the sequence comprises:

both the outflow valve and the aerating valve being closed;

the outflow valve being open and the aerating valve being closed;

the outflow valve being closed and the aerating valve being opened.

19. A method for filling a composite container with a liquid, said composite container comprising an inner container and an outer container, the method comprising:

connecting an intake opening of the outer container to a source of displacing medium;

filling a space between the inner container and the outer container with the displacing medium;

connecting a filling conduit for the liquid onto a dispensing opening of the inner container;

injecting the liquid through the dispensing opening into the inner container, such that the displacing medium is pushed out of the outer container through the intake opening;

releasing the filling conduit from the dispensing opening once the inner container has been filled; and

closing the dispensing opening by providing a tap unit therein.

20. The method of claim **19**, wherein the displacing medium is one of: air, pressurized air, a gas and a pressurized gas.

21. (canceled)

22. The method of claim **19**, wherein the displacing medium is introduced into the space between the inner container and the outer container at a filling pressure, said filling pressure being a function of the pressure at which the liquid is injected into the inner container through the filling conduit.

23. The method of claim **22**, wherein the liquid comprises a gas dissolved in it, and the filling pressure is set to be greater than the saturation pressure of the gas in the liquid.

24. The dispensing device of claim **11**, wherein the outflow valve and the aerating valve are integrated in one unit.

25. The dispensing device of claim **24**, wherein the integrated unit is pivotally connected via a shaft to a shared operating tab.

26. The dispensing device of claim **25**, wherein said operating tab is tensioned by a spring so as to return to a resting position when released.

27. The dispensing device of claim **1**, further comprising an annular conduit running around the outside circumference of the outflow valve through which the liquid is sent during dispensing.

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