



(11) **EP 3 263 512 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
10.03.2021 Bulletin 2021/10

(51) Int Cl.:
B67D 1/04 (2006.01) **B01F 3/04 (2006.01)**
B65D 85/73 (2006.01)

(21) Application number: **17178603.1**

(22) Date of filing: **29.06.2017**

(54) **CONTAINER FOR LIQUIDS ASSOCIATED WITH A CARBONATOR**

BEHÄLTER FÜR FLÜSSIGKEITEN, ZUSAMMEN MIT EINEM KARBONISATOR

RÉCIPIENT POUR LIQUIDES ASSOCIÉ À UN GAZÉIFICATEUR

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

(30) Priority: **01.07.2016 IT 201600068705**

(43) Date of publication of application:
03.01.2018 Bulletin 2018/01

(73) Proprietor: **EMDOTEM S.r.L.**
20121 Milano (IT)

(72) Inventors:
• **BERGAMASCHI, Mauro**
I - 20011 CORBETTA (Milano) (IT)
• **BRICCOLA, Matteo**
I - 20151 MILANO (IT)

(74) Representative: **Lunati & Mazzoni S.r.L.**
Via Carlo Pisacane, 36
20129 Milano (IT)

(56) References cited:
EP-A1- 1 454 843 **WO-A1-2006/128653**
GB-A- 206 199 **US-A1- 2009 261 129**
US-B1- 9 227 827

EP 3 263 512 B1

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description

[0001] The present invention relates to a container for liquids associated with a carbonator of the type as recited in the preamble of the first claim.

[0002] In particular, the present invention relates to a device which can contain and add gas to liquids of different types such as water. Various types of containers of liquids associated with a carbonator are known from the prior art.

[0003] Among these are devices aimed substantially at domestic use and portable devices. The domestic devices are characterized by large structures suitable to accommodate bottles or bottle-shaped containers available and operatively connectable with an insufflation nozzle on the device.

[0004] This nozzle allows a gas, typically CO₂, to flow into the bottle under pressure from a pre-filled canister.

[0005] The portable devices are instead connected externally to the bottle generally, at the cap and are characterized by smaller dimensions than carbonators for domestic use, although not negligible.

[0006] An example of this type is for example described in the patent application US-A-2003/9227827.

[0007] The prior art described has several significant drawbacks.

[0008] In particular, as already mentioned, the known devices have large dimensions, or, in the case of portable devices have in any case characteristics that make them awkward to move around.

[0009] In fact, all of the devices described have the drawback of being external to the bottle containing the liquid to be carbonated and, therefore, during use, require a dedicated space in which to house the same.

[0010] This drawback appears to be extremely relevant for use of the devices involving extra domestic activities such as hiking or otherwise.

[0011] Another important drawback is that all the devices require a set-up procedure for carrying out the activity which the device is for.

[0012] In fact, the bottles must be placed at the insufflation nozzle or portable devices must be fitted at the cap of the containers.

[0013] Following the carbonation procedure, it is therefore necessary to store or remove the carbonator to be able to use the liquid inside the bottles.

[0014] As a result, the devices of the prior art are unwieldy and do not allow an immediate use of the liquid manipulated.

[0015] The patent application GB-A-206199 describes a more portable device than the previous.

[0016] However, even this device has, in the first place, a device external to the bottle containing the liquid.

[0017] In addition, the fastening and connection means between the various components are complex and the gas placed inside the canister must go through at least two intermediate chambers before coming into contact with the liquid. Moreover, once the gas inside the canister

is finished it needs to be refilled with consequent disadvantages from the point of view of portability, as with the devices of the prior art previously mentioned.

[0018] Also the patent application EP-A-1454843 describes a device internal to the bottle containing the gas which can be opened only once.

[0019] In this situation, the technical purpose of the present invention is to devise a container for liquids associated with a carbonator able to substantially overcome the drawbacks mentioned above.

[0020] Within the sphere of said technical purpose one important aim of the invention is to provide a container for liquids associated with a carbonator which is portable and compact.

[0021] Another important object of the invention is to provide a container for liquids which makes it possible to manipulate a liquid in a simplified manner and therefore more rapid compared to the devices of the prior art.

[0022] The technical purpose and specified aims are achieved by container for liquids associated with a carbonator as claimed in the appended claim 1. Preferred embodiment examples are described in the dependent claims.

[0023] The characteristics and advantages of the invention are clearly evident from the following detailed description of preferred embodiments thereof, with reference to the accompanying drawings, in which:

Fig. 1 shows the container for liquids;

Fig. 2 shows an exploded view of the container for liquids;

Fig. 3 is a cross-section of the base of the container for liquids; and

Fig. 4 is a diagram showing the functioning of the container for liquids.

[0024] Herein, the measures, values, shapes and geometric references (such as perpendicularity and parallelism), when used with words like "about" or other similar terms such as "approximately" or "substantially", are to be understood as except for measurement errors or inaccuracies due to production and/or manufacturing errors and, above all, except for a slight divergence from the value, measure, shape or geometric reference which it is associated with. For example, said terms, if associated with a value, preferably indicate a divergence of not more than 10% of said value.

[0025] In addition, where used terms such as "first", "second", "upper", "lower", "main" and "secondary" do not necessarily refer to an order, a priority relationship or relative position, but may simply be used to more clearly distinguish different components from each other.

[0026] With reference to the Drawings, reference numeral **1** globally denotes the container for liquids associated with a carbonator.

[0027] The container for liquids **1** comprises a base **2**, a containment body **3** and an opening **4**.

[0028] In particular, the base **2** and the containment

body 3 define a first inner volume 1a.

[0029] Consequently, the first inner volume 1 preferably substantially assumes the shapes and size defined by the base 2 and the containment body 3.

[0030] The base 2, for example, defines a main axis 2a.

[0031] The base 2 preferably comprises a concave surface 20 inside which a cavity 21 is made.

[0032] The cavity 21 is therefore, for example, a portion of the first inner volume 1a and in particular the portion of the first inner volume 1a enclosed by the base 2.

[0033] The concave surface 20 may be any shape and size and is preferably a cylinder centred on the main axis 2a open at one of the two bases and comprising a compartment 22 at the opposite base.

[0034] The compartment 22 is for example a substantially cylindrical shape centred along the main axis 2a protruding toward the inside of the base 2.

[0035] Consequently, the cavity 21 may also be any shape and size depending on the characteristics of the surrounding surface and therefore substantially in a manner complementary to the inner shape of the concave surface 20 and the compartment 22.

[0036] The base 2 further comprises means of introducing a substance inside the base 2. In particular the substance may be a gas. The gas is preferably carbon dioxide (CO₂).

[0037] The base 2 comprises fastening means 6, a connection 8, a valve 9 and control means 10.

[0038] The above-mentioned fastening means 6, connection means 8, valve 9 and control means 10 are preferably arranged inside the cavity 21.

[0039] The fastening means 6 are preferably suitable to fasten the base 2 to a gas container 7.

[0040] The gas container 7 may be any shape or size and preferably is made of a similar structure to the compressed-gas cartridges used in canisters for soda.

[0041] The gas container 7 thus defines a second inner volume 7a.

[0042] The second inner volume 7a is preferably delimited by the walls of the gas container 7 and is also, for example, suitable to house a substance to be introduced inside the first inner volume 1a and therefore comprises a gas.

[0043] The gas may be any gas preferably used to add to liquid such as common beverages and therefore is for example carbon dioxide.

[0044] It is also hermetically sealed at its opening by an occluder 70.

[0045] The occluder 70 is for example a rubber stopper of the type commonly used for example for injection drugs and is suitable to be perforated to be able to access the second inner volume 7a defined by the gas container 7. Alternatively, the occluder 70 is a very thin metal wall similar to that used in the compressed-gas cartridges used in canisters for soda.

[0046] The gas container 7 can be coupled, as mentioned, to the base 2 via the constraining means 6 and may therefore have interlocking tabs or threads or otherwise.

erwise.

[0047] Preferably the constraining means 6 consist of a hollow cylinder centred on the main axis 2a comprising smooth walls.

[0048] As a result of what has been said the gas container 7 comprises, for example, a neck adjacent to the occluder 70 provided inside the cylinder defined by the fastening means 6 and having a suitable geometry to be coupled to the fastening means 6.

[0049] In an alternative configuration, the fastening means 6 consist of a hollow cylinder centred on the main axis 2a comprising threaded corresponding parts on the inside thereof.

[0050] In addition, the gas container 7 comprises, for example a neck adjacent to the occluder 70 provided inside the cylinder defined by the fastening means 6 and having threaded corresponding parts suitable to be coupled to the corresponding parts of the fastening means 6.

[0051] These configurations allow, for example, the gas container 7 to be replaceable.

[0052] In fact, the gas container 7 is preferably attachable and removable for easy replacement in case of complete emptying of the gas contained inside it.

[0053] In particular, the fastening means 6 therefore have a hole, for example coinciding with a base of the cylinder, with dimensions compatible with the neck of the gas container 7 and suitable to introduce at least part of the gas container 7 therein, and a connection 8.

[0054] The connection 8 is for example placed on the fastening means 6 on the base opposite the inlet base of the gas container 7.

[0055] Preferably the connection 8 is for example a hole or a duct suitable to operatively connect the first inner volume 1a and the second inner volume 7a.

[0056] In particular, for example, the connection 8 operatively connects the gas container 7 and the cavity 21 and preferably the connection 8 is a duct comprising an inlet hole 80 and an outlet hole 81.

[0057] The inlet hole 80 is, for example, directly connected with the fastening means 6 and therefore with the gas container 7 while the outlet hole 81 is connected directly with the cavity 21 and therefore with the first inner volume 1a.

[0058] The connection 8 is also preferably operatively connected with a valve 9.

[0059] The valve 9 may comprise various apparatuses such as a solenoid valve or a tap or otherwise.

[0060] Preferably the valve 9 comprises a control chamber 90, a plunger 91 and an elastic element 92.

[0061] The control chamber 90 may be any shape or size as long as suitable to house the internal control elements and in particular the plunger 91.

[0062] The control chamber 90 is also operatively connected to the connection 8 and in particular is arranged between the inlet hole 80 and the outlet hole 81.

[0063] The inlet hole 80 preferably, as said, faces the entrance of the gas container 7 and thus the occluder 70 allowing the control chamber 90 to communicate with it.

[0064] The gas container 7 is in fact preferably partially placed inside a space, such as the aforementioned cylinder, defining the fastening means 6.

[0065] The outlet hole 81 is preferably suitable to operatively connect the control chamber 90 and the cavity 21.

[0066] As a result, the control chamber 90, for example, substantially comprises an interference member placed on the connection 8, and therefore between the first inner volume 1a and the second inner volume 7a.

[0067] The plunger 91 may be any shape or size and preferably is suitable to close and open the inlet hole 80.

[0068] In other words, the plunger 91 preferably has the function of obstructing or freeing the connection 8 and in particular allowing or preventing the passage of gas comprised in the gas container 7 between the inlet hole 80 and the outlet hole 81. Consequently, the plunger 91 comprises at least one geometrically complementary portion to the inlet hole 80 and is suitable to entirely occupy, for example hermetically, the same.

[0069] The control chamber 90 and the plunger 91 are thus structured in such a way to realize, when open, a passage or direct duct between the inlet hole 80 and the outlet hole 81.

[0070] Therefore, in this configuration, the second inner volume 7a and the first inner volume 1a are in direct connection for fluid passage.

[0071] The term direct connection for fluid passage means that there are no chambers rooms or collection tanks between the two volumes 1a, 7a.

[0072] At the geometrically complementary portion to the inlet hole 80 of the plunger 91 a pin 910 is also preferably placed.

[0073] The pin 910 is for example suitable to pierce the opening of the gas container 7, and thus preferably the occluder 70 in such a way as to enable the gas, contained inside the gas container 7, to flow outwardly.

[0074] The control chamber 90 and the plunger 91 preferably comprise a structure substantially similar to an actuator of the jack type.

[0075] The plunger 91 is also operatively connected to an elastic element 92.

[0076] The elastic element 92 is for example a spring and is suitable to keep the plunger 91 in its closed configuration, i.e. in such a way as to occupy entirely the inlet hole 80.

[0077] At least a portion of the plunger 91 is preferably external to the control chamber 90.

[0078] The aforesaid portion is thus, for example, operatively connected to the control means 10.

[0079] The control means 10 may for example comprise a control knob, or even a pushbutton or other element which ensures the controlled movement of the plunger 91.

[0080] In particular, preferably the control means 10 comprise a first component 11 and a second component 12.

[0081] The first component 11 is for example a lever

hinged on the base 2 preferably halfway along its extension, and movably engaged at one end to the outer section of the plunger 91.

[0082] The portion of the first component 11 opposite the plunger 91 is preferably movably engaged with the second 12 component.

[0083] Therefore, the first component 11 is for example similar to a first-class lever.

[0084] The second component 12 is more preferably a lever movably engaged to the first component 11 at one end.

[0085] The second component 12 is for example pivoted on the base 2 at the opposite end with respect to the connection with the first component 11 and therefore is for example similar to a third-class lever.

[0086] The second component 12 and the first component 11 preferably allow the movement of the plunger 91 in such a manner as to open or close the inlet hole 80.

[0087] Said inlet hole 80, as mentioned, allows for example the control chamber 90 to communicate with the second inner volume 7a while the outlet hole 81 allows the control chamber 90 to communicate with the first inner volume 1a.

[0088] Therefore, the opening and closing of the inlet hole 80 preferably involve the opening and closing of the connection 8, and thus the obstruction or the freeing of the passage of gas from the second inner volume 7a to the first inner volume 1a. The base 2, just described, is also preferably constrained to the container body 3, for example by means of threading or interlocking.

[0089] In particular, the base 2 may be arranged depending on different configurations and is therefore, for example, below the containment group, or above, or even lateral or internal thereto.

[0090] The containment body 3, for example, is arranged at the cavity 21 of the base 2. The body 3 is preferably substantially a bottle body hermetically attachable to the base 2 so as to trap a volume comprised inside the base 2 and the body 3.

[0091] This volume is therefore constituted for example by the first inner volume 1a. More in detail, the base 2 and said containment body 3 define an operating configuration in which the base 2 and the containment body 3 are mutually constrained.

[0092] Furthermore, they define a non-operating configuration in which the base 2 and the containment body 3 are mutually disengaged.

[0093] In the non-operating configuration, the gas container 7 is made accessible.

[0094] As a result, a user can, for example, easily access the gas container 7.

[0095] In fact, the non-operating configuration is preferably suitable to allow the constraint or removal of the gas container 7 to the fastening means 6.

[0096] This way the gas container 7, as already mentioned above, may easily be replaced. The body 3 may therefore be provided above the cavity 21 and coupled by interlocking above the base 2.

[0097] Moreover, the body 3 may be empty, or may have inside it corresponding parts suitable to house the gas container 7 therein or even grates, or perforated surfaces, separating its inner volume and the cavity 21.

[0098] Preferably, the gas container 7 is inside the device for liquids and therefore the body 3 comprises a corresponding part substantially complementary to the gas container 7 and suitable to constitute a containment casing 30.

[0099] In particular, the containment casing 30 is for example suitable to allow the separation between the liquid contained in the container for liquids 1 and the outer surface 7 of the gas container.

[0100] In addition, the containment casing is preferably suitable to keep the gas container 7 in position, i.e. as arranged for example at the fastening means 6.

[0101] As a result, the containment casing is for example suitable to form with the fastening means 6 an airtight casing.

[0102] The body 3 is also operatively connected to the opening 4.

[0103] Such opening 4 is therefore, for example, a narrowing at the opposite end to the base 2.

[0104] Such narrowing is for example a bottleneck of the type commonly known in the art and used for pouring the liquid or directly for drinking.

[0105] Preferably, the body 3 has at the aforementioned narrowing fastening elements suitable to connect with a cap 5.

[0106] As a result, for example, the fastening elements may be threads of the type commonly known in the art.

[0107] The cap 5 may be of the common type and is for example suitable to hermetically close the liquid container 1, and thus allow the entrapment, inside the volume described by the base 2 and the containment body 3, of a quantity of liquid, for example 75 cl.

[0108] The liquid is for example water.

[0109] Therefore, the container for liquids, for example, is suitable to contain water and is preferably suitable to generate carbonated water.

[0110] Finally, the cap 5 may comprise for example a safety element 50 suitable to reduce the pressure inside the first inner volume 1a.

[0111] Such safety element 50 is preferably a valve of the common vent type and therefore suitable to allow venting of excess gas inside the first inner volume 1a of the container for liquids 1.

[0112] The aforementioned vent valve may also be, for example, alternatively arranged on the containment body 3 or even on the base 2.

[0113] The functioning of the container for liquids 1 associated with a carbonator, described above in structural terms, is as follows.

[0114] The second component 12, once pressed, allows the removal of the plunger 91 from the inlet hole 80 by means of a lever mechanism (fig. 4).

[0115] In particular, the movement of the second component rotates the first component 11 around its own

hinge.

[0116] The first component 11 thus pulls the plunger 91 away from the inlet hole 80 overcoming the force of elastic resistance of the elastic element 92.

5 **[0117]** Upon removal of the plunger 91 from the hole 80 the gas inside the gas container 7 is released flowing from the second inner volume 7a to the first inner volume 1a through the connection 8.

10 **[0118]** In particular the gas passes the inlet hole 80, crossing part of the command chamber 90 and escaping through the outlet hole 81.

[0119] In more detail, the gas is released from the canister through a hole made at the occluder 70 by the pin 910.

15 **[0120]** Once outside the outlet hole the gas enters the cavity 21 and thus the first inner volume 1a, inside which the liquid inside the container for liquids 1 is partially placed.

[0121] The gas is then mixed with the liquid and therefore the liquid is manipulated from the original state to the state of liquid with addition of gas.

[0122] Beyond a given rotation (definable depending on the constructive configuration) the second component 12 is released from the first component 11 and therefore the elastic element 92, comprised inside the control chamber 90, allows the released plunger 91 to return to its closed configuration avoiding the involuntary dispersion of gas.

20 **[0123]** As a result of the above, the container for liquids 1 allows gas to enter inside the cavity 21 both in an impulsive manner by means of the mechanisms of the control mean 10 and in a continuous manner by pressing slightly the second component 12.

25 **[0124]** Lastly, once the gas in the gas container 7 is exhausted, it is possible to refill said container 7 or replace it entirely with another.

[0125] The container for liquids 1 associated with a carbonator according to the invention achieves important advantages.

30 **[0126]** In fact, the container for liquids 1 incorporates within it the base 2 comprising the adjustment means of a gas to be introduced on command in a liquid and therefore turns out to be very compact ensuring portability and greater convenience compared to the available devices of the prior art.

35 **[0127]** In addition, the shape of the container for liquids 1 allows it to perform the required functions of the device in any situation.

[0128] It makes it possible for example even for users engaged in sports activities to take advantage of its features.

[0129] In conclusion, the operation of the device is simplified and quick.

40 **[0130]** As a result, the container for liquids 1 is extremely competitive both from an economic point of view, when compared to the much more complex household devices, and from a utilisation point of view.

45 **[0131]** Variations may be made to the invention without

departing from the scope of the inventive concept defined in the claims.

[0132] For example, the shapes and the dimensions of the container for liquids 1 may be different depending on the purposes for which the device is provided.

[0133] In said sphere all the details may be replaced with equivalent elements and the materials, shapes and dimensions may be as desired.

Claims

1. A container for liquids (1) and a carbonator comprising:

- a containment body (3) ;
- a base (2);
- said containment body (3) and said base (2) defining a first inner volume (1 a) for a liquid,
- an opening (4) closable by a cap (5), suitable to allow access to said liquid in said first inner volume (1a), and
- said base (2) including:

- fastening means (6) for fastening a gas container (7) inside said first inner volume, said gas container (7) defining a second inner volume (7a) for containing gas,
- a connection (8), different from said opening (4), configured to place in connection for fluid passage said second inner volume (7a) with said first inner volume (1a),
- a valve (9) suitable to obstruct or free said connection (8),
wherein

- said base (2) and said containment body (3) define an operating configuration in which said base (2) and said containment body (3) are mutually coupled and a non-operating configuration in which said base (2) and said containment body (3) are mutually disengaged, wherein in the said non-operating configuration said gas container (7) is accessible and a user can fasten or release said gas container (7) to said fastening means (6),

characterised in that

said base (2) further includes control means (10) configured to control said valve (9) from outside said first inner volume (1a), and in that said fastening means (6) are configured to fasten said gas container (7) inside said first inner volume (1a).

2. The container (1) according to one or more of the preceding claims, wherein said second inner volume (7a) and said first inner volume (1a) are in direct con-

nection for fluid passage.

3. The container (1) according to one or more of the preceding claims, wherein said valve (9) comprises a control chamber (90), a plunger (91) and an elastic element (92).

4. The container (1) according to at least one preceding claim, wherein said connection (8) comprises an inlet hole (80) and an outlet hole (81) and wherein said control chamber is positioned between said inlet hole and said outlet hole and said plunger (91) is suitable to open or obstruct said inlet hole (80).

5. The container (1) according to one or more of the preceding claims, wherein said plunger (91) comprises a pin (910) and said gas container (7) comprises an occluder (70), said occluder being arranged at said inlet hole (80) and said pin (910) being adapted to pierce said occluder (70).

6. The container (1) according to one or more of the preceding claims, wherein said control means (10) comprises a first component (11) and a second component (12) and wherein said plunger (91) is movably engaged to said first component (11), said first component (11) being movably engaged to said second component (12), said second component (12) being suitable to move said plunger (91) by means of said first component (11) from outside said first inner volume (1a).

7. The container (1) according to at one of the preceding claims, comprising said cap (5), wherein said cap (5) comprises a safety element (50), said safety element (50) being an air vent valve.

8. The container (1) according to one or more of the preceding claims, wherein said plunger (91) is maintained in the configuration occluding said inlet hole (80) by said elastic element (92).

9. The container (1) according to one or more of the preceding claims, wherein said containment body (3) comprises a containment casing (30) suitable to include and keep in position said gas container (7) and suitable to define with said fastening means (6) a hermetically sealed casing.

Patentansprüche

1. Behälter für Flüssigkeiten (1), zusammen mit einem Karbonisator, umfassend:

- einen Umhüllungskörper (3), eine Basis (2);
- wobei der genannte Umhüllungskörper (3) und die genannte Basis (2) ein erstes Innenvolumen

- (1a) für eine Flüssigkeit definieren,
 - eine mit einem Verschluss (5) verschließbare Öffnung (4), die geeignet ist, den Eintritt der genannten Flüssigkeit in das genannte erste Innenvolumen (1a) zu gestatten, wobei
 - die genannte Basis (2) Folgendes enthält:
- Befestigungsmittel (6) für einen Gasbehälter (7), wobei der genannte Gasbehälter (7) ein zweites Innenvolumen (7a) zum Enthalten von Gas definiert,
 - eine Verbindung (8), die von der genannten Öffnung (4) getrennt und darauf ausgelegt ist, eine Fluidverbindung des genannten zweiten Innenvolumens (7a) mit dem genannten ersten Innenvolumen (1a) herzustellen,
 - ein Ventil (9), das geeignet ist, diese genannte Verbindung (8) zu verschließen oder freizugeben,
- wobei die genannte Basis (2) und der genannte Umhüllungskörper (3) eine operative Konfiguration definieren, bei der die genannten Basis (2) und der genannte Umhüllungskörper (3) miteinander verbunden sind und eine nicht operative Konfiguration, bei der die genannte Basis (2) und der genannte Umhüllungskörper (3) voneinander gelöst sind,
 - wobei in der genannten nicht operativen Konfiguration der genannte Gasbehälter (7) zugänglich ist und ein Benutzer den genannten Gasbehälter (7) mit den genannten Befestigungsmitteln (6) verbinden oder von diesen lösen kann, **dadurch gekennzeichnet, dass**
 - die genannte Basis (2) außerdem Steuerelemente (10) umfasst, die darauf ausgelegt sind, das genannte Ventil (9) von außerhalb des genannten Innenvolumens (1a) zu steuern,
 - und dadurch, dass die genannten Befestigungsmittel (6) geeignet sind, den genannten Gasbehälter (7) im Inneren des genannten ersten Innenvolumens (1a) zu befestigen.
2. Behälter (1) nach einem oder mehreren der vorangegangenen Ansprüche, bei dem das genannte zweite Innenvolumen (7a) und das genannte erste Innenvolumen (1a) in direkter Fluidverbindung miteinander stehen.
3. Behälter (1) nach einem oder mehreren der vorangegangenen Ansprüche, bei dem das genannte Ventil (9) eine Steuerkammer (90), einen Kolben (91) und ein Federelement (92) umfasst.
4. Behälter (1) nach mindestens einem der vorangegangenen Ansprüche, bei dem die genannte Verbindung (8) eine Eingangsöffnung (80) und eine Ausgangsöffnung (81) umfasst und bei dem die genannte Steuerkammer zwischen der genannten Ausgangsöffnung und dem genannten Kolben (91) angeordnet und geeignet ist, die genannte Eingangsöffnung (80) zu öffnen oder zu verschließen.
5. Behälter (1) nach einem oder mehreren der vorangegangenen Ansprüche, bei dem der genannte Kolben (91) eine Nadel (910) umfasst und der genannte Gasbehälter (7) eine Schließvorrichtung (70) umfasst, wobei die genannte Schließvorrichtung an der genannten Eingangsöffnung (80) angeordnet ist und die genannte Nadel (910) geeignet ist, die genannte Schließvorrichtung (70) zu durchdringen.
6. Behälter (1) nach einem oder mehreren der vorangegangenen Ansprüche, bei dem die genannten Steuerelemente (10) ein erstes Bauelement (11) und ein zweites Bauelement (12) umfassen und bei dem der genannte Kolben (91) sich beweglich an dem genannten ersten Bauelement (11) im Eingriff befindet, wobei das genannte erste Bauelement (11) sich beweglich an dem genannten zweiten Bauelement (12) im Eingriff befindet, wobei das genannte zweite Bauelement (12) geeignet ist, den genannten Kolben (91) mittels des genannten ersten Bauteils (11) von außerhalb des genannten ersten Innenvolumens (1a) zu bewegen.
7. Behälter (1) nach einem der vorangegangenen Ansprüche, bei dem der genannte Verschluss (5) ein Sicherheitselement (50) umfasst, wobei das genannte Sicherheitselement (50) ein Entlüftungsventil ist.
8. Behälter (1) nach einem oder mehreren der vorangegangenen Ansprüche, bei dem der genannte Kolben (91) von dem genannten Federelement (92) in die genannte Eingangsöffnung (80) verschließender Konfiguration gehalten wird.
9. Behälter (1) nach einem oder mehreren der vorangegangenen Ansprüche, bei dem der genannte Umhüllungskörper (3) eine Außenhülle (30) umfasst, die geeignet ist, den genannten Gasbehälter (7) einzuschließen und in Position zu halten und geeignet ist, mit den genannten Befestigungsmitteln (6) eine hermetisch dichte Hülle zu definieren.

Revendications

1. Récipient pour liquides (1) et un gazéificateur comprenant :
- un corps de confinement (3), une base (2) ;
 - ledit corps de confinement (3) et ladite base (2) définissant un premier volume intérieur (1a)

- pour un liquide,
- une ouverture (4) refermable par un bouchon (5), destinée à permettre l'accès audit liquide dans ledit premier volume intérieur (1a), et
 - ladite base (2) comprenant :
 - des moyens de liaison (6) pour un récipient de gaz (7), ledit récipient de gaz (7) définissant un second volume intérieur (7a) pour contenir du gaz,
 - une connexion (8) distincte de ladite ouverture (4) et configurée pour mettre en connexion de passage fluide ledit second volume intérieur (7a) avec ledit premier volume intérieur (1a),
 - une soupape (9) destinée à obturer ou libérer ladite connexion (8),
 - où ladite base (2) et ledit corps de confinement (3) définissent une configuration opérationnelle où ladite base (2) et ledit corps de confinement (3) sont réciproquement liés et une configuration non opérationnelle où ladite base (2) et ledit corps de confinement (3) sont réciproquement libérés,
 - où dans ladite configuration non opérationnelle ledit récipient de gaz (7) est accessible et un utilisateur peut lier ou libérer ledit récipient de gaz (7) auxdits/desdits moyens de liaison (6), **caractérisé en ce que**
 - ladite base (2) comprend en outre des moyens de commande (10) configurés pour commander de l'extérieur dudit volume intérieur (1a) ladite soupape (9),
 - et **en ce que** lesdits moyens de liaison (6) sont destinés à lier ledit récipient de gaz (7) à l'intérieur dudit premier volume intérieur (1a).
2. Récipient (1) selon une ou plusieurs revendications précédentes, où ledit second volume intérieur (7a) et ledit premier volume intérieur (1a) sont en connexion de passage fluide directe.
3. Récipient (1) selon une ou plusieurs revendications précédentes, où ladite soupape (9), comprend une chambre de commande (90), un piston (91) et un élément élastique (92).
4. Récipient (1) selon au moins une revendication précédente, où ladite connexion (8) comprend un trou d'admission (80) et un trou d'émission (81) et où ladite chambre de commande est disposée entre ledit trou d'admission et ledit trou d'émission et ledit piston (91) est destiné à ouvrir ou occlure ledit trou d'admission (80).
5. Récipient (1) selon une ou plusieurs revendications précédentes, où ledit piston (91) comprend un pointeau (910) et ledit récipient de gaz (7) comprend un dispositif d'occlusion (70), ledit dispositif d'occlusion étant disposé en correspondance dudit trou d'admission (80) et ledit pointeau (910) étant destiné à perforer ledit dispositif d'occlusion (70).
6. Récipient (1) selon une ou plusieurs revendications précédentes, où lesdits moyens de commande (10) comprennent un premier composant (11) et un second composant (12) et où ledit piston (91) est engagé de manière mobile audit premier composant (11), ledit premier composant (1) étant engagé de manière mobile audit second composant (12), ledit second composant (12) étant destiné à maintenir ledit piston (91) au moyen dudit premier composant (11) à l'extérieur dudit premier volume intérieur (1a).
7. Récipient (1) selon une des revendications précédentes, où ledit bouchon (5) comprend un élément de sécurité (50), ledit élément de sécurité (50) étant une soupape de sécurité.
8. Récipient (1) selon une ou plusieurs revendications précédentes, où ledit piston (91) est maintenu en configuration occluant ledit trou d'admission (80) dudit élément élastique (92).
9. Récipient (1) selon une ou plusieurs revendications précédentes, où ledit corps de confinement (3) comprend une enveloppe de confinement (30) destinée à comprendre et maintenir en position ledit récipient de gaz (7) et destinée à définir avec lesdits moyens de liaison (6) une enveloppe étanche hermétique.

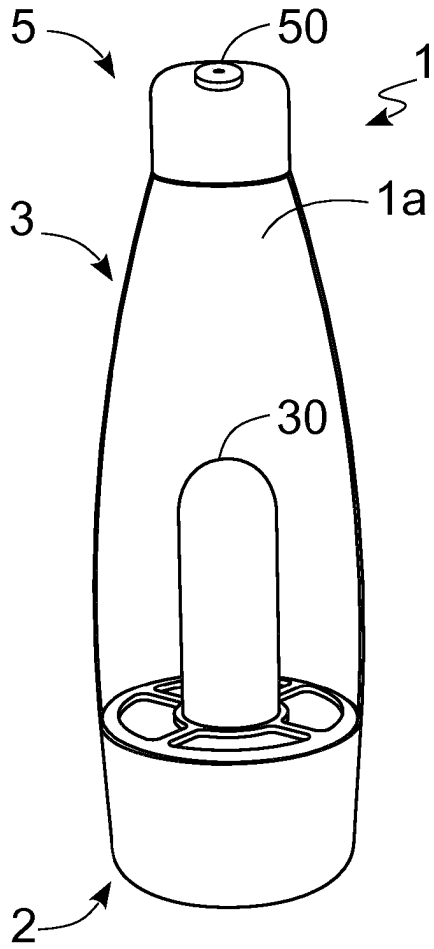
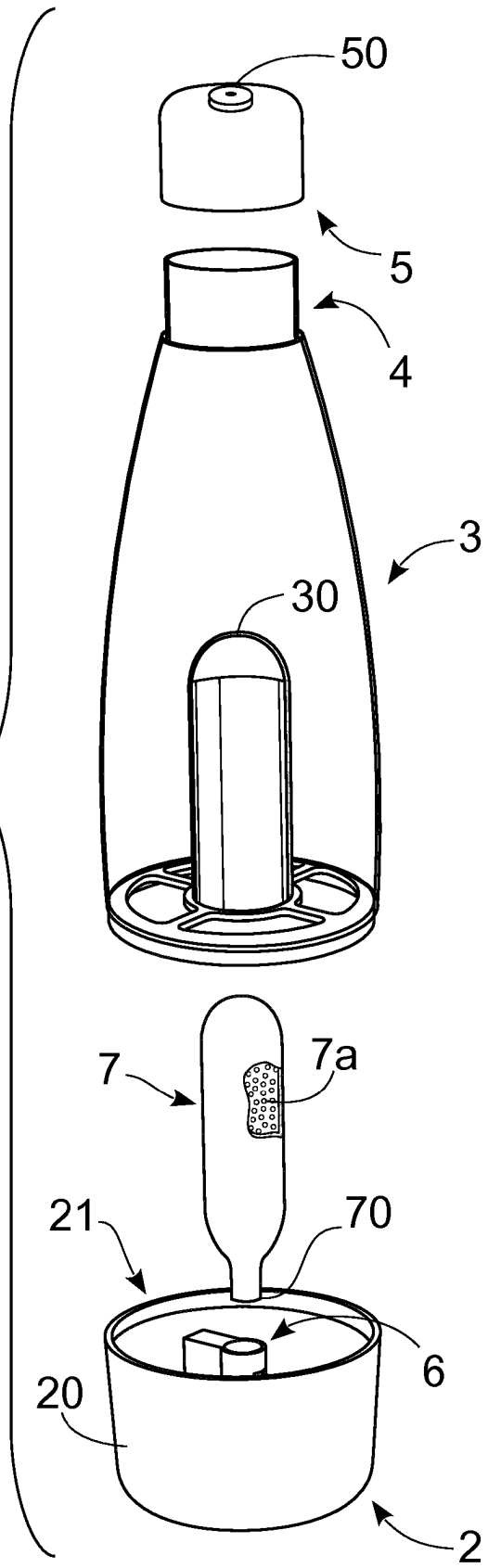


Fig. 1

Fig. 2



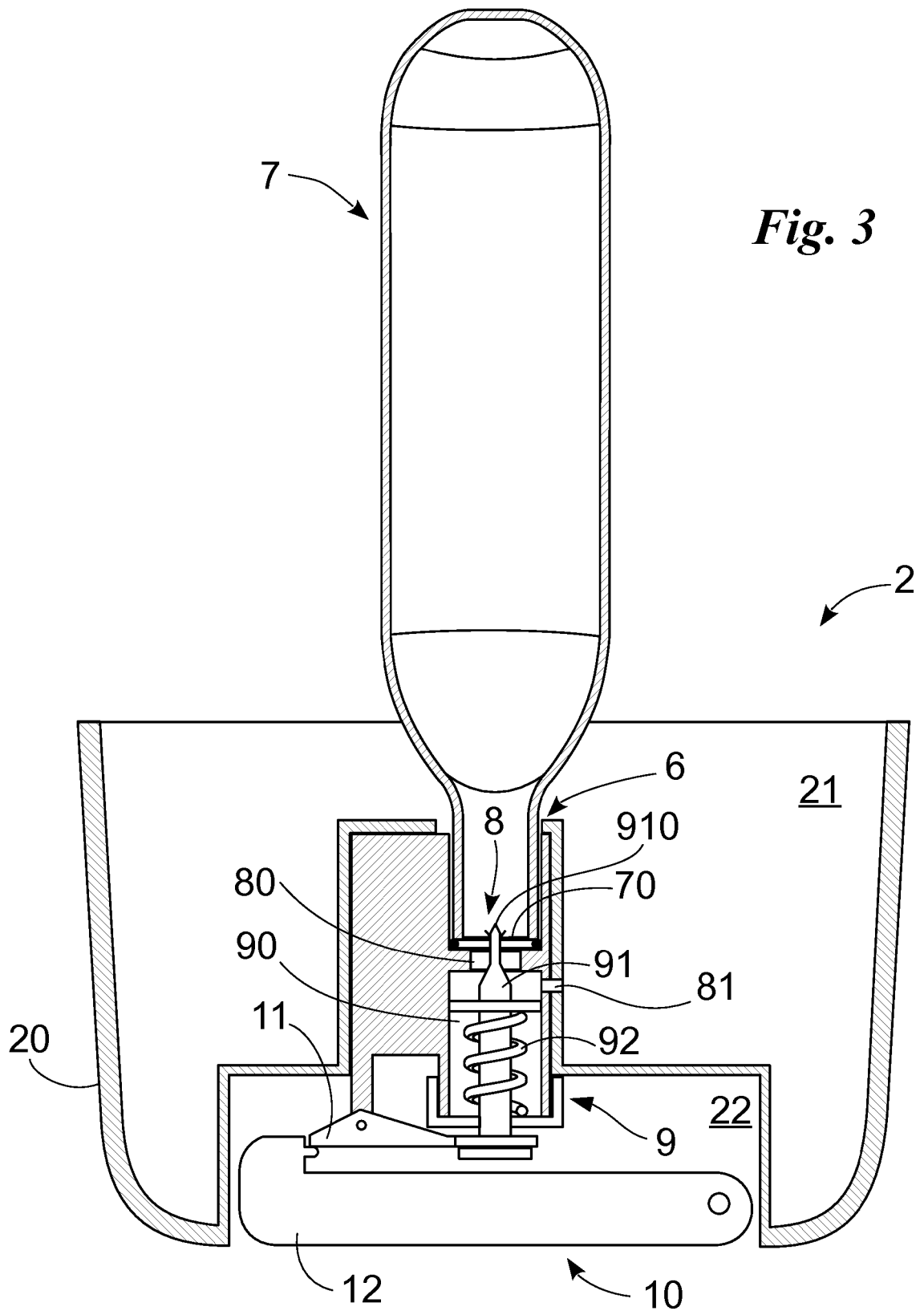
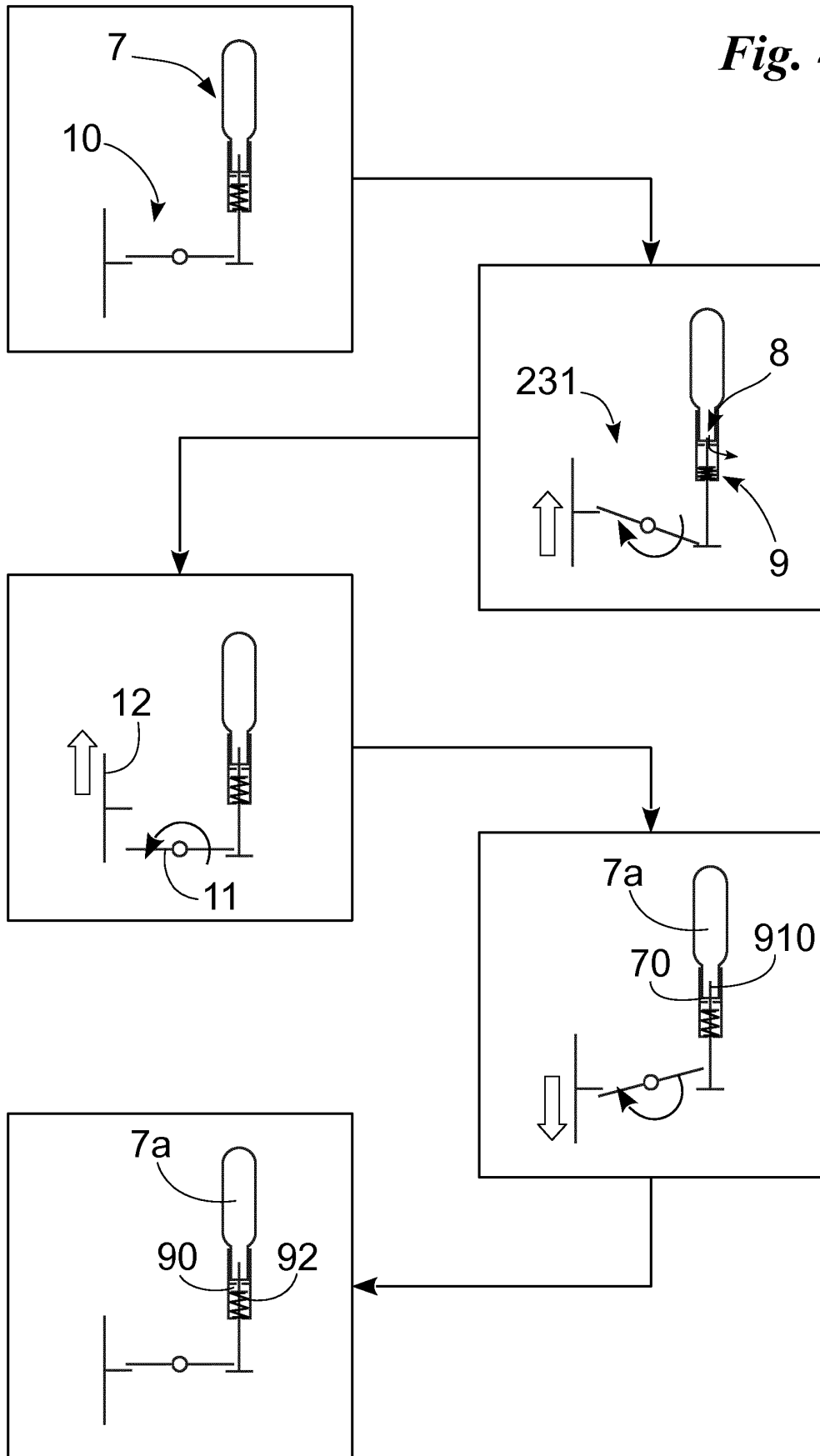


Fig. 3

Fig. 4



REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 20039227827 A [0006]
- GB 206199 A [0015]
- EP 1454843 A [0018]