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(54) **STOPPER DEVICE CONTAINING A SUBSTANCE**

STOPPERVORRICHTUNG MIT EINER SUBSTANZ

DISPOSITIF DE BOUCHON CONTENANT UNE SUBSTANCE

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Description

[0001] The present invention relates to a stopper device containing a substance according to the preamble of claim 1.

[0002] Various types of drinks particularly suitable in specific circumstances are currently widespread and commonly used.

[0003] Examples of these drinks are food and/or energy integrators, tonics and also substances of a dietetic nature which are administered in sports practices, for nutritional control, etc.

[0004] The above drinks generally consist of particular active substances, such as for example mineral salts or similar products, which are diluted in water before the closing phase of the relative bottle.

[0005] According to this procedure described above, these drinks can consequently be purchased on the market ready for use.

[0006] Other procedures for obtaining these drinks also exist and consist in the fact that they can be found on the market in single-dose packages exclusively containing the above active substances to be dissolved separately in water at a subsequent moment.

[0007] These packages therefore only contain the soluble substance suitable for forming the particular drink with water, whose characteristics depend on the soluble substance itself.

[0008] These single-dose packages are generally sachets and have the main advantage with respect to ready-to-use drinks present on the market that the relative bottles containing water do not necessarily have to be transported together with the substances.

[0009] Transporting these bottles is not only inconvenient from the point of view of weight, but also has the disadvantage of requiring large encumbrances with respect to a simple sachet, for example. According to these embodiments of single-dose containers with a sachet which is used only at the moment of drinking the dissolved substance, a bottle, generally containing water, will be acquired in which the substance is to be introduced.

[0010] This procedure however also has various drawbacks due to the type of single-dose packages currently existing.

[0011] Among these disadvantages, it should also be remembered that at times the procedure of introducing the substance from the relative packaging into the bottle causes a part of the substance itself to be wasted thus altering the water/dissolved substance ratio.

[0012] Unfortunately, the alteration in this ratio can also deprive the drink of the desired effects with the introduction of the substance into water.

[0013] US 3 924 741 relates to a container having two compartments, respectively a bottle and its stopper, in which two ingredients of a product may be stored separately until it is desired to mix them, at which time it is possible to establish communication between the compartments so that the separated ingredients may move

from one compartment to the other.

[0014] An objective of the present invention is to provide a device capable of solving the above drawbacks of the known art in an extremely simple, economical and particularly functional way.

[0015] A further objective is to provide a stopper device containing a substance which can be stably applied to the mouth of a container for liquids forming a stopper and which contemporaneously allows the whole substance contained therein to be introduced into the liquid, when desired, without waste.

[0016] Another objective is to provide a stopper device containing a substance which also allows access to the drink thus formed without having to remove the stopper itself.

[0017] Yet another objective is to provide a stopper device containing a substance which is capable of maintaining the substance contained therein unaltered and under safety conditions.

[0018] An additional objective is to provide a stopper device containing a substance which is capable of preserving the substance contained therein without leakages and/or alterations.

[0019] These objectives according to the present invention are achieved by providing a stopper device containing a substance as specified in claim 1.

[0020] Further characteristics of the invention are indicated in the subsequent claims.

[0021] The characteristics and advantages of a stopper device containing a substance according to the present invention will appear more evident from the following illustrative and non-limiting description, referring to the enclosed schematic drawings, in which:

figure 1 is a sectional view of an embodiment of a stopper device containing a substance in a closed position;

figure 2 is a sectional view of an embodiment of the stopper device containing a substance of figure 1 in an open position;

figure 3 is a view from below of the stopper device containing a substance of figure 1; and

figure 4 is a sectional view of a second embodiment of a stopper device containing a substance according to the present invention in a closed position.

[0022] With reference to the figures, these show a stopper device 10 in which a substance is contained.

[0023] Said stopper device 10 can be applied to the mouth of a container for liquids and comprising a first portion 11, which can be fixed to the mouth, and a second portion 14 coaxially assembled in the first portion 11.

[0024] In particular, an internally perforated element 13, in the form of a sleeve, protrudes upwards from the second portion 14, equipped at a first upper open end 12 plugged with a freely removable closing element 15.

[0025] According to the invention, the perforated element 13 also comprises a second lower open end 16

which is buffered against a blocking element 17 supported in a lower opening situated in the first portion 11 inside the mouth.

[0026] The substance contained in the stopper 10 is originally stably situated inside said perforated element 13 between the freely removable closing element 15 and the blocking element 17 as can be seen in figure 1.

[0027] This coupling preferably envisages a geometry of the blocking element 17 of the island type, as is clearly visible in figure 3.

[0028] The second portion 14 can be moved between a first closing position, figure 1, in which the second end 16 of the perforated element 13 is in the above buffered position against the blocking element 17 and withholds the substance contained in the perforated element 13, and a second opening position in which the second portion 14 is lifted to free the second end 16 of the perforated element 13 from its engagement with the blocking element 17.

[0029] In this open configuration, visible in figure 2, the substance is therefore free to be mixed with the liquid contained in the container and the drink thus formed is in turn free to exit from the stopper 10 passing through the perforated element 13 without removing the stopper 10 from the mouth.

[0030] In order to guarantee a firm coupling of the stopper 10 with the relative container, the first portion 11 comprises constraining means 18 for fixing it to the mouth of the container.

[0031] According to the embodiment shown in figures 1 and 2, said constraining means 18 for fixing the stopper 10 onto the container are constraining means with removable fixing and in particular they are a threaded portion complementary to a thread present on the mouth of the container for liquids.

[0032] A threaded coupling is thus produced according to this example.

[0033] Alternatively, the stopper device 10 containing a substance according to the present invention comprises other constraining means 18 such as, for example, a portion of the first portion 11 shaped so as to be complementary to the mouth of the container for liquids forming a clip-type coupling.

[0034] As previously specified, the second portion 14 is moveable with respect to the first portion 11 which is fixed to the container.

[0035] In order to control this movement, the stopper device 10 can also comprise run-end means for the upward vertical translation of the second portion 14 with respect to the first portion 11.

[0036] As can be seen in figures 1 and 2, an embodiment of said run-end means are a protruding annular profile 19 situated outside the second end 16 of the perforated element 13 suitable for forming a buffer with an upper buffer surface 20 of the first portion 11.

[0037] Finally, according to an embodiment, the removable element 15 suitable for closing the top of the first end 12 of the perforated element 13 is a removable

aluminum film.

[0038] Figure 4 shows a preferred embodiment according to the present invention of a stopper device 10 containing a substance which can be applied to the mouth of a container for liquids.

[0039] This embodiment comprises, like the previous embodiment, a first portion 11 which can be fixed to the mouth, a second portion 14 coaxially assembled in the first portion 11 equipped with an internally perforated element 13 protruding upwards, equipped with a first end 12 coupled with a freely removable closing element 15, such as a label, and a second open end 16.

[0040] Said second open end 16, before using the device 10, is buffered below against a blocking element 17, of the previously mentioned "island" type, equipped with at least one opening, for example at the side 23, facing the interior of the mouth.

[0041] The second portion 14 can be moved between a first lowered closing position, in which the second end 16 of the perforated element 13, where a substance is contained, is buffered against the blocking element 17 preventing the exit of the substance, and a second raised opening position in which the second end 16 is freed from its engagement with the blocking element 17 to allow the substance to leave the second portion 14 inside the container.

[0042] In particular, in this embodiment of figure 4, sealing means 20, 20', 20" of the substance contained in the perforated element 13 are advantageously present.

[0043] As can be seen in the above figure 4, the constraining means 18 which fix the first portion 11 to the container, comprise a constraining portion 18 which, starting from the inside of the container, oversteps the top of the mouth and at least partially extends outside the latter.

[0044] The second portion 14 also comprises a guiding portion 21, which controls the movement of the second portion 14, which extends radially outside the internally perforated element 13 and is externally moveably coupled with the constraining portion 18 on the outer side of the mouth.

[0045] In particular, the above coupling between the constraining portion 18 and the guiding portion 21 can be of the threaded type whereas, as described above, the connection between the mouth and the constraining portion 18 of the first portion 11 can be of the insertion type or of the threaded type, shown as a dashed line, in this case forming a double threaded coupling with the mouth on the inner side and with the guiding portion 21 of the second portion 14 on the outer side, respectively.

[0046] In this embodiment of figure 4, the run-end means of the upward movement of the second portion 14 with respect to the first portion 11 are an annular profile 19' protruding internally below from the guiding portion 21 which, when the device is in use, collaborates with an upper buffer surface of the constraining portion 18.

[0047] According to the invention, the above sealing means 20, 20', 20" comprise a lower seal 20 suitable for

guaranteeing that all of the substance remains inside the second portion 14 in the first closing position, wherein the lower seal 20 comprises a lower overturned "U"-shaped portion buffered against the blocking element 17.

[0048] In this latter case, the blocking element 17, at least in the buffered portion with the lower seal 20, preferably has an oblique development.

[0049] The sealing means 20, 20', 20" can also comprise a side seal 20 laterally interposed between the internally perforated element 13 and the first element 11 inside the container in order to withhold the substance during the lifting of the second portion 14 in which the substance exits and could, disadvantageously, re-rise in the first element 11.

[0050] In particular, this side seal 20 can be a ring of the O-Ring type.

[0051] Finally, if the device 10 comprises an upper supplementary closing element 22 of the internally perforated element 13, such as a further stopper 22 on which the label 15 is positioned, the sealing means 20, 20', 20" can comprise an upper seal 20" laterally interposed between the supplementary closing element 22 and the internally perforated element 13.

[0052] As can be seen in figure 4, in this case the upper seal 20" is integral with the internal wall of the internally perforated element 13 and comprises a "C"-shaped portion facing the interior of the device 10.

[0053] This "C" shaping, as also the overturned "U" shaping of the lower seal 20, are particularly advantageous as they generate depressions in the proximity of said curvatures suitable for withholding the substance without allowing it to leak outside.

[0054] Finally, this effect is marked when the portions of the device 10 in contact with the above shapings, i.e. the supplementary stopper 22 and the blocking device 17, have an oblique-type development.

[0055] The functioning of the device object of the invention can be easily understood.

[0056] The stopper device containing a substance according to the present invention can be stably applied to the mouth of a container for liquids forming a selectively open or closed stopper and at the same time it enables the whole substance contained therein to be introduced, when desired and without waste, into the liquid contained in the container to which it is constrained.

[0057] Furthermore, said stopper containing a substance allows access to the drink thus formed without having to remove it thanks to the relative movement of two of its constitutive portions.

[0058] Said stopper is also capable of maintaining the substance contained therein unaltered and under safety conditions.

[0059] In particular this advantage is more apparent from the embodiment of figure 4 where the device 10 also comprises sealing means 20, 20', 20" for a lower, side and upper sealing respectively, to prevent there being any leakage of the substance or its contamination.

[0060] Finally, the embodiment of figure 4 is advanta-

geous due to the fact that, as the guiding portions 21 and the relative run-end means outside the container are in a coupled position outside the constraining means of the portion 11, there is a greater volume available for housing the substance to be distributed facing the interior of the container.

[0061] It can thus be seen that a stopper device containing a substance according to the present invention achieves the objectives specified above.

[0062] The stopper device containing a substance according to the present invention thus conceived can undergo numerous modifications and variants, all included in the same inventive concept as defined by the appended claims.

[0063] In practice the materials used, as also the dimensions, can vary according to technical requirements.

Claims

1. A stopper device (10) containing a substance which can be applied to the mouth of a container for liquids comprising a first portion (11) which can be fixed to the mouth, and a second portion (14) coaxially assembled in said first portion (11), wherein an internally perforated element (13) protrudes upwards from said second portion (14), equipped at a first end (12) with a freely removable closing element (15), and which at a second open end (16) is buffered against a blocking element (17) supported in an opening situated in the first portion (11) inside the mouth, said second portion (14) being moveable between a first closing position in which said second end (16) of the perforated element (13) is buffered against said blocking element (17) where a substance is contained, and a second opening position in which said second portion (14) is lifted to free said second end (16) of the perforated element (13) from its engagement with said blocking element (17), said stopper device (10) comprising sealing means (20, 20', 20") of said substance, said sealing means (20), said lower seal (20) sealing said substance in said first closing position, **characterised in that** said lower seal (20) comprises a lower overturned "U"-shaped portion buffered against said blocking element (17).
2. The stopper device (10) containing a substance according to claim 1, **characterised in that** said freely removable closing element (15) is a label.
3. The stopper device (10) containing a substance according to claim 1, **characterised in that** said first portion (11) comprises constraining means (18) for fixing onto said container.
4. The stopper device (10) containing a substance according to claim 3, **characterised in that** said con-

straining means (18) are a constraining portion (18) of said first portion (11) at least partially externally associated with said mouth, said second portion (14) comprising a guiding portion (21) positioned outside said internally perforated element (13) and externally moveably coupled with said constraining portion (18).

5. The stopper device (10) containing a substance according to claim 3, **characterized in that** said coupling between said constraining portion (18) and said guiding portion (21) is a threaded coupling. 5
6. The stopper device (10) containing a substance according to claim 5, **characterized in that** said constraining means (18) for fixing said container are constraining means (18) for a removable fixing of said stopper (10) container on said mouth. 10
7. The stopper device (10) containing a substance according to claim 6, **characterized in that** said constraining means (18) for a removable fixing are a portion of said first threaded portion (11) complementary to a thread present on said mouth of said container for liquids forming a threaded coupling. 20
8. The stopper device (10) containing a substance according to claim 5, **characterized in that** said constraining means (12) are a portion of said first portion (11) shaped so as to be complementary to said mouth of said container for liquids forming a clip-type coupling. 25
9. The stopper device (10) containing a substance according to claim 1, **characterized in that** it comprises run-end means for said movement of said second portion (14) with respect to said first portion (11). 30
10. The stopper device (10) containing a substance according to claim 9, **characterized in that** said run-end means for said movement of said second portion (14) with respect to said first portion (11) are an annular profile (19') protruding internally below from said guiding portion (21) and an upper buffer surface of said constraining portion (18). 35
11. The stopper device (10) containing a substance according to claim 9, **characterized in that** said run-end means for said movement of said second portion (14) with respect to said first portion (11) are an annular profile (19) protruding externally from said second end (16) of the perforated element (13) and an upper buffer surface (20) of said first portion (11). 40
12. The stopper device (10) containing a substance according to claim 1, **characterized in that** said removable closing element (15) of said first end (12) of said perforated element (13) is a removable alu- 45

minum film.

13. The stopper device (10) containing a substance according to claim 1, **characterized in that** said blocking element (17) at least in said buffered portion with said lower seal (20) has an oblique development. 5
14. The stopper device (10) containing a substance according to claim 1, **characterized in that** said sealing means (20, 20', 20'') of said substance comprise a side seal (20), said side seal (20) laterally interposed between said internally perforated element (13) and said first element (11) inside the container. 10
15. The stopper device (10) containing a substance according to claim 14, **characterized in that** said side seal (20) is a ring of the O-Ring type. 15
16. The stopper device (10) containing a substance according to claim 1, **characterized in that** it comprises a supplementary closing element (22) for the upper closing of said internally perforated (13), said sealing means (20, 20', 20'') of said substance comprising an upper seal (20'') interposed between the supplementary closing element (22) and said internally perforated element (13). 20
17. The stopper device (10) containing a substance according to claim 16, **characterized in that** said upper seal (20'') is integral with the inner wall of said internally perforated element (13) and comprises a "C"-shaped portion facing inwards. 25

Patentansprüche

1. Stopfenvorrichtung (10), die eine Substanz enthält und an der Mündung eines Behälters für Flüssigkeiten angebracht werden kann, umfassend einen ersten Abschnitt (11), der an der Mündung befestigt werden kann, und einen koaxial in den ersten Abschnitt (11) eingebauten zweiten Abschnitt (14), wobei ein innen perforiertes Element (13) nach oben aus dem zweiten Abschnitt (14) herausragt, das an einem ersten Ende (12) mit einem frei lösbaren Verschlusselement (15) versehen ist und das an einem zweiten offenen Ende (16) gegen ein Blockierelement (17) stößt, das in einer im ersten Abschnitt (11) innerhalb der Mündung befindlichen Öffnung abgestützt ist, wobei der zweite Abschnitt (14) zwischen einer ersten Schließstellung, in der das zweite Ende (16) des perforierten Elements (13) gegen das Blockierelement (17), in dem eine Substanz enthalten ist, stößt, und einer zweiten Öffnungsstellung bewegt werden kann, in welcher der zweite Abschnitt (14) angehoben ist, um das zweite Ende (16) des perforierten Elements (13) aus seinem Eingriff mit dem Blockierelement (17) zu befreien, wobei die 35

- Stopfenvorrichtung (10) Abdichtungsmittel (20, 20', 20'') für die Substanz umfasst, wobei die Abdichtungsmittel (20, 20', 20'') für die Substanz eine untere Dichtung (20) umfassen, wobei die untere Dichtung (20) die Substanz in der ersten Schließstellung abdichtet, **dadurch gekennzeichnet, dass** die untere Dichtung (20) einen unteren Abschnitt mit der Form eines umgekehrten Us umfasst, der gegen das Blockierelement (17) stößt.
2. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 1, **dadurch gekennzeichnet, dass** das frei lösbare Verschlusselement (15) ein Etikett ist.
 3. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 1, **dadurch gekennzeichnet, dass** der erste Abschnitt (11) ein Verspannmittel (18) zum Befestigen auf dem Behälter umfasst.
 4. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 3, **dadurch gekennzeichnet, dass** das Verspannmittel (18) ein zumindest teilweise außen mit der Mündung verbundener Verspannabschnitt (18) des ersten Abschnitts (11) ist, wobei der zweite Abschnitt (14) einen Führungsabschnitt (21) umfasst, der außerhalb des innen perforierten Elements (13) angeordnet und außen beweglich mit dem Verspannabschnitt (18) verbunden ist.
 5. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 3, **dadurch gekennzeichnet, dass** die Verbindung zwischen dem Verspannabschnitt (18) und dem Führungsabschnitt (21) eine Schraubverbindung ist.
 6. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 5, **dadurch gekennzeichnet, dass** das Verspannmittel (18) zum Befestigen des Behälters Verspannmittel (18) für eine lösbare Befestigung des Stopfen-(10)-Behälters auf der Mündung ist.
 7. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 6, **dadurch gekennzeichnet, dass** das Verspannmittel (18) für eine lösbare Befestigung ein zu einem Gewinde auf der Mündung des Behälters für Flüssigkeiten komplementärer Abschnitt des ersten gewindeten Abschnitts (11) ist, so dass eine Schraubverbindung gebildet wird.
 8. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 5, **dadurch gekennzeichnet, dass** das Verspannmittel (12) ein Abschnitt des ersten Abschnitts (11) ist, der so geformt ist, dass er komplementär zur Mündung des Behälters für Flüssigkeiten ist, so dass eine Klemmverbindung gebildet wird.
 9. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 1, **dadurch gekennzeichnet, dass** sie Wegbegrenzungsmittel für die Bewegung des zweiten Abschnitts (14) gegenüber dem ersten Abschnitt (11) umfasst.
 10. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 9, **dadurch gekennzeichnet, dass** es sich bei den Wegbegrenzungsmitteln für die Bewegung des zweiten Abschnitts (14) gegenüber dem ersten Abschnitt (11) um ein ringförmiges Profil (19'), das innen unten aus dem Führungsabschnitt (21) herausragt, und eine obere Anstoßfläche des Verspannabschnitts (18) handelt.
 11. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 9, **dadurch gekennzeichnet, dass** es sich bei den Wegbegrenzungsmitteln für die Bewegung des zweiten Abschnitts (14) gegenüber dem ersten Abschnitt (11) um ein ringförmiges Profil (19), das außen aus dem zweiten Ende (16) des perforierten Elements (13) herausragt, und eine obere Anstoßfläche (20) des ersten Abschnitts (11) handelt.
 12. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 1, **dadurch gekennzeichnet, dass** das lösbare Verschlusselement (15) des ersten Endes (12) des perforierten Elements (13) eine lösbare Aluminiumfolie ist.
 13. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 1, **dadurch gekennzeichnet, dass** das Blockierelement (17) mindestens in dem Abschnitt, der gegen die untere Dichtung (20) stößt, eine schräge Ausdehnung aufweist.
 14. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 1, **dadurch gekennzeichnet, dass** die Abdichtungsmittel (20, 20', 20'') für die Substanz eine seitliche Dichtung (20) umfassen, wobei die seitliche Dichtung (20) seitlich zwischen das innen perforierte Element (13) und das erste Element (11) innerhalb des Behälters eingefügt ist.
 15. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 14, **dadurch gekennzeichnet, dass** die seitliche Dichtung (20) ein Ring vom Typ O-Ring ist.
 16. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 1, **dadurch gekennzeichnet, dass** sie ein zusätzliches Verschlusselement (22) für den oberen Verschluss des innen perforierten Elements (13) umfasst, wobei die Abdichtungsmittel (20, 20', 20'') für die Substanz eine obere Dichtung (20'') umfassen, die zwischen das zusätzliche Verschlusselement (22) und das innen perforierte Element (13) eingefügt ist.

17. Stopfenvorrichtung (10), enthaltend eine Substanz, nach Anspruch 16, **dadurch gekennzeichnet, dass** die obere Dichtung (20'') einteilig mit der Innenwand des innen perforierten Elements (13) ausgebildet ist und einen nach innen gewandten C-förmigen Abschnitt umfasst.

Revendications

1. Un dispositif d'arrêt (10) contenant une substance qui peut être appliquée sur la bouche d'un récipient pour liquides comportant une première portion (11) qui peut être fixée sur la bouche, et une seconde portion (14) assemblée coaxialement dans la susdite première portion (11), dans laquelle un élément perforé intérieurement (13) débord vers le haut depuis la susdite seconde portion (14), équipée à une première extrémité (12) d'un élément de verrouillage librement amovible (15), et qui à une seconde extrémité ouverte (16) est abouté contre un élément de verrouillage (17) soutenu dans une ouverture située dans la première portion (11) à l'intérieur de la bouche, la susdite seconde portion (14) pouvant être déplacée entre une première position de verrouillage où la susdite seconde extrémité (16) de l'élément perforé (13) est abouté contre le susdit élément de verrouillage (17) où une substance est contenue, et une seconde position d'ouverture dans laquelle la susdite seconde portion (14) est relevée pour libérer la susdite seconde extrémité (16) de l'élément perforé (13) de son engagement avec le susdit élément de verrouillage (17), le susdit dispositif d'arrêt (10) comportant des moyens de scellage (20, 20', 20'') de la substance susdite, les susdits moyens de scellage (20, 20', 20'') de la susdite substance comportant un dispositif de scellage inférieur (20), le susdit dispositif de scellage inférieur (20) scellant la susdite substance dans la susdite première position de verrouillage, **caractérisé en ce que** le susdit dispositif de scellage (20) comporte une portion inférieure en forme d'« U » renversé aboutée contre le susdit élément de verrouillage (17).
2. Le dispositif d'arrêt (10) contenant une substance selon la revendication 1, **caractérisé en ce que** le susdit élément de verrouillage librement amovible (15) est une étiquette.
3. Le dispositif d'arrêt (10) contenant une substance selon la revendication 1, **caractérisé en ce que** la susdite première portion (11) comporte des moyens de contrainte (18) pour la fixation sur le susdit récipient.
4. Le dispositif d'arrêt (10) contenant une substance selon la revendication 3, **caractérisé en ce que** les susdits moyens de contrainte (18) sont une portion

de contrainte (18) de la susdite première portion (11) au moins partiellement associée extérieurement avec la susdite bouche, la susdite seconde portion (14) comportant une portion de guidage (21) positionnée à l'extérieure dudit élément perforé intérieurement (13) et couplé de façon amovible à l'extérieur avec la susdite portion de contrainte (18).

5. Le dispositif d'arrêt (10) contenant une substance selon la revendication 3, **caractérisée en ce que** le susdit couplage entre la susdite portion de contrainte (18) et la susdite portion de guidage (21) est un couplage fileté.
6. Le dispositif d'arrêt (10) contenant une substance selon la revendication 5, **caractérisé en ce que** les susdits moyens de contrainte (18) pour la fixation dudit récipient sont des moyens de contrainte (18) pour une fixation amovible du récipient équipé dudit dispositif d'arrêt (10) sur la susdite bouche.
7. Le dispositif d'arrêt (10) contenant une substance selon la revendication 6, **caractérisée en ce que** les susdits moyens de contrainte (18) pour une fixation amovible sont une portion de la susdite première portion filetée (11) complémentaire à un fil présent sur la susdite bouche dudit récipient pour liquides formant un couplage fileté.
8. Le dispositif d'arrêt (10) contenant une substance selon la revendication 5, **caractérisé en ce que** les susdits moyens de contrainte (12) sont une portion de la susdite première portion (11) formée de façon à être complémentaire à la susdite bouche du récipient pour liquides formant un couplage à pince.
9. Le dispositif d'arrêt (10) contenant une substance selon la revendication 1, **caractérisé en ce qu'il** comporte des moyens de butée pour le susdit mouvement de la susdite seconde portion (14) par rapport à la susdite première portion (11).
10. Le dispositif d'arrêt (10) contenant une substance selon la revendication 9, **caractérisé en ce que** le susdit moyen de butée pour le susdit mouvement de la susdite seconde portion (14) par rapport à la susdite première portion (11) sont un profil annulaire (19') débordant intérieurement au-dessous de la susdite portion de guidage (21) et une surface de aboutement supérieure de la susdite portion de contrainte (18).
11. Le dispositif d'arrêt (10) contenant une substance selon la revendication 9, **caractérisé en ce que** les susdits moyens de butée pour le susdit mouvement de la susdite seconde portion (14) par rapport à la susdite première portion (11) sont un profil annulaire (19) débordant extérieurement de la susdite secon-

de extrémité (16) de l'élément perforé (13) et une surface de aboutement supérieure (20) de la susdite première portion (11).

12. Le dispositif d'arrêt (10) contenant une substance selon la revendication 1, **caractérisé en ce que** le susdit élément de verrouillage amovible (15) de la dite première extrémité (12) dudit élément perforé (13) est une pellicule d'aluminium amovible. 5
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13. Le dispositif d'arrêt (10) contenant une substance selon la revendication 1, **caractérisé en ce que** le susdit élément de verrouillage (17) au moins dans la susdite portion aboutée avec le susdit scellage inférieur (20) a un développement oblique. 15
14. Le dispositif d'arrêt (10) contenant une substance selon la revendication 1, **caractérisé en ce que** les susdits moyens de scellage (20, 20', 20'') de la susdite substance comportent un scellage latéral (20), le susdit scellage latéral (20) étant interposé latéralement entre le susdit élément perforé intérieurement (13) et le susdit premier élément (11) à l'intérieur du récipient. 20
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15. Le dispositif d'arrêt (10) contenant une substance selon la revendication 14, **caractérisé en ce que** le susdit scellage latéral (20) est un anneau du type joint torique. 30
16. Le dispositif d'arrêt (10) contenant une substance selon la revendication 1, **caractérisé en ce qu'il** comporte un élément de verrouillage supplémentaire (22) pour le verrouillage supérieur dudit élément perforé intérieurement (13), les susdits moyens de scellage (20, 20', 20'') de la substance susdite comportant un scellage supérieur (20'') interposé entre l'élément de verrouillage supplémentaire (22) et le susdit élément perforé intérieurement (13). 35
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17. Le dispositif d'arrêt (10) contenant une substance selon la revendication 16, **caractérisé en ce que** le susdit scellage supérieur (20'') est intégré avec la paroi intérieure dudit élément perforé intérieurement (13) et qu'il comporte une portion en forme de « C » tournée vers l'intérieur. 45

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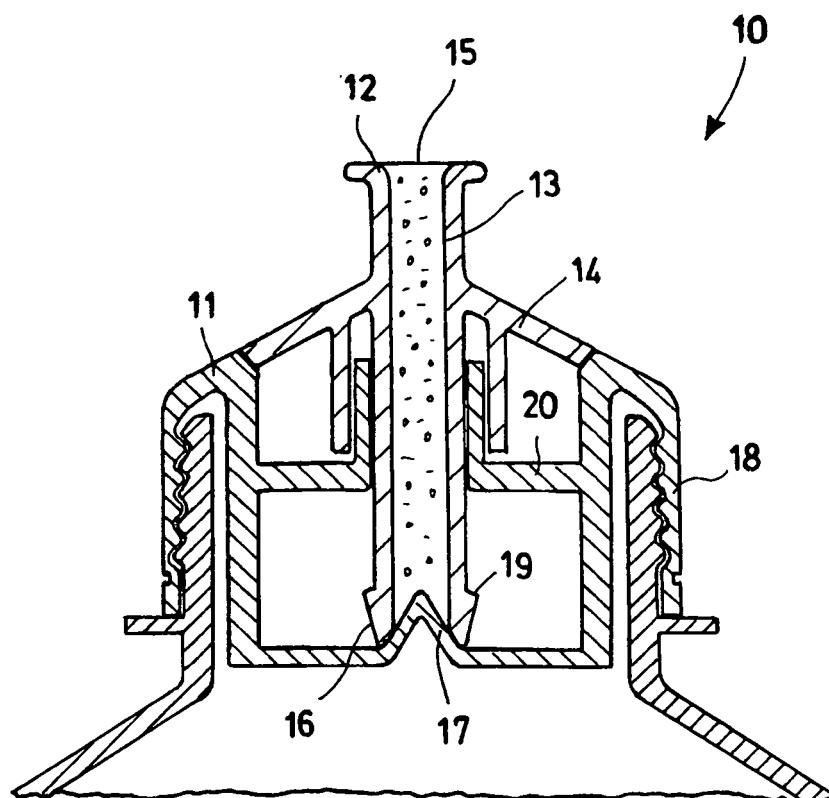


Fig.1

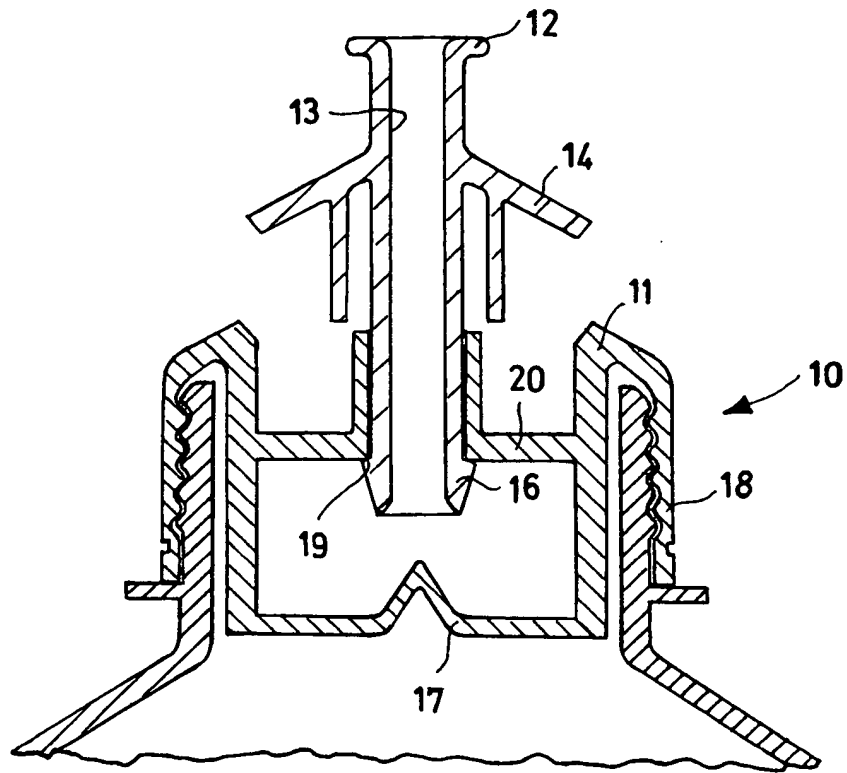


Fig.2

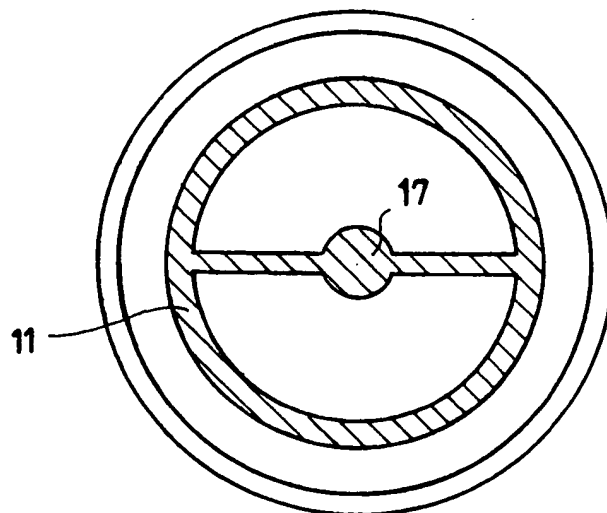


Fig.3

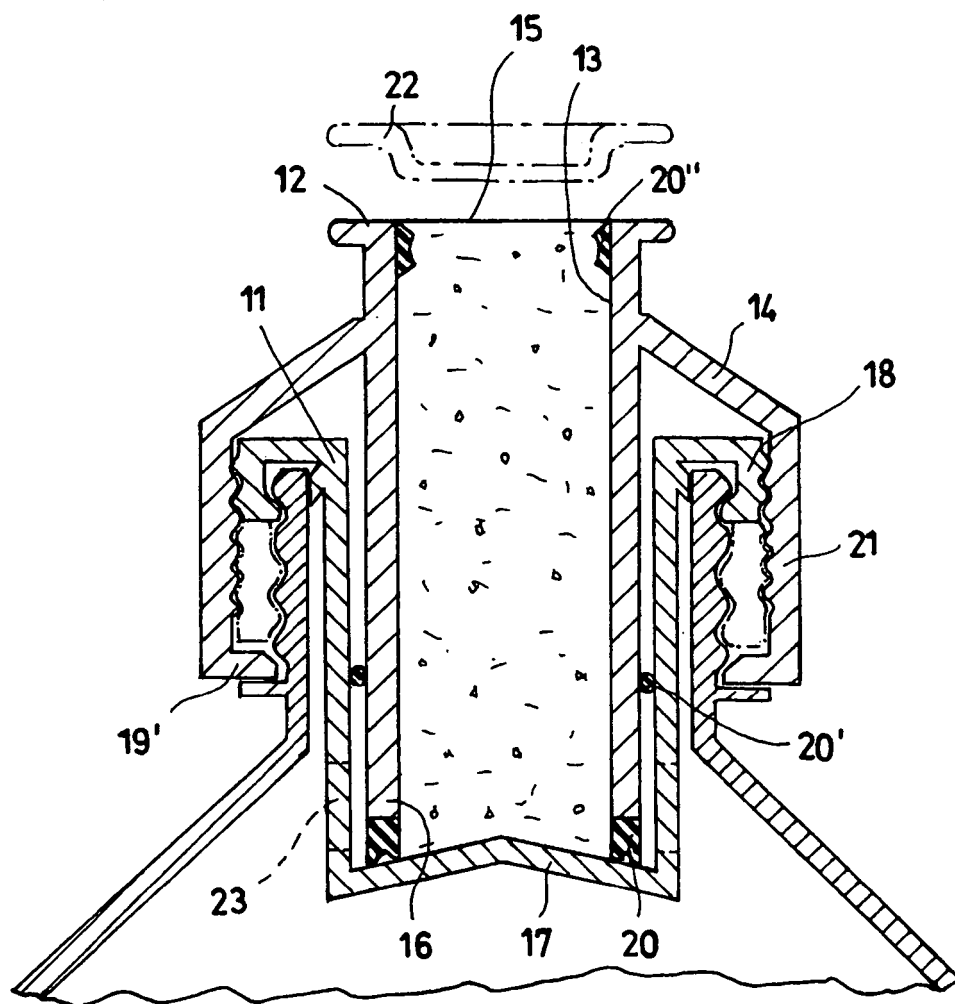


Fig.4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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