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(11) **EP 0 868 876 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
07.10.1998 Bulletin 1998/41

(51) Int. Cl.⁶: **A47G 21/00, B65D 55/00**

(21) Application number: **98105763.1**

(22) Date of filing: **30.03.1998**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **03.04.1997 IT UD970012 U**

(71) Applicant: **Italesse Srl**
33100 Udine (IT)

(72) Inventor: **Barducci, Claudio**
34136 Trieste (IT)

(74) Representative:
Petraz, Gilberto Luigi et al
GLP S.r.l.
Piazzale Cavedalis 6/2
33100 Udine (IT)

(54) **Element to maintain the gas in bottled drinks**

(57) Element to maintain the gas in drinks (16) contained in bottles (11) or containers in general, the element being used in cooperation with the opening (13) of the bottle (11) to limit the escape of gas present in the drinks (16) after the original stopper has first been removed, the element to maintain the gas consisting of a metallic bar (12) substantially flat in shape whose transverse dimension ("t") narrows continuously from the upper end (12a) to the lower end (12b), the transverse dimension ("t") in correspondence with the lower end (12b) being suitable to be inserted into the opening (13) of the bottle (11), the metallic bar (12) including at least an operating position wherein it is clamped by the contact between its own lateral profiles (15a, 15b) and the perimeter edge (14) of the opening (13) without completely closing the opening (13) of the bottle (11), in which operating position a terminal segment of the metallic bar (12) is located inside the bottle (11).

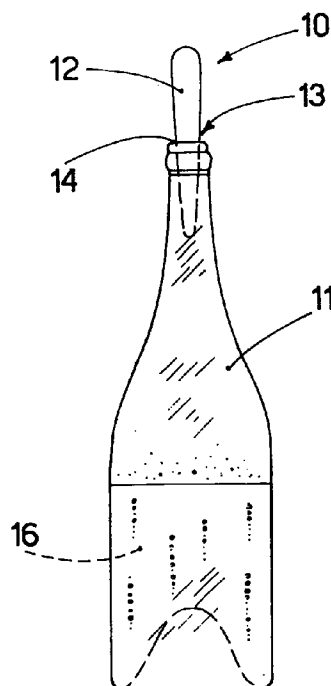


fig.3

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Description

FIELD OF APPLICATION

This invention concerns an element to maintain the gas in bottled drinks as set forth in the main claim.

The invention is used, in association with bottles containing fizzy drinks, such as sparkling wine, mineral water, beer or drinks in general, in order to limit to a minimum the loss of gas in the liquids after the original stopper has been removed.

The invention can also be applied to other containers with a reduced aperture (cans, flasks, canteens, tetrapak or otherwise), but in the following description, in order to simplify the explanation, we shall refer to a specific use in association with bottles.

STATE OF THE ART

The problem of how to maintain the gassiness of drinks contained in bottles once the original stopper has been removed is well-known in the state of the art.

In fact, when it is preserved inside the bottle the residual liquid gradually loses its gas, which alters the original characteristics.

This is a considerable problem in public premises such as bars, cafés, restaurants etc., where a drink which has gone "flat" (for example, mineral water or sparkling wine) cannot be sold to the customers.

Re-using the original cork or cap, using auxiliary caps or elastic closing elements or stoppers has not proved satisfactory in completely solving the problem.

Such caps or stoppers, moreover, cannot be adapted to every type of bottle, and therefore a large number of specialised closing elements need to be used, which causes high costs and difficulty in finding the appropriate elements.

Another problem connected to the use of caps or stoppers is that they are difficult to insert and extract.

A further disadvantage of such closure elements is that a depression is created inside the bottle every time the cap or stopper is removed.

Every time the bottle is re-opened, this depression causes the characteristic "pop", which causes the leakage, every time, of a large quantity of gases from inside the liquid; the pressure and gas of the residual liquid contained in the bottle is thus progressively reduced.

Another shortcoming of these traditional closing elements is that the only way to personalise them and characterise them according to their final use is to apply labels or stencils on the outside, since it is not possible to use ornaments or decorations of different forms, shapes and aesthetic effect.

GB-A-2083341 describes an article of cutlery, such as for example a spoon, where the handle and the cup include a conduit which runs along the whole extension of the article and which has the two ends open.

This piece of cutlery can be used as a straw to suck

up the liquid from a bottle or also to stir the liquid therein.

In shape and structure the article appears mainly intended for use as a disposable piece of cutlery, also because it is made preferentially of a hard synthetic polymeric material; it cannot therefore be used in any way as an element to maintain the gas in effervescent drinks.

Moreover, it is neither simple nor economical to produce this article.

DE-A-4126593 shows an air-tight closing element, equipped with washers, to be applied on a can with a mating seating and a hole on the side into which a safety clamping handle is inserted in order to keep the air-tight closing element in a closed position.

The air-tight washers imply that a depression is created inside the container to which the closing element is applied and therefore every time the can is opened there is a consequent loss of gas from any liquid contained therein.

The present applicants have tested and embodied this invention to overcome the shortcomings of the state of the art and to obtain further advantages.

DISCLOSURE OF THE INVENTION

The invention is set forth and characterised in the main claim, while the dependent claims describe variants of the idea of the main embodiment.

The purpose of the invention is to provide an element which will limit to a minimum the leakage and dispersion of gases in fizzy drinks contained in bottles during the time they are kept in the bottle after it has been first opened.

Another purpose of the invention is to provide an element which costs very little, is extremely easy to make and which can be adapted substantially to any bottle-type container for liquids.

A further purpose is to achieve an element which can be personalised as one wishes, with logos and writings, or shapings and ornaments which modify the aesthetic form at least in the part which is not introduced into the bottle.

A further purpose of the invention is to achieve an element which can easily be inserted into and removed from the bottle to which it is applied.

The gas maintenance element according to the invention consists of a flattened metallic bar, substantially conical in shape lengthwise, and tapering downwards.

The metallic bar is inserted into the opening of the mouth of the bottle, and is constrained in correspondence with the edge so that at least a terminal segment of the bar is positioned inside the bottle, yet without completely closing the opening of the bottle.

According to the invention, the bar is tapered in such a way that its end penetrates inside the bottle but does not go below the level of the liquid after the first

glass has been poured.

The insertion of a metallic bar inside the bottle causes a chemical-physical phenomenon to block any leakage of the gases, limiting to a minimum the loss of gas from the drink while it is kept in the bottle after opening.

Moreover, the metallic bar does not completely close the opening of the bottle and therefore does not generate any depressions inside which cause leakages of gas and the characteristic "pop" every time the bottle is opened afterwards.

The conical shape of the metallic bar makes it substantially adaptable to any kind of bottle whatsoever, by varying only the level of penetration of the metallic bar inside the bottle according to the size of the aperture thereof.

In a first embodiment of the invention, the metallic bar has a rectangular cross section.

According to a variant, the cross section of the metallic bar has an arc-type development.

According to another variant, the metallic bar has an ogival section, or other type of section possibly studied according to the size and/or geometry of the opening of the bottles to which it is associated.

According to a further variant, the metallic bar includes attachment means, advantageously in the upper part, which allow it to be kept in a suspended position when not in use.

According to another variant, the metallic bar includes elements of personalisation and/or decoration, either made on or incorporated into the bar itself or which can be associated with the bar, bearing a trade mark, a logo or a desired figure.

The gas maintenance element according to the invention is extremely economical, functional and can be universally used.

Moreover, the elements of personalisation, particular decorations or ornaments and/or the use of valuable materials can make it an object of great value.

ILLUSTRATION OF THE DRAWINGS

The attached Figures are given as a non-restrictive example and show some preferential embodiments of the invention as follows:

- | | |
|-----------------|--|
| Fig.1 | shows an element to maintain the gas in bottled drinks according to the invention; |
| Fig. 2a | shows a section from "A" to "A" of Fig. 1; |
| Figs. 2b and 2c | show variants of Fig. 2a; |
| Fig. 3 | shows an element to maintain the gas according to the invention applied to a bottle; |
| Figs. 4 and 5 | show some possible variants of the element of Fig. 1; |
| Fig. 6 | shows another variant of Fig. 1. |

DESCRIPTION OF THE DRAWINGS

The element to maintain the gas 10 for drinks 16 contained in bottles 11 according to the invention consists of a metallic bar 12 of a desired length and a substantially flat shape.

The metallic bar 12, along its lengthwise development, includes a transverse dimension "t" which tapers from the upper end 12a to the lower end 12b so as to allow a segment of the metallic bar 12 to be inserted inside the opening 13 of a bottle 11 in correspondence with the edge 14 (Fig. 3).

Inserting a terminal segment of the metallic bar 12 causes a chemical-physical phenomenon inside the bottle 11 which combats the leakage of gases from inside the liquid 16 through the opening 13 after the original stopper has been first removed.

Moreover, the metallic bar 12 can be introduced into or removed from the bottle 11 as many times as is necessary without ever provoking instantaneous leakages of gas.

The present applicant has verified in experiments that the percentage content of gas in the residual liquid 16 contained in opened bottles 11 using the maintenance element 10 according to the invention increases by 35÷45%, compared with conventional caps or stoppers.

The conical shape of the metallic bar 12 allows it to be adapted to any type of bottle 11 whatsoever.

The metallic bar 12 is gripped by the inner perimeter of the edge 14 of the bottle 11 due to the contact between the edge 14 and its own lateral profiles 15a, 15b at a level of penetration which depends on the size of the opening 13.

The larger the diameter of the opening 13, the greater the terminal segment of the metallic bar 12 inserted inside the opening 13 will be.

Figs. 2a, 2b and 2c show three possible and non-restrictive conformations of the cross section of the metallic bar 12.

In Fig. 2a the cross section of the metallic bar 12 is substantially rectangular; the cross sections shown in Figs. 2b and 2c are respectively of the arc type and of the ogival type.

Moreover, the thickness and/or the material of which it is composed can be varied to give greater value according to the application and/or the user.

In the case shown in Fig.1, the metallic bar 12 has a through hole 17 in correspondence with its upper part, which allows it to be hung up in periods of non-use.

Figs. 4 and 5 show two personalised maintenance elements 10 according to the invention.

To be more exact, the element 10 shown in Fig. 4 has a personalised shaping 18, in this case shaped like a flag, made as a single body with the metallic bar 12 and bearing a logo 19 which may be silk-screen printed or embossed or made in bas-relief.

The personalised shaping 18 may be of any shape

whatsoever, purely decorative or even indicative of the type or producer of the liquid 16 contained in the bottle 11 with which the element 10 is associated; alternatively, the personalised shaping 18 may reproduce a trade mark, for example of a specific drink or the public premises using the element 10.

In this case, there is also a logo 19 on a front face 20 of the metallic bar 12.

The maintenance element 10 shown in Fig. 5, on the contrary, comprises a personalisation figure 21 of a type which can be associated with and dissociated from the metallic bar 12 by means of a joint, possibly using the attachment hole 17.

The personalisation figure 21 can also have a purely decorative function, it may be indicative of a specific drink 16 or it may reproduce a desired trade mark possibly in combination with a logo 19.

According to the variant shown in Fig. 4, the metallic bar 12 is associated with a prevention ring 22, located in a desired intermediate position which, resting on the neck of the bottle 11, prevents the infiltration of dust or other polluting substances which might contaminate the liquid 16 inside the bottle 11.

The prevention ring 22 may also serve to position the element 10 when it is used in bottles 11 which have large size openings 13.

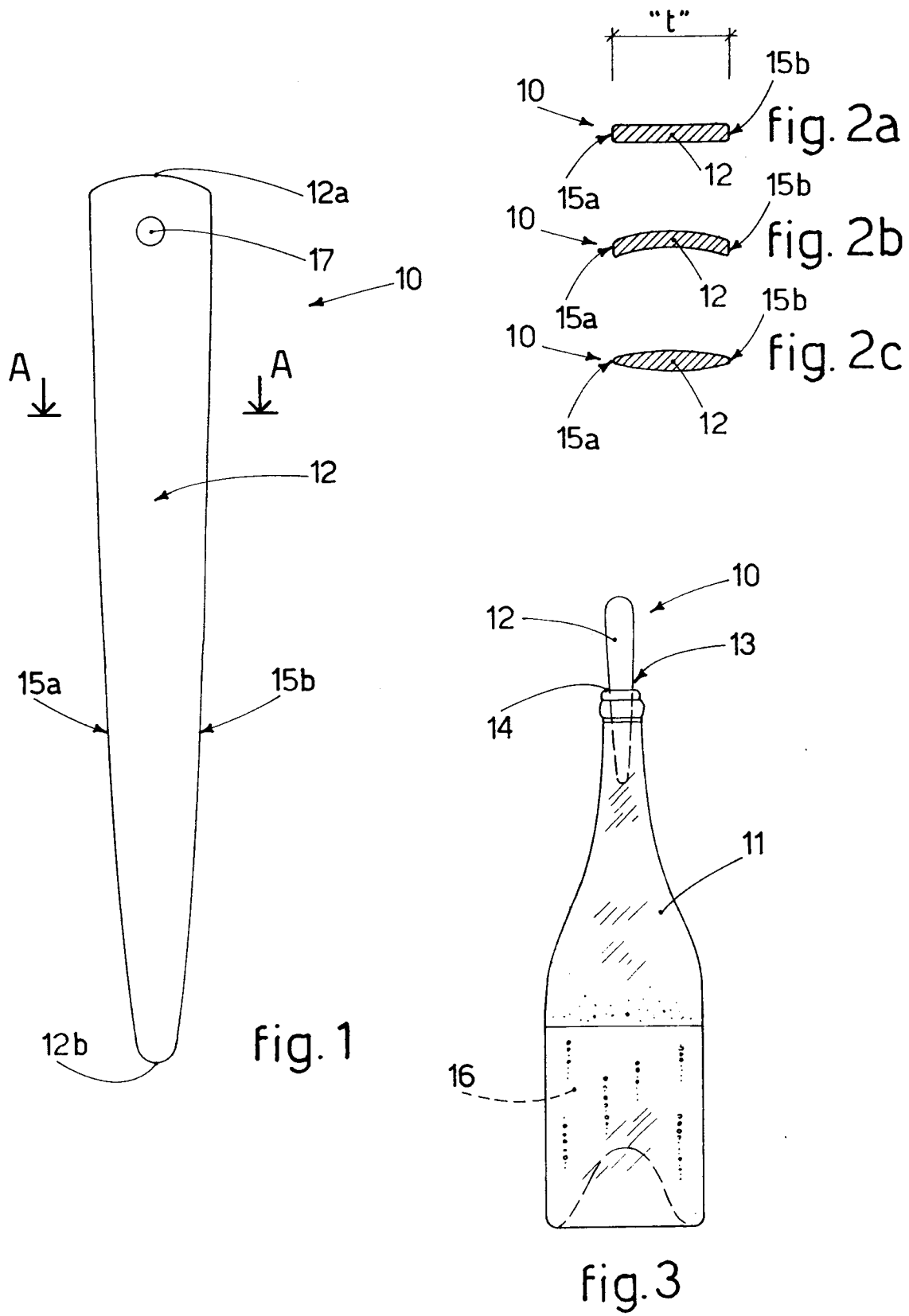
In the variant shown in Fig. 6, the element 10 is shaped in a single body with a sphere 23 at the lower part.

Claims

1. Element to maintain the gas in drinks (16) contained in bottles (11) or containers in general, the element being used in cooperation with the opening (13) of the bottle (11) to limit the escape of gas present in the drinks (16) after the original cap has first been removed, the element being characterised in that it consists of a metallic bar (12) substantially flat in shape whose transverse dimension ("t") continuously narrows from the upper end (12a) to the lower end (12b), the transverse dimension ("t") in correspondence with the lower end (12b) being suitable to be inserted into the opening (13) of the bottle (11), the metallic bar (12) including at least an operating position wherein it is clamped by the contact between its own lateral profiles (15a, 15b) and the perimeter edge (14) of the opening (13) without completely closing the opening (13) of the bottle (11), in which operating position a terminal segment of the metallic bar (12) is located inside the bottle (11).
2. Element as in Claim 1, in which the cross section of the metallic bar (12) has a substantially rectangular geometric conformation.
3. Element as in Claim 1, in which the cross section of

the metallic bar (12) has a substantially ogival geometric shape.

4. Element as in Claim 1, in which the cross section of the metallic bar (12) has an arc-type development.
5. Element as in any claim hereinbefore, which includes personalisation means for decoration and/or identification cooperating at least with the upper part of the metallic bar (12).
6. Element as in Claim 5, in which the personalisation means comprise logos (19) or trade marks silk-screen printed or embossed or made in bas-relief on at least one front face (20) of the metallic bar (12).
7. Element as in Claim 5 or 6, in which the personalisation means comprise shapings (18) and/or figures (21) made as a single body with the metallic bar (12).
8. Element as in Claim 5 or 6, in which the personalisation means comprise shapings (18) and/or figures (21) which can be associated with and dissociated from the metallic bar (12).
9. Element as in any claim hereinbefore, in which the metallic bar (12) has attachment means (17) at least on the upper part.
10. Element as in any claim hereinbefore, in which in an intermediate position the metallic bar (12) has a covering ring (22), possibly for positioning the metallic bar (12).
11. Element as in any claim hereinbefore, in which the metallic bar (12) is shaped in a single body as a sphere (23) at the lower part.



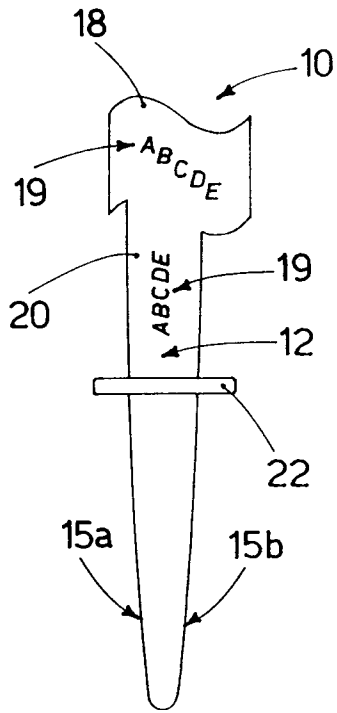


fig.4

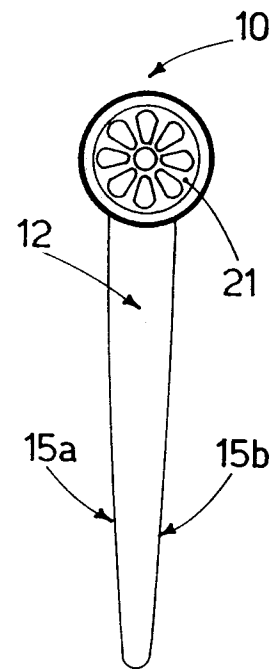


fig.5

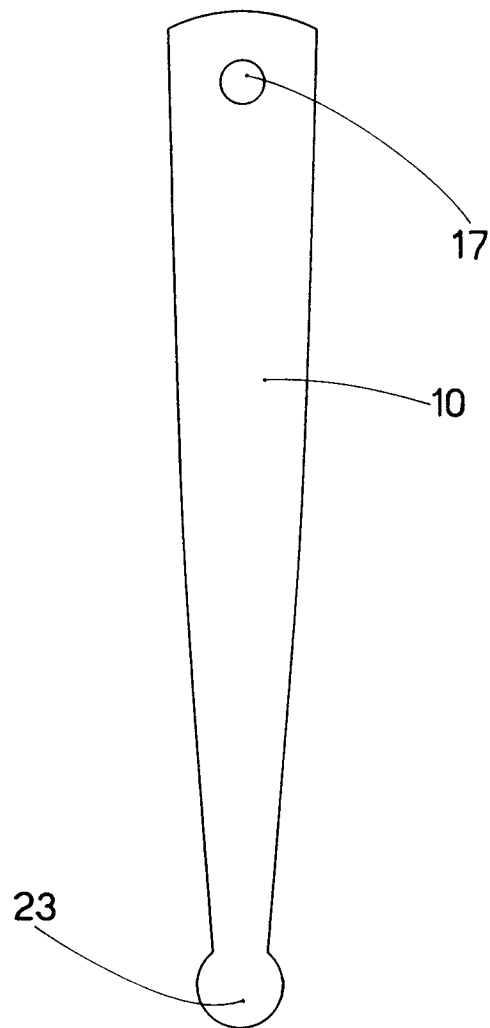


fig.6