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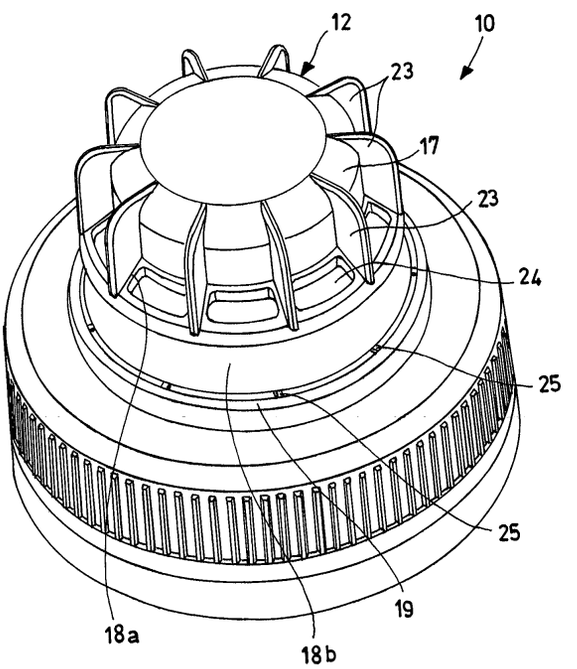
(54) Cap for containers with a hygienic safety cover for safe use

(57) A cap for containers with a hygienic safety cover for safe use, wherein the cap comprises a valvular element (13), situated on a mouth of a container and which can be moved between a first position, which allows the outflow by gravity of the liquid contained in the container, and a second position, which prevents said outflow, and a removable outer element (12) for the hygienic covering of the internal valvular element, wherein the outer covering element (12) comprises an internal box-shaped portion (17) which is buffered against a facing outer surface (20) of the valvular element (13), closing said valvular element with respect to the outside environment, and an enlarged outer portion (18) in which there is at least one pass-through opening (24) for air. Radial tongues (23) are also envisaged, which help to create air passage channels with the opening(s) (24).

Fig.1



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Description

[0001] The present invention relates to a cap for containers with a hygienic safety cover for safe use.

[0002] At present, for the closing of various kinds of containers, covers have been designed, which are capable of preventing access to the supply opening before the container is used. For this purpose, cover elements of the dome- or box-shaped type in general have been created, which are fitted over the cap itself, preventing access until said element has been removed.

[0003] These covering elements must, in fact, be removed to gain access either to capsules which are unscrewed from threaded portions of the bottle mouth or two-directional valves which must be activated by moving to allow the downflow of the liquid contained in the container or prevent its outflow.

[0004] The supply area of the liquid present in the container is thus preserved in a perfectly hygienic way.

[0005] These covers, in fact, which are especially used in the field of mineral water, drinks or the like, are positioned as indicated above and remain there until a first removal, thus also acting as a guarantee seal for the non-effected opening.

[0006] A perfect preservation and absolute hygiene are also ensured during the transportation and preservation of said containers equipped with the respective cover described above.

[0007] If these dome-shaped or in any case closed covering elements, however, are accidentally grasped by a user's mouth and swallowed, they block the respiratory apparatus, which can lead to serious consequences.

[0008] This creates considerable safety problems and there is therefore the urgent necessity of producing a device which avoids and eliminates this type of problem, maintaining however elements which are capable of revealing any possible violation of the container or its contents and which guarantee hygienic protection of the supply section of the inner contents.

[0009] An objective of the present invention is consequently to produce a cap for containers with a hygienic safety cover for safe use of the type described above, which is definitely hygienic with respect to what has been produced so far, has an easy opening and is capable of solving the above-mentioned problems and drawbacks.

[0010] Another objective of the present invention is to produce a simple cap at a reduced cost.

[0011] A further objective of the present invention is to provide a cap of the type described above, which, although effective, is simple and particularly functional, and also easy and rapid to produce.

[0012] Yet another objective is to provide a cap which can be easily adapted to containers already known.

[0013] These objectives according to the present invention are achieved by producing a cap for containers with a hygienic safety cover for safe use as described in claim 1.

[0014] The subsequent claims define the additional characteristics of the present invention.

[0015] The characteristics and advantages of a cap for containers with a hygienic safety cover for safe use, according to the present invention, will appear more evident from the following illustrative and non-limiting description, referring to the schematic drawings enclosed, in which:

figure 1 is a perspective view from above of a cap for containers with a hygienic safety cover for safe use according to the invention, before being opened,

figure 2 is a sectional perspective view from below of the cap illustrated in figure 1.

[0016] With general reference to the figures, these indicate a cap for containers with a hygienic safety cover for safe use according to the present invention and indicated as a whole with 10.

[0017] The cap 10 for containers (not shown), such as bottles, phials, etc., envisages, as already mentioned, a hygienic safety cover 12 for safe use, situated above a valvular element 13, which is positioned above a mouth of a container (not shown).

[0018] The valvular element 13 is, for example, of the type consisting of a cylindrical obturator 14 situated in a cylindrical annular housing 15 lying in an upper cylindrical portion 16 of a body 11 of the cap 10. The cylindrical obturator 14 is of the type which can be moved between a first position, lifted and extracted, which allows the outflow by gravity of the liquid contained in the container, and a second position, as shown in figure 2, which prevents said outflow.

[0019] The cover 12 comprises an outer removable element, which provides a hygienic cover for the internal valvular element. Said outer element consists of an inner box-shaped portion 17, an enlarged outer portion 18 and a safety ring 19.

[0020] The inner box-shaped portion 17 is buffered against a facing upper outer surface 20 of the fixed part of the valvular element, closing said valvular element with respect to the outside environment.

[0021] The enlarged outer portion 18, extends at least partially around the inner box-shaped portion 17 and is hooked to the body 11 of the cap, for example, by inserting one of its curved annular ends 21 in an annular groove 22 of the body 11 of the cap. It should be noted that, according to the present invention, there are a series of radial tongues 23 which extend from the inner box-shaped portion 17 for a distance which is such as to make their dimension equal to the maximum dimension of the enlarged outer portion 18. A series of separate sections are thus created around the enlarged outer portion 18 which are empty and which cover a part of the enlarged outer portion 18. In these parts of the enlarged outer portion 18 there is a pass-through opening

or window 24 for the passage of air.

[0022] In particular, the enlarged outer portion 18 can envisage, as in the example illustrated, a section sloping outwards 18a and a cylindrical section 18b; the above pass-through opening 24 for air is generally situated in this specific outward sloping section 18a.

[0023] Finally, a safety ring 19 is envisaged, which is connected by means of a series of frangible bridges 25 to the enlarged outer portion 18. The safety ring 19 blocks the cover or outer removable element 12 on the body 11 of the cap.

[0024] In this way a cap is produced for containers with a hygienic safety cover which guarantees utterly safe use according to the present invention.

[0025] The functioning of this cap for containers with a hygienic safety cover for safe use is extremely simple and intuitive.

[0026] The figures show, in fact, the cap arranged in a closed position on a mouth of a container (not illustrated).

[0027] The first operation to be effected is to remove the cover 12 which is situated above the body 11 of the cap, i.e. as a protection of the valvular element 13.

[0028] The removal of the hygienic safety cover 12 involves breaking the frangible bridges 25 in order to remove both the inner box-shaped portion 17 and also the enlarged outer portion 18 from the safety ring 19.

[0029] If said removal is effected by grasping the cover 12 between the teeth and with its accidental swallowing, there is no risk of suffocation for the user.

[0030] Said cover 12, in fact, comprises radial tongues 23 which extend from the inner box-shaped portion 17 creating channels for the passage of air between the narrow top of the box-shaped portion 17 and the lower enlarged outer portion 18.

[0031] Furthermore, a vacuum is created in these separate sectional channels around the box-shaped portion 17 up to the enlarged outer portion 18 and the pass-through openings or windows 24 present in the same enlarged outer portion 18 allow an ample passage of air, thus avoiding any possible risk of suffocation for the inattentive user.

[0032] A simple and immediate protection has thus been obtained for the user in the case of non-orthodox removal with the mouth; in this respect, in the case of drinks for sportsmen or women, such as cyclists, the removal is possibly effected with the teeth which can be dangerous in the event of bumps or jolts.

[0033] A cap for containers with a hygienic safety cover for safe use is therefore produced, which solves the problems relating to covers of this type of the known prior art.

[0034] It can be immediately observed how the cap according to the innovative concept of the present invention is extremely simple and also guarantees perfect functioning.

[0035] With a cap according to the present invention, all the drawbacks of caps of this type so far known and used, are overcome. Furthermore, the cap is still particularly compact and has a simple construction and assembly, with a reduction in all the relative costs.

[0036] Numerous alternatives can obviously be identified for experts in the field which still apply however the innovative concept, object of the present invention.

[0037] Numerous modifications and variants can be applied to a cap for containers with a hygienic safety cover for safe use, thus conceived, all included in the scope of the present invention.

[0038] Furthermore all the details can be substituted with technically equivalent elements.

[0039] In practice, the materials used, as also the dimensions, can vary according to technical demands.

Claims

1. A cap for containers with a hygienic safety cover for safe use, wherein the cap comprises a valvular element (13), situated on a mouth of a container and which can be moved between a first position, which allows the outflow by gravity of the liquid contained in the container, and a second position, which prevents said outflow, and a removable outer element (12) for the hygienic covering of the internal valvular element, **characterized in that** said outer covering element (12) comprises an internal box-shaped portion (17) which is buffered against a facing outer surface (20) of the valvular element (13), closing said valvular element with respect to the outside environment, and an enlarged outer portion (18) in which there is at least one pass-through opening (24) for air.

2. The cap according to claim 1, **characterized in that** a series of tongues (23) is connected both to said enlarged outer portion (18) and to said inner box-shaped portion (17).

3. The cap according to claim 1, **characterized in that** it comprises a series of radial tongues (23) which extend from the inner box-shaped portion (17) for a distance which is such as to make their dimension equal to the maximum dimension of the enlarged outer portion (18).

4. The cap according to claim 3, **characterized in that** it comprises an opening (24) between pairs of said series of radial tongues (23).

5. The cap according to claim 1, **characterized in that** said enlarged outer portion (18) envisages a section sloping outwards (18a) and a cylindrical section (18b), said at least one pass-through opening (24) for air being situated in said outward sloping section (18a).

6. The cap according to claim 1, **characterized in that** said enlarged outer portion (18) extends into a safety ring (19) which is connected by means of a series of frangible bridges (25) to the enlarged outer portion (18) firmly positioned on a mouth of the container.

7. The cap according to claim 6, **characterized in that** one of the curved annular ends (21) of said enlarged outer portion (18) is positioned, by hooking, in an annular groove (22) of a body (11) of the cap.

Fig.1

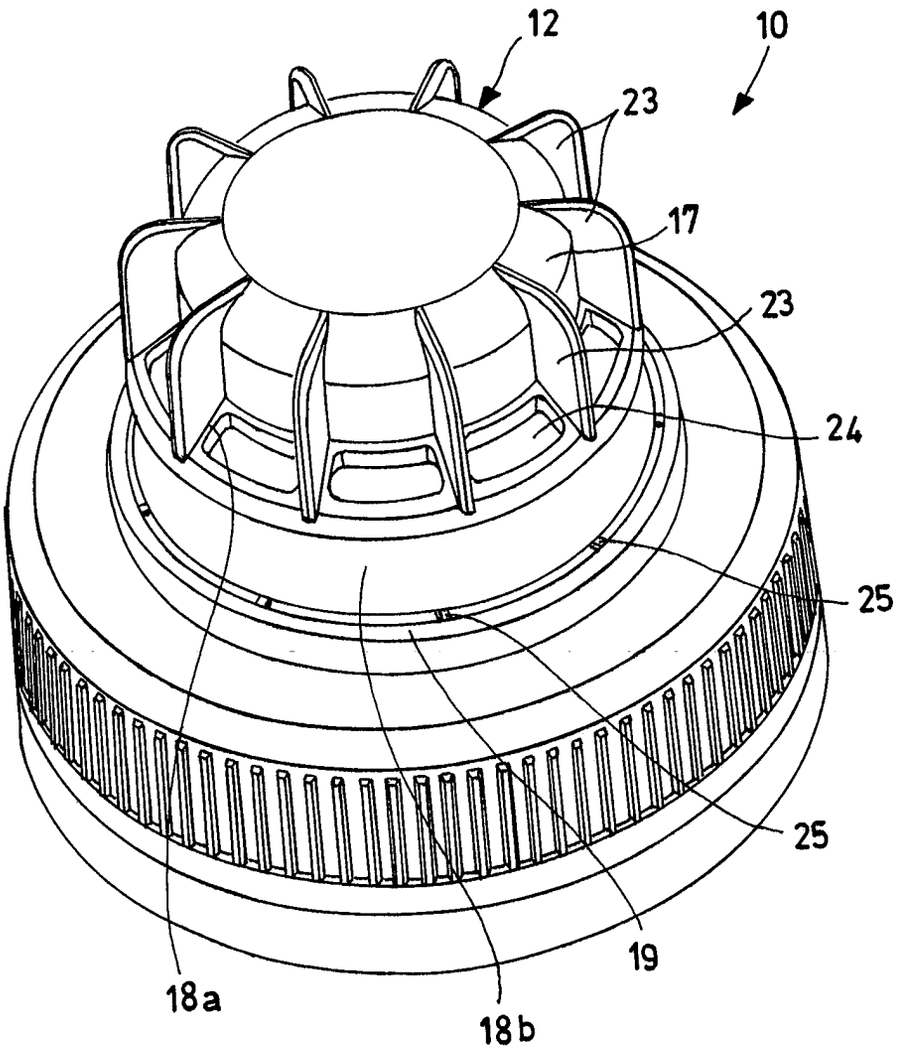
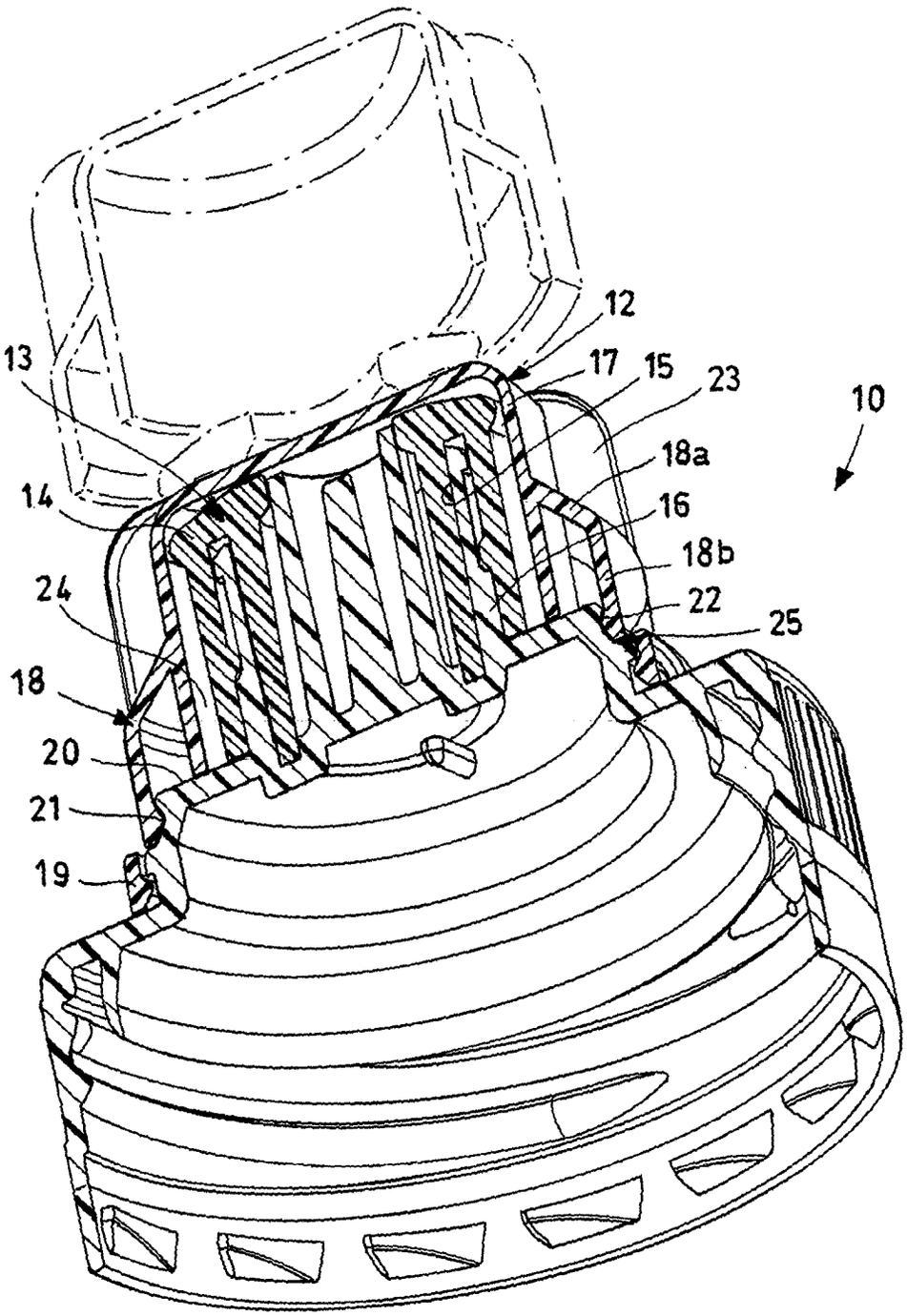


Fig. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 03 07 8164

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	10 February 2004	Gino, C

CATEGORY OF CITED DOCUMENTS

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