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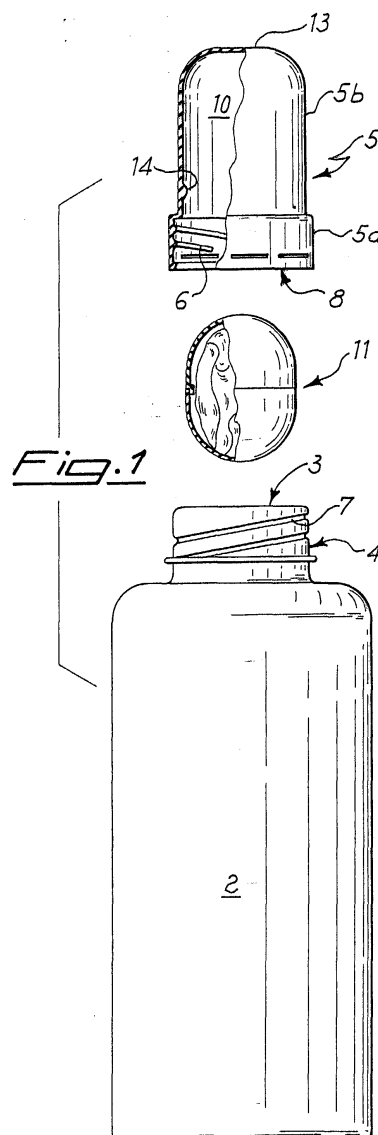
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(54) **Container cap**

(57) A container for beverages comprising a body (2) having an opening (3) with which a cap (5) is associated in closure. Advantageously cap (5) is shaped in such a way as to form a housing (10) and a capsule (11) is removably housed therein when cap (5) is associated in closure with body (2).



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Description

[0001] This invention relates to a cap for a container in accordance with the precharacterising clause of claim 1.

[0002] For simplicity of description, this description is provided non-restrictively making particular reference to a cap for containers for beverages such as, for example, a bottle of plastics material.

[0003] In the context of containers the use of closing caps, particularly resealable closing caps, for example of the screw type, which are useful for example in the case where the drink contained within is not consumed all in one go, is known. The latter feature is however essential in the case of containers for substances such as detergents and/or domestic cleaning products, in that their contents are intended to be consumed on several occasions spread over time.

[0004] In addition to being very functional, containers of the abovementioned type are also practical and convenient from the point of view of packaging the product. In fact these containers themselves act as packaging for the product, for example a beverage or detergent, eliminating the need to use an outer enclosure in order to package them. In this context it is worth pointing out that the outer surfaces of the containers are suitable for use as a substrate for a product label or for direct printing with the necessary information.

[0005] In the context of the marketing of products the need to sometimes attach an object, such as for example a gadget, accessory and the like, to the packed product is frequently felt.

[0006] With regard to this requirement, it must be pointed out that although the abovementioned containers are advantageous from many points of view they have the disadvantage of being not very suitable for satisfying the abovementioned requirement. This is due to the fact that the absence of an outer enclosure in which the container and the attached object can be enclosed raises the problem of how to associate the object with the container. In particular one of the main problems which has to be solved is that of ensuring that the object is not lost from the container during transport and sale, while at the same time permitting easy removal by the final user for whom the container and the object are intended.

[0007] The problem of preventing any unauthorised removal of the object from the container while the container is exposed for sale, for example on supermarket shelves, or at least containing it as far as is possible, is therefore anything but negligible.

[0008] Furthermore there is the problem of the increase in dimensions to which the presence of the object may give rise, in fact rendering containers with the object unsuited to being placed side by side.

[0009] The problem underlying this invention is that of satisfying the aforesaid requirement overcoming the advantages mentioned with reference to the known art.

[0010] This problem is resolved by a container according to claim 1.

[0011] Further features and advantages of the container according to this invention will be apparent from the description below of some preferred embodiments provided non-restrictively by way of indication with reference to the appended figures, in which:

- figure 1 shows an exploded view in partial cross-section of a container according to the invention,
- figure 2 shows a view of the assembled container in Figure 1 in partial cross-section,
- figure 3 shows a view in cross-section of a detail of the container in Figure 1.

[0012] With reference to the appended figures, 1 indicates as a whole a container according to the invention, in the example a container for drinks comprising a hollow body 2 capable of containing the beverage and having an opening 3 bounded by a mouth or collar 4. A cap 5 is associated with and closes opening 3.

[0013] In the example cap 5, preferably manufactured from plastics material, has an internal thread 6 which is capable of engaging a corresponding external thread 7 on mouth 4 so as to form a threaded coupling of the male/female type between cap 5 and body 2 of container 1.

[0014] Because of this cap 5 may be screwed on to or unscrewed from mouth 4 to permit opening 3 of container 1 to be closed or opened respectively and, as a consequence, to prevent or allow respectively the beverage to exit from container 1.

[0015] In order to prevent the integrity of container 1 being tampered with before the container reaches the final user, for example by removing cap 5 wholly or partly from body 2, container 1 is provided with tamper-proof means, indicated by 8 in the figures and illustrated in a simplified way. In the example tamper-proof means 8 comprise a ring which is made to be of one piece with cap 5 through a plurality of weak bridges 9. Tamper-proof means 8 are capable of being snapped on to a portion of body 2 of container 1 in such a way that rotation intended to unscrew cap 5 from container 2 inevitably results in the breakage of weak bridges 9, making the attempt at tampering with the closure obvious.

[0016] In the example illustrated container 1 takes the specific form of a bottle of plastics material associated with a screw cap which is also of plastics material.

[0017] As an alternative to what is described above and illustrated in the appended figures, the container according to the invention may also differ from that considered above in shape and dimensions, and the cap may be associated with closure of the container in other ways, for example through pressure, a snap fit, a bayonet connection or other means.

[0018] Advantageously cap 5 is shaped in such a way as to form a housing 10 within it and at the same time container 1 comprises an object 11 which is also remov-

ably housed in housing 10 when cap 5 is associated in closure with body 2 of container 1, as illustrated in Figure 2. Substantially, when cap 5 is applied in closure to body 2, mouth 4 of the latter is not inserted into housing 10, so as not to interfere with object 11.

[0019] In the example object 11 takes the physical form of a capsule of substantially ovoid shape having the function of a container for other products/objects. It is obvious that the ovoid-shaped capsule only comprises a preferred embodiment, and any other object having a shape and dimensions such as to be contained within the housing cap may be housed in housing 10. In this respect it must be pointed out that the shape of cap 5, and its dimensions, may vary in relation to the dimensions of the objects which it is intended to insert in the cap.

[0020] It should be pointed out that the object which is to be inserted in housing 10 may be of any nature and purpose such as for example a food product, or a sweet or other objects, such as a gadget, a doll or picture cards.

[0021] Advantageously use of a capsule, in particular a capsule of plastics material for foodstuffs, makes it possible to avoid any problems associated with contact which might occur between the beverage contained within the container and the object itself.

[0022] As may be clearly seen from Figure 3, cap 5 is shaped in such a way as to have a first cylindrical end portion 5a bearing internal thread 6 and a remaining elongated cylindrical portion 5b closed by an end wall 13.

[0023] Advantageously aforesaid housing 10 formed within cap 5 is shaped in such a way as to have a substantially ovoid shape corresponding to the portion thereof defining housing 10, so that the latter forms a shape matching the walls of capsule 11.

[0024] Preferably capsule 11 is force fitted into housing 10. For this purpose cap 2 may include engaging means 14 capable of holding the capsule removably within housing 10, preventing its unintentional removal.

[0025] In the example the aforesaid engaging means 14 take the form of a pair of opposing protuberances projecting from the inner surface of elongated cylindrical portion 5b of cap 5.

[0026] In the case where cap 5 (Figures 1 and 3) is constructed of a soft plastics material, object 11 may be easily extracted from housing 10 by applying slight pressure to the outside of the cap at two diametrically opposite points on elongated cylindrical portion 5b, the said points being selected in such a way as to be angularly offset, preferably by 90°, with respect to aforesaid protuberances 14.

[0027] According to a variant embodiment not illustrated in the figures, the aforesaid engaging means capable of removably holding the capsule in the housing may comprise a membrane located within the cap and of one piece with it. For example the membrane may be applied at the point of discontinuity between the first cy-

lindrical end portion 5a of the cap and the remaining elongated cylindrical portion 5b, obviously after the capsule has been inserted into the housing. In this way the membrane comes to be a closure member for the housing in which the object is housed, preventing the beverage from coming into direct contact with the object.

[0028] Alternatively the membrane may be applied to the aperture of the container body, that is to say to its mouth. This membrane, which is not illustrated in the figures for simplicity of illustration, may be a form of plastics material heat welded to the mouth 4 of body 2, such as an aluminium membrane.

[0029] In the case of a container for foodstuffs or drinks the membrane is also useful for hermetically sealing body 2 of container 1, preventing contamination of what is contained therein. As may be appreciated from what has been described, the container according to this invention makes it possible to satisfy the above requirement and at the same time overcome the disadvantages mentioned in the introductory part of the description with reference to the known art. In fact the object associated with the container may be advantageously housed within the container itself, more specifically within the housing provided in the cap.

[0030] In any event, once the container has been opened the aforesaid objects can be easily removed from the cap. In order to do this all that is necessary is to deform the cap or unseat and/or remove the object from the housing using a finger.

[0031] It should be pointed out that the position of the object within the cap ensures that it cannot be lost from the container and prevents it from being removed when container 1 is exhibited for sale.

[0032] Furthermore the positioning of the objects within the cap makes it possible to avoid problems of interference between several containers alongside each other, for example on a shelf or in a box during transport.

[0033] The cap placed in the manner specified above is suitable for manufacture using known production techniques, for example by injection or moulding, without offering any further complications and makes it possible to use the same materials as are used for manufacture of the caps in the known art.

[0034] Obviously a person skilled in the art may apply many modifications and variants to the container described above in order to satisfy contingent specific requirements, all of which however are included within the scope of the protection of the invention as defined by the following claims.

Claims

1. Container, especially for beverages, comprising a body (2) having an opening (3) with which a cap (5) is associated in closure, **characterised in that** the said cap (5) is shaped in such a way as to form a

housing (10) and therefore incorporate an object (11) removably housed in the said housing (10) when the said cap (5) is associated with the said body (2) in closure.

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2. Container according to claim 1, in which the said object (11) is force fitted into the said housing (10) in cap (5).
3. Container according to claim 1, in which the said object is snap fitted into the said housing in the cap. 10
4. Container according to claim 1, comprising engaging means (14) capable of removably holding the said object (11) in the said housing (10). 15
5. Container according to claim 4, in which the said engaging means (14) comprise a pair of opposing protuberances projecting from the inner surface of the cap (5) in the portion of the cap (5) forming the said housing (10). 20
6. Container according to claim 4, in which the said engaging means comprise a membrane. 25
7. Container according to claim 6, in which the said membrane is borne by the cap.
8. Container according to claim 7, in which the said membrane comprises a member closing the said housing in which the said object is housed. 30
9. Container according to any one of claims 1 to 8, in which the said cap (5) has a male/female thread engagement with the said body (2) of the container (1). 35
10. Container according to any one of claims 1 to 9, comprising tamper-proof means (8, 9) applied to the cap (5) and engaging a portion of the body (2) of the container (1). 40
11. Container according to any one of claims 1 to 10, in which the said body (2) does not interfere with the housing (10) in the said cap (5) when the cap (5) is associated in closure with the said body. 45
12. Container according to any one of claims 1 to 11, in which the said object (11) is a containment capsule.

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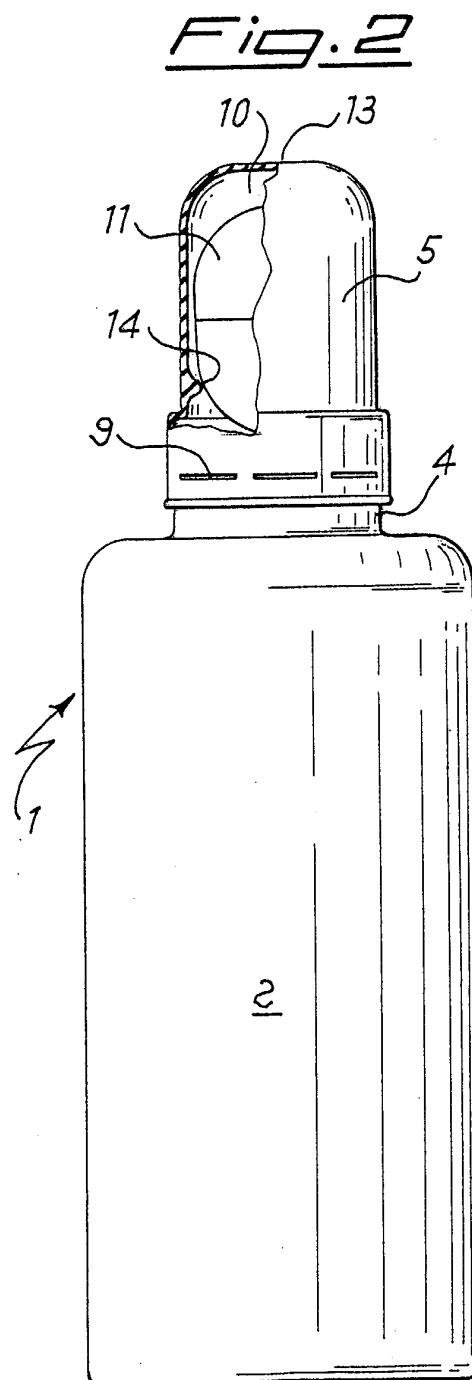
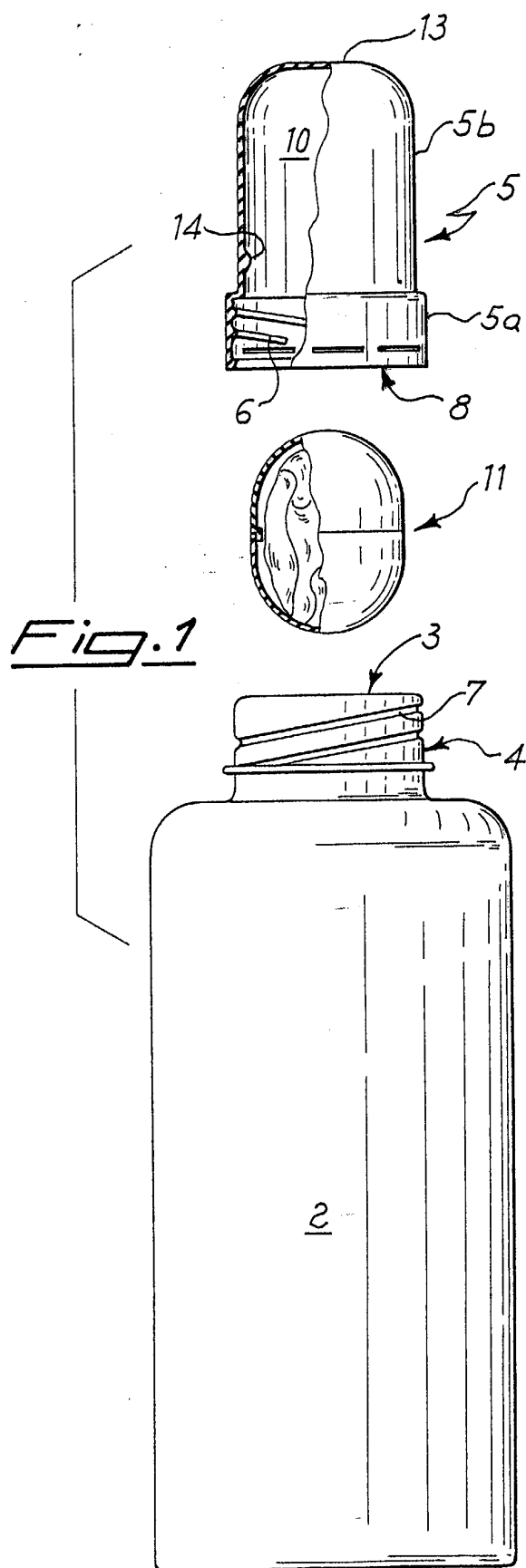
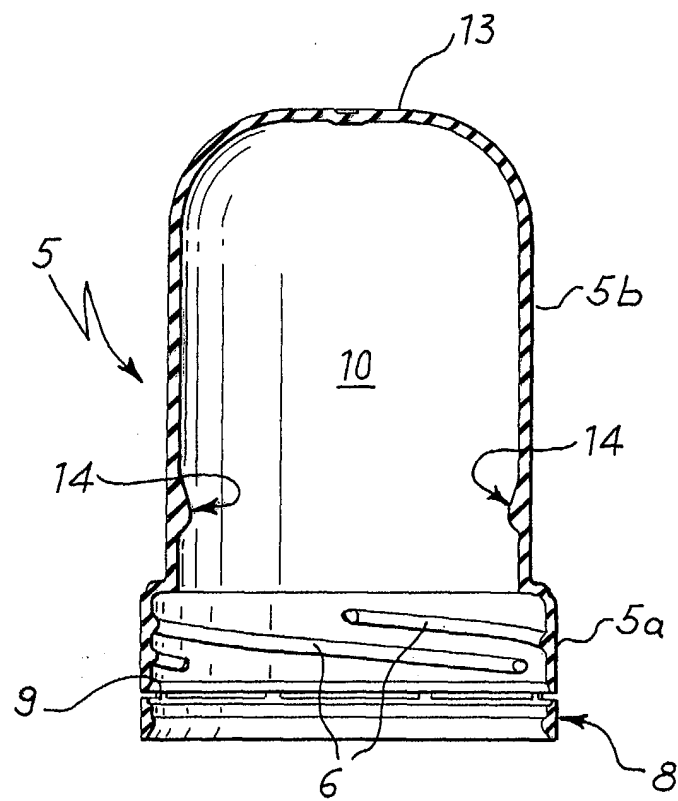


Fig. 3





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EUROPEAN SEARCH REPORT

Application Number
EP 04 42 5374

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	FR 2 368 419 A (SAGES) 19 May 1978 (1978-05-19) * the whole document *	1-5,11	B65D51/28
X	US 6 412 629 B1 (GORDON ALEXANDRA ET AL) 2 July 2002 (2002-07-02) * column 7, line 33 - line 64; figures 2a,2c,7,12 * * column 9, line 7 - line 18 * * column 10, line 24 - line 35 *	1,4,6-9	
X	US 6 032 820 A (BOEHM TED ET AL) 7 March 2000 (2000-03-07) * the whole document *	1,9,10	
X	US 4 720 351 A (FLYNN BRIAN P ET AL) 19 January 1988 (1988-01-19) * the whole document *	1-3,9,12	
			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		15 November 2004	Pernice, C
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EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 42 5374

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15-11-2004

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 2368419	A	19-05-1978	FR 2368419 A1	19-05-1978
US 6412629	B1	02-07-2002	US 6216857 B1	17-04-2001
			US 2002139695 A1	03-10-2002
			US 2002139696 A1	03-10-2002
			AU 771585 B2	25-03-2004
			AU 6042399 A	17-04-2000
			BR 9914060 A	16-10-2001
			CA 2345094 A1	06-04-2000
			CN 1325358 T	05-12-2001
			CZ 20011010 A3	12-06-2002
			EP 1177142 A1	06-02-2002
			HU 0103872 A2	28-02-2002
			JP 2002525250 T	13-08-2002
			NO 20011375 A	23-05-2001
			PL 347905 A1	22-04-2002
			SI 20634 A	28-02-2002
			SK 4082001 A3	02-07-2002
			TR 200101485 T2	22-10-2001
			WO 0018663 A1	06-04-2000
			US 2002175093 A1	28-11-2002
			US 2004217033 A1	04-11-2004
			US 2002189957 A1	19-12-2002
			US 2002189958 A1	19-12-2002
			US 2003062272 A1	03-04-2003
			US 6349821 B1	26-02-2002
			US 6364102 B1	02-04-2002
			US 2002063081 A1	30-05-2002
			US 6330943 B1	18-12-2001
			US 6371289 B1	16-04-2002
			US 6533114 B1	18-03-2003
			US 2001045368 A1	29-11-2001
			US 2002139694 A1	03-10-2002
			US 2002020638 A1	21-02-2002
			US 2002046959 A1	25-04-2002
			US 2002005365 A1	17-01-2002
			US 2002020639 A1	21-02-2002
			US 2002005366 A1	17-01-2002
			US 2002011425 A1	31-01-2002
			US 2002070131 A1	13-06-2002
			US 2002066681 A1	06-06-2002
US 6032820	A	07-03-2000	US 5915585 A	29-06-1999
			AT 264230 T	15-04-2004
			AU 747256 B2	09-05-2002
			AU 8383698 A	08-02-1999

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 42 5374

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The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

15-11-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6032820 A		CN 1268932 T	04-10-2000
		DE 69823199 D1	19-05-2004
		EP 0994811 A1	26-04-2000
		WO 9902417 A1	21-01-1999

US 4720351 A	19-01-1988	US 4563186 A	07-01-1986
		AU 4071585 A	10-10-1985
		EP 0157653 A2	09-10-1985
		JP 61000166 A	06-01-1986
		US 4636328 A	13-01-1987
