



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
30.11.2011 Bulletin 2011/48

(51) Int Cl.:
B65D 41/04 (2006.01) B65D 41/34 (2006.01)

(21) Application number: **11382168.0**

(22) Date of filing: **25.05.2011**

(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
Designated Extension States:
BA ME

(71) Applicant: **Betapack, S.A., .**
20305 Irun (ES)

(72) Inventor: **Berroa Garcia, Javier**
20305 IRUN (Guipúzcoa) (ES)

(74) Representative: **Carpintero Lopez, Francisco et al**
Herrero & Asociados, S.L.
Alcalá 35
28014 Madrid (ES)

(30) Priority: **27.05.2010 ES 201030532 U**

(54) **Screw cap**

(57) The present invention relates to a screw cap comprising a perimetric wall (1a), an upper base (1b), a round attachment surface (1c) located between the perimetric wall (1a) and the upper base (1b), a lower opening (1d) with respect to the perimetric wall (1a), and a tear-off ring (2) attached in the lower opening (1d); wherein

the perimetric wall (1a) and the round surface (1c) externally comprise grip means (3) which extend between the lower end of said perimetric wall (1a) and between the upper base (1c); and wherein the tear-off ring (2) externally comprises grip means (4), allowing improved grip of said cap and reducing the effort for unscrewing it.

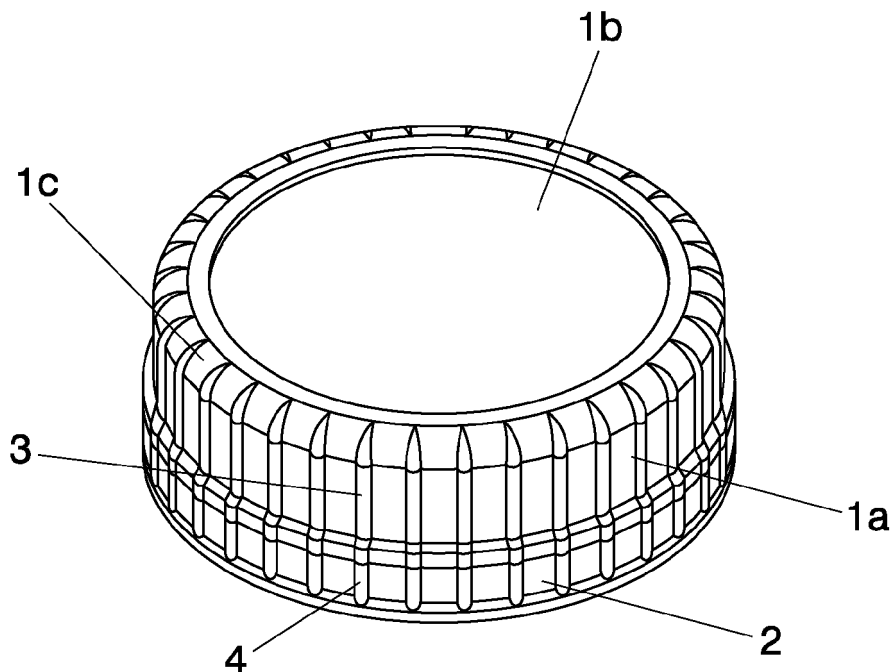


FIG. 1

Description

Technical Field of the Invention

[0001] The present invention relates to a screw cap of the type commonly used for closing bottles or containers, having an application in the food and food preservation industries, allowing improved grip of said cap, therefore reducing the effort for unscrewing said cap and providing the assembly with a customizable and distinctive design, all by means of a simple device which can be adapted to any bottle or container today.

Background of the Invention

[0002] The problem relating to opening screw caps is known, where it is necessary to apply a force with the fingers to allow opening said screw cap; additionally, most of said screw caps today comprise a safety ring which obstructs and increases the mentioned force for opening them; wherein said ring is located at the lower end of said cap and is attached to it by means of breaking points, acting as a seal and assuring the owner that said bottle or container has not previously been opened since it was bottled in the factory.

[0003] One of the known solutions in the current state of the art is the formation of grip means, usually a plurality of grooves located partially in the periphery of the screw cap, one of the drawbacks being that the grip with the fingers is not complete, outer areas without grooves being determined and therefore hindering the complete grip of said cap to perform the operation for opening it.

[0004] In the event of screw caps with safety rings, the force for opening it substantially increases compared to the previous case because it is necessary to add sufficient torque in order for the mentioned ribs to tear.

[0005] For the case of short screw caps, the problem increases considerably as there is not sufficient grip surface to be able to hold the screw cap with the sufficient force necessary to open said screw cap.

Description of the Invention

[0006] The present invention relates to a screw cap which allows an improved grip of said cap, reducing the effort for unscrewing said cap and provided the assembly with a customizable and distinctive design, all by means of a simple device which can be adapted to any bottle or container on the market today.

[0007] The screw cap proposed by the invention comprises a perimetric wall, an upper base, a round attachment surface between the perimetric wall and the upper base, a lower opening with respect to the perimetric wall, and a tear-off ring attached in the lower opening; wherein the perimetric wall and the round attachment surface externally comprise grip means which extend between the lower end of said perimetric wall and between the upper base; and wherein the tear-off ring externally comprises

grip means.

[0008] With this configuration, the grip means virtually cover the entire periphery of the screw cap, including the attachment surface existing between the perimetric wall as such and the upper base of said screw cap, facilitating the grip for any type of caps and especially the small or short caps because the latter require that the majority of its outer surface comprises grip means so that the force for opening them is as little as possible.

[0009] The inclusion of grip means in the tear-off ring becomes more important in the case of short caps, as described above, because it is achieved that grip means are located on virtually the entire periphery of said cap and no external elements or complicated maneuvers are required to carry out the operation of opening the mentioned cap.

[0010] The possibility of the grip means comprising a plurality of grooves by way of longitudinal furrows in the direction of the axis of revolution of the screw cap is contemplated, wherein said configuration is the most used today and provides the assembly with suitable grip means for the function of opening said screw cap.

[0011] It is understood that the geometric shape of the grip means can vary from one screw cap to another, which allows offering different customers caps which are customized by means of different grip means.

[0012] Therefore according to the described invention, the screw cap proposed by the invention constitutes an advance in screw caps used up until now and solves in a fully satisfactory manner the problem described above, in the sense of improving the grip of the caps, reducing the effort for unscrewing said cap and providing the assembly with a customizable and distinctive design, all by means of a simple device which can be adapted to any already existing bottle or container.

Description of the Drawings

[0013] To complement the description that is being made and for the purpose of helping to better understand the features of the invention according to a preferred practical embodiment thereof, a set of drawings is attached as an integral part of said description in which the following has been depicted with an illustrative and non-limiting character:

Figure 1 shows a schematic perspective view of the screw cap with the safety ring.

Figure 2 shows a section of said screw cap in which the inner thread for the coupling thereof on the neck of the bottle or container is observed.

Preferred Embodiment of the Invention

[0014] In view of the discussed figures, it can be seen how one of the possible embodiments of the screw cap proposed by the invention comprises a perimetric wall (1a), an upper base (1b), an attachment surface (1c) be-

tween the perimetric wall (1a) and the upper base (1b), a lower opening (1 d) with respect to the perimetric wall (1 a), and a tear-off ring (2) attached in the lower opening (1d); and wherein the perimetric wall (1a) and the attachment surface (1c) externally comprise a plurality of grooves (3), which extend between the lower end of said perimetric wall (1 a) and between the upper base (1 c).

[0015] Additionally the screw cap comprises a tear-off ring (2) attached in the lower opening (1d) by means of a plurality of tear-off ribs and wherein said tear-off ring (2) peripherally comprises a plurality of grooves (4).

[0016] The grooves (3) pertaining to the perimetric wall (1a) and to the attachment surface (1c) are aligned with the grooves (4) of the tear-off ring (2) mainly due to the screw cap forming process.

[0017] In view of this description and set of drawings, the person skilled in the art will understand that the embodiments of the invention that have been described can be combined in many ways within the object of the invention. The invention has been described according to some preferred embodiments thereof, but for the person skilled in the art it will be obvious that multiple variations can be introduced in said preferred embodiments without exceeding the object of the claimed invention.

Claims

1. Screw cap comprising
a perimetric wall (1a), an upper base (1b), a round attachment surface (1c) located between the perimetric wall (1 a) and the upper base (1b), a lower opening (1d) with respect to the perimetric wall (1a), and a tear-off ring (2) attached in the lower opening (1d)
characterized in that
the perimetric wall (1 a) and the round attachment surface (1 c) externally comprise grip means (3) which extend between the lower end of said perimetric wall (1a) and between the upper base (1c), and **in that** the tear-off ring (2) externally comprises grip means (4).
2. Screw cap according to claim 1, **characterized in that** the grip means (3, 4) comprise a plurality of grooves.

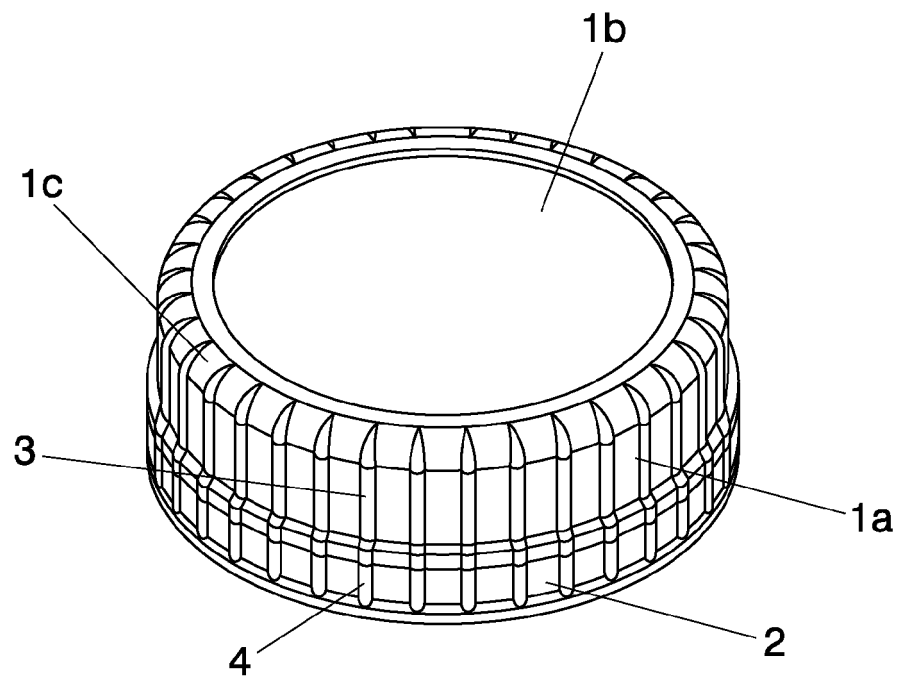


FIG. 1

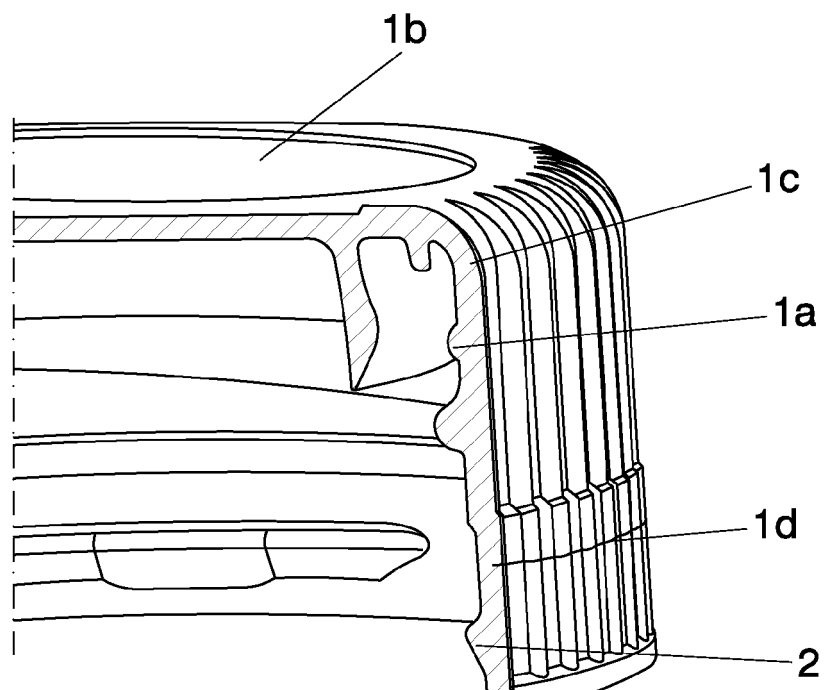


FIG. 2



EUROPEAN SEARCH REPORT

Application Number
EP 11 38 2168

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JP 2005 350113 A (TOPPAN PRINTING CO LTD) 22 December 2005 (2005-12-22) * abstract; figures 1-2 *	1,2	INV. B65D41/04 B65D41/34
X	US 5 725 116 A (TAKAI KAZUO [JP]) 10 March 1998 (1998-03-10) * column 2, line 66 - column 3, line 50; figures 1-2 *	1	
A	JP 8 133315 A (SHIBASAKI SEISAKUSHO KK) 28 May 1996 (1996-05-28) * abstract; figures 1-2 *	1,2	
A	JP 2000 128199 A (TOPPAN PRINTING CO LTD) 9 May 2000 (2000-05-09) * abstract; figure 1 *	1,2	
A	DE 200 17 543 U1 (BERGI PLAST GMBH KUNSTSTOFFTEC [DE]) 4 January 2001 (2001-01-04) * page 4, paragraph 5 - page 8, paragraph 1; figures 1-5 *	1,2	
A	WO 2010/029394 A1 (OBRIST CLOSURES SWITZERLAND [CH]; BENOIT-GONIN CLAUDE [FR]; BARDET PHI) 18 March 2010 (2010-03-18) * the whole document *	1	TECHNICAL FIELDS SEARCHED (IPC) B65D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 16 August 2011	Examiner Leijten, René
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

 1
EPO FORM 1503 03.82 (P04C01)

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

EP 11 38 2168

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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.

16-08-2011

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 2005350113	A	22-12-2005	NONE	
US 5725116	A	10-03-1998	NONE	
JP 8133315	A	28-05-1996	NONE	
JP 2000128199	A	09-05-2000	NONE	
DE 20017543	U1	04-01-2001	NONE	
WO 2010029394	A1	18-03-2010	EP 2331426 A1	15-06-2011