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(54) **EASY-TO-OPEN LID**

(57) Easy-to-open lid presenting a plastic body which defines an external annular configuration extended at the inner side by a low thickness peripheral portion integral with an internal annular configuration presenting at a point of its periphery a reinforcement from which protrudes a ring; the lid has a second body comprised of a transparent sheet of plastic material

which is joined, preferably by ultrasounds, to the lower surface of the internal annular configuration, thereby closing the internal empty space of the latter. Said lid is preferably used to be fixed on the mouth of metal containers in order to close them.

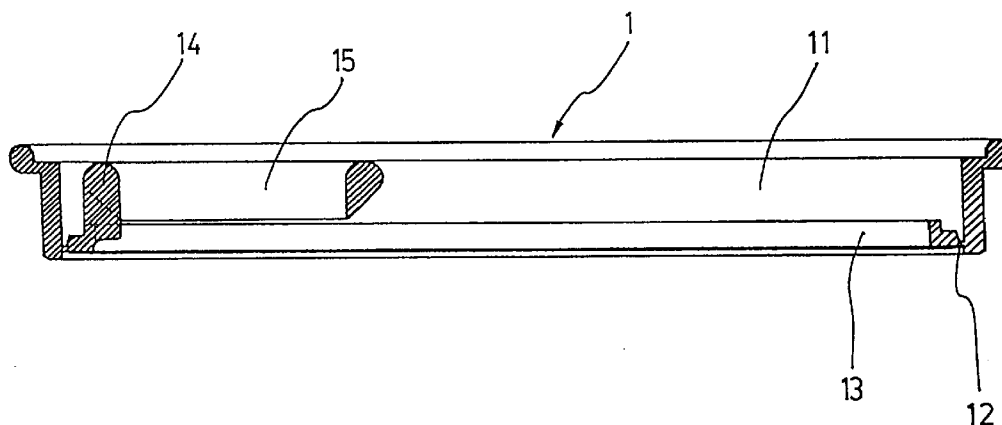


FIG. 2

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Description

As its title indicates, the present specification refers to a cap that is easy to open, of the type used as a closure for packs.

Easy to open caps are currently known, and these may be made of metal or plastic material, as is the case of the subject of this invention.

Easy to open caps made of plastic material are obtained by moulding of the material and have a main body the central part of which is closed by a laminate portion equipped with a ring, and delimited by a line of very thin material, this forming a line of breakage, such that when the ring is pulled the central laminate portion is released, leaving the central space which it had covered open.

Caps of this type may be used to close openings of small size, as if the removable laminate portion were used to cover a large area, and taking its reduced thickness into account, obtaining the same by moulding would be virtually impossible and would at least be excessively expensive.

To solve these problems the easy open cap which is the subject of this invention has been developed, this presenting the particularity of being composed of a body made of plastic material, in the form of two annular configurations, one external and one internal, joined by a portion of slight thickness which forms a line of breakage, and a lamina which is affixed, preferentially by ultrasound, onto the internal configuration of the original body, closing the central area of the latter.

The external configuration of the first body is designed to affix immovably onto the mouth of a recipient, and the interior presents, as is usual for this type of cap, a ring, joined to the same by means of a thicker portion, such that when the ring is pulled the internal configuration and the lamina joined to the same separate from the external form, which remains affixed to the pack.

The fact that the cap is composed of an original body to which a lamina is affixed, permits the easy open cap to have large dimensions, while as the extraction of the internal shape take place together with that of the laminate body, the hole within the cap presents a surface area that is practically the same as that of the mouth of the pack.

On the other hand, it is planned that the lamina which originally seals the central area of the pack is to be made of transparent plastic material, thereby permitting the visual inspection of the product contained within the pack without having to open the latter, this currently being impossible, taking account of the fact that the caps to which we refer are used for metal packs, due to which this feature gives rise to an important advantage in comparison with currently known plastic or metal caps.

With the aim of making better understanding of the invention possible, the enclosed drawings shows a preferential practical embodiment of the same. In this said

drawings:

- Figure 1 shows a plan view of the easy open cap that is the subject of this invention.
- Figure 2 shows an elevation view of the cap, with a vertical cross - section of the diameter through the area where the ring is joined to the internal ring shape.

As may be seen in the above-mentioned figures, the easy open cap which is the subject of this invention is originally composed of an annular body (1) and a lamina (2).

The body (1) forms a ring shaped exterior (11) which is designed to be affixed to a pack, preferably one made of metal, and presents internally a peripheral part (12) of slight thickness which acts as a line of breakage and which is joined to an internal (13) ring shape.

This internal annular configuration (13) presents on one of its sides, more specifically on the side corresponding to the external part of the pack, a reinforcement (14) from which a ring (15) emerges, while on the opposite side of this annular shape (13) the periphery of the lamina (2) is affixed, preferentially by means of ultrasound, this closing the central part of the cap.

This lamina (2) is preferentially composed of several layers of transparent plastic material, thereby permitting the visual inspection of the product contained within the pack once the cap has been affixed onto the pack, without the need for the cap to be opened.

With this arrangement, when the ring (15) is pulled this brings about the breakage of the body (1) at portion (12) of slight thickness, leaving the external ring shape (11) affixed to the pack, while the internal ring shape (13) is taken off together with the lamina (2) and producing an opening in the cap, delimited at its periphery by the configuration of the external ring (11).

Once the nature of the invention has been sufficiently described, as well as an example of practical realisation, it must be stated that modifications which are considered to be opportune may be made to the same, on condition that these do not alter the essential characteristics of the invention, as claimed below.

Claims

1. An easy to open cap, of the type used to close packs characterised in that it presents a body made of plastic material which form an external ring which is designed to be affixed to the opening of a pack, and which is prolonged at its internal side by a peripheral portion of slight thickness which forms a line of breakage, and which is joined to an inner ring configuration, the latter presenting a reinforcement from which a ring emerges at a point of its periphery: the cap presenting a second body, composed of a transparent plastic lamina which is joined, preferentially by ultrasound, onto the lower surface of the internal ring configuration, closing the inner

opening in the same.

2. A cap, according to the above claim, characterised
in that the transparent lamina which closes the
inner ring configuration is preferentially composed 5
of several layers of material which are affixed to
each other.
3. A cap, according to the above claims, characterised
in that the surface delimited by the line of breakage 10
is slightly less than the total surface area of the cap.

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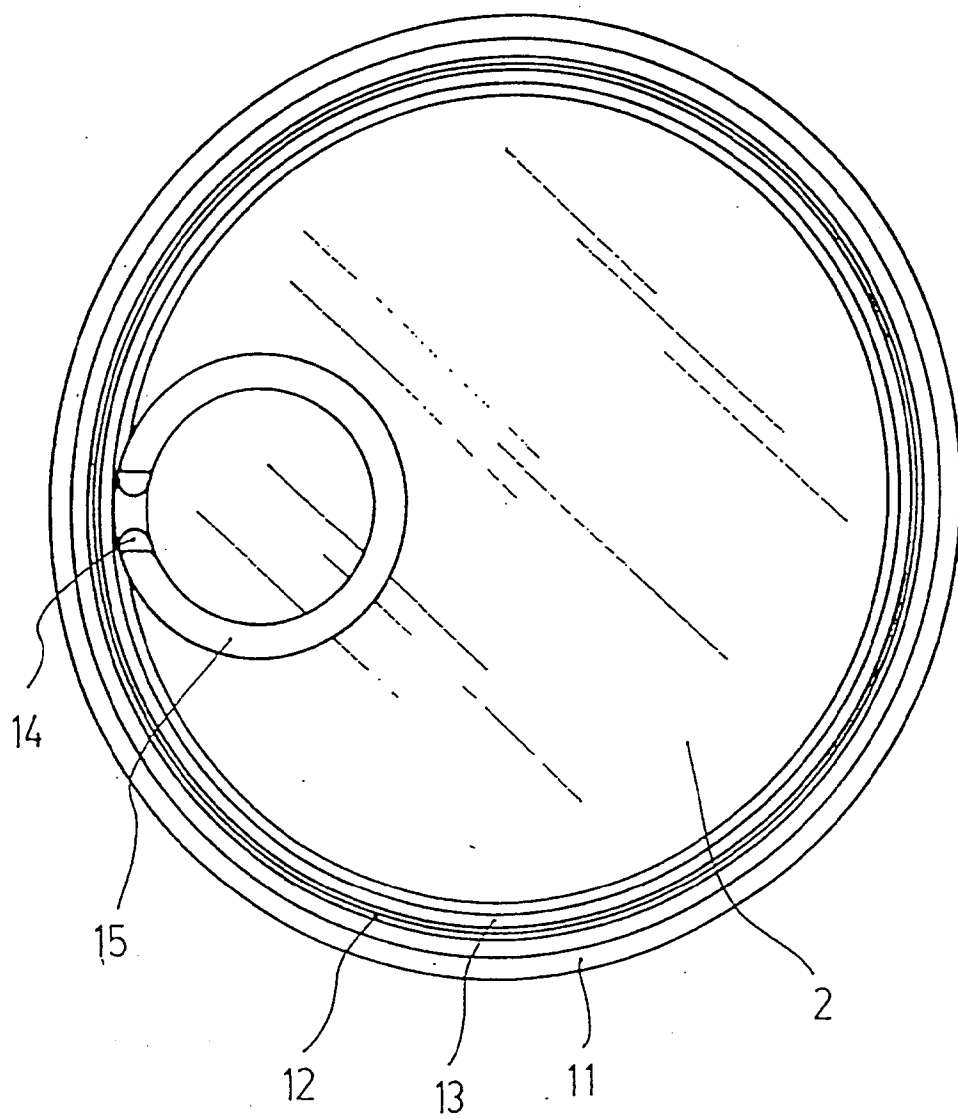


FIG. 1

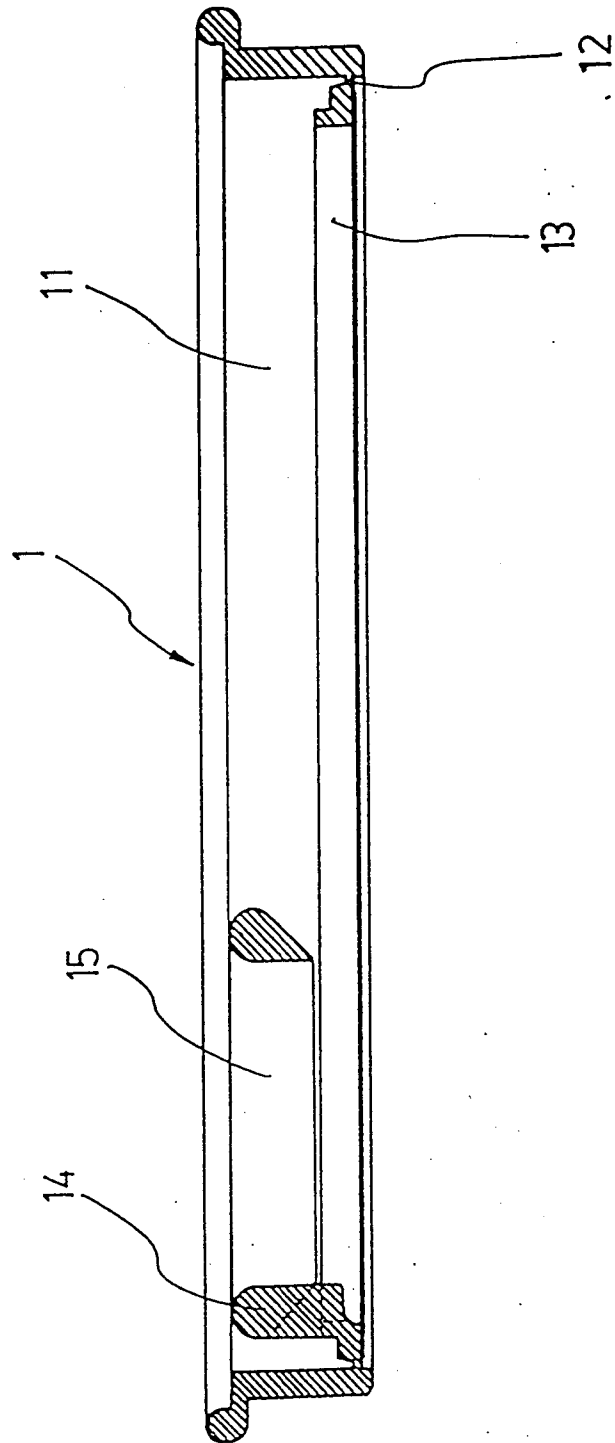


FIG. 2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 96/00005

A. CLASSIFICATION OF SUBJECT MATTER

CIP6 B65D 17/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

CIP6 B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EPODOC, PAJ, CIBEPAT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0094359 A (AB AKERLUND Y RAUSING) 16.11.83 See whole document	1-3
X Y	US 5059360 A (SATO) 22.10.91 See column 7, line 55 - column 10, line 32; figures 1A-1E	1 2,3
Y A	US 5156273 A (MORTENSEN) 20.10.92 See column 3, line 8 - column 4, line 14; figures 1, 2	2,3 1
Y	US 4529100 A (INGEMANN) 16.07.85 See column 7, line 14 - column 8, line 37; figures 3A-3K See column 11, line 59 - column 12, line 41; figures 7A-7C	1-3

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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"A" documents defining the general state of the art which is not considered to be of particular relevance

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"O" documents referring to an oral disclosure, use, exhibition or other means

"P" documents published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the substances but cited to understand the practice or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combinations being obvious to a person skilled in the art

"A" documents member of the same patent family

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11 April 1996 (11.04.96)

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 96/00005

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN Vol. 014, no. 277 (M-0985) 15.06.90 Y JP 02085147 A (SHOWA DENKO KK), 26.03.90 See abstract	1-3
A	PATENT ABSTRACTS OF JAPAN Vol. 014, no. 478 (M-1036), 18.10.90 Y JP 02191162 A (SHOWA DENKO KK), 27.07.90 See abstract	1,3
A	US 5246133 A (JAMES) 21.09.93 See whole document	1

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