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(54) THERMAL CONTAINER

(57) The invention relates to a thermal container which can be used to store drinks and food, **characterized** In that the walls thereof comprise three layers, namely: an intermediate layer (3) made from propylene, polyurethane foam or expanded polystyrene; an outer layer (2), and an inner layer (4), said outer and inner layers also comprising three panels in the form of an outer cardboard panel, an intermediate aluminum panel and an inner polyethylene panel. The container is intended primarily to retain the properties of wines under any circumstances and, more specifically, during transport from wine shops to the end user.

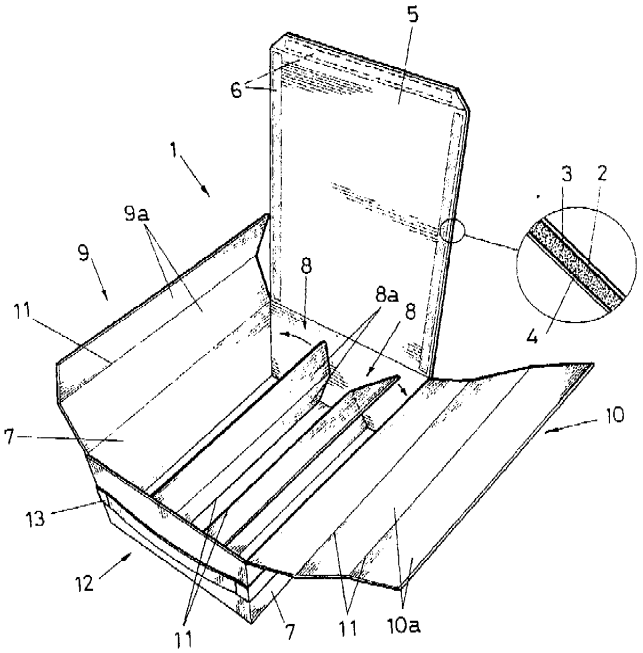

FIG.1

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Description

OBJECT OF THE INVENTION

[0001] The present invention, as the title of this specification states, relates to a thermal container which is generally provided for maintaining the temperature of drinks and food, and more particularly it has been designed for maintaining the temperature of wines under any condition, and more specifically when its transportation is carried out from wine shops to end user retail outlets so as not to lose most of the properties obtained in the wine shop.

BACKGROUND OF THE INVENTION

[0002] In the state of the art the use of bottles-fridge which are provided for maintaining wines at the desired temperature, is known, such that they are correctly stored preventing them from losing their properties.

[0003] However, in the wine industry there is not a device that allows maintaining the wine temperature during the transportation to be submitted in order to move it from wine shops to stores or places of consumption, whereby during said transportation wines are damaged, losing its qualities, since its temperature considerably fluctuates, specially in those periods wherein transportation is carried out with a high ambient temperature or vice versa.

[0004] Therefore, even though the store and/or user acquiring the wine, stores it at the proper temperature, its tasting is worse than if the wine is directly consumed in the wine shop.

DESCRIPTION OF THE INVENTION

[0005] In order to overcome and achieve the aforementioned objectives, the invention has developed a new thermal container, application of which is preferred for maintaining the temperature of the wine under any circumstance, and preferably when its transportation is carried out, but it can also be applied for maintaining the temperature of any type of drinks and food.

[0006] The container of the invention is **characterized in that** its walls are constituted by three layers, such that the outer and inner layers are In turn constituted by three panels, an outer cardboard panel, an intermediate aluminum panel, and an inner polyethylene panel, i.e. presenting a configuration which is conventionally known as tetrabrik.

[0007] In addition, the walls of the container include an intermediate layer which is made from expanded polystyrene, propylene, or polyurethane foam, such that a simple structure with high thermal isolation properties is obtained.

[0008] In this way, the product to be stored, as for example wine bottles are arranged inside the thermal container in order to carry out its transportation, which allows maintaining the proper temperature of the product.

[0009] In order to complement the structural properties of the inventive container, a hermetic sealing provided therein is envisaged, which is preferably constituted by an adhesive strip, which is tearable in order to perform the aperture.

[0010] The container of the invention is further provided with closing adhesive bands for closing the container after having performed the breakage of the hermetic sealing, such that it can be used in successive occasions, even without the hermetic sealing, maintaining a proper isolation which makes possible to maintain the properties of the packed product.

[0011] An embodiment of the invention envisages that the container is constituted by a prismatic-rectangular body, longer walls of which extend from its longer sides as flap-like extensions wherein folding lines are included in order to form longitudinal housings for bottles. Accordingly, this structure is specially provided for storing bottled drinks, and more especially for wine.

[0012] The folding lines of lower flaps define three sections which are folded according to a "C" configuration in order to determine two lower longitudinal side housings which remain separated by a central longitudinal housing. On the other hand, the folding lines of one of the upper flaps define two sections which are folded in "L" in order to form an upper longitudinal side housing, while the folding lines of the other upper flap establish three sections which are folded according to a "S" configuration, in order to form an upper longitudinal side housing and another upper central longitudinal housing.

[0013] The described container comprises a handle which is constituted by a strip that is fixed to the lower wall, side walls and an upper wall for obtaining a solid and lasting configuration. The strip constituting the handle is separated from the upper wall at its central area for allowing the grasping.

[0014] The container of the invention further envisages the Incorporation, in at least one of the walls, of little legs-like supporting extensions, which also serves for isolating the container from possible humidity and direct contact with surfaces that can vary its temperatures.

[0015] Another embodiment of the invention envisages that the container is constituted by an upper cylindrical body which is open at its lower part, mouth of which comprises an outer perimetral staggering, and on upper part of which presents a narrowing defining the form of a bottle in order to allow housing thereof. In addition, the container comprises a lower cylindrical body opened at its upper part, mouth of which includes a lower perimetral staggering which is coupled to the outer perimetral staggering of the upper body in order to form a detachable lid that allow introducing and removing a bottle in an easy and simple manner.

[0016] In the case wherein food storing is required to be performed, the container provides also the incorporation of means for injecting elements in order to modify the atmosphere inside the container to achieve a better storing of the product included therein.

[0017] Next, in order to facilitate a better understanding of this specification and being an integral part thereof, a set of figures wherein the object of the invention has been represented with an illustrative and not limiting manner is attached.

BRIEF DESCRIPTION OF THE FIGURES

[0018]

Figure 1. - Shows a perspective view of a possible embodiment example of the invention wherein the container is open and prepared for introducing six bottles therein.

Figure 2. - Shows a view equivalent to the previous figure, wherein the fold of three of the flaps defining housings for the bottles, has been performed.

Figure 3. - Shows a perspective view equivalent to the previous figures, wherein the fold of all of the flaps defining six housing compartments for the bottles, has been made.

Figure 4. - Shows a perspective view of the container represented in the previous figures, but closed for carrying out the transportation of the bottles contained therein.

Figures 5 and 6. - Show perspective views equivalent to the previous figure, on two walls of which little leg-like extensions for supporting and isolating the box, are included.

Figure 7. - Shows another possible embodiment example of the invention wherein a configuration provided for carrying out the transportation of a bottle, is presented.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0019] A description of the invention based on the aforementioned figures is made bellow.

[0020] According to an embodiment example of the invention, the container is constituted by a prismatic-rectangular body 1, walls of which are constituted by three layers; an outer layer 2, an intermediate layer 3, and an inner layer 4.

[0021] The outer layer 2 and the inner layer 4 are both constituted by a material conventionally known as tetrabrik, and which is constituted by an outer cardboard panel, an intermediate aluminum panel and an inner polyethylene panel. These layers have not been represented, because they are widely known in the state of the art, as well as their properties.

[0022] The outer cardboard panel of the outer layer 2 can be screen printed with desired motifs.

[0023] The intermediate layer 3 is made from polyurethane foam, density of which will be variable as a function of the required needs for isolation. This layer presents a high thermal isolation against temperature variations, since it has a mini-cells structure wherein there is resting air, such that about 98% of the intermediate layer 3 is air, and 2% is matter. In addition, the expanded polystyrene presents the advantage that for its manufacturing expanding gases from the family of the HCFCs and HFCs gases are not employed, whereby its manufacturing does not damage the ozone layer, while is 100% recyclable.

[0024] The container 1 presents the particularity that its longer side walls 7 extend from its longer sides as flap-like extensions.

[0025] Thus, the longer lower sides of the longer side walls 7 extend as extensions 8 and the longer upper sides extend as extensions 9 and 10.

[0026] The lower 8 and upper 9 and 10 extensions are both provided with folding lines 11 in order to form longitudinal housings for bottles, such as is described bellow.

[0027] The folding lines 11 of the lower extensions 8 define three sections 8a which are folded according to a "C" configuration, such that two lower side longitudinal housings and a central lower housing are obtained.

[0028] The folding lines 11 of one of the upper extensions 9 define two sections which are folded according to an "L" configuration, such that an upper longitudinal side housing is obtained.

[0029] On the other hand, the folding lines 11 of the other upper extension 10 determinate three sections 10a which are folded according to an "S" configuration, in order to define a side upper housing, as well as the bottom of a central upper housing. Said bottom is materialized by means of the section 10a upper than the end extension 10.

[0030] Therefore, the described configuration allows housing six bottles therein, which besides of being perfectly isolated, are also protected from possible hits, thus achieving a perfect storing of the product stored in the bottle, which as already discussed above, is mainly wine.

[0031] Once arranged the bottles inside the container 1, hermetic sealing thereof is performed for example, by means of an adhesive strip tearable via a yarn or ribbon, which performs the container aperture.

[0032] The container closure is made acting on its lid 5 and performing the subsequent hermetic sealing thereof.

[0033] The container 1 envisages the incorporation of adhesive bands 6 that allows performing the closure of the container 1 after having performed the breakage of the hermetic sealing, such that the reutilization of the container in successive occasions is allowed, which despite not providing a hermetic sealing, maintains a good isolation of the bottles contained therein.

[0034] Additionally, on the exterior of the walls a handle 12 constituted by a strip 13 that runs along the lower walls, side walls, and upper wall to which is joined, has been provided, excepting the central area of the upper wall, in order to allow its grasping

[0035] In order to facilitate stocking and supporting the boxes, little extensions 14 incorporated on its lower wall and rear wall that allows supporting and isolating the box

during its stocking or location on any surface are provided, such that it can be supported on any of the two surfaces wherein the extensions 14 are included. Evidently, extensions 14 can only be included on one of the walls of the container.

[0036] For the case wherein the container of the invention is conceived for storing food, it is envisaged to include means that allows performing the injection of elements for modifying the atmosphere inside the container, such that a better storing of the product contained therein is achieved. In the interior, a tray suitable for locating each food to be transported, is further included.

[0037] The figure 7 shows another possible embodiment example wherein the container is constituted by an upper cylindrical body 15 opened at its lower part such that its mouth is provided with an outer perimetral staggering 16. The upper cylindrical body 15 presents at its upper part a narrowing such that it defines a bottle shape, whereby its introduction in the upper cylindrical body 15 through its mouth is allowed.

[0038] In this case, the container further comprises a lower cylindrical body 17 which is open at its upper part, and in mouth of which includes an inner perimetral staggering 18 which is coupled to the outer perimetral staggering 16 of the upper body 15, such that it constitutes the closure of the container determining a detachable lid, which is equally disposed by means of a sealing constituted by an adhesive strip provided with a yarn that allows making its breakage.

Claims

1. THERMAL CONTAINER, suitable for drinks and food; **characterized in that** its walls comprise three layers; an intermediate layer (3) made of a material selected from propylene, polyurethane foam and expanded polystyrene; an outer layer (2), and an inner layer (4), both constituted by three panels; an outer cardboard panel, an Intermediate aluminum panel and an inner polyethylene panel.

2. THERMAL CONTAINER, according to claim 1, **characterized in that** it comprises a hermetic sealing.

3. THERMAL CONTAINER, according to claim 2, **characterized in that** the hermetic sealing is tearable.

4. THERMAL CONTAINER, according to claims 2 or 3, **characterized in that** the hermetic sealing comprises at least one adhesive strip.

5. THERMAL CONTAINER, according to claims 2 to 4, **characterized in that** it comprises closing adhesive strips (6) provided for closing the thermal container after breaking the hermetic sealing.

6. THERMAL CONTAINER, according to claim 1, **characterized in that** it is constituted by a prismatic-rectangular body (1), longer-surface side walls of which extend from its longer sides as flap-like extensions (8, 9, and 10) with folding lines (11) in order to form longitudinal housings for bottles.

7. THERMAL CONTAINER, according to claim 6, **characterized in that** the folding lines (11) of the lower flaps (8) define three sections (8a) which are folded according to a "C" configuration in order to form two lower longitudinal side housings separated by a central longitudinal housing; and **in that** the folding lines (11) of one of the upper flaps (9) define two sections (9a) which are folded in "L" in order to form an upper longitudinal side housing; while folding lines (11) of the other upper flap (10) define three sections (10a) which are folded according to an "S" configuration in order to form an upper longitudinal housing and another upper central longitudinal housing.

8. THERMAL CONTAINER, according to claim 6, **characterized in that** it comprises a handle (12) constituted by a strip (13) which is joined to the lower wall, side walls, and upper wall, the central area of which is at least separated in order to allow its grasping.

9. THERMAL CONTAINER, according to claim 1, **characterized in that** it comprises little supporting and isolating extensions (14) on at least one of the walls of the container.

10. THERMAL CONTAINER, according to claims 1 and 2, **characterized in that** it comprises an upper cylindrical body (15) which is opened at its lower part, mouth of which includes an outer perimetral staggering (16), and which upper part presents a narrowing defining the shape of a bottle for its housing; and **in that** it further comprises a lower cylindrical body (17) opened at its upper part, mouth of which includes an inner perimetral staggering (18) which is coupled to the outer perimetral staggering (16) of the upper body (15), in order to form a detachable lid.

11. THERMAL CONTAINER, according to claim 3, **characterized in that** it comprises means for allowing the injection of elements for modifying its inside atmosphere.

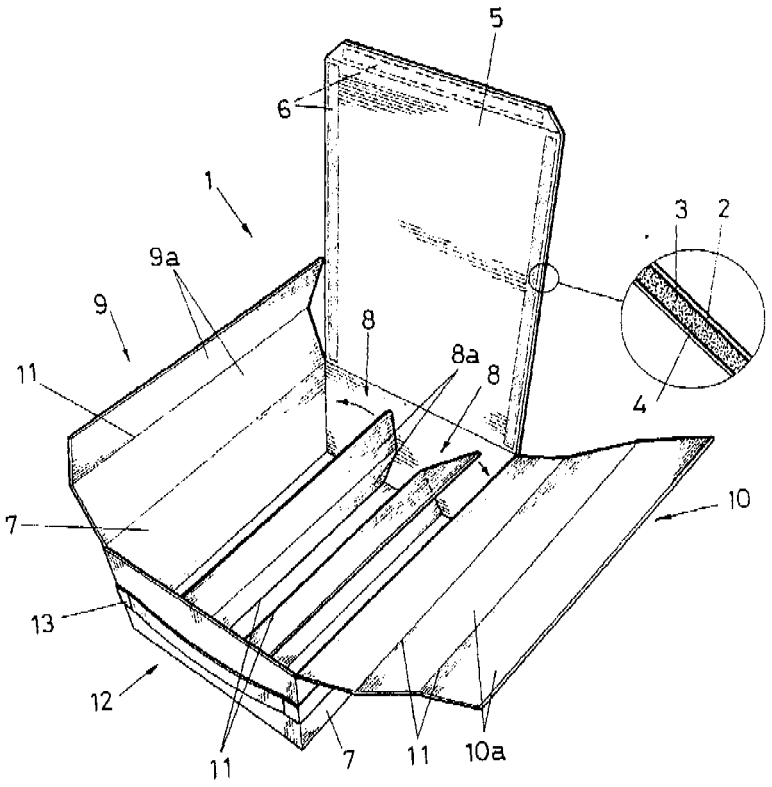

FIG.1

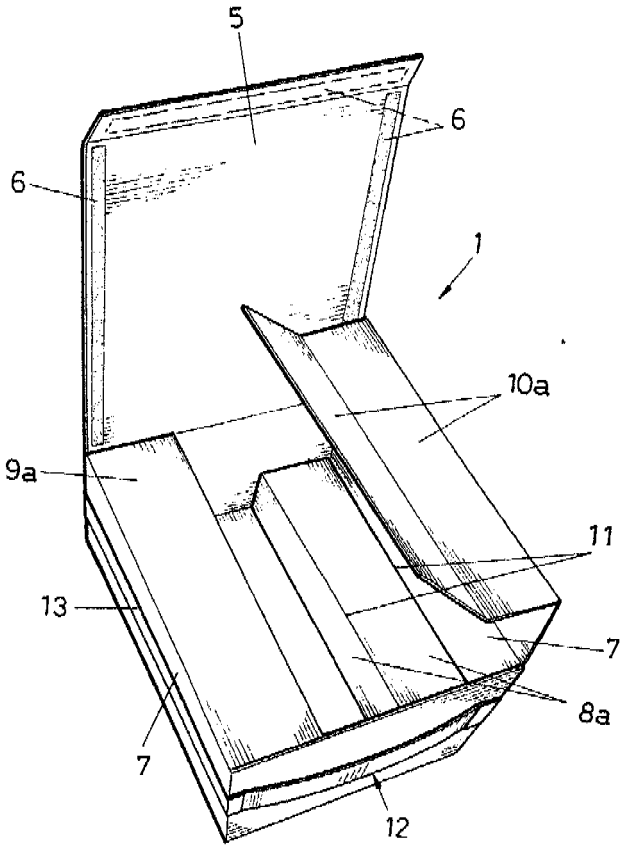

FIG.2

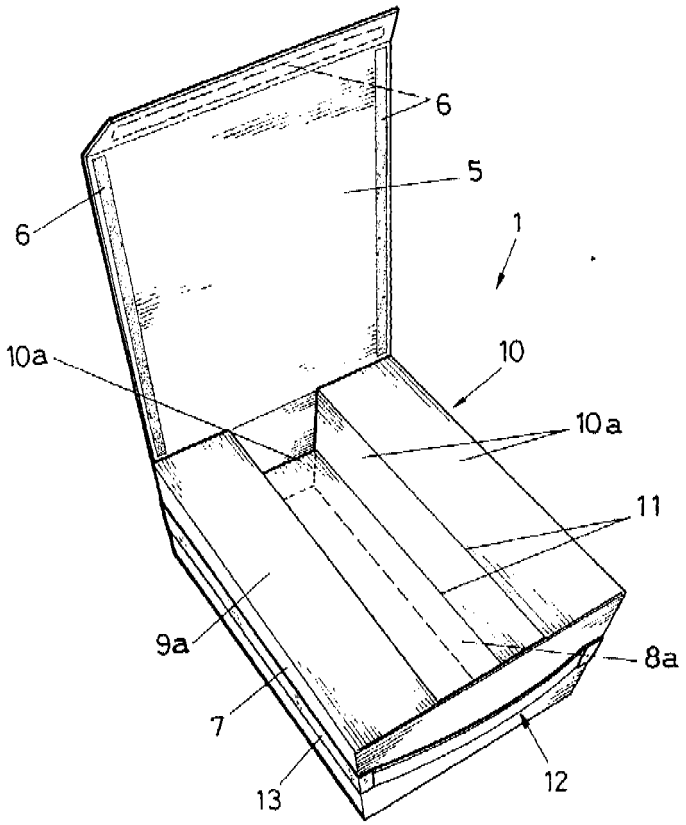

FIG.3

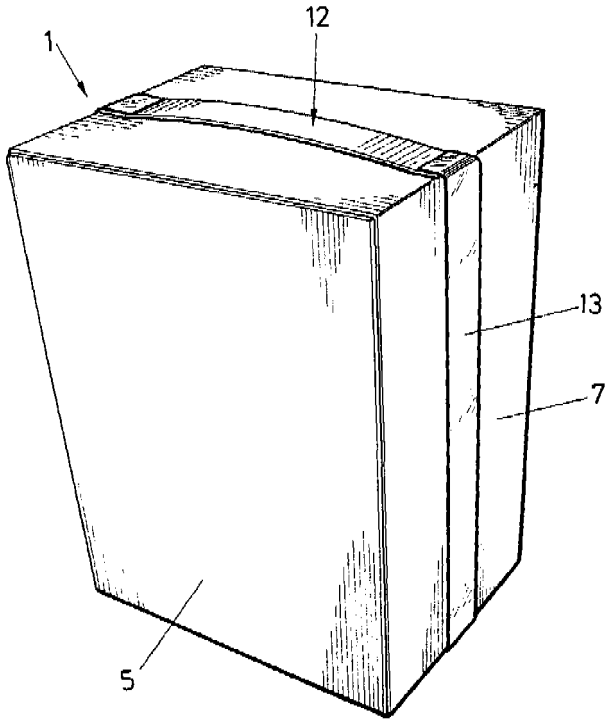

FIG.4

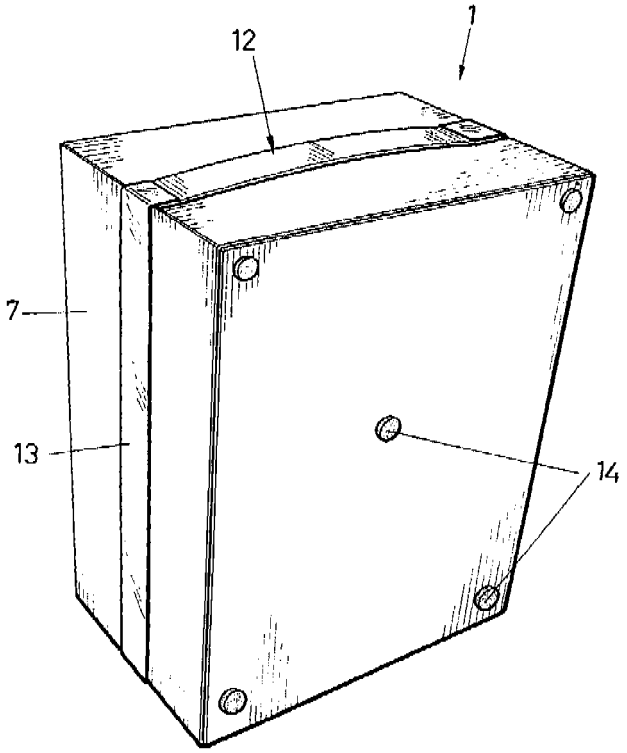

FIG.5

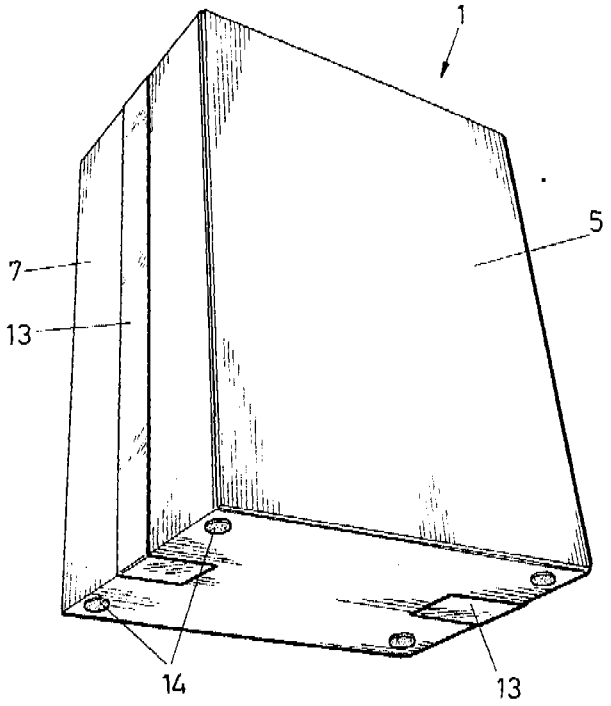

FIG.6

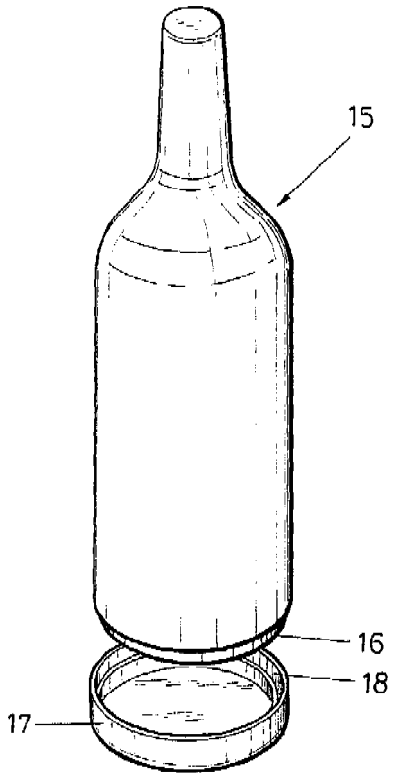

FIG.7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ ES 2008/000051

A. CLASSIFICATION OF SUBJECT MATTER

see extra sheet
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)
B65D5/48,B65D81/38

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

Encyclpedia of packaging technology (Aaron L. Brody & Kenneth S.Marsh) Wiley-Interscience Publication. 2 ed. 1997.

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

CIBEPAT,EPODOC,WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	EP 132145 A2 (Network Ltd.) 23.01.1985, page 1, line 1 - page 4, line 2; figure 1.	1,2,11 3-6,8-10
Y	Encyclopedia of Packaging Technology (Aaron L. Brody & Kenneth S. Marsh). Second edition ISBN 0-471-06397-5.1997 A Wiley-Interscience Publication. John Wiley & Sons, Inc. págs. 187-189 ¨ Cartons, Gabletop ¨.	3,4
Y	JP 7026221 A (Torikon Hanbay KK) 27.01.1995, abstract; figure 1.	5

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

* Special categories of cited documents:
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"O" document referring to an oral disclosure use, exhibition, or other means
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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle 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 documents , such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
23.May.2008 (23.05.2008)	**(11/06/2008)**
Name and mailing address of the ISA/ O.E.P.M. Paseo de la Castellana, 75 28071 Madrid, España. Facsimile No. 34 91 3495304	Authorized officer V. Anguiano Mañero Telephone No. +34 91 349 55 38

Form PCT/ISA/210 (second sheet) (April 2007)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 2008/000051

C (continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of documents, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2837532 A (Parfour Inc.) 03.06.1958, column 2, line 11 - column 3, line 36; claims; figure 1.	10
Y		6
A	ES 172029 U (Acevedo) 16.01.1972, images.	7
Y	FR 2610596 A (Hugues Nicollet S.A) 12.08.1988, figure 2.	8
Y	JP 11059688 A (Ricoh KK) 22.06.1989, abstract; figures A,B.	9
Y	US 2837532 A (Parfour Inc.) 03.06.1958, column 2, line 11 - column 3, line 36; claims; figure 1.	10

Form PCT/ISA/210 (continuation of second sheet) (April 2007)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/ ES 2008/000051

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
EP 0132145 A	23.01.1985	EP 19840304844 AU 3043684 A JP 60034361 A US 4573581 A	16.07.1984 24.01.1985 21.02.1985 04.03.1986
JP 7026221 A	27.01.1995	NONE	----------
ES 172029 A	16.04.1946	NONE	----------
FR 2610596 A B	12.08.1988	NONE	----------
JP 11059688 A	02.03.1999	NONE	----------
US 2837532 A	03.06.1958	NONE	----------

Form PCT/ISA/210 (patent family annex) (April 2007)

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CLASSIFICATION OF SUBJECT MATTER

B65D 5/48 (2006.01)
B65D 81/38 (2006.01)

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