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• **Gisolfi Hernandez, Myriam Andrea**
50018 Zaragoza (ES)

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(72) Inventors:
• **Lorente Echevarría, Ignacio**
50018 Zaragoza (ES)
• **Gisolfi Hernandez, Myriam Andrea**
50018 Zaragoza (ES)

(71) Applicants:
• **Lorente Echevarría, Ignacio**
50018 Zaragoza (ES)

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

(54) **DISPOSABLE CONTAINER.**

(57) The invention relates to a disposable container. As containers for drinks, foodstuffs and other products may have very different common configurations, the container according to the invention allows obtaining a container that is sufficiently rigid during its use as a container while being easily deformable when being discarded in order to reduce the volume it occupies as a waste product. To that end, the body (1) of the container includes a

double wall (3-3') determining a narrow surrounding sealed chamber (4), such that said wall includes plastic sheets of reduced thickness which as a result of the chamber defined therebetween, provide the container with a significant deformation resistance. The container may be provided with a valve element or the like to allow deflating/inflating it in order to modify the volume it occupies.

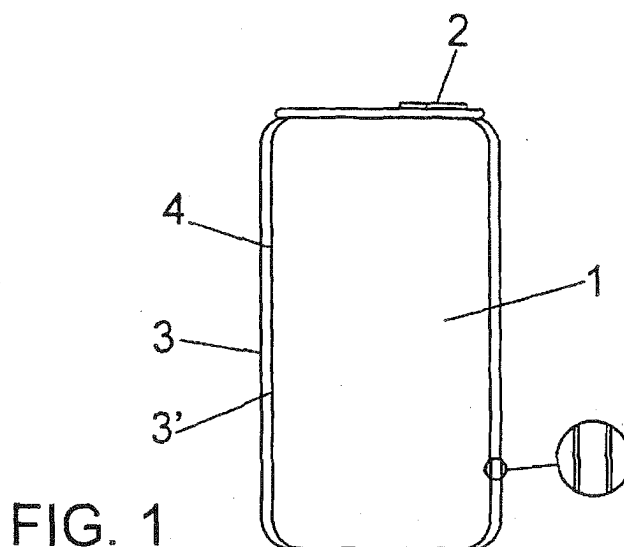


FIG. 1

Description

Object of the Invention

[0001] The present invention relates to a container, specifically to a disposable container of the type of containers obtained based on plastic materials, such as for example PET, for containing drinks, foodstuffs or other products, although it can also be obtained from other materials common for this type of containers.

[0002] The object of the invention is to attain a container which is sufficiently rigid during its use as a container while being easily deformable when being discarded in order to reduce the volume it occupies as a waste product.

Background of the Invention

[0003] There is a wide variety of containers, ranging from a bottle or typical tray configuration to any modern design, obtained based on plastic materials which are used for the marketing and consumption of the likewise varied products.

[0004] The common denominator of this entire range of containers consists of a material consumption problem, i.e., the consumption of plastic or raw material forming such containers since it requires a wall with determined thickness due to reasons of stability of the container, when the latter is held by hand, the thickness of the wall is much greater than that necessary so that the container exclusively accomplishes its containing function without being subjected to manual deformations.

[0005] Thus, if the container has a very thin wall, it is excessively deformable and hardly manipulable, and if in order to solve this problem the thickness of the wall thereof is increased, this entails greater material consumption and greater difficulty in reducing the volume of the container to the maximum when the latter is disposed as waste.

Description of the Invention

[0006] The container proposed by the invention solves the problem set forth above in a completely satisfactory manner, such that during its use as a container it has an extremely sufficient rigidity in its walls for determining a comfortable handling thereof, such rigidity however can be easily eliminated when the container in turn is going to be discarded as the content thereof is completely consumed, and all this with a minimal material inclusion as seen below.

[0007] To the end and more specifically, the proposed container focuses its features on the fact that its wall is a double wall, being formed by two thin plastic sheets, duly connected to one another to define a narrow chamber, such that the air contained in said chamber, which can be pressurized air or be at atmospheric pressure, provides the body of the container with a high degree of

structural rigidity without the need of incorporating a greater amount of material, and it does not pose any problem when disposing of the container because it is sufficient to eliminate the sealing of said chamber by means of a discharge valve or by any other suitable mechanism, or even by means of a simple cut or puncture thereof, so that the container can be profusely crumpled and become an object having reduced dimensions.

[0008] It should be pointed out that the aforementioned chamber of surrounding air, in addition to conferring rigidity to the body of the container as such, acts as a heat barrier which is of especial interest when the container is intended for marketing drinks that must be consumed cold or hot.

[0009] Thus, the larger the container, and given the special structure thereof, the lesser its volume will be when it is discarded in comparison with other containers having identical dimensions and a conventional structure.

[0010] In contrast, it should be pointed out that, especially when the container has large dimensions, it may be supplied in a deflated form in order for it to occupy minimal volume in its transportation and storage, being able to be easily inflated when deemed appropriate though the valve element associated therewith.

Description of the Drawings

[0011] To complement the description that is being made and for the purpose of aiding 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 disposable container made according to the present invention according to a side elevational and sectioned schematic depiction.

Figure 2 shows according to a depiction similar to the previous figure, a container for drinks which in turn is similar to that of said figure.

Figure 3 shows, based on a depiction similar to the previous figures, a container with a completely different functionality, specifically a tray-type container, also made according to the object of the present invention.

Figure 4 shows a side elevational view of the container of Figure 1 when it is disposed of.

Figure 5 shows a practical embodiment of the invention in which the container adopts a rectangular prismatic configuration.

Figure 6 shows an embodiment of the invention in which the container adopts a glass-shaped configuration.

Finally, Figure 7 shows an embodiment in which the container adopts a bottle-shaped configuration.

Preferred Embodiment of the Invention

[0012] The practical embodiment depicted in Figure 1 is a container corresponding to the typical drink "can" based on a substantially cylindrical body (1) with slight frustoconical prolongations at its bases, the opening mechanism (2) being located at one of these bases, obviously at the upper base.

[0013] Although this typical type container is to be made from a plastic material according to the invention, it has the peculiarity of a double wall (3-3') such that a sealed chamber (4) is established therein which, as previously mentioned, can even be pressurized.

[0014] This allows the outer partition (3) and inner partition (3') to have a very thin wall, i.e., with minimal inclusion of plastic material in the container, said container offers a high degree of structural rigidity during its use for the consumption of the drink, which allows ensuring a good stability in all senses.

[0015] However, when disposing of the container due to its single-use character, for example for recycling, the opening of the chamber (4) causes the body of the container to become an extremely deformable element, the volume of which can be drastically reduced.

[0016] As previously mentioned, this opening can be carried out by means of a valve system, by means of breaking or cutting the outer wall (3) and/or the inner wall (3') or by any other means without it affecting the essence of the invention.

[0017] As shown in Figure 2, it is feasible to establish small narrow reinforcement partitions (5) compartmentalizing the aforementioned chamber (4) into several chambers (4, 4'.....) independent from one another between the two partitions (3-3') of the body (1) of the container between which the chamber (4) is defined, or in other words within said chamber (4).

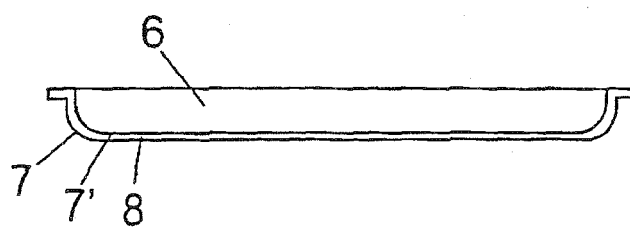
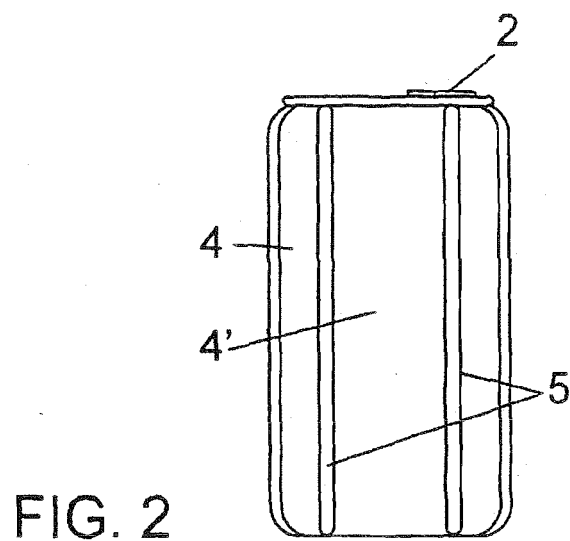
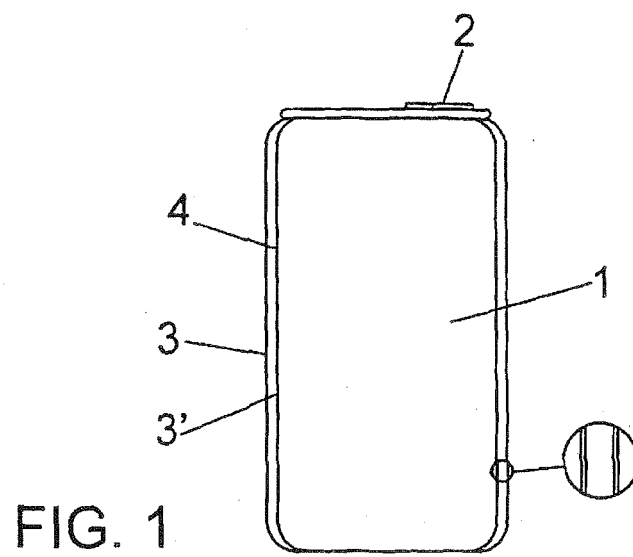
[0018] The same features provided by a "can"-type container such as that described above are extended to any other type of container, such as for example the tray (6) depicted in Figure 3, where the body of the tray is formed by means of two parallel partitions, an outer partition (7) and an inner partition (7'') which define therebetween a pressurized or non-pressurized sealed chamber (8) which confers rigidity to the tray while said chamber (8) is duly closed, said rigidity being lost to facilitate the disposal thereof when said chamber is opened by any means, it also being susceptible to transforming into a waste with minimal volume.

[0019] As can be deduced from the foregoing, the invention is applicable to any other type of container made from plastic materials, such as for example a bottle, a glass, a tetra-brik® type container, etc.

[0020] It is evident that the invention is applicable to any type of container, the previously described examples being a small part of the wide variety of containers in which the invention is applicable.

Claims

1. Disposable container of the type structured from plastic materials fundamentally used in the food industry such that its body (1) includes a double wall (3-3') determining a narrow surrounding sealed chamber (4-4'), such that said wall includes plastic sheets of reduced thickness which, as a result of the chamber defined therebetween, provide the container with significant deformation resistance, **characterized in that** the aforementioned chamber or chambers are provided with opening means which allow quickly emptying/filling of air contained therein in order for the container to completely lose its rigidity and enable it to adopt a minimal volume occupation condition when it is disposed of as waste.
2. Disposable container according to claim 1, **characterized in that** the aforementioned surrounding rigidizing chamber (4-4') can be a single chamber or compartmentalized.
3. Disposable container according to the preceding claims, **characterized in that** the chamber or chambers (4-4') configured in its wall are susceptible to containing air at ambient pressure or of being pressurized depending on the required level of rigidity.



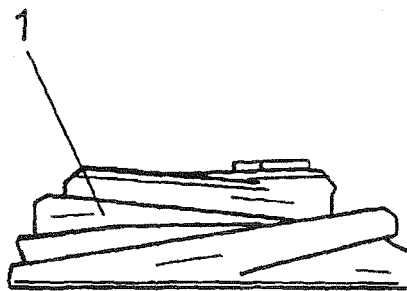


FIG. 4

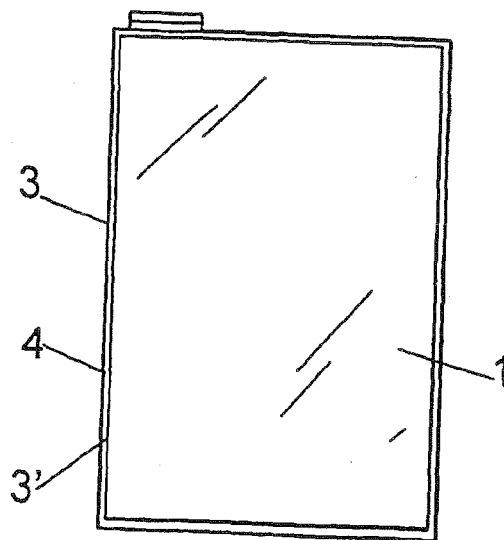


FIG. 5

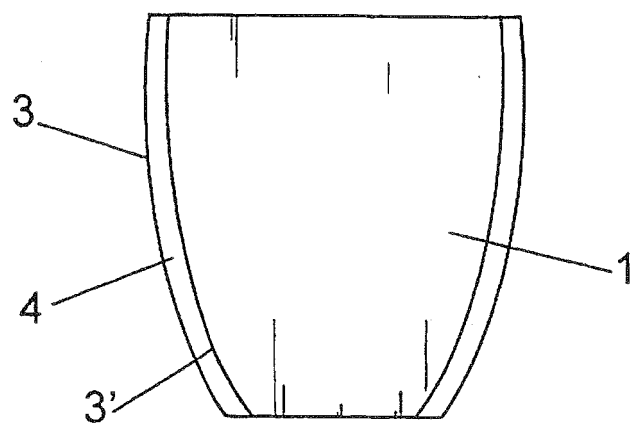


FIG. 6

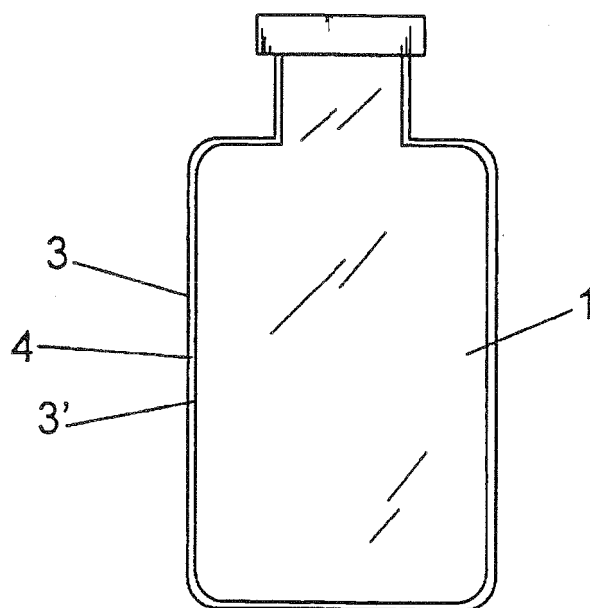


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ ES 2009/070400

A. CLASSIFICATION OF SUBJECT MATTER

B65D 1/16 (2006.01)

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)

B65D1/16

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

B65D1/16B

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

INVENES,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	US 2005274686 A1 (Elansary et al.) 15.12.2005, the whole document.	1-3
X	US 2003015582 A1 (Handthe) 23.01.2003, page 2, paragraph 34; images.	1-3
X	GB 2404911 A (Gasm Ltd.) 16.02.2005, the whole document.	1-3
X	GB 2410237 A (Gasm Ltd.) 27.07.2005, the whole document.	1-3

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

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance.	
"E" earlier document but published on or after the international filing date	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"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
"O" document referring to an oral disclosure use, exhibition, or other means	"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
"P" document published prior to the international filing date but later than the priority date claimed	
	"&" document member of the same patent family

Date of the actual completion of the international search

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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

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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