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(54) STOPPER FOR BRIK-TYPE CONTAINER WITH AIR ADMISSION

(57) The invention relates to a stopper for a box-type container with air admission, consisting of four parts: a stopper (1), a seal (2), a mouth (4) and a movable part (10). When the seal (2) is removed by pulling the tongue (3), the stopper (1) can be inserted into the mouth (4) and move the movable part (10), producing two parts, one (22) for the admission of air and one (23) for the outflow of the liquid, in both cases perforating the plastic-aluminum film (25). By pulling the stopper (1) outwards, the fingers of the user pressing on the fingerprints (6), the mouth (4) opens, releasing the clip (7) of the stopper and pouring the liquid out of the box without splashing or continuous gushing of liquid.

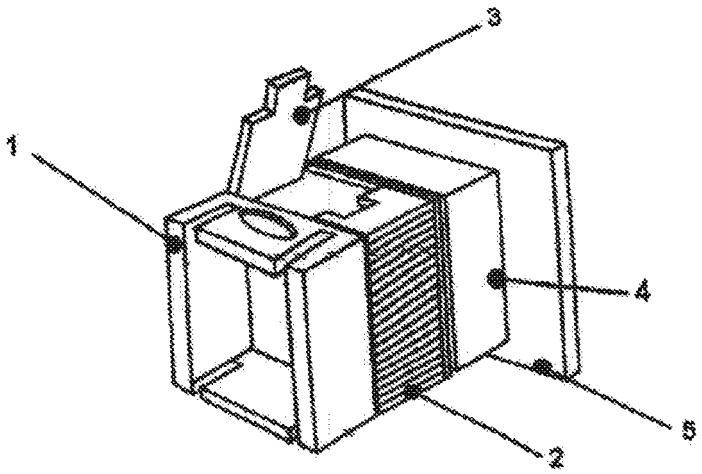

FIG-1

EP 3 228 556 A1

Description

Object of the Invention

[0001] As indicated by the title, the invention object of the present application consists of a stopper for a box-type container with air admission, the purpose of which is to pour out the liquid inside the receptacle without splashing or gushing.

[0002] The field of the art and scope of industrial application is comprised within the sector of stoppers for opening and closing box-type containers, and/or toppers in general for mouths of receptacles through which the liquid inside same is to be poured such that it flows out in an even manner.

Background of the Invention

[0003] According to the analysis of the prior art, there is currently no product having identical or similar features.

[0004] Therefore, the object of the proposed invention provides fundamental advantages for the application thereof that are not covered by other similar or alternative means.

[0005] The stopper for a box-type container with air admission allows the fluid contained in the container to be poured out in an even manner and without splashing and/or gushing.

[0006] Currently, all stoppers for closing box-type containers have a pour spout with a single mouth for the outflow of the liquid from inside same, and therefore while the liquid flows out, air must enter to take up the space left by the liquid as it is poured out.

[0007] Since the admission of air and the outflow of the liquid occur at the same time, an irregular flow of the liquid is generated as it flows out, which causes gushing and splashing the area where the liquid is poured out such that the emptying of the box is not easily controlled.

[0008] Document US4930683A discloses a parallelepipedal flat-gabled package with a medial seam, and an area in the gable prepared such that it can be penetrated or separated along a closed curve and constitute a pouring hole. The package has a plastic pour-out structure with a flange surrounding the pouring hole, rigidly secured to the outer surface of the gable, and into the spout of which can be axially inserted a tube with a circumference that matches the closed curve. It has triangular teeth along the surface that faces the pouring hole, and a cap that can be repeatedly employed to close the spout, the inner surface of the package being coated with a hot-adhering film of plastic. The closure-flap cap is securely attached to the tube, by way of a connecting strip, and is articulated to the tab on the pour-out structure, which is in the form of a spout.

[0009] According to the knowledge of the inventor, who is a skilled person in the art, the object of the invention is novel, and due to the qualities and advantages provided, said invention presents obvious industrial and commercial interest.

Description of the Invention

[0010] The stopper for a box-type container with air admission splits the mouth for the outflow of the liquid contained in the box in two.

[0011] Both halves are identical, and this therefore allows admitting both air and a volume of the liquid that is flowing out.

[0012] The space for the outflow in the stopper for a box-type container with air admission is split into two identical parts, a lower part through which the liquid flows out, and an upper part through which air is admitted. Furthermore, just as the liquid flows out directly through the opening, air is admitted through a bent tunnel-like element produced by a movable part which allows the admission of air but does not allow the outflow of liquid contained in the box.

[0013] For all this to happen, the stopper is provided with elements that allow the screwing on and cutting of the film membrane and aluminum sheet protecting the packaged liquid until it is consumed.

[0014] Furthermore, it has been envisaged that the invention is comfortable and easy to use, and in the same manner it has been envisaged that the elimination and disposal thereof should also be easy and comfortable, without being an environmental hazard.

[0015] To complement the description that will be made below and for the purpose of helping to better understand the features of the invention, five sheets of drawings are attached to this specification based on which the innovations and advantages of the device object of the invention will be more easily understood.

Brief Description of the Drawings

[0016] To understand the scope of the features and advantages of the object of the invention, five sheets of drawings are attached hereto that complete the description of a preferred embodiment that will be provided below, the content of said drawings being merely illustrative and non-limiting.

Figure 1 depicts the stopper assembly, i.e., the stopper, the seal and the mouth for admission with a base for being adhered to the box.

Figure 2 shows the fingerprint detail for opening the stopper.

Figure 3 shows a section view of a functional scheme of the system.

Figures 4 and 5 show the movable part for the admission of air.

Figure 6 shows the arrangement of the stopper at the inlet of the mouth of the receptacle.

Figure 7 shows the admission mouth of the receptacle and guides of the movable part for the admission of air.

Figure 8 shows a view of the elements of the stopper for opening the aluminum and plastic film membrane of the box.
Figure 9 shows device for inserting and fitting the stopper to the pouring mouth.
Figure 10 shows a section and a detail of the position of the film on box once it is cut.
Figure 11 shows a view from the lower part and the upper part for the admission of air and the outflow of liquid.
Figure 12 shows a box with a position of the stopper and cutaway view of the aluminum-plastic-film protecting the content.

FIGURE 1

[0017]

(1) STOPPER
(2) SEAL
(3) TONGUE
(4) MOUTH
(5) BASE

FIGURE 2

[0018]

(6) FINGERPRINT

FIGURE 3

[0019]

(7) CLIP OF THE STOPPER
(8) CUTTING OF THE FILM
(9) INNER SPACE OF THE BOX

FIGURE 4

[0020]

(10) MOVABLE PART
(11) STRIPS
(12) BUTT END
(13) BOX
(14) LIFTING-PART

FIGURE 5

[0021]

(15) CLOSURE

FIGURE 6

[0022]

(16) CUTTING PART
(17) PUSHING PART

FIGURE 7

[0023]

(18) GUIDES

FIGURE 8

[0024]

(19) TOOTHING

FIGURE 9

[0025]

(20) SLOT

FIGURE 10

[0026]

(21) SMALL BENT SHEETS

FIGURE 11

[0027]

(22) UPPER PART FOR THE ADMISSION OF AIR
(23) LOWER PART FOR THE OUTFLOW OF LIQUID
(24) ADHESIVE

FIGURE 12

[0028]

(25) FILM

Description of a Preferred Embodiment

[0029] It can be seen in Figure 1 that the stopper (1) is the part that is manipulated and used to open and close the mouth (4) for the outflow of liquid.
[0030] Before being opened, the stopper (1) is attached to the mouth (4) by means of a seal (2) having a tongue (3).
[0031] By pulling on it, the precuts between the seal (2) and the stopper (1) are broken on both sides with the mouth (4) and the stopper (1) being detached and the mouth (4) being opened.
[0032] The mouth (4) is integral with a base (5) that is glued to the cardboard of the brik-type container.
[0033] Figure 2 shows that in order to take the stopper (1) out of the mouth (4) and put it back in, said stopper

(1) has fingerprints (6) where, for greater comfort, the index finger and thumb of the user are placed in the concave shape of said fingerprints (6) to more readily remove the stopper (1) by making a riser.

[0034] Figure 3 shows that the stopper (1) for closing the mouth (4) is clipped on by gentle pressure into the mouth (4), and as a result of the bending of the plastic material of said stopper, its perimetral rib is clipped in the riser of the mouth (4).

[0035] When the stopper (1) is inserted in the mouth (4), it breaks the plastic film (25), cutting the film (8) inside and thereby provides passage and access to extraction thereof from the inner space of the box (9).

[0036] Figure 4 shows that the movable part (10) is pushed by the stopper (1) into the container when the latter is closed, which generates a tunnel for the admission of air.

[0037] The movable part (10) moves on strips (11) integral with the butt end (12) which is where it is supported and pushed by the stopper (1).

[0038] The box (13) of said movable part (10) has a lifting-type part (14) to prevent the cut plastic film from going back and plugging up the opened hole.

[0039] Figure 5 shows that the box (13) has a closure (15) in the rear part of the movable part (10) preventing the liquid from inside the box from filling up said box (13), and it therefore allows only air to be admitted into the box through the upper part of the box (13) while liquid is being poured.

[0040] Figure 6 shows that the inner part of the stopper (1) has two elements integral therewith, i.e., the pushing element (17) which acts by moving the movable part (10) into the container, and the cutting part (16) of the film of the box that makes the upper part (22) through which the liquid inside the container is poured out.

[0041] Figure 7 shows that the guides (18) will lead the movable part (10) into the container along the length of the box of the entry of the mouth (4) and on both sides thereof and in a parallel and longitudinal manner.

[0042] Figure 8 shows that the cutting part (16) is provided on the front profile with toothing (19) for tearing the inner film (25) and giving rise to the upper part (22) for pouring the liquid from the box. The volume of liquid that is emptied out is replaced with the air that is admitted through the lower part (23) of the mouth (4), without liquid being able to flow out through it, despite the tilting of the box in order to pour it out.

[0043] Figure 9 shows that the mouth (4) of the box is provided with a slot (20) along the four sides of the front perimeter thereof. The stopper (1) has a clipping device (7) in the form of a projection or riser, which is configured for being inserted into the slot (20) of the front perimeter of the mouth (4) allowing thus the closing of the mouth (4) once the required pouring service has been performed.

[0044] Figure 10 shows that the small bent sheets (21) resulting from the tearing of the inner plastic film (25) of the container by means of the pushing element (17) and the cutting part (16) do not block the admission of air into the container or the pouring of the liquid, since they are bent into the container and extended, and facing at each other.

[0045] Figure 11 shows the back of the base (5) of the stopper, which is configured for being glued to the cardboard of the box by means of an adhesive (24). This figure 11 shows at the back of the base (5) the lower part (23) for the flowing of the air and the upper part (22) for the pouring of the liquid, both parts (22,23) having the same size, and therefore allowing the same amount of air to be admitted through the lower part (23) than the volume of liquid that is poured out through the mouth (4) of the container.

[0046] Figure 12 shows the film (25) inside the box.

Claims

1. Stopper for a box-type container with air admission, having:

- A mouth (4),
- a stopper (1),
- and a seal (2) attached to the mouth (4) and the stopper (1) by means of a precut, the seal (2) having a tongue (3) for pulling on the same and tearing off said seal (2) by breaking the precut joining the stopper (1) and the seal (2) as well as the precut joining the seal (2) with the mouth (4);
- the mouth (4) having a flaring or base (5) for gluing the cardboard of the box-type container;
- the stopper (1) having fingerprints (6) on both sides thereof for greater extraction comfort;
- the stopper (1) having a clip (7) for closing, for being arranged on the mouth (4) like a perimetral catch which, by bending of the plastic material of the stopper (1), allows opening and closing the mouth (4) by gripping,

characterized in that

- the stopper (1) has in the back a cutting part (16) and a pushing part (17),
- and **in that** the stopper for a box-type container has a movable part (10) closed on the sides by partitions forming a box (13) closed at the front part thereof moving on strips (11) inserted into guides (18) along the interior of the mouth (4), this movable part (10) being insertable in the mouth (4) portion when pushed by the pushing part (17) of the stopper (1) to penetrate into the container and to form a passage for the air during outflow of liquid.

2. The stopper for a box-type container with air admission, according to claim 1, wherein the movable part

(10) has a lifting part (14) and a closure (15) at the front part, and the cutting part (16) and the closure (15) of the movable part (10) are provided with toothing (19) along the entire front edge thereof which, when the stopper (1) is clipped and closed on the mouth (4), the small bent sheets (21) resulting from the perforation of the film (25) by means of the toothing (19) of the movable part (10) and of the cutting part (16) are secured and led into the container led by the lifting-part (14) of the movable part (10).

3. The stopper for a box-type container with air admission, according to claim 1, wherein the movable part (10) generates inside the mouth (4) a lower part (22) for the admission of air and the cutting part (16) generates an upper part (23) for the outflow of liquid through the mouth (4) glued to the box with adhesive (24), the outflow of liquid through the upper part (23) being compensated with admission of air through the lower part (22) at the same time and in the same amount.

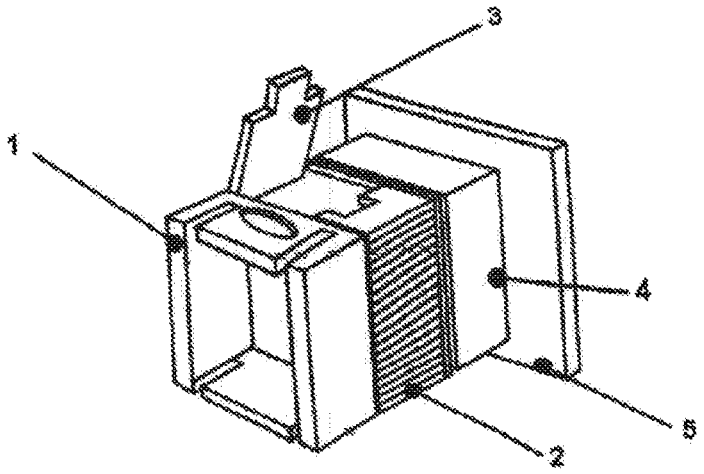

FIG-1

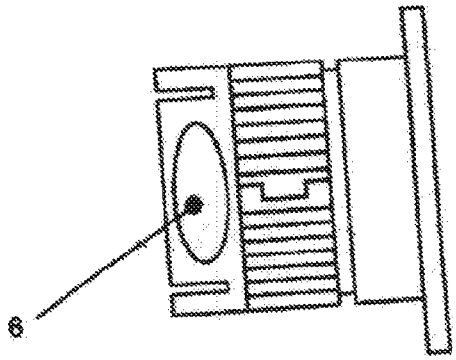

FIG-2

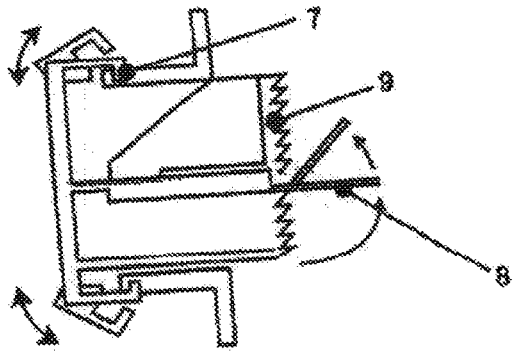

FIG-3

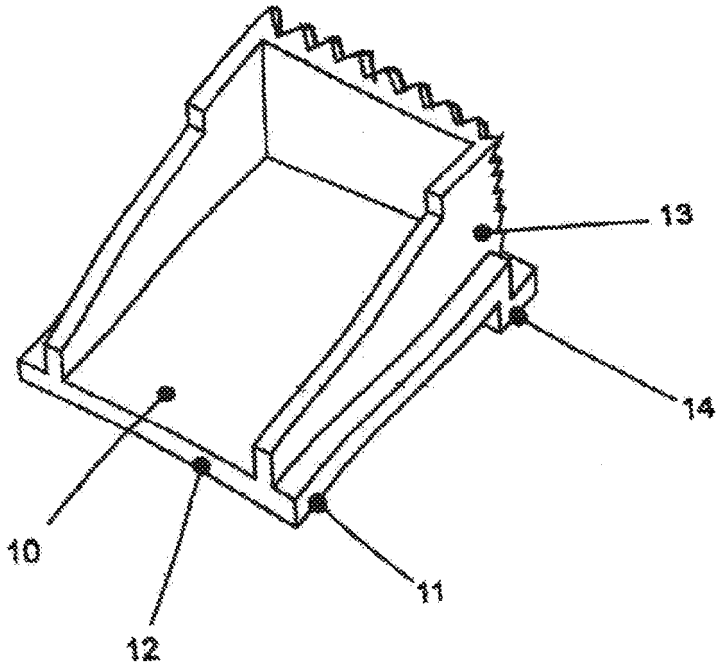

FIG-4

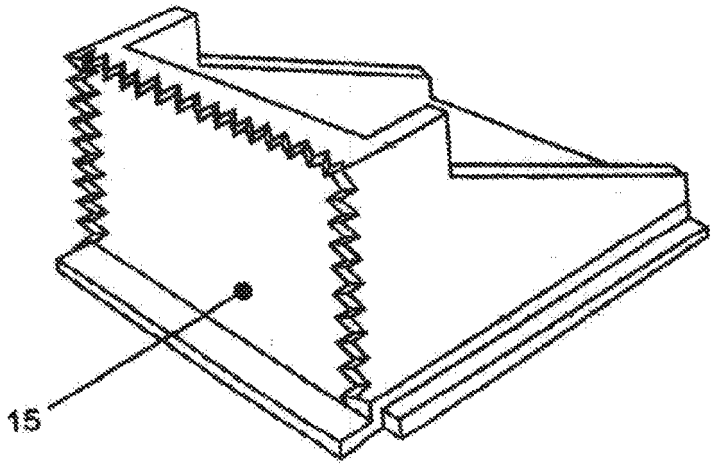

FIG-5

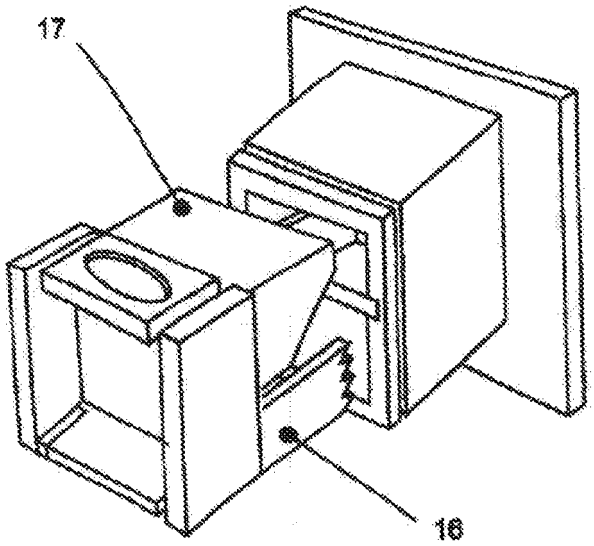

FIG-6

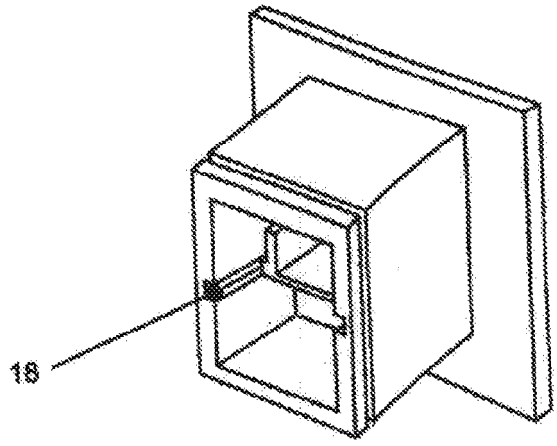

FIG-7

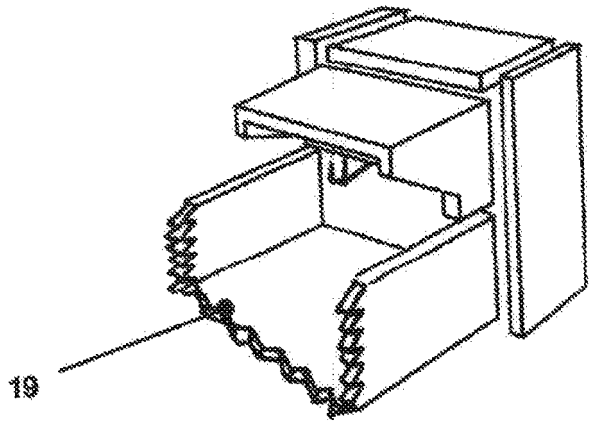

FIG-8

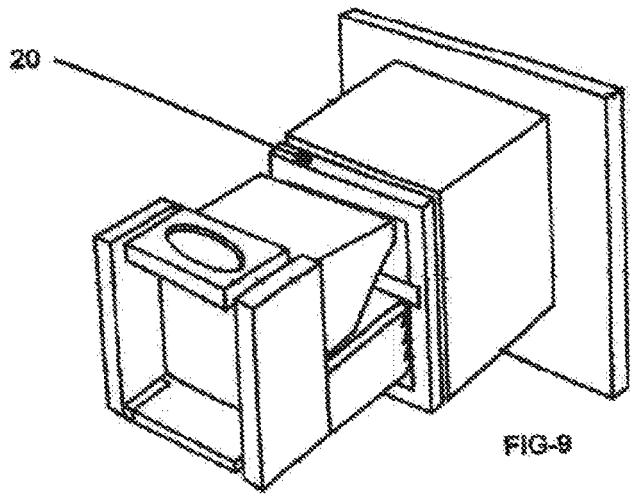

FIG-9

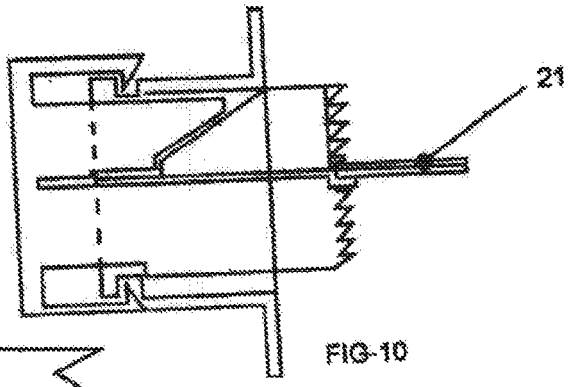

FIG-10

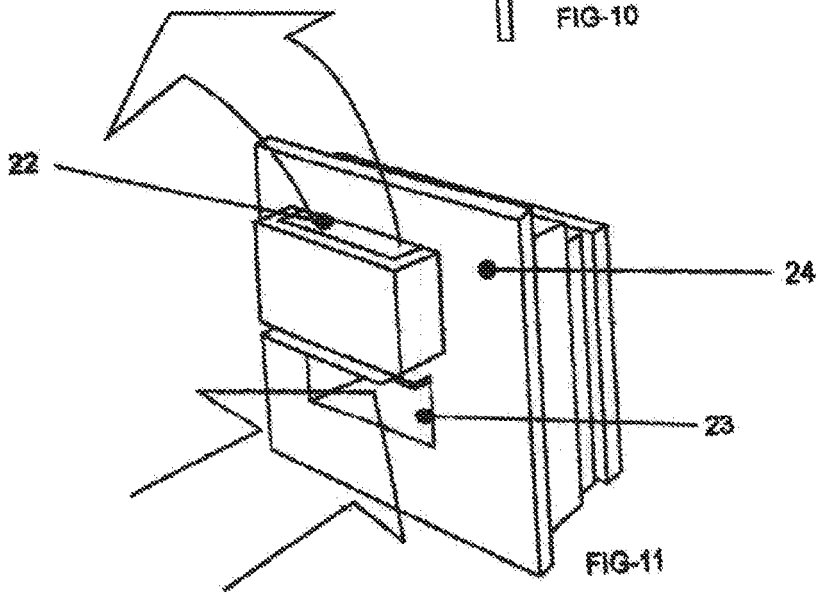

FIG-11

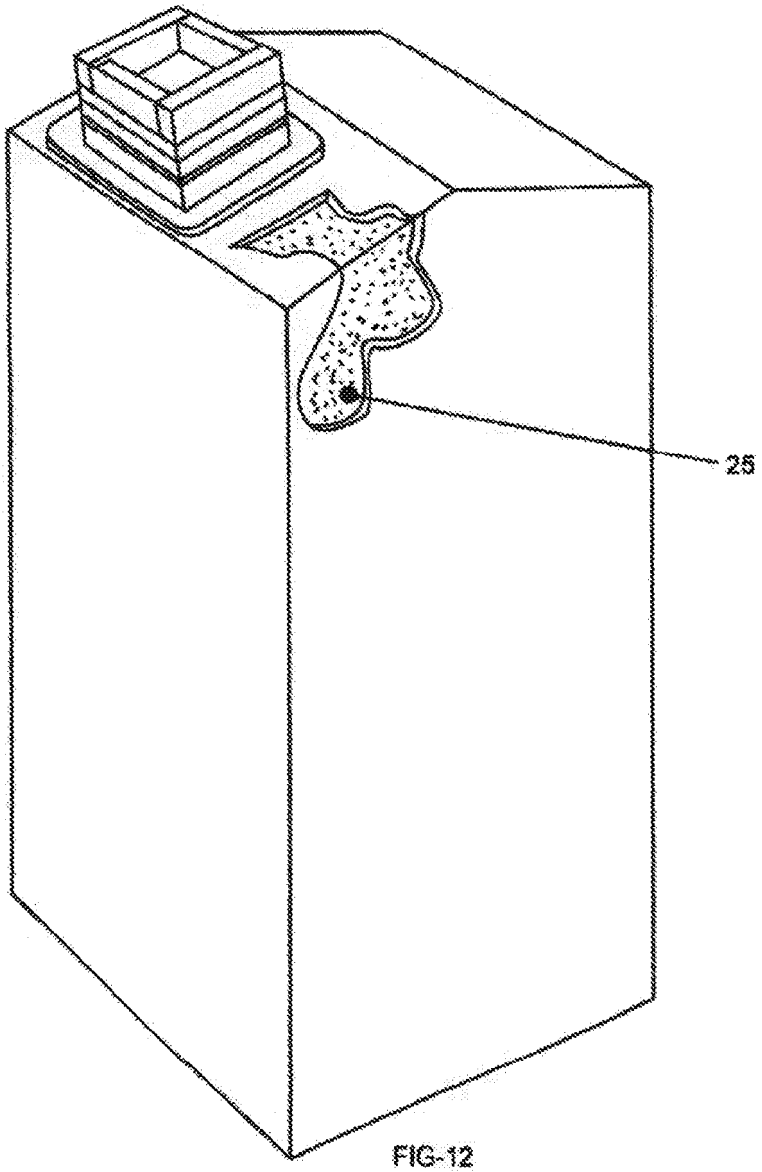

FIG-12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2015/000170

A. CLASSIFICATION OF SUBJECT MATTER

B65D5/74 (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)
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)

EPODOC, INVENES, WPI

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

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Date of the actual completion of the international search	Date of mailing of the international search report
28/01/2016	**(03/02/2016)**
Name and mailing address of the ISA/ OFICINA ESPAÑOLA DE PATENTES Y MARCAS Paseo de la Castellana, 75 - 28071 Madrid (España) Facsimile No.: 91 349 53 04	Authorized officer C. Marín Calvo Telephone No. 91 3495594

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International application No.
PCT/ES2015/000170

C (continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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