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(54) **THREE-LAYER LOCKABLE PLASTIC CONTAINER FOR CARRYING AND STORING A FOOD PRODUCT**

(57) This invention prevents damage to filling articles (d) by use of a third plastic holder (Y) locking the product even when the package is upside down by use of food products carrying filling and filling deposit geometry. With the invention products (c) may keep their original form during all stages from production, shipment and display.

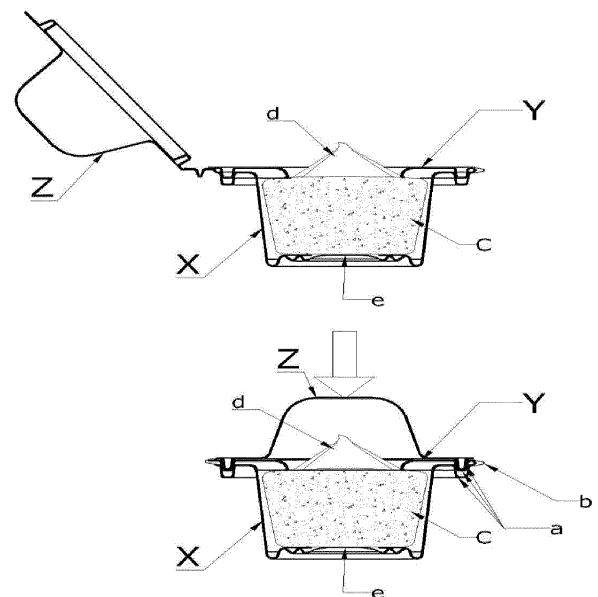


Figure 4

**Description**

products locked from sides

**The Field of the Invention**

**[0001]** The Invention relates to three-layer, lockable storing and carrying container capable to store filling products deposited onto a food product without any damages.

**Background of the Related Art**

**[0002]** In the related art sensitive filling deposit products are transported by use of plastic containers (PVC, PET, PE, PS etc.). Such containers have caps closing the upper surface too.

**[0003]** During shipment of products of marshmallow, air cream, soft filling deposited products, filling articles can touch the layer of package and expose to damage. For that reason, they are to be transported without changing position (keeping production positions) and in a sensitive manner. Plastic containers used in the related art can be made with caps/covers. However, in case of side turning product package or 180 degrees turning, filling material sticks onto container and damage may occur.

**Technical issues aimed to be solved by the invention**

**[0004]** This invention prevents damage to filling articles by use of a third plastic holder locking the product even when the package is upside down by use of food products carrying filling and filling deposit geometry. With the invention products may keep their original form during all stages from production, shipment and display.

**Brief Description of the Invention**

**[0005]** The invention discloses a plastic storing and carrying container with three layers, locking and shaped with thermal treatment and capable to store filling products with marshmallow deposited thereon, air cream etc.

**Description of Figures**

**[0006]**

**Figure 1:** Three layered and locking food product storing container and compartments

**Figure 2:** Placement of food product (c) into carrying sub-container (X), closing the locking part (Y) and locking the food product from sides

**Figure 3:** Depositing sensitive filling (d) onto food product (c) locked from sides upon placement into carrying sub container (X)

**Figure 4:** Closing and locking upper cap/cover following sensitive filling material deposit onto food

**Reference Numbers**

**[0007]**

(X) Sub carrying container

(Y) secondary intermediate layer used for pressing onto food product from sides and locking it

(Z) Upper cover

(a) Locking details

(b) Spring parts

(c) Food product

(d) Sensitive filling article

(e) design of (X) container in bottom part

**Detailed Description of the Invention**

**[0008]** This invention prevents damage to filling articles by use of a third plastic holder locking the product even when the package is upside down by use of food products carrying filling and filling deposit geometry (Figure 1). With the invention products may keep their original form during all stages from production, shipment and display.

**[0009]** The invention subject is produced (figure 1) in three layers and to perform three separate functions by shaping plastic material (PVC, PET, PS, PE etc.) in film with thickness ranging from 50 to 500 micrometers via thermoform (thermal heating forming) convenient for food product geometry. Here part (X) refers to sub carrying container shaped as per product geometry, (Y) part refers to secondary intermediate layer used for pressing food product from sides to lock, (Z) part shows upper cover closed finally and locking it. Figure 1 shows (a) schematic view of locking details formed by giving reverse angle during shaping plastic material. Parts shown in (b) show spring parts shaped during forming onto plastic material and allowing closing onto one another and without separation of parts. A design (e) is applied in bottom part of the container (X) in order to help locking of (Y) part in a controlled manner after placing product into mold and to provide spring.

**[0010]** The invention comprises stages of firstly placement of food product into sub carrying container designed as per food product geometry and number thereof in the container, then depositing sensitive filling, then closing and locking intermediate layer (Y) onto sub carrying container (X) by pressing from sides of food product and finally closing and locking upper cover (Z) closing entire product hermetically onto (X) and (Y) layers (Figure 1).

Flow diagram of processes are shown in Figure 2, Figure 3 and Figure 4 gradually.

**[0011]** The invention aims to protect sensitive filling deposited onto food product layer such as cake, bread, biscuit, cracker etc. Plastic containers are not to be integrated necessarily and can be produced in three separate layers and then mounted onto one another. Instead of plastic material production method in form of thermoform (thermal forming) in plate form, IML (Injection into form) method can be used for shaping too. Instead of plastic materials, flexible materials such as cartoon can also be used. Instead of interlocking of layers, it is also possible to mount them by use of glue, thermal or ultrasonic pasting methods.

5. A container according to claim 1 and **characterized by** shaping by use of method of injection into form.
6. A container according to claim 1 and **characterized by** integrated or separate production of layers and mounting onto one another thereafter.

## Claims

1. A storing and carrying container made from plastic materials in plate form in three layers, flexible or thermal shaped and made by locking of layers shaped by thermoform or injection into mold or mounting to one another by use of glue, thermal or ultrasonic pasting method for storing and carrying filling products with cake, bread, chocolate and similar food product deposited thereon without any damage and **characterized by** comprising sub carrying container (X), a secondary intermediate layer (Y) used for locking to food product by pressing from sides and upper cover (Z) finally closed and locking.
2. A container according to claim 1 and **characterized by** comprising process stages of firstly placement of product into sub carrying container (X) designed as per food product geometry and number thereof in the container, then depositing sensitive filling (d), then closing and locking intermediate layer (Y) onto sub carrying container (X) by pressing from sides of food product and finally closing and locking upper cover (Z) closing entire product hermetically onto (X) and (Y) layers.
3. A container according to claim 1 and **characterized by** comprising: the detail of a locking (a) formed by giving an opposite angle during shaping and the detail of a springing (b) formed during molding, which allows the layers to be closed on top of each other without separating them and the design located in the bottom section (e) of the lower transport container (X) so as to help locking the intermediate layer (Y) and provide springing (b) after the food product (c) is placed in the mold.
4. A container according to claim 1 and **characterized by** heating and forming plastic material in film with thickness ranging from 50 to 500 micrometers according to geometry of food product.

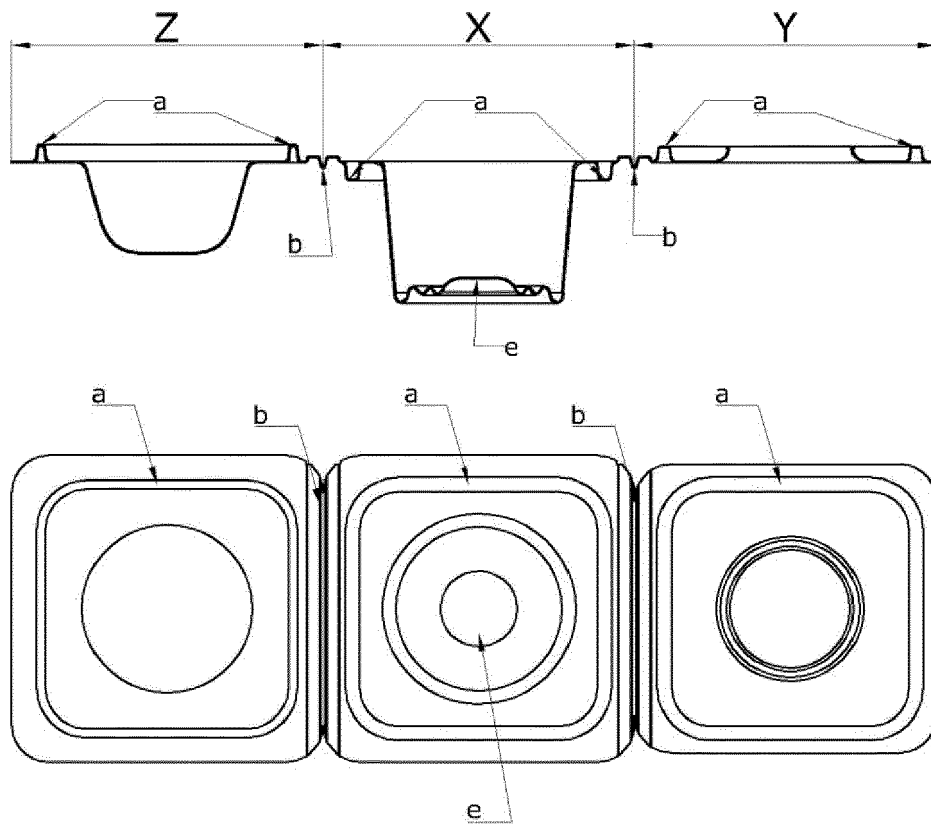


Figure 1

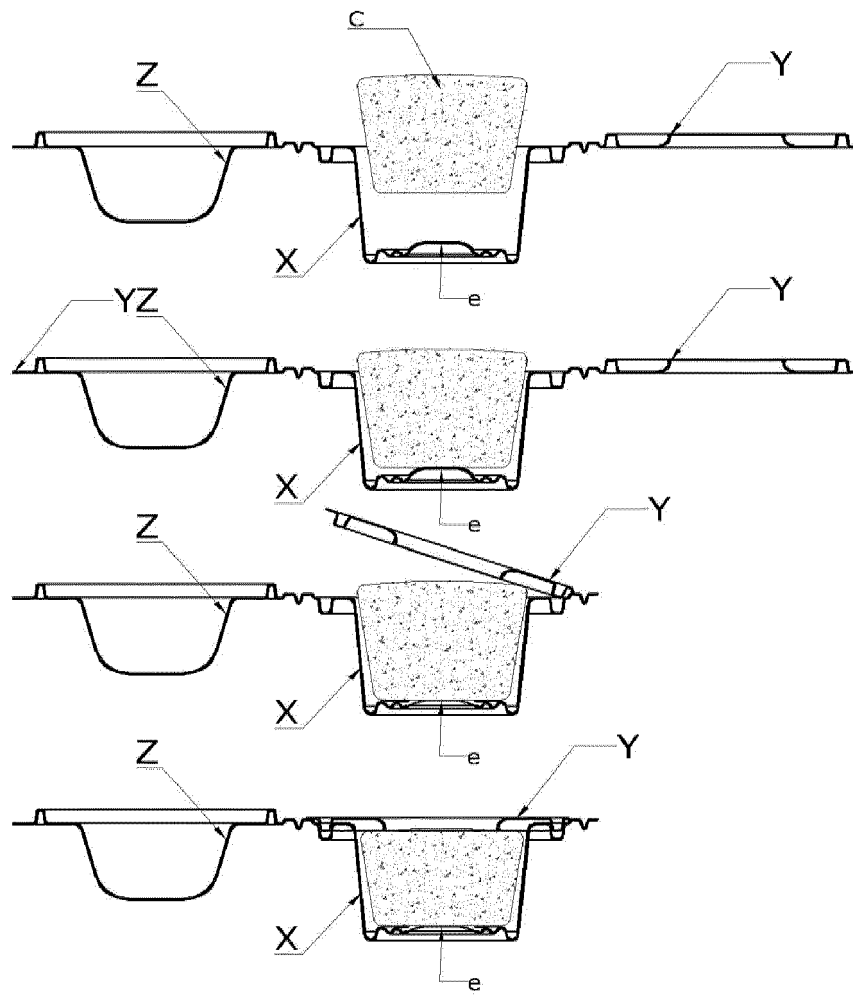


Figure 2

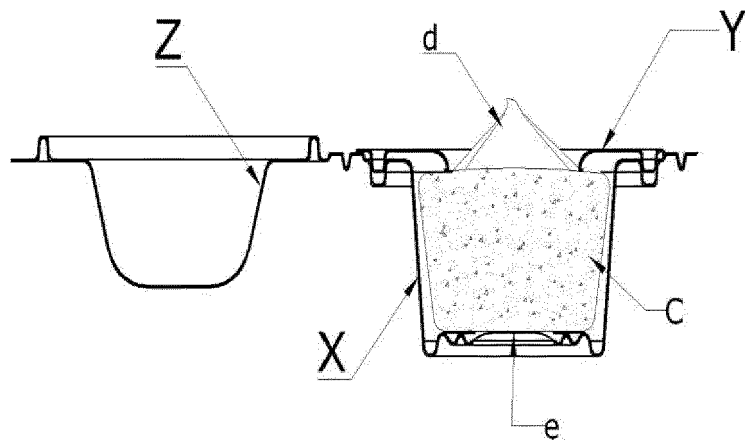


Figure 3

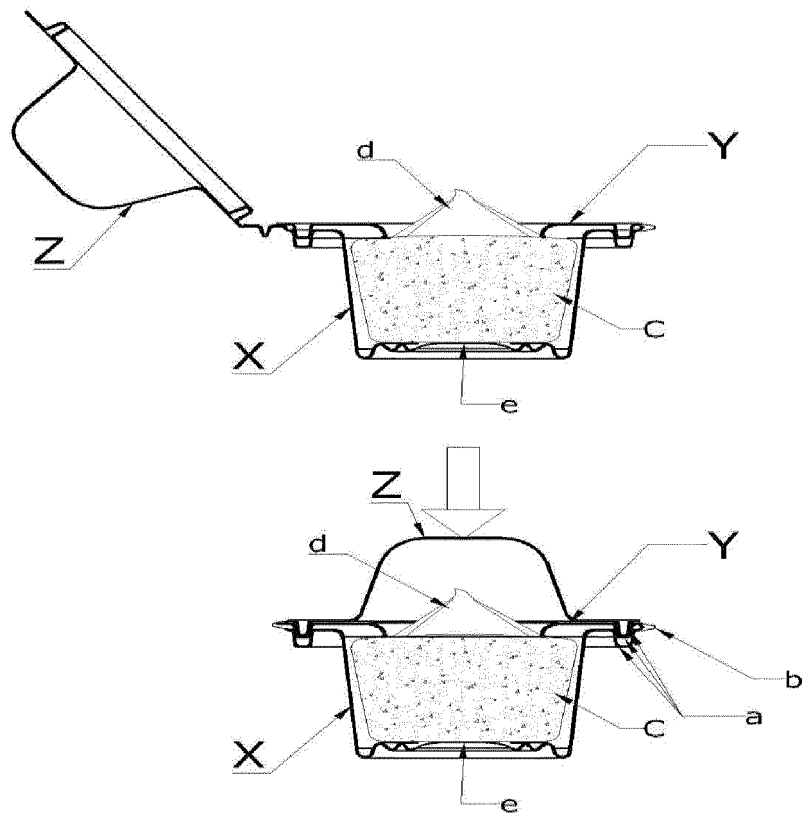


Figure 4



## EUROPEAN SEARCH REPORT

Application Number

EP 22 19 0530

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EPO FORM 1503 03.82 (P04C01)

| 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                                                                                                                                                                                                                                                      | US 2017/240320 A1 (BAKER JAY [US])<br>24 August 2017 (2017-08-24)                                                                  | 1-3, 5, 6                                                                                                                                                                                                                                                                             | INV.<br>B65D43/16                       |
| Y                                                                                                                                                                                                                                                      | * paragraphs [0001] - [0114] *<br>* figures 3A-F *                                                                                 | 4                                                                                                                                                                                                                                                                                     | B65D51/18<br>B65D51/26<br>B65D25/10     |
| Y                                                                                                                                                                                                                                                      | US 2021/130060 A1 (GOAD JOSHUA C [US] ET AL)<br>6 May 2021 (2021-05-06)<br>* paragraph [0046] *<br>* figures 1-11 *                | 4                                                                                                                                                                                                                                                                                     | ADD.<br>B65D85/36                       |
| A                                                                                                                                                                                                                                                      | US 3 483 908 A (DONOVAN DONALD W)<br>16 December 1969 (1969-12-16)<br>* column 1, line 10 - column 4, line 31 *<br>* figures 1-5 * | 1-6                                                                                                                                                                                                                                                                                   |                                         |
|                                                                                                                                                                                                                                                        |                                                                                                                                    |                                                                                                                                                                                                                                                                                       | TECHNICAL FIELDS SEARCHED (IPC)         |
|                                                                                                                                                                                                                                                        |                                                                                                                                    |                                                                                                                                                                                                                                                                                       | B65D                                    |
| The present search report has been drawn up for all claims                                                                                                                                                                                             |                                                                                                                                    |                                                                                                                                                                                                                                                                                       |                                         |
| Place of search<br><b>Munich</b>                                                                                                                                                                                                                       |                                                                                                                                    | Date of completion of the search<br><b>8 March 2023</b>                                                                                                                                                                                                                               | Examiner<br><b>Duc, Emmanuel</b>        |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                    | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |                                         |

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

EP 22 19 0530

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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08-03-2023

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|-------------------------------------------|---------------------|----------------------------|---------------------|
| <b>US 2017240320 A1</b>                   | <b>24-08-2017</b>   | <b>NONE</b>                |                     |
| <b>US 2021130060 A1</b>                   | <b>06-05-2021</b>   | <b>NONE</b>                |                     |
| <b>US 3483908 A</b>                       | <b>16-12-1969</b>   | <b>DE 1900244 A1</b>       | <b>28-08-1969</b>   |
|                                           |                     | <b>FR 1601986 A</b>        | <b>21-09-1970</b>   |
|                                           |                     | <b>GB 1251432 A</b>        | <b>27-10-1971</b>   |
|                                           |                     | <b>NL 6900260 A</b>        | <b>10-07-1969</b>   |
|                                           |                     | <b>US 3483908 A</b>        | <b>16-12-1969</b>   |