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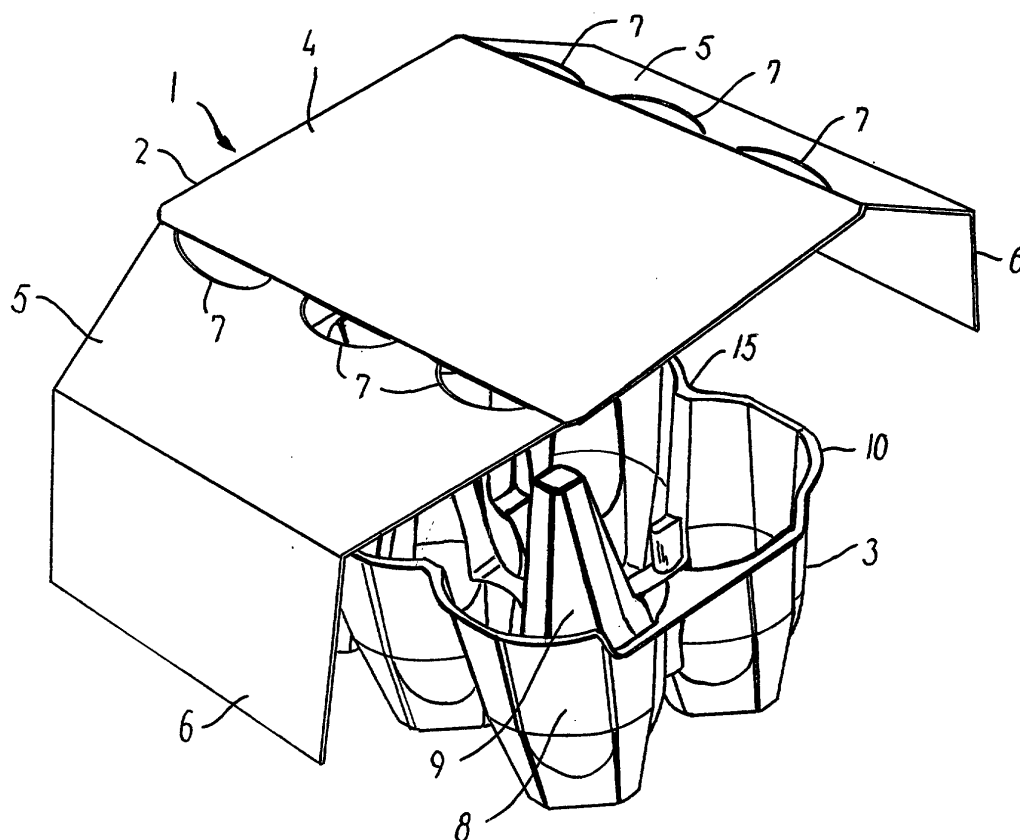
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(54) **Package for goods such as eggs**

(57) Package for storage and display of fragile agricultural or industrial products such as eggs comprising a bottom part (3) and a cover part (2), for instance in the form of a wrapping surrounding said bottom part (3), where the bottom part and cover part are provided with

retaining means in the form of one or more outwardly extending protrusions (10) and similar openings (7). The large external surfaces of the cover part makes it possible in an easy and flexible manner to provide the package with characters and/or images for informative and/or decorative purposes.



**FIG. 1**

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## Description

### TECHNICAL FIELD

[0001] The present invention relates to a package for storage and display of fragile goods as set forth in the preamble of claim 1 and more particularly to such a storage and displaying package for eggs.

### BACKGROUND ART

[0002] Packages of the above kind are known in a variety of forms within the art. Such packages have to be appealing to users and customers and an important aspect of their construction is therefore the possibility to provide graphical information as well as informative and/or decorative images on appropriate portions of the exterior surfaces of the packages. A number of prior art packages of the above kind comprises a bottom part making up about half of the height of the complete package and a cover part making up the other half of the height. Packages are however also known within the art, where the bottom part practically makes up the complete height of the package and which are provided with a cover part essentially comprising a wrapping surrounding the bottom part.

[0003] One example of this kind of package is known from US 1,990,145, which discloses an egg tray comprising a number of upwardly open pockets for containing the eggs, the height of the tray slightly exceeding the height of the eggs and where the egg tray can be slit into a surrounding wrapping, thereby closing said upwardly open pockets. Although this package does provide the possibility to apply both informative and decorative labels on the various surfaces of the wrapping it suffers from the disadvantage that the filled egg tray is not retained in position within the wrapping, and it is hence possible unintentionally to dislocate the tray from its position within the wrapping with the risk of dropping and destroying the content of the tray. It is furthermore easy to open the package, remove the content from the tray and close the package again leaving the impression of an intact package.

### DISCLOSURE OF THE INVENTION

[0004] It is the object of the present invention to provide a package of the kind referred to above, which comprises external surfaces that to a large extent can be provided with informative and/or decorative characters and images and where the package is furthermore provided with means preventing an unintentional opening of a filled package, thereby providing a reliable and tamper free package.

[0005] It is a further object of the invention to provide a package of said kind by means of which it is possible at low costs to obtain a flexible and customer specific design and where a main portion of the package is iden-

tical for all these various designs of the complete package, whereby at least said main portion can be manufactured and kept in stock in large quantities.

[0006] These and other objects are attained by means of a package according to claim 1. Various embodiments are described in the detailed description of the invention and defined in the dependent claims.

[0007] According to the present invention there is thus provided a package comprising a bottom part provided with a number of upwardly open pockets for receiving and accommodating said products and a cover part comprising an upper face, two side faces and a bottom face, where the shape of the cover part is such that it is able to surround said bottom part and thereby cover said upwardly open pockets. The faces of the cover part are according to the various embodiments of the invention described in detail below essentially planar and able to be provided with informative and/or decorative characters and images, but it is understood that non-planar faces may also be applied without departing from the claimed invention. The cover part is the part of the package according to the invention that to a large extent provides the package with its customer specific features both with respect to written characters, images and details of the shape of the cover part and it is possible to make the cover part of a cheap material such as cardboard, although other materials may also be used. The cover part and the bottom part are furthermore provided with retaining means for mutual engagement with each other, when the package is in a closed condition, thereby preventing unintentional and unauthorised opening of the package and removal of the product contained in the package.

[0008] Said retaining means generally comprise at least one, but preferably a plurality of protrusions extending outwardly from the bottom part for engagement with a similar number of openings provided at corresponding places in the cover part. In principle, these protrusions and corresponding openings can be placed anywhere on the surface of the bottom part and the corresponding locations on the cover part, but a number of practically interesting embodiments of the retaining means according to the invention is shown and described in the detailed description of the invention. It is understood that the term "protrusion" in this context should comprise both separate details formed at appropriate places on the bottom part as well as protruding portions of the bottom part. Thus, a protrusion or protruding portion is in the present context a portion of the bottom part, the shape of which enables it to penetrate the plane of the cover part at the corresponding place. Furthermore, it is in principle also possible to provide the bottom part with said openings and the cover part with correspondingly located inwardly extending protrusions.

[0009] The cover part of the package is according to the various embodiments described in detail in the following formed in one piece as a thin sheet, which could

be made of cardboard or the like, although other materials may also be used and provided with bending lines facilitating the formation of a wrapping surrounding at least four of the external surfaces of the bottom part. The formation of the surrounding wrapping can for instance take place once the bottom part has been filled with the product to be packaged, whereby this product becomes contained in the package in a reliable and protective manner.

**[0010]** According to the invention there is thus provided a package of the above mentioned kind which among other things offers the advantages of less weight (less material) than prior art packages, which makes it possible to provide the above mentioned information and decorative effects on a variety of large surfaces of the package according to the different requirements of customers etc., which is reliable in use and tamper resistant and which is furthermore advantageous from a production and package point of view.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0011]** The invention will now be described in more detail with reference to the accompanying drawings, in which

Figure 1 is a perspective view of an egg tray and corresponding wrapping according to one embodiment of the invention;

Figure 2 is a perspective view of an egg package according to one embodiment of the invention in a closed state;

Figure 3 is a perspective view of an egg package according to a second embodiment of the invention;

Figure 4 is a perspective view of an egg package according to a third embodiment of the invention;

Figure 5 is a perspective view of an egg tray provided with retaining means according to the invention;

Figure 6 is an end view of an egg tray provided with the retaining means shown in Figure 5;

Figure 7 is an end view of an egg tray provided with alternative retaining means according to the invention; and

Figure 8 is a further embodiment of the package according to the invention incorporating dual function retaining means.

#### DETAILED DESCRIPTION OF THE INVENTION

**[0012]** In the following, a detailed description of various embodiments of a package according to the invention is given, the package in these exemplary embodiments comprising a bottom part in the form of an egg tray and a corresponding cover part in the form of a wrapping made from a thin sheet of suitable material such as cardboard.

**[0013]** With reference to Figure 1 there is shown a perspective view of an egg package according to one

embodiment of the invention. The package, generally designated by reference numeral 1, comprises an egg tray 3 and a wrapping 2 for covering the open upper end of the egg tray 3. The egg tray 3 shown in the Figure comprises two rows of pockets 8, three pockets in each row, but it is understood that other numbers of rows and pockets per row could also be used without departing from the invention as defined in the claims. Between the pockets 8 there are provided a number of pillar posts 9, the upper faces 14 of which are situated at the same level above the bottom of the pockets 8 as the edge portion 15 of the egg tray 3. According to the embodiment shown in Figure 1 the edge portion 15 is provided with outwardly extending protrusions 10 for retaining the egg tray 3 relative to the wrapping 2 by engagement with corresponding openings 7 cut in the wrapping 2.

**[0014]** In Figure 1 there is furthermore shown the wrapping 2 corresponding to this specific egg tray 3, i. e. comprising 2 rows of openings cut through the wrapping 2 at either longitudinal edge of the upper face 4 of the wrapping. The wrapping furthermore comprises side faces 5 and bottom faces 6, whereby the wrapping can be brought to surround and enclose the egg tray completely on all sides except for the two ends hereof. The closed package 1 corresponding to Figure 1 is shown in Figure 2. The wrapping is being retained relative to the egg tray by the engagement of the protrusions 10 of the egg tray 3 with the corresponding openings 7 of the wrapping 2. The two bottom faces 6 of the wrapping are attached to each other for instance by the application of a suitable adhesive, although attachment could of course also be obtained by alternative means. Due to the engagement between the retaining protrusions 10 and the corresponding openings 7 the wrapping can not be removed from the egg tray without disconnecting the two bottom faces 6 from each other or by destroying the wrapping.

**[0015]** Referring to Figure 3, there is shown a second embodiment of the package according to the invention comprising an egg tray consisting of two separate egg trays detachably connected along the short sides of these and each comprising two rows with three pockets 8, in principle constructed in the same manner as the one shown in Figures 1 and 2. The package shown in Figure 3 furthermore comprises a wrapping 2 comprising two upper faces 4' and 4" and corresponding side and bottom faces 5', 6' and 5", 6" respectively. In the region between the two egg trays, the wrapping is furthermore provided with cut-outs 12 and 13 separating the upper faces 4' and 4" and the corresponding side and bottom faces. As in the embodiment shown in Figures 1 and 2, the wrapping 2 is furthermore provided with retaining openings 7 for engagement with corresponding retaining protrusions 10 when the package is in the closed condition.

**[0016]** A further embodiment of the invention is shown in Figure 4, which embodiment to a large extent resembles the embodiment shown in Figure 3 except for the

lack of the cut-outs 12 and 13 shown in Figure 3. As in the first embodiment shown in Figures 1 and 2, the wrapping 2 shown in Figures 3 and 4 is closed along overlapping edge portions 11 of the bottom faces 6, for instance by means of a suitable adhesive.

**[0017]** Referring to Figures 5 and 6, a single egg tray 3 comprising two rows containing three pockets 8 is described. The egg tray comprises the main elements consisting of the pockets 8 of sufficient height to accommodate the eggs and internally subdivided by a number (in this case two) pillar posts 9, the upper faces 14 of which are situated at a level above the bottom of the egg tray which is substantially equal to the level of the edge portion 15 of the tray. According to this embodiment of the invention the egg tray 3 is furthermore provided with outwardly extending retaining protrusions 10 placed on the edge portion 15 of the tray, one retaining protrusion for each of the pockets 8. The retaining of the wrapping to the egg tray, when the package is in the closed condition, is as mentioned important to ensure that it is possible for example to a customer in a retail shop to see that a filled package has not been tampered with and generally for maintaining the impression of a good and reliable product.

**[0018]** The co-operating retaining means 7, 10 may according to the invention also be provided at other locations on the tray 3 and wrapping 2 compared with the above embodiments. Specifically Figure 7 shows an alternative embodiment of the invention according to which the retaining protrusions are provided by the bottom edge portions themselves of the side faces of the tray, i.e. the protrusions as such are in this embodiment replaced by protruding portions of the tray. This choice of protruding portions as part of the retaining mechanism is at least partly due to the technique applied during the moulding of the bottom part, but the retaining function obtained due to the engagement of the protruding portions with corresponding openings 7 in the cover part is similar to the one described above. The corresponding wrappings are according to the embodiment shown in Figure 7 provided with retaining openings 7 located along the border lines between the side faces 5 and the bottom faces 6 of the wrapping 2. The embodiment shown in Figure 7 may under circumstances be advantageous compared to these described above, for instance if the wrapping is to be provided with a unitary display label 21 wrapped around the side faces 5 and the upper face 4 of the wrapper 2, in which case the label 21 may interfere with the retaining openings 7 and corresponding protrusions 10 according to the preceding embodiments.

**[0019]** Referring to Figure 8 there is shown a further embodiment of the package according to the invention, according to which embodiment the egg tray 3 is provided with downwardly extending retaining protrusions 10" placed adjacent the edge portions of the bottom faces 6 of the egg tray 3. These protrusions engage corresponding retaining openings 7" in the bottom faces 6

and thus serves the same purpose as in the above embodiments. It is, however, furthermore possible according to this embodiment of the invention to provide the upper face 4 of the wrapper 2 with corresponding sets of openings 17 for engagement with the protrusions 10" of another, similar package 1' placed on the upper face 4 of the first package 1 in a stacked arrangement. Thus, the protrusions according to this embodiment of the invention serve the dual purpose of retaining the wrapping to the corresponding egg tray and also to prevent two or more stacked packages from becoming unintentionally displaced from each other during use, for instance in a retail shop.

**[0020]** Generally, the retaining protrusions have been described as positioned at appropriate places on each of the pockets 8 of the bottom part 3. It is, however, understood that it is possible to associate the protrusions with a restricted number of pockets (and possibly also to provide a correspondingly limited number of retaining openings 7) without deviating from the scope of the invention as defined by the claims. Furthermore, the invention has been exemplified with bottom parts comprising 2 x 3 pockets or 2 x (2 x 3) pockets as shown in the various Figures, but of course the invention is equally applicable to bottom parts comprising other arrangements of pockets.

**[0021]** Although various embodiments of the present invention have been shown and described in the preceding parts of the detailed description, it is understood that a person skilled in the art may conceive other embodiments of the invention without departing from the scope of the invention as defined by the following claims.

#### LIST OF PARTS

##### [0022]

1. Package
2. Cover part
3. Bottom part
4. Upper face of cover part
5. Side faces of cover part
6. Bottom face of cover part
7. Retaining opening
8. Pocket
9. Pillar post
10. Retaining protrusion
- 10' Alternatively shaped retaining protrusion
11. Adhesive face
12. Cut-out
13. Cut-out
14. Upper face of pillar post
15. Upper edge portion of bottom part
16. Bottom edge portion of bottom part
17. Cut out
18. Side face of bottom part
19. Bottom face of bottom part

20. Plane surface

21. Display label

cover part (2) for engagement with said downwardly extending protrusions.

## Claims

1. A package (1) for receiving and accommodating one or more agricultural or industrial products to be packed, comprising:

- a bottom part (3) comprising one or more upwardly open pockets (8) for holding said products and side- and bottom faces (18, 19);
- a cover part (2) comprising an upper face (4), side faces (5) and a bottom face (6);

the cover part (2) being of such a shape that it is able to surround said bottom part (3) and thereby to cover said upwardly open pockets (8),

**characterised in that**

said bottom part (3) and said cover part (2) are provided with retaining means (7, 10) for mutual engagement, whereby said cover part (2) is being prevented from removal from said bottom part (3).

2. A package according to claim 1 for storage and display of fragile goods such as eggs, **characterised in that** said retaining means comprise one or more protrusions (10) provided on said bottom part (3) and one or more corresponding and co-operating openings (7) provided in said cover part (2) for mutual engagement with each other.

3. A package according to claim 1 for storage and display of fragile goods such as eggs, **characterised in that** said retaining means comprises one or more protrusions (10) provided in said cover part (2) and one or more corresponding and co-operating openings (7) provided on said bottom part (3) for mutual engagement with each other.

4. A package according to claim 2, **characterised in that** said one or more protrusions (10) are provided laterally extending from an upper edge portion (15) of said bottom part (3).

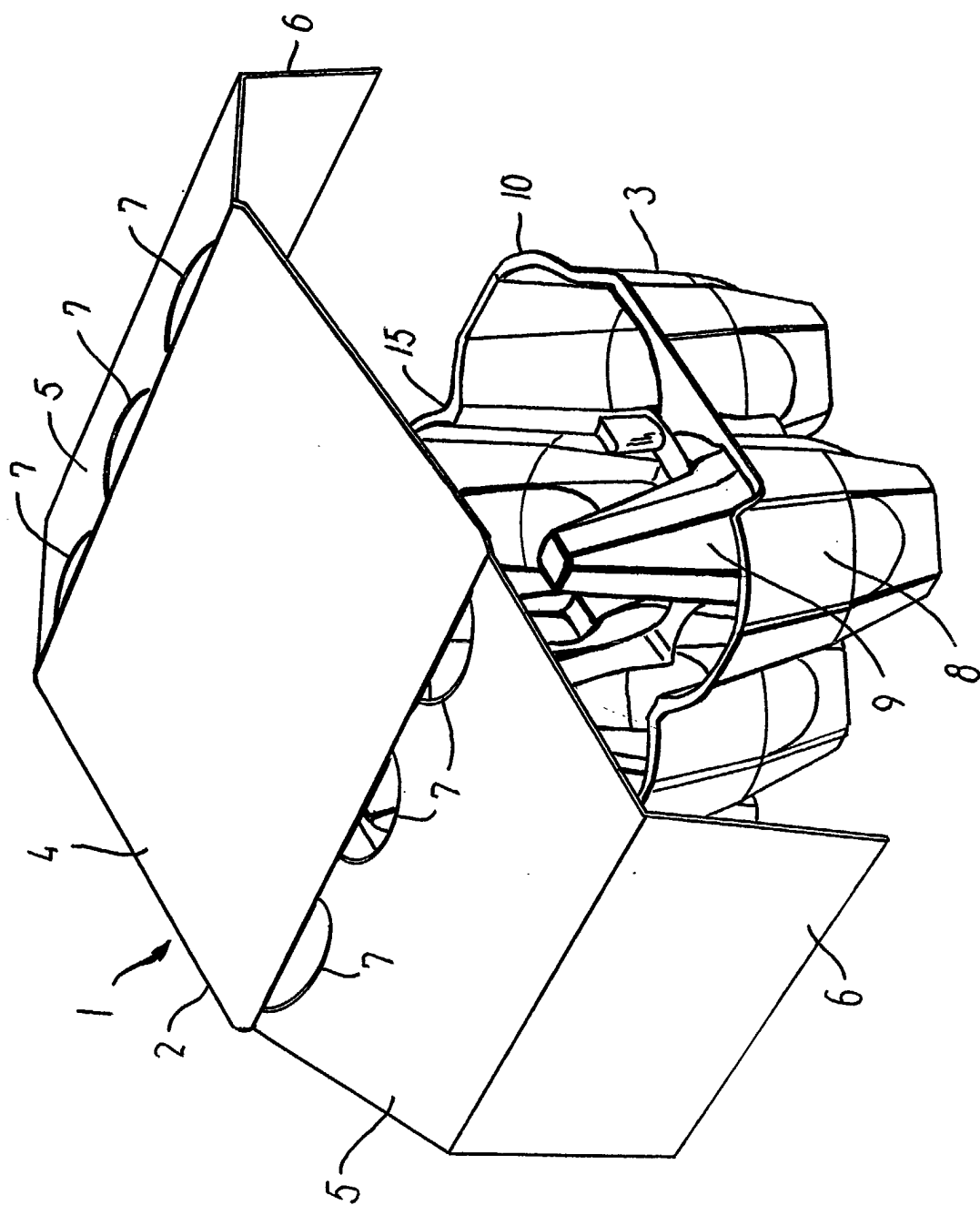
5. A package according to claim 2, **characterised in that** said one or more protrusions (20) are provided at the bottom edge portion (16) of said bottom part (3).

6. A package according to claim 2, **characterised in that** said one or more protrusions (10) are provided downwardly extending from said bottom part (3).

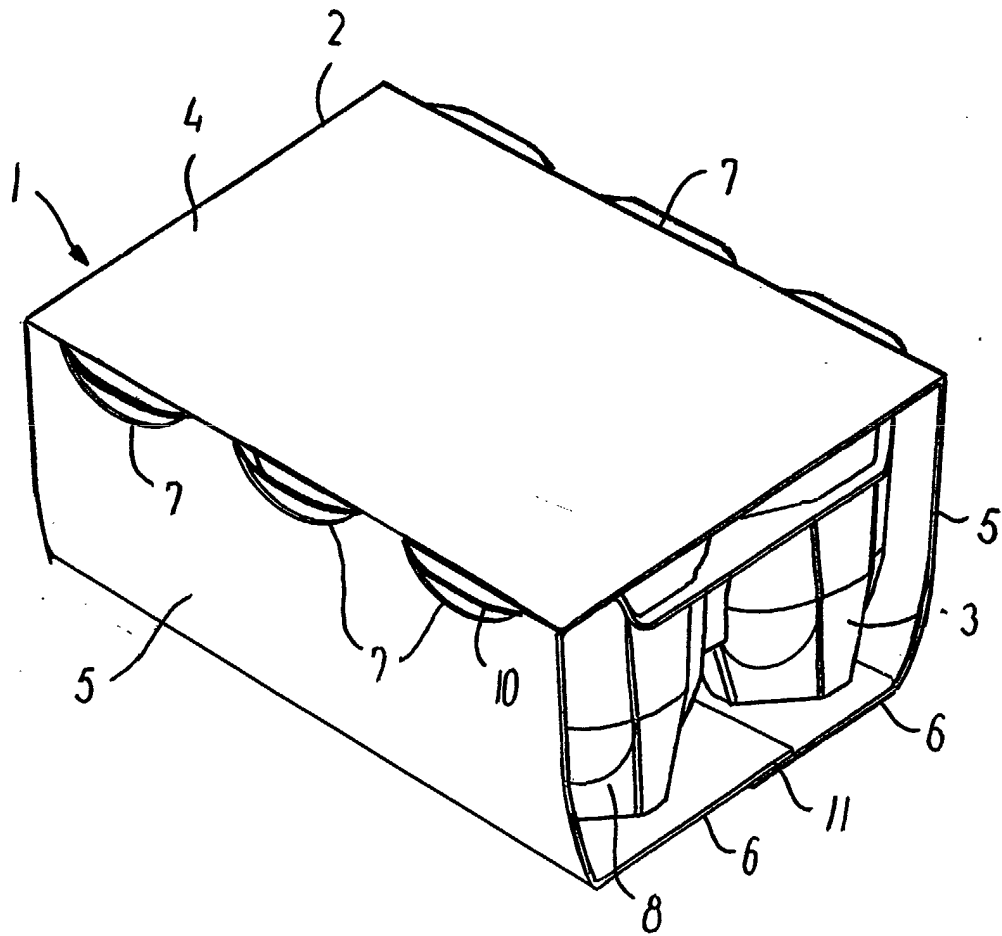
7. A package according to claim 6, **characterised in that** said cover part (2) is furthermore provided with openings (17) provided in said upper face (4) of said

8. A package according to any of the preceding claims, **characterised in that** said cover part (2) is formed as a wrapping provided with attachment means (11) provided along at least one edge portion of said wrapping.

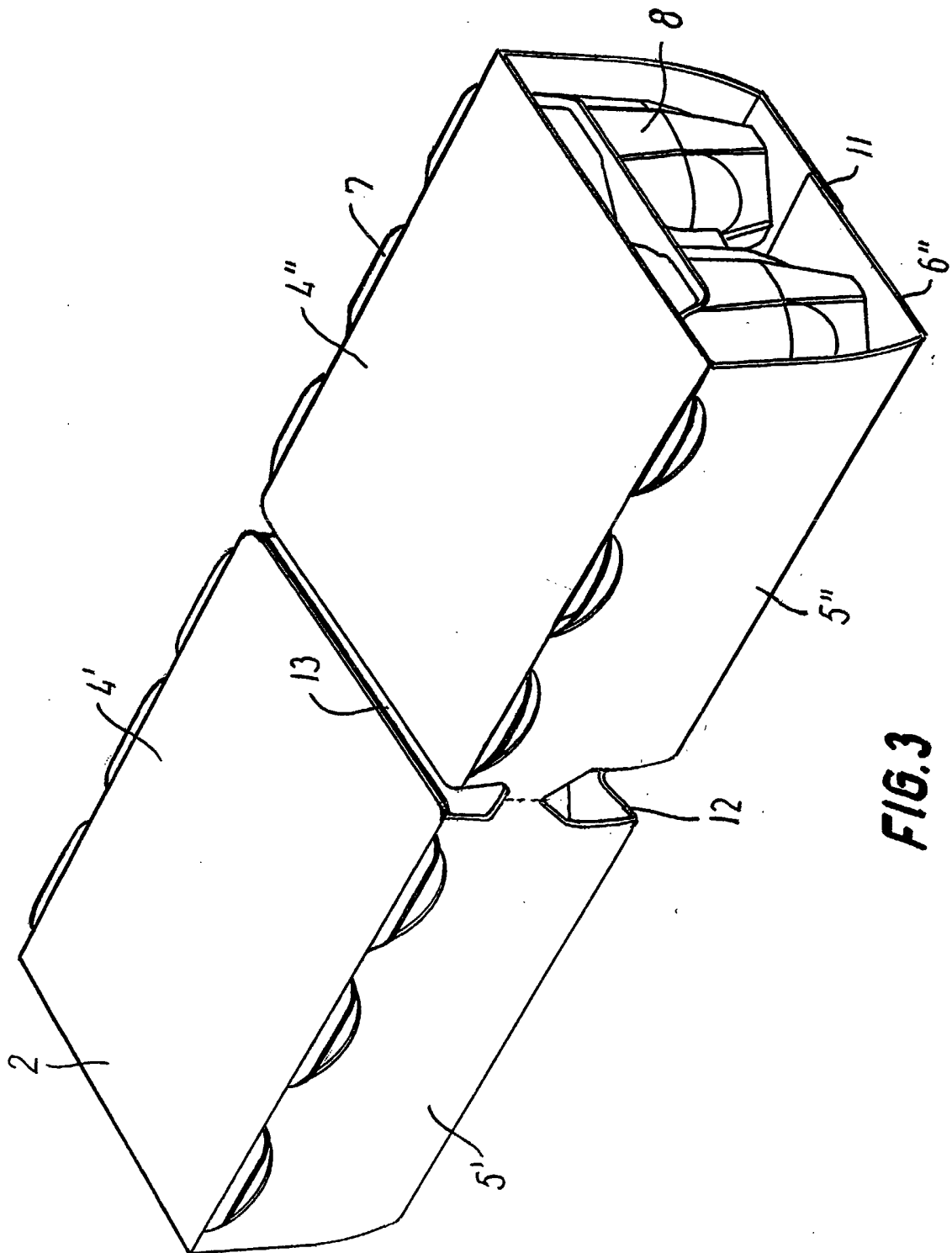
9. A package according to any of the preceding claims, **characterised in that** said upper face (4) and/or one or both of said side faces (5) of said cover part (2) is/are provided with graphical characters and/or images.



**FIG. 1**

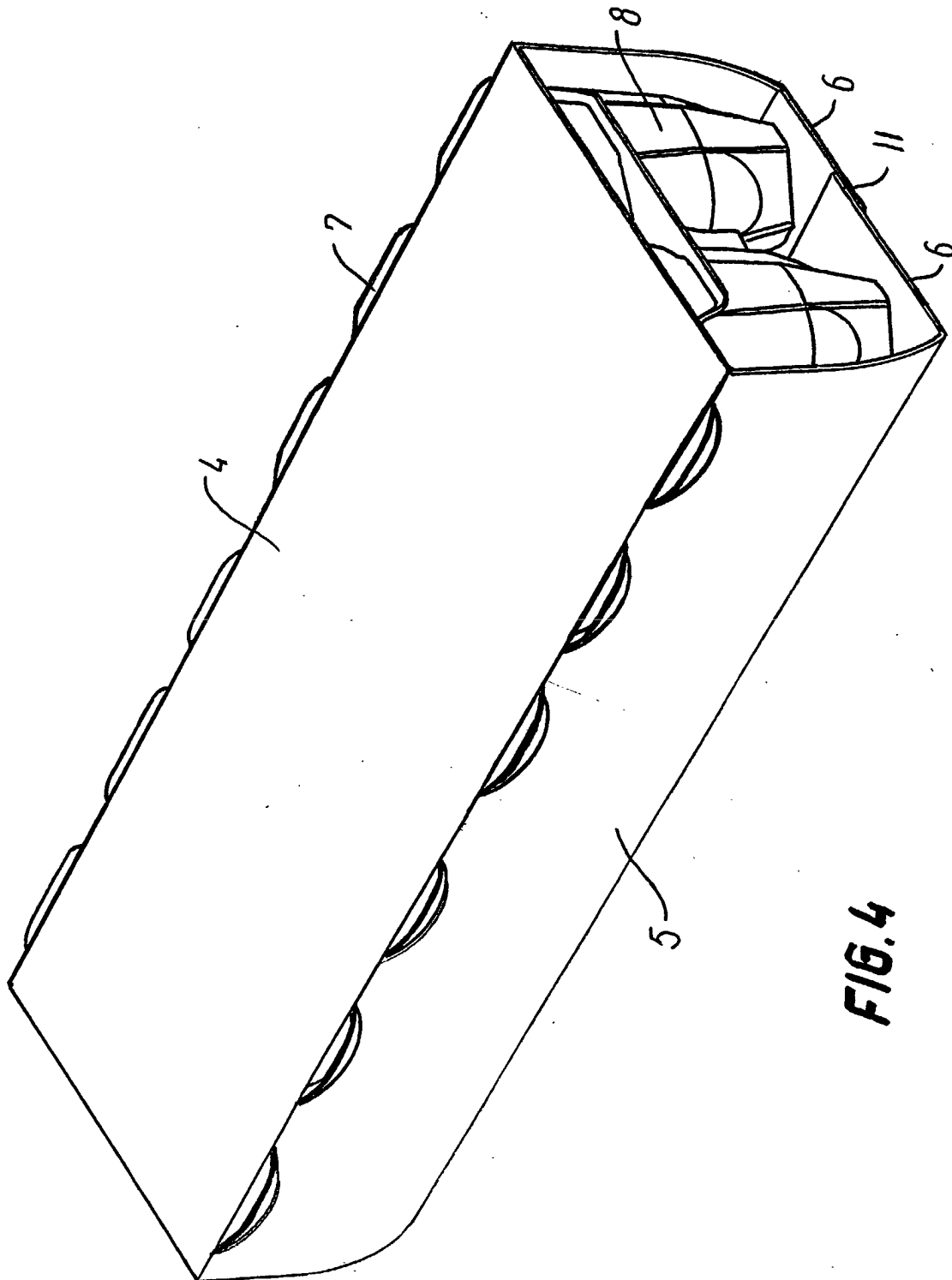


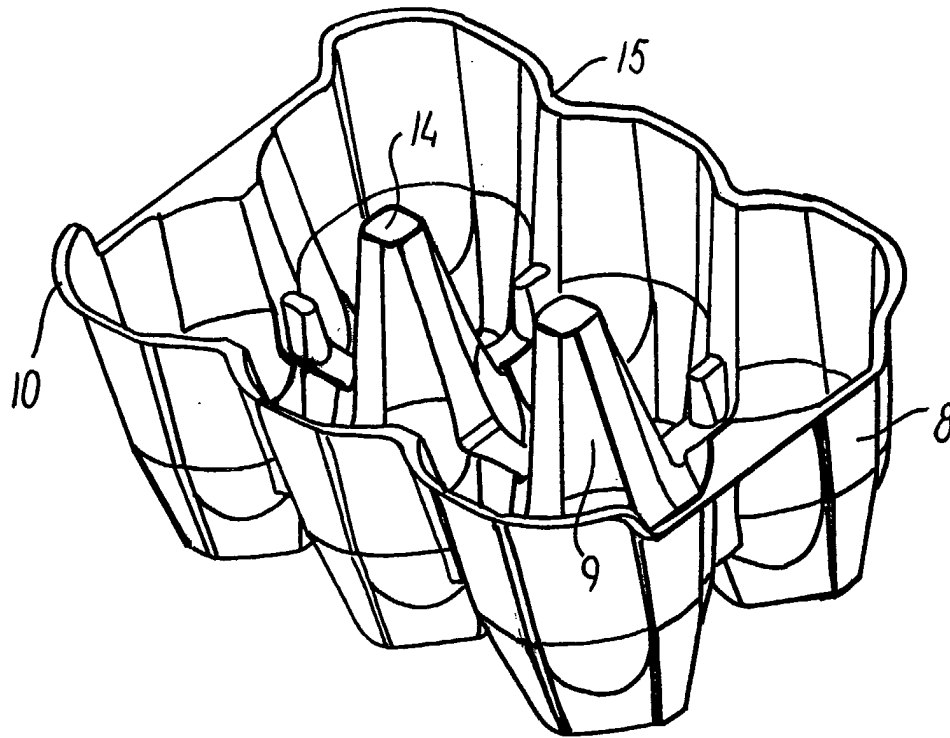
**FIG. 2**



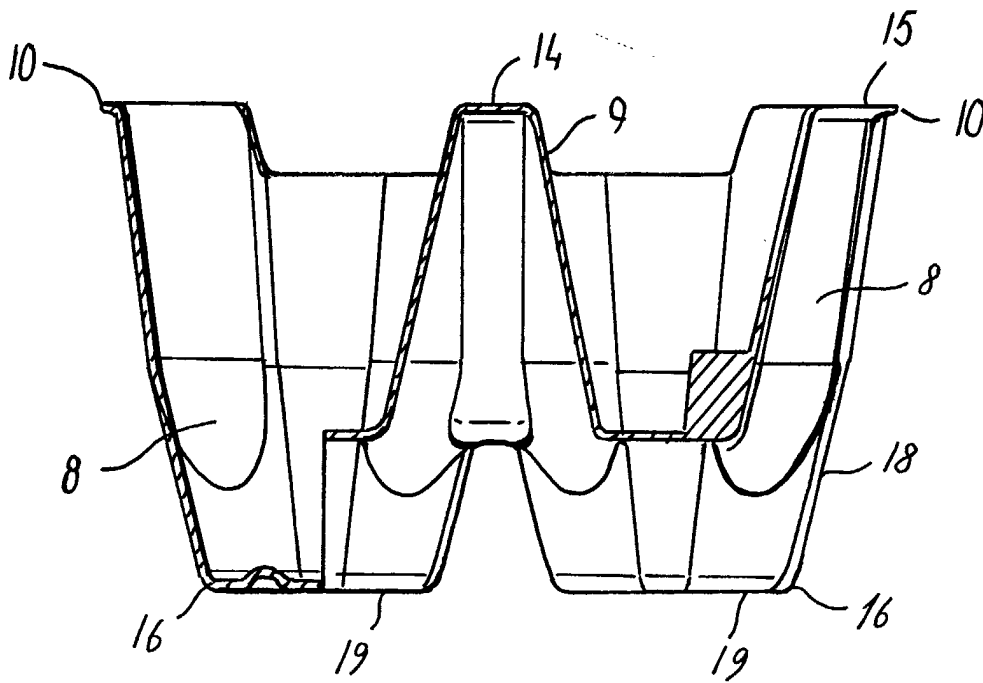
**FIG. 3**



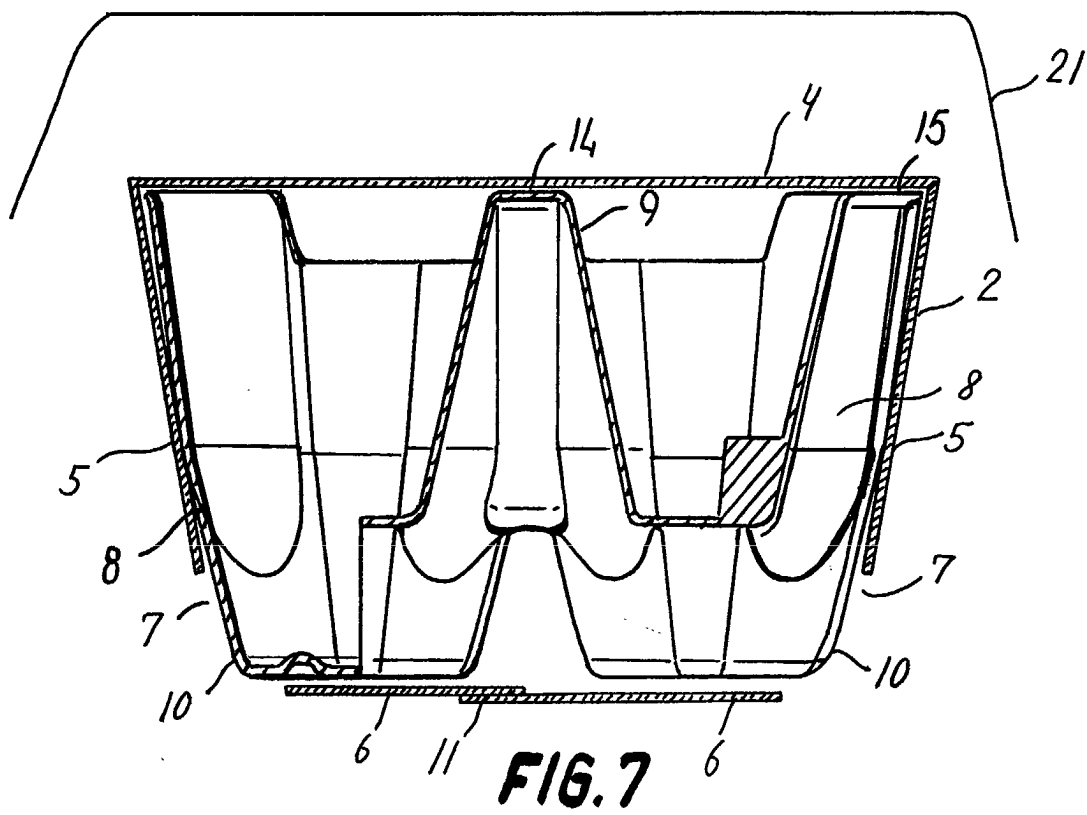




**FIG. 5**



**FIG. 6**



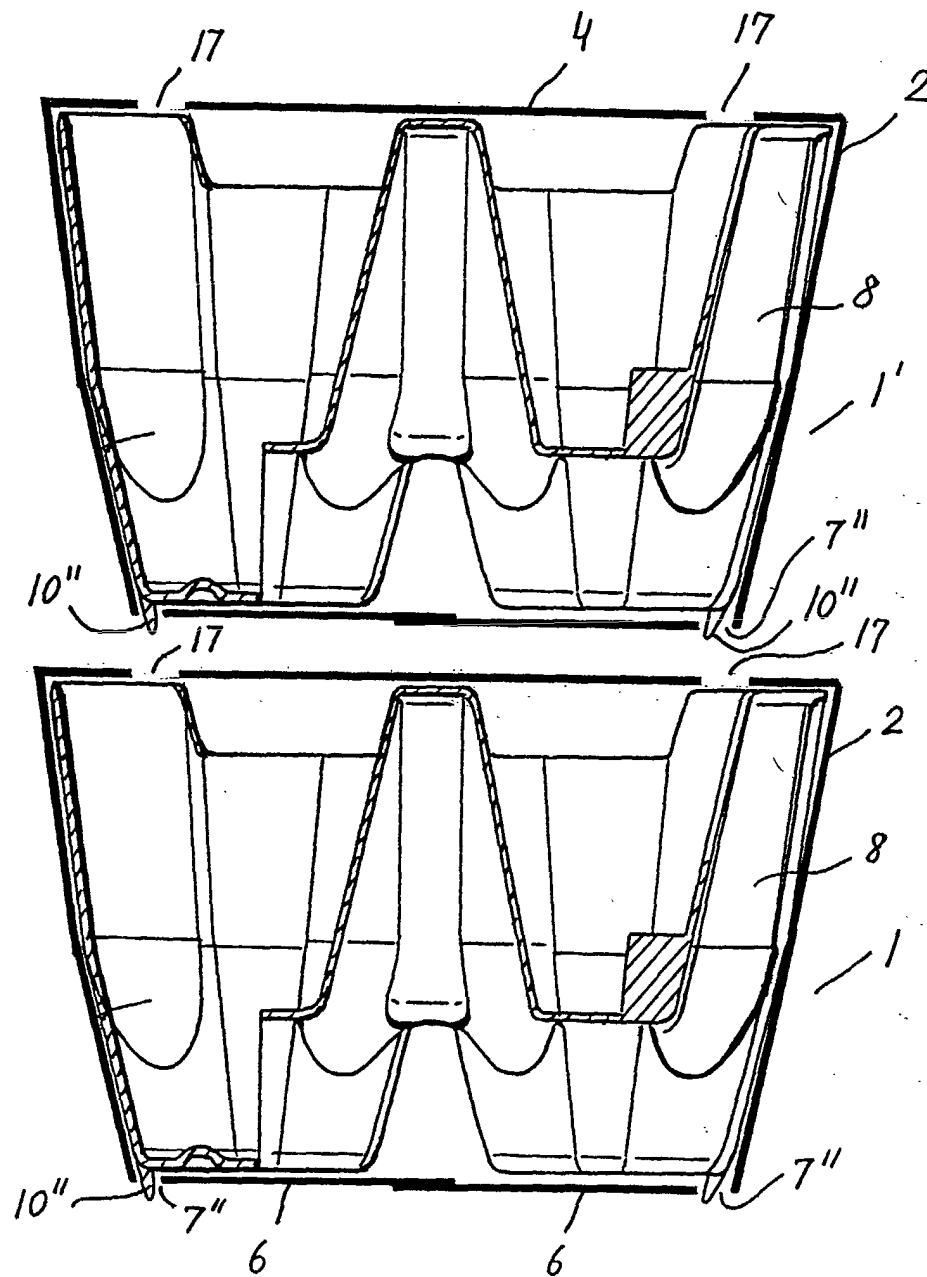


FIG. 8



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# EUROPEAN SEARCH REPORT

Application Number  
EP 01 12 6758

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	GB 1 011 091 A (ARTHUR ARIA BUCHMAN; WILLIAM W CLELAND LTD) 24 November 1965 (1965-11-24) * page 1, line 21 - line 26 * * page 2, line 80 - line 97; figures 3,4 * ---	1,2,8,9	B65D85/32
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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