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(54) **Improved case for products of different kinds.**

(57) The case 1 comprises a base piece 2, two side pieces 3 and two head pieces 5, the latter being higher than the side pieces 3. The vertical edges of each head piece 5 feature the same number of vertical strengthening projections 6.

The upper ends of the head pieces feature two flaps 7 which fold over and beside the reinforcing strips 6. Before the flaps are folded over, a board 8 is placed on the top ends 100a of the products 100 already packed in the case.

After the flaps 7 have been folded over, the case is wrapped in heat-shrinking transparent plastic film 9.

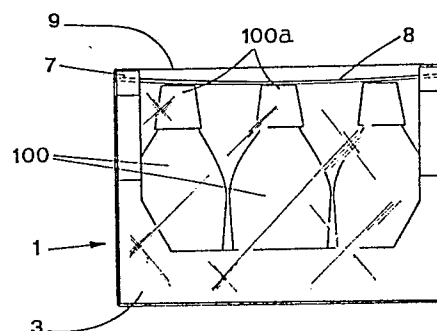


Fig. 2

Description

IMPROVED CASE FOR PRODUCTS OF DIFFERENT KINDS

The present invention concerns a case for products of different kinds, in particular of the type commonly known as the "VISUAL BOX".

The aforementioned cases enable the related products to be seen, which is particularly advantageous when they are located on shelves in areas where the said products are on sale to the public.

A case with the aforesaid characteristics is protected by EPC patent No. 0 157 742 in the name of the same applicant.

The case 1, which is the subject of the above-mentioned patent is illustrated in diagrammatic form in Figure 1 in the enclosed drawings, and essentially comprises a base piece 2, two side pieces 3 and two head pieces 5, the latter being higher than the side pieces 3.

The vertical edges of each head piece 5 feature the same number of triangular-section vertical strengthening projections 6.

The upper ends of the above-mentioned head pieces 5 feature two flaps 7 which fold over and beside the said vertical strengthening projections 6.

Products 100, whose height is slightly less than that of the aforesaid head pieces 5, are packed inside the above-mentioned case.

In order to protect the products 100 from dust and humidity, the cases are wrapped, during packaging, in transparent synthetic films of the heat-shrinking type, which, as is known, contract when subjected to the action of heat.

A known alternative to this procedure involve fitting and gluing a suitably shaped lid to every case.

The said lid at least partially prevents the aforementioned products from being seen, and must thus necessarily be removed before the aforesaid cases are put on display shelves.

To the above one should add the fact that the above-mentioned cover does not guarantee the same degree of impermeability that it is possible to obtain using heat-shrinking film, this impermeability being a quality that is without doubt appreciated in every transport and storage stage for reasons that are easy to understand.

In addition to this, one must consider the fact that it is necessary to provide an individual type of cover for each model of case, and thus a corresponding machine for fitting it; in the case of heat-shrinking film, on the other hand, the same machine or equipment can be used for a reasonably wide range of case models.

The disadvantage involved in using heat-shrinking film for packaging "VISUAL BOX" cases consists in the fact that the head pieces 5 bend in towards the inside of the case itself due to the shrinking of the aforesaid transparent film.

In this situation, in addition to the obvious negative aesthetic effects involved, the walls of the case, when placed under load by a case located above, are mainly subjected to bending stresses, which further increase the inwards bending of the walls, such that a portion of the weight above them is

borne by the products located within the cases themselves.

5 The object of the present invention is to propose an improved case which maintains the known positive characteristics of "VISUAL BOX" containers whilst at the same time permitting one to package them, together with the products packed within them, using a heat-shrinking film without bending the head pieces of the case itself.

The above is obtained in accordance with that proposed in Claim 1.

15 The proposed improvement leaves the distinguishing characteristics of the "VISUAL BOX" container unchanged, even when wrapped in heat-shrinking transparent film, without as a consequence leading to the disadvantages which result from the bending of the head pieces of the said case.

20 Furthermore the proposed improvement leaves the case in compliance with the need to use automatic machines for effecting the entire case-packing cycle, which is to say the production of the case from a blank, and the packing of the products in this case itself.

25 The characteristics of the present invention are emphasised hereinafter with specific reference to the enclosed drawings, in which:

- 30 - Figure 1 is a side view of a known type of case containing products;
- Figure 2 is a side view of the improved container which is the subject of the present invention, wrapped in heat-shrinking material;
- 35 - Figure 3 is a side view of the improved container in a second embodiment, wrapped in a film of heat-shrinking material.

With reference to Figure 2, indicated at 1 is a case of the type described in the introduction and illustrated in Figure 1, containing products 100.

40 The aforesaid case 1, obtained from a single blank, comprises a base piece 2, two side pieces 3, and two head pieces 5, the latter being strengthened by vertical projections 6, and featuring two flaps 7 which fold at their upper ends.

45 A board 8, whose surface area does not exceed the usable surface area of the above-mentioned base piece 2, is inserted in the case in an operating station of a line, (not illustrated), located downstream from the station in which the said articles 100 are packed into the case 1, and upstream of the station in which the aforementioned flaps 7 are folded over and beside the said projections 6, this said board 8 being placed so that it rests on the upper edges 100a of the aforesaid articles 100.

50 In the same Figure 2, indicated at 9 is a film of heat-shrinking material which wraps the above-mentioned case 1, products 100 and board 8.

55 The pressure exerted in a perpendicular direction upon the aforementioned head pieces 5, as an effect of the shrinking of the above-mentioned film 9, subjects the board 8 to a maximum load, whilst it is at the same time prevented from bending any further than the amount shown in Figure 2 due to the

stabilising action of the ends 100a of the products 100 upon which the board 8 itself rests; the balanced condition achieved by virtue of the above thus preventing the head pieces 5 from bending towards the inside of the case 1.

Figure 3 shows the same view as in Figure 2 of a second embodiment of the case in which the board 8 is designed to be placed on top of the flaps 7, when they have already been folded, and glued to the latter in order to increase the torsional stiffness of the case 1.

In this second embodiment of the invention, a balanced condition between the pressure exerted on the head pieces 5 and the reaction offered by the board 8 is reached in the same way when the latter comes to rest on the ends 100a of the products 100.

The advantages derived from the use of the board 8 are clear from the above, this board 8 in addition being extremely simple, economical and easy to position, in compliance with the need to use automatic machines for effecting the entire case-packing cycle, which is to say the production of the latter from a blank, and the packing of the products 100 in this case itself.

Claims

1) Improved container for products of various kinds, of the type comprising a base piece (2), two side pieces (3), two head pieces (5), with the latter being higher than the side pieces (3), at least two vertical strengthening projections (6) located along the vertical edges of each of the said head pieces (5), and two flaps (7),

which fold at the upper ends of the same head pieces (5), and are folded over and beside the said projections (6), the aforesaid case (1) being characterised in that it comprises a board (8), whose surface area does not exceed the usable surface area of the base piece (2), placed, before the said flaps (7) are folded over, resting upon the upper ends (100a) of the articles (100) already packed in the same case (1), with the latter designed to be subsequently wrapped in a heat-shrinking transparent film (9).

2) Improved case for products of different kinds, of the type comprising a base piece (2), two side pieces (3), two head pieces (5), the latter being higher than the side pieces (3), at least two vertical strengthening projections (6) located along the vertical edges of each of the said head pieces (5), and two flaps (7), which fold at the upper ends of the same head pieces (5), and are folded over and beside the said projections (6), the aforesaid case (1) being characterised in that it comprises a board (8), whose surface area does not exceed the usable surface area of the base piece (2), placed upon the said flaps (7), already folded over during a previous stage before the aforesaid case is wrapped in a heat-shrinking transparent film (9).

3) Case as in Claim 1 or 2, characterised in that said board (8), stabilised by the above-mentioned ends (100a), is made to oppose the pressure exerted by the aforementioned heat-shrinking film (9) in a direction perpendicular to the above-mentioned head pieces (5).

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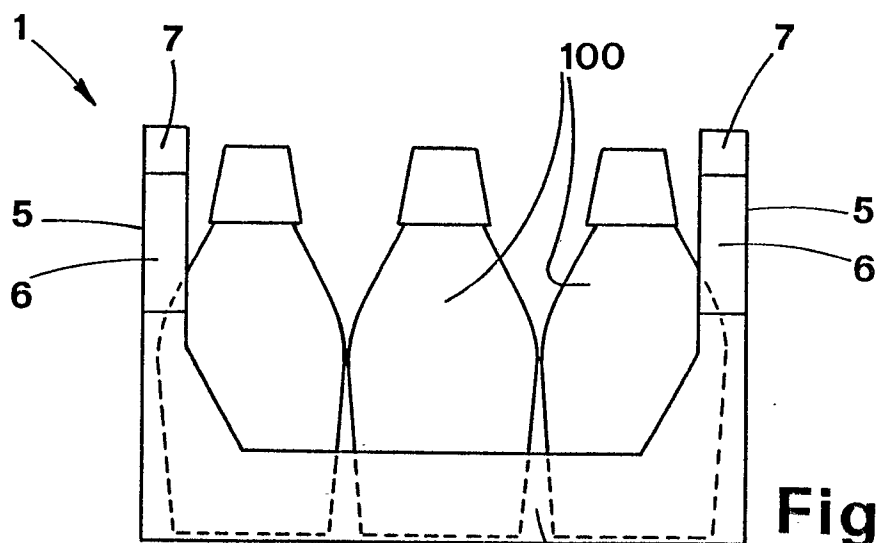


Fig. 1

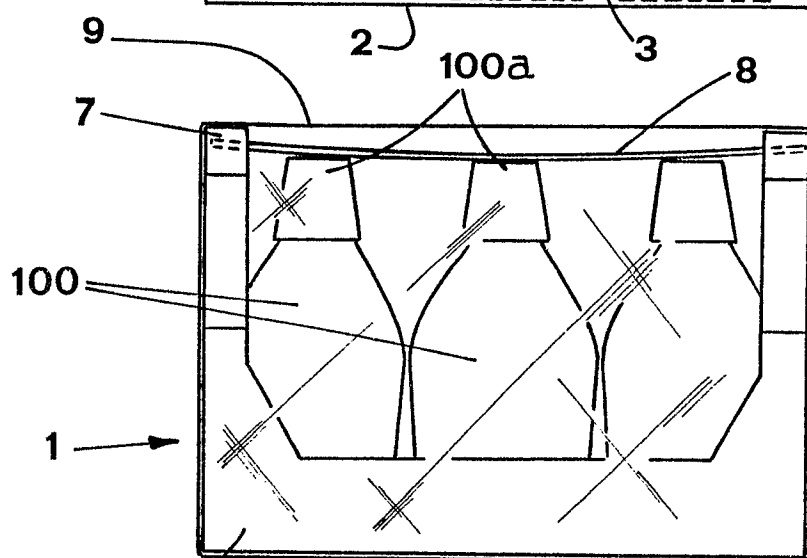


Fig. 2

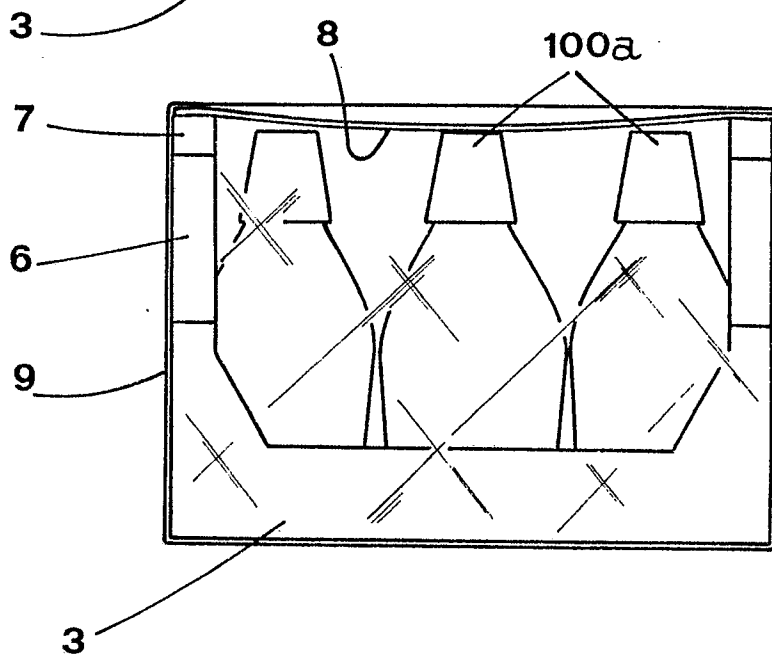


Fig. 3



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. 4)
Y	FR-A-2 267 246 (NELSEN)	1,3	B 65 D 71/00
A	* Page 6, lines 12-20; figures 4-5 *	2	B 65 D 5/44

Y	FR-A- 763 350 (WEIBEL)	1,3	
A	* Page 1, lines 18-41; figure 2 *	2	

A,D	EP-A-0 157 742 (IN-PAK)	1-2	

			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			B 65 D B 65 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21-06-1989	Examiner BRIDAULT A.A.Y.
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	