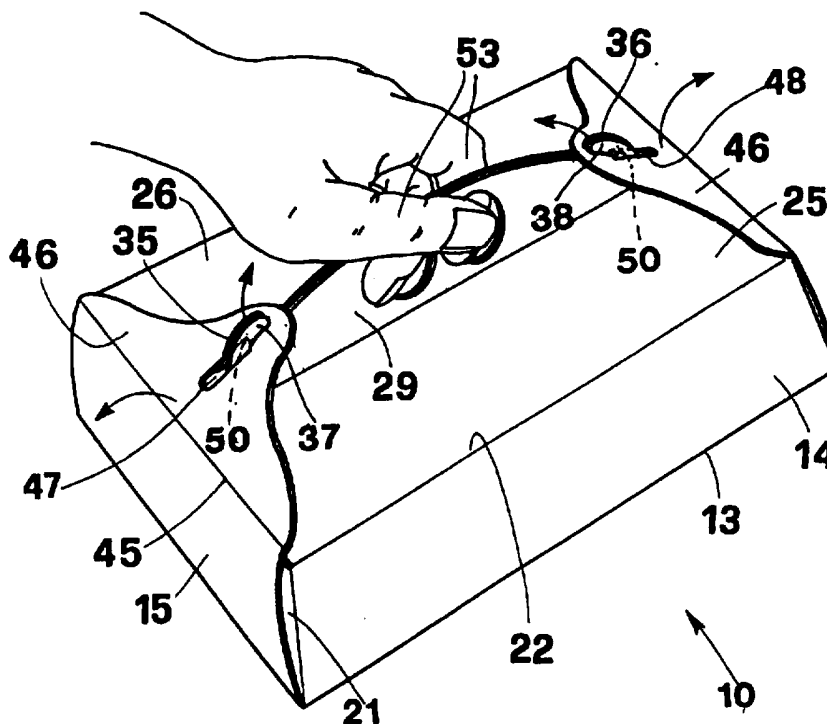




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<p>(21) International Application Number: PCT/IT95/00195 (22) International Filing Date: 17 November 1995 (17.11.95) (30) Priority Data: MI94A002357 21 November 1994 (21.11.94) IT (71)(72) Applicant and Inventor: FRACCARO, Luigi [IT/IT]; Via Segheria, 6/E, I-20080 Bubbiano (IT). (74) Agent: DIGIOVANNI, Italo; Brevetti Dott. Ing. Digiovanni Schmiedt S.r.l., Via Aldrovandi, 7, I-20129 Milano (IT).</p>		<p>(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, LS, MW, SD, SZ, UG).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>

(54) Title: ONE-PIECE CARTON FOR SWEETS ETC



(57) Abstract

The carton (10) for pastry, cakes, sweets in general, in bulk or freshly produced which can be obtained immediately, using a one-piece shaped sheet provided with foldings (13, 22) pre-marked including opposite trapezoid side panels (14, 15) provided with slots (47-48) and hooks (35-38) for the spontaneous stabilization of the closing position of the packet (10) itself and a handle (29) for easy carrying.

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ONE-PIECE CARTON FOR SWEETS ETC

the invention relates to packets of the facilitated assembling type for carrying in general pastry, cakes and sweets bought in bulk or fresh produced.

As already known, in confectionery shops it is possible to buy fresh produced
5 sweets of different sizes, such as pastry, cakes, tarts or the like. Pastry are put on trays of different sizes and then the whole thing is wrapped in sheets of differently decorated paper.

The small parcel obtained is then tied up using a string, a ribbon or the like for better steadiness and to facilitate the grip with the fingers.

10 Obviously this process takes time and also trained staff since the packaging has to be done rapidly, elegantly and firmly at the same time.

Particularly in rush hours or periods all these needs can create many difficulties also keeping in mind the substantially seasonal type of particular sweets.

The subject-matter of the invention will eliminate the above mentioned problems as per the following description.
15

The subject-matter of the invention is a packet for pastry, cakes, sweets in general, in bulk or fresh produced, obtained by a one-piece shaped sheet, with

pre-marked folding, including spontaneous means for stabilization of the closing position of the packet itself and a handle for easy carrying.

The one-piece sheet has a bottom area, polygonal in shape, the sides of which are connected by foldings, to regular trapezoid side panels of the same height
5 with outer shorter base.

A first pair of two opposite side panels are connected by a folding, with an expansion in shape and surface which is slightly less than half of the surface of the bottom area.

Said expansion is itself connected by a folding, to a strip having bent upper side
10 provided at the two ends of two recesses which form two hooks one turned towards the other.

A second pair of opposite side panels orthogonal to the side panels of the first pair, are connected by a folding to a strip having an axial slot.

The axial positions of said slots are such that their outer ends are at a distance
15 from the foldings between the strips and the trapezoid side panels, almost equal to the distance between the bottoms of the recesses predisposed on the bent strips of the first pair of opposite side panels and the ends of the folding between said strips and the expansions which support them.

Thus it is possible to close the packet carrying out on the first pair of opposite
20 side panels two consecutive foldings at 90° upwards and then a folding at 90° outwards.

By said last two foldings it is determined the mating of the bent strips in axial position with respect to the packet.

Having done this it is determined the passage through the slots of the strips of
25 the second of side panels, of the hooks of the strips of the first pair of opposite side panels.

Not acting on said side panels it is obtained as consequence of their tendency to spontaneously turn away because of the elastic reaction, the meshing of the slots inside the hooks and therefore the spontaneous stabilization of the closing of the packet.

- 5 The bottom area is preferably rectangular in shape whereas the trapezoid side panels are formed by two orthogonal pairs.

The side panels with the expansions on which are the bent strips provided with hooks, start from the shorter sides.

One of the pairs of opposite trapezoid side panels is provided with side tongues.

- 10 Said side tongues are preferably located on the longer trapezoid side panels.

In the middle of each of the bent strips there are two holes one near the other the sizes of which are such to permit the fingers of the hand passing through them so that it is easy to carry the packet.

Preferably the sheet used for the packet is made of board.

- 15 The foldings are pre-marked by knurling or similar process by which a hollow is created on the surface of the sheet suitable to facilitate the folding simply using the hands.

The advantages of the invention are manifest.

- 20 Using a simple punched board it is possible to obtain instantly a packet for sweets which is at the same time useful, elegant and takes up little room.

The forming of the packet and its closing are very rapid.

The storage of the packets thanks to their flat development, clearly takes up little space.

- 25 The handle obtained by the pair of axial holes, makes the design more elegant and original and makes possible to suspend easily the packet to the fingers and its easy carrying.

The cost of the packet is very low in respect to the present systems.

In short, the invention provides functionality, elegance and a lower cost as well as maximum hygiene and protection for the product.

The features and purposes of the invention will be even more apparent from the following example of construction supplied with schematic drawings.

5 Fig. 1) The packet subject-matter of the invention flat developed

Fig. 2) The packet when closing, in perspective

Fig. 3) The packet when closed, in perspective

The box-shaped packet 10 is obtained from a board sheet 11 including a rectangular area 12 connected, by foldings 13 almost at 90°, to four trapezoid side panels 14, 15, 16, 17 substantially of the same shape.

The longitudinal side panels 14 and 16, are laterally connected by foldings 20, to the tongues 21 substantially rectangular in shape.

15 The fourth side of said side panels 14 and 16 is connected, by the foldings 22 to the rectangular expansions 25 and 26, substantially the same.

Said expansions have an area a little less than the longitudinal half of the rectangular bottom area 12, their bent shorter sides 55 are themselves connected by the foldings 27 to the strips 28 and 29 which are the same with bent edges 30.

20 At the ends of said edges are located the pairs of hooks 35-36 and 37-38 inwards orientated.

In the middle of the strips 28 e 29 are located the pairs of large holes 40-41 and 42-43.

25 The traverse side panels 15 and 17 are longitudinally connected by foldings 45, to the triangular strips 46 which are provided with the axial slots 47 and 48.

The sides 49 of the triangle are bent inwards.

As it is clear looking at Figs. 2) and 3), by the foldings the board can be transformed in an elegant and useful box.

In fact, inside this box it is possible to put a tray 51 for sweets 52 as showed in Fig. 2).

- 5 Fitting together the bent strips 28 and 29 and then passing the pairs of hooks 35-37 and 36-38 respectively through the slots 47 and 48 and not acting on the packet its stabilisation in the closed position is caused.

In fact, the traverse side panels 15 and 17 because of their elasticity get open and move outwards (see the arrow) in the opposite direction with respect to the
10 direction of the hooks 35-37 e 36-38 (see arrow) in this way strengthening and stabilizing the mesh of said hooks against the upper edges 50 of the above mentioned slots.

The pairs of holes (40-41) and (42-43) permit an easy grip using two fingers 53 of the hand.

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CLAIMS

- 1) The packet (10) for pastry, cakes, sweets in general, in bulk or fresh produced,
characterized in that it is obtained by a one-piece shaped sheet (11) having
5 facilitated foldings (13, 20, 22, 27, 45), including means (31-32, 35-38, 47, 48)
for the spontaneous stabilization of the closing position (10) and a handle (28,
29) (40, 43) for easy carrying.
- 2) The packet (10) as in claim 1),
characterized in that the one-piece sheet (11) presents a polygonal bottom area
10 (12), the external sides of which are connected by foldings (13), to regular trapezoid side panels (14-17) of same height with outer shorter bases (22, 45) a first pair of the opposite side panels (14, 16) being connected by foldings (22) to expansions (25, 26) almost rectangular in shape, surface slightly less than the half of the surface of the bottom area (12) and bent shorter sides (55) of
15 lengths almost half of the shorter side (45) of the second pair of opposite side panels (15, 17), said expansions being connected themselves by foldings (27) to a strip (28, 29) with a bent upper side (30) provided at the two ends with two opposite recesses (31-32), (33, 34) which form two hooks (35, 36), (37, 38) one turned towards the other, a second pair of trapezoid side panels (15, 17) orthogonal to the trapezoid side panels (14, 16) of the first pair being connected by
20 a folding (45) to strips (46) with axial slots (47, 48), said axial position of the slots being such that their outer ends (50) are at a distance from the foldings (45) between the strips (46) and the trapezoid side panels (15, 17) which is almost the same than the distance between the bottoms of the recesses (31, 32)
25 (33, 34) located on the strips (28, 29) of the first pair of opposite trapezoid side panels (14, 16) and the ends (56) of the folding (27) between said strips (28, 29) and the expansions (25, 26) which support said strips so that it is possible

to close the packet (10) effecting on the first pair of opposite trapezoid side panels (14, 16) two consecutive foldings (13, 22) at 90° inwards and then a folding (27) at 90° outwards determining these last two foldings (27) the mating of the bent strips (28, 29) in axial position with regards to the packet (10) and it is also possible the passing through slots (47, 48) of the strips (46) of the second pair of opposite trapezoid side panels (15, 17) of the hooks (35, 38) of the strips (28, 29) of the expansions (25, 26) of the first pair of opposite side panels (14-16) and then, not acting on said side panels (14-17), it is obtained thanks to their tendency to spontaneously diverge because of the elastic reaction, the mesh of the slots (47, 48) in the recesses (31, 32) (33, 34) of the hooks (35, 36), (37, 38) and therefore the spontaneous stabilization of the closing of the packet (10).

3) The packet as in claim 1),
characterized in that the bottom area (12) is rectangular in shape whereas the four trapezoid side panels (14-17) are formed by two orthogonal pairs (14, 16) (15, 17), the side panels (14, 16) with the expansions (25, 26) on which are the bent strips (28, 29) provided with hooks (25, 38) start from the longer sides of the base (12) and the side panels (15, 17) with strips (46) provided with slots (47, 48) start from the shorter sides.

4) The packet as in claim 3),
characterized in that one (14, 16) of the pairs of opposite trapezoid side panels has lateral tongues (21).

5) The packet (10) as in claim 4),
characterized in that the lateral tongues (21) are provided on the longer trapezoid side panels.

6) The packet (10) as in claim 3),

characterized in that in the middle of each of the bent strips (28, 29) at the ends of the expansions (25, 26) of the longer side panels (14, 16) are provided two holes (40-43) one near the other the sizes of which are such to permit the fingers of the hand passing through them so that it is easy to carry the packet
5 (10).

7) The packet (10) as in claim 1),
characterized in that the foldings (13, 20, 22, 27, 45)
are pre-marked by knurling or similar process by which a hollow is created on
the surface of the sheet (11) suitable to facilitate the folding simply using the
10 hands.

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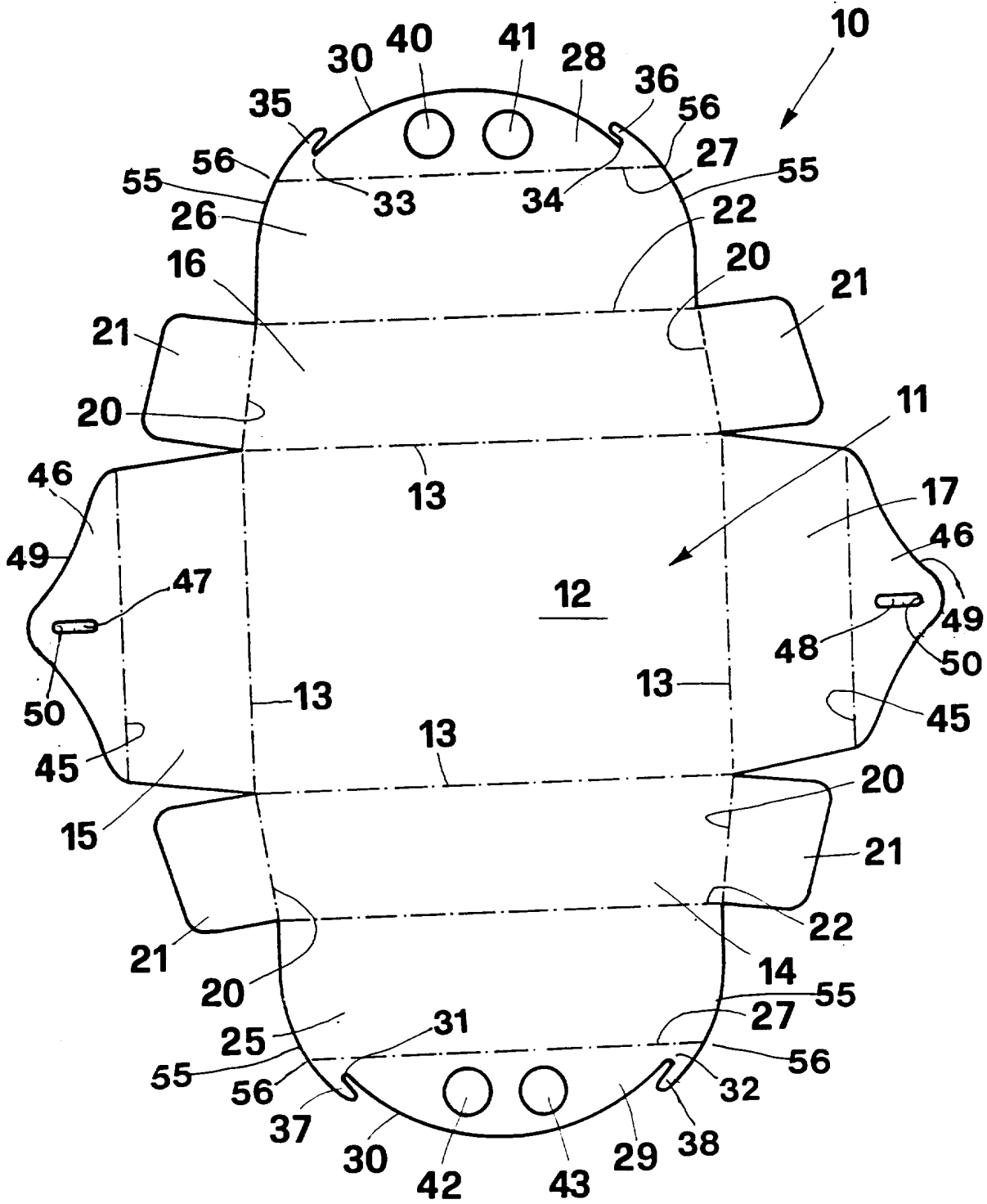


fig. 1

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IT 95/00195

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 B65D5/20 B65D5/468

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)
IPC 6 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 practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR,A,2 365 488 (THIOLAT FRÈRES) 21 April 1978	1,7
Y	see page 1, line 32 - page 2, line 14;	2,4,5
A	figures 2-4	3

X	FR,A,2 536 042 (POUGNET ET AL) 18 May 1984	1,3,7
Y	see the whole document	4-6
A		2

X	FR,A,2 677 962 (UNION COOPÉRATIVE DE SOUTIEN DES MARCHÉS DE L'ORGANISATION DES PECHERI) 24 December 1992	1,3,7
A	see page 6; figures 1,2	2

X	US,A,2 805 813 (RITTMÜLLER) 10 September 1957	1,7
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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US,A,2 286 879 (THEW) 16 June 1942 see page 1, right column, line 17 - line 35; figure 3	2
Y	<div style="text-align: center;">---</div> US,A,4 230 261 (AUSTIN) 28 October 1980 see column 4, line 54 - line 57; figure 1 <div style="text-align: center;">-----</div>	6

INTERNATIONAL SEARCH REPORT
 information on patent family members

International Application No
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR-A-2365488	21-04-78	NONE	
FR-A-2536042	18-05-84	NONE	
FR-A-2677962	24-12-92	EP-A- 0524122	20-01-93
US-A-2805813	10-09-57	NONE	
US-A-2286879	16-06-42	NONE	
US-A-4230261	28-10-80	CA-A- 1104977	14-07-81
		JP-B- 1017943	03-04-89
		JP-C- 1535127	21-12-89
		JP-A- 55143245	08-11-80