



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 112 939 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

04.07.2001 Bulletin 2001/27

(51) Int Cl.7: **B65D 3/12, B65D 3/28**

(21) Application number: **00128052.8**

(22) Date of filing: **21.12.2000**

(84) Designated Contracting States:

**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**

Designated Extension States:

AL LT LV MK RO SI

(72) Inventor: **Zaro, Mario**

10060 Cantalupa (Torino) (IT)

(74) Representative: **Fioravanti, Corrado et al**

Jacobacci & Perani S.p.A.

Corso Regio Parco 27

10152 Torino (IT)

(30) Priority: **29.12.1999 IT TO991171**

(71) Applicant: **CON-PAK S.p.A.**

10060 Roletto (Torino) (IT)

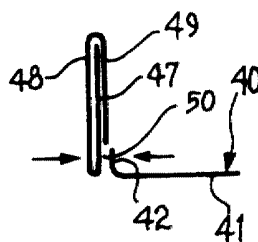
(54) **A cardboard box, in particular for confectionery products**

(57) A cardboard box for confectionery products which includes a container and a lid. The container and/or the lid are made up of only two cardboard elements:

- a base element (40) with a plurality of peripheral flaps (42) folded over vertically, and
- a peripheral band element (44, 44') constituting the side wall of the container or lid, obtained by folding a strip of cardboard lengthwise so as to define a first

band portion (48, 52) facing outwards and a second band portion (49, 51) facing inwards. The second band portion is narrower than the first so as to form a seat (50) with the remaining portion of the band element, of a width matching that of the flaps (42) which are positioned and fixed to the said seat so as to be adjacent and flush with the second band portion (49, 51).

FIG. 3D



EP 1 112 939 A1

Description

[0001] The present invention relates to a cardboard box, in particular for confectionery products.

[0002] Several methods are presently known in the art for manufacturing cardboard boxes of the above type, generally made up of a container and of a lid for the closure thereof.

[0003] A first known arrangement is illustrated with reference to Figures 1A, 1B, 1C and 1D. In order to form a lid a first upper base 10 is provided (Figure 1A) with a second, lower base 11 (Figure 1B) matching the first and a peripheral band 12 (Figure 1C) for constituting the side walls of the lid.

[0004] The band 12 is formed by a strip of cardboard with three fold lines 13, 14 and 15 made in it, parallel to each other and to the length of the band 12, which has a serrated lateral edge 16. A fixing flap 17 is provided at one end of the band. The band 12 is folded along the lines 13, 14 and 15 into the configuration shown in Figure 1D, in which the median portion 18 (on the left in Figure 1C) is in an intermediate position between the outwardly-facing portion 19 and the inwardly-facing portion 20. The serrated portion 16 is folded by 90° to the inner band portion 20 so that it projects horizontally from the rest of the band, thereby forming a grip area onto which the peripheral portions of the upper base 10 and of the lower base 11 are heat bonded in a sandwich configuration.

[0005] The lower base 11 is provided for essentially aesthetic reasons, so as to hide the serrated edge 16 glued to the upper base 10. This method thus involves three components: the upper base 10, the lower base 11 and the lateral band 12.

[0006] A second prior art arrangement, illustrated in Figures 2A, 2B, 2C and 2D, also involves the use of three components: a base 30, consisting of a flat portion 31 with peripheral flaps 32, an outer band 33 (see Figure 2B) and an inner band 34 (see Figure 2C) provided to form the side wall of a cardboard box, together with an outer band 33. The outer band 33 has two parallel longitudinal fold lines 35 and 36 which define a central portion 37, a lower portion 38 (on the left in Figure 2B) and an upper portion 39.

[0007] As shown in Figure 2D, the lower portion 38 and the upper portion 39 of the outer band 33 are folded into a generally C-shaped configuration; the peripheral flaps 32 of the base 30 are folded perpendicular to the flat portion 31 and joined, by heat bonding for example, to the folded lower portion 38. For aesthetic reasons again, that is in order to hide the flaps 32 bent and glued to the band 33, the side band 34 is superimposed on the inside of the container, glued underneath to the flaps 32 and on top to the upper portion 39 in such a way that anyone looking into the container would see only the flat portion 31 and the inner lateral band 34.

[0008] However, this use in the prior art of three elements to make an aesthetically satisfactory cardboard

box or lid involves the disadvantage of needing to provide and fix an additional component, the lower base 11 shown in Figure 1B and the inner lateral band 34 shown in Figure 2C, essentially in order to hide the join between the peripheral band and the base.

[0009] The object of the present invention is to provide a cardboard box which is aesthetically pleasing but is made up of only two components, thereby simplifying production by eliminating the third component and the operations required to assemble it.

[0010] This object is achieved according to the present invention by providing a cardboard box having the characteristics set out in Claim 1.

[0011] Other important characteristics are claimed in the dependent Claims.

[0012] Characteristics and advantages of the present invention will become apparent from the detailed description of a few embodiments thereof, provided by way of non-limitative example with reference to the appended drawings, in which:

Figures 1A, 1B and 1C are plan views of components used in the prior art to make a lid for a cardboard box;

Figure 1D is a vertical section of a lid made in a known manner by assembling the elements shown in Figures 1A, 1B and 1C;

Figures 2A, 2B and 2C are plan views of components used in the prior art to make the container portion of a cardboard box;

Figure 2D is a sectioned view of a container made by assembling the elements of Figures 2A, 2B and 2C;

Figure 3A is a plan view of a base element for the manufacture of a box according to the invention;

Figure 3B is a view from above of the base element of Figure 3A in an intermediate step in the manufacture of a box according to the invention;

Figure 3C is a plan view of a band element for joining to the base element of Figures 3A and 3B;

Figures 3D and 3E are two sectioned views of a container made by assembling the elements of Figures 3A and 3C;

Figure 4A is a plan view of a variant of the band element; and

Figure 4B is a sectioned view of a container, formed by using the band element of Figure 4A.

[0013] With reference first to Figures 3A, 3B, 3C and 3D, the manufacture of a container, in particular for confectionery, will be described, it being understood that the same steps as set forth herein after will be used to manufacture a lid, which together with the container will form a box.

[0014] A base element, generally indicated with numeral 40 in Figure 3A, includes an essentially flat base portion 41 with a plurality of peripheral flap portions arranged with continuity adjacent each other around the

base portion 41. These flap portions 42 are folded perpendicular to the base portion 41 around the perimeter 43 thereof, as shown in Figure 3B.

[0015] A band element 44, shown separately in Figure 3C, is constituted by a strip of cardboard of a length matching the perimeter 43 of the base portion 41 of the base element 40. In this example, the band element 44 has two intermediate fold lines 45 and 46, parallel to the direction herein termed "longitudinal" of the band element 44 and defining a central band portion 47, an outer band portion 48 and an inner band portion 49. The central portion 47 and the outer portion 48 are essentially the same width, while the inner band portion 49 is narrower, as will be described in greater detail later.

[0016] With reference to Figure 3D, the band element 44 is folded along the fold lines 45 and 46 so as to turn the inner band portion 49 towards what will be the inside of the box and the outer band portion 48 towards the outside thereof. In this folded configuration, the inner band portion 49 forms a step 50 with the lower portion of the central portion 47, the height thereof corresponding to that of the flap portions 42 of the base element 40. The step 50 constitutes a seat for receiving the flap portions 42 so that they can be glued, in a single glueing operation, to the band element 44; as shown in Figure 3E, this forms a container with a substantially smooth inner surface since the flaps 42 are flush with the inner band portion 49, with no appreciable discontinuity.

[0017] In an alternative embodiment, shown in Figures 4A and 4B, a band element 44' (see Figure 4A) could have a single inner fold line 53 defining an inner band portion 51 and an outer band portion 52. The outer band portion 52 (on the left in Figure 4A) is wider than the inner band portion 51. As shown in Figure 4B, the band element 44' is folded along the fold line 53 so as to turn the inner band portion 51 towards what will be the inside of the box and the outer band portion 52 towards the outside of the box. In this folded configuration, the inner band portion 51 forms a step with the lower portion of the outer band portion 52, the height of which matches that of the flap portions 42 of the base portion 40. As in the embodiment illustrated in Figure 3D, in the variant of Figure 4B the said step also constitutes a seat for receiving the flap portions 42, so that they may be glued, in a single glueing operation, to the band element 44', thereby providing a container with a substantially smooth inner surface.

[0018] It will be appreciated that thanks to the present invention it is possible to manufacture a cardboard box with the use of less material than in the prior art, since only two elements are used, the third element of the examples described in the introduction being eliminated; in addition, only one bonding operation is required, preferably heat bonding, to secure the band element 44 to the base element 40.

[0019] Naturally, the principle of the invention remaining unchanged, manufacturing details and embodiments may be varied widely from those described and

illustrated, without departing thereby from the scope of the invention, as claimed in the following Claims.

5 Claims

1. A cardboard box, in particular for confectionery products, which includes a container and a lid for the closure thereof, characterised in that at least one of the said container and lid is formed by joining only two cardboard elements:
 - a base element (40) having a base portion (41) and a plurality of peripheral flap portions (42) arranged with continuity adjacent each other around the perimeter (43) of the said base portion (41) and folded so as to be essentially perpendicular thereto,
 - a peripheral band element (44, 44') constituting the side walls of the said container or lid and obtained by folding a strip of cardboard lengthwise so as to form a first band portion (48, 52) facing outwards and a second band portion (49, 51) facing inwards, the said second band portion being narrower than the first portion so as to form with the remaining portion of the band element (44, 44') a seat (50) of a height which matches that of the said peripheral flap portions (42), the said flap portions being positioned and fixed to the said seat so as to be adjacent to and flush with the said second band portion (49, 51).
2. A cardboard box according to Claim 1, characterised in that the said band element (44) is formed by folding a strip of cardboard along two internal fold lines (45, 46) so as to define a central band portion (47), an inner band portion (49) and an outer band portion (48); the said outer portion (48) and central portion (47) being substantially of the same width, this being greater than that of the said inner band portion (49) by substantially the width of the said flap portions (42).
3. A cardboard box according to Claim 1, characterised in that the said band element (44') is a cardboard strip with a longitudinal fold line (53) defining an inner band portion (51) and an outer band portion (52), the said outer band portion (52) being wider than the said inner band portion (51) by substantially the width of the said flap portions (42).
4. A cardboard box according to Claim 1, characterised in that the inner surface of at least the said container or the lid is essentially continuous in the area where the said flap portions (42) and said second band portion (49, 51) meet.

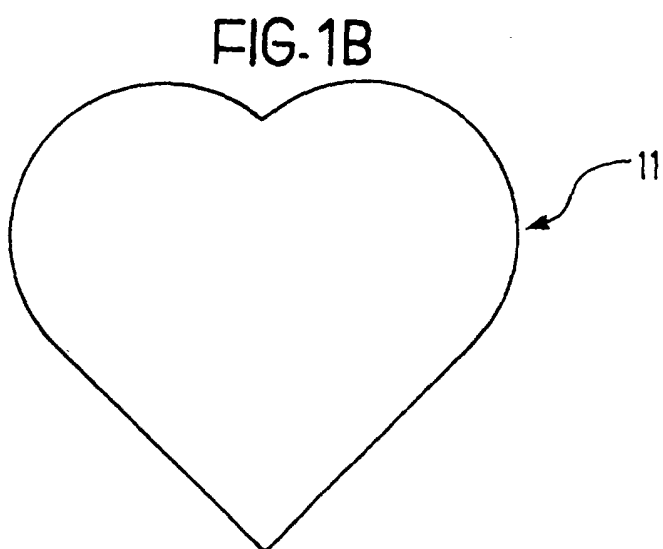
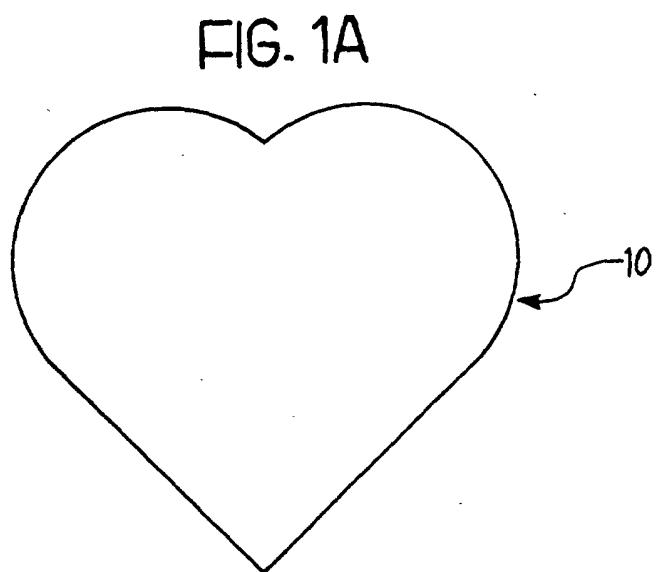
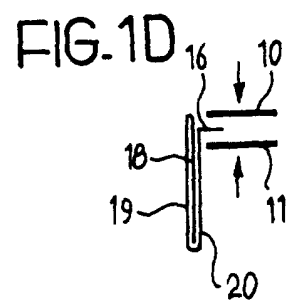
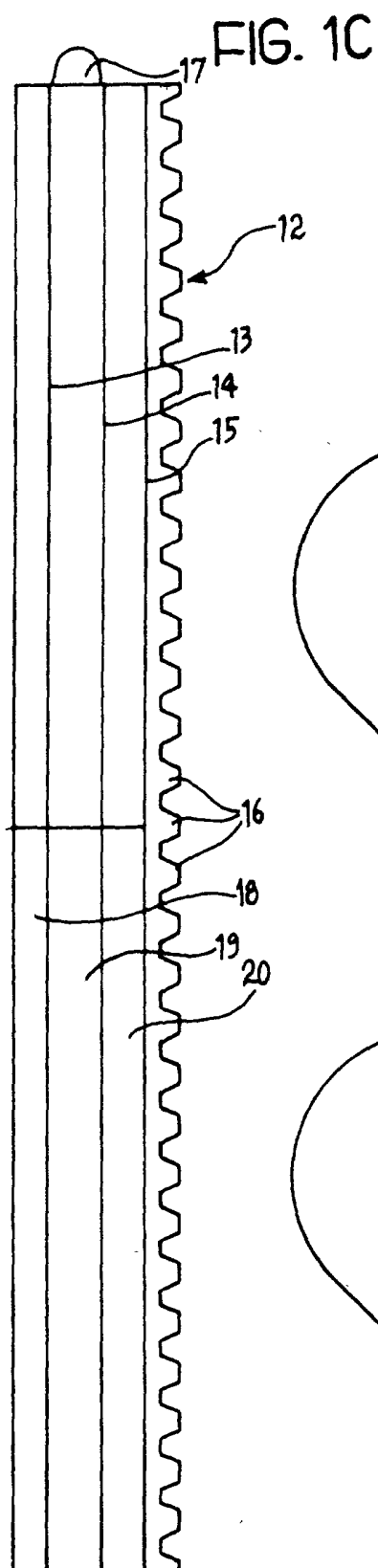


FIG. 2B

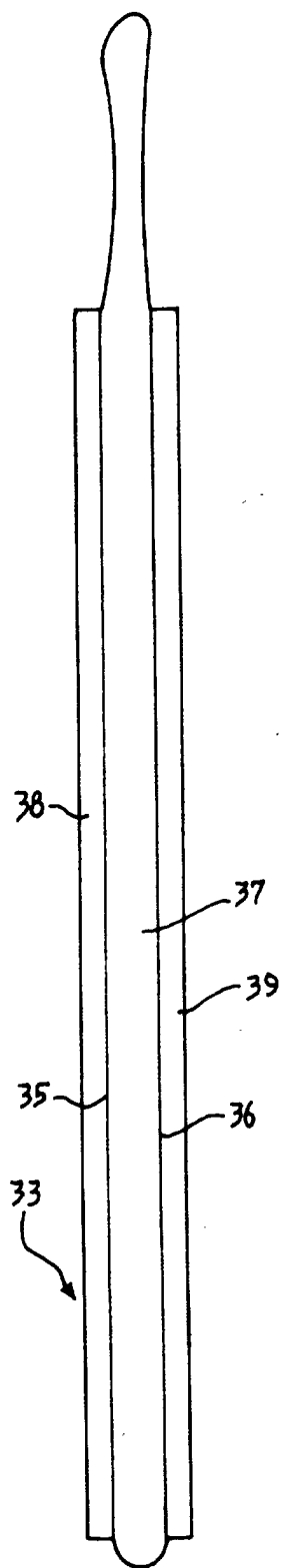


FIG. 2C

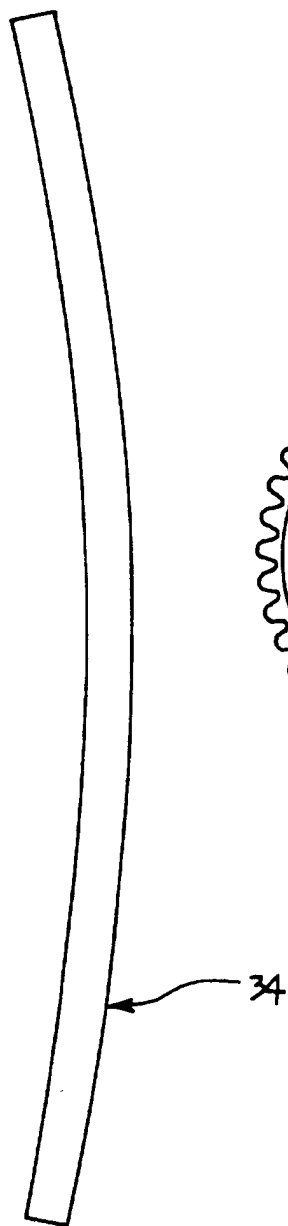


FIG. 2D

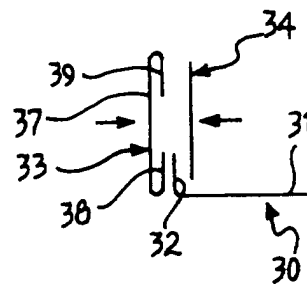


FIG. 2A

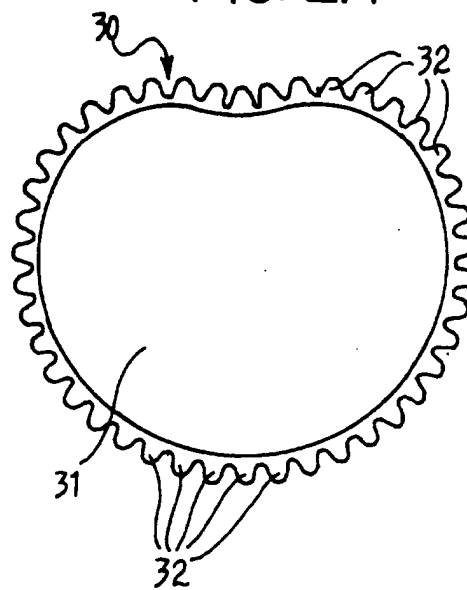


FIG. 3C

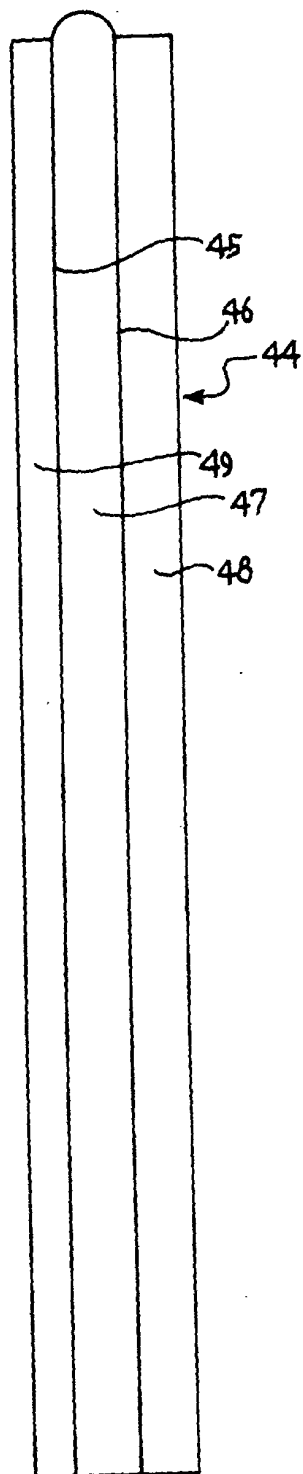


FIG. 3D

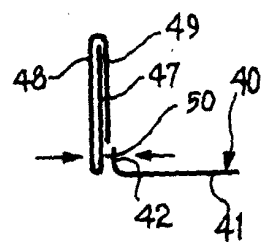


FIG. 3E

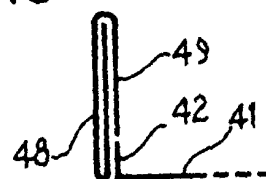


FIG. 3A

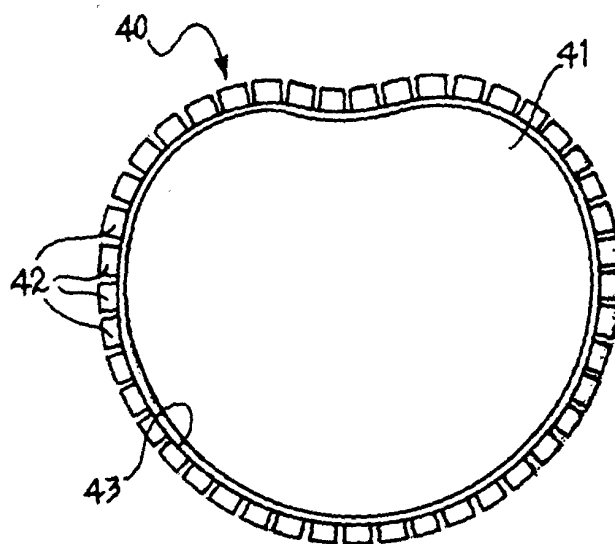


FIG. 3B

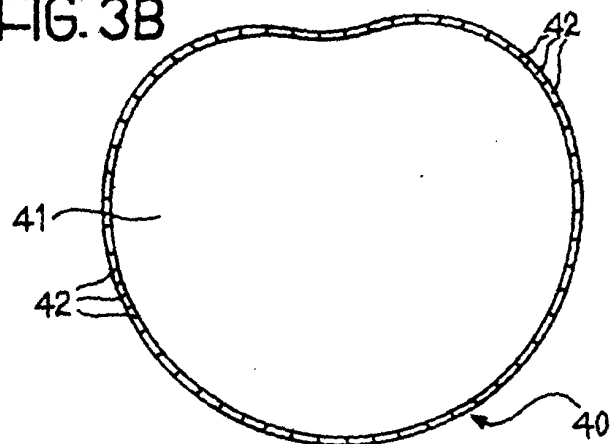


FIG. 4A

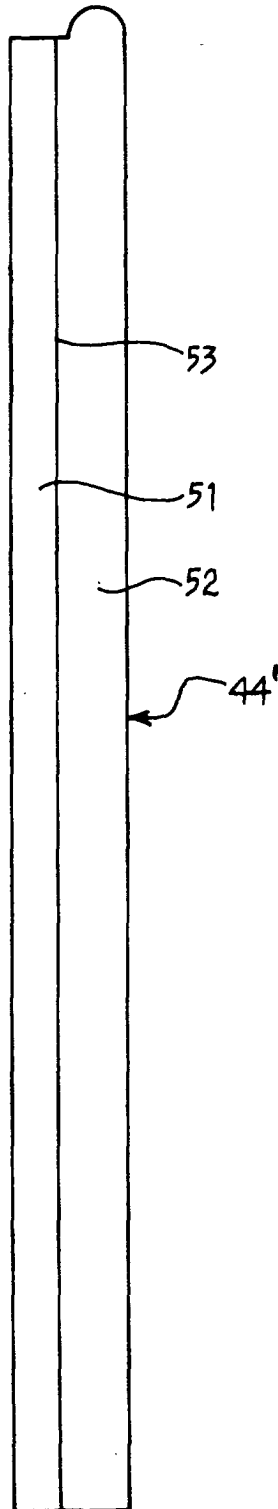
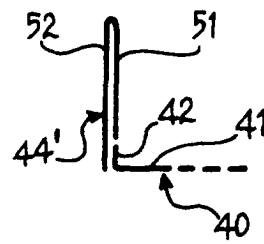


FIG. 4B





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 12 8052

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	US 2 119 360 A (SCHLEICHER, F. J.) 31 May 1938 (1938-05-31)	1,3	B65D3/12 B65D3/28
A	* page 1, left-hand column, line 38 - right-hand column, line 8 * * figures 1-3 *	4	
A	US 1 627 047 A (MOOR, A) 3 May 1927 (1927-05-03) * page 3, left-hand column, line 12 - line 32 * * figure 3 *	2	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65D
Place of search	Date of completion of the search	Examiner	
THE HAGUE	24 April 2001	Wennborg, J	
CATEGORY OF CITED DOCUMENTS		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	
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			

EPO FORM 1503 03 B2 (P04C01)

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

EP 00 12 8052

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-04-2001

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2119360	A	31-05-1938	NONE	
US 1627047	A	03-05-1927	NONE	