



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
02.12.2015 Bulletin 2015/49

(51) Int Cl.:
B65D 5/50 (2006.01)

(21) Application number: **14382187.4**

(22) Date of filing: **27.05.2014**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(72) Inventor: **Font Olivé, Francesc**
08775 Torrelavit (ES)

(74) Representative: **Hernández Hernández, Carlos**
Olten Patentes y Marcas
Entença, 332-334 3^o-2^a
08029 Barcelona (ES)

(71) Applicant: **Cartonajes Font, S.A.**
08775 Torrelavit (ES)

(54) **Reinforced bottle protector**

(57) Protector which has at least five attached consecutive segments (1, 2, 3, 4, 5), where segments (1, 2, 3, 4) make up the sidewalls of the protector, while segment (5) is the closure segment, segments (2, 3, 4, 5) are of equal length, while the first segment (1) is shorter in length, and has at its ends tabs that serve as an upper cover (8) and a lower cover (7) for closing the bottle pro-

teCTOR, and including means (9.1, 9.2, 9.3, 9.4) for supporting and closing the upper (8) and lower (7) covers. The upper (8) and lower (7) closure covers have a double set of tabs, and the support or closure means have rectangular segments (9.1) and (9.2) from which emerge some additional segments (9.3) and (9.4) for support or reinforced closure.

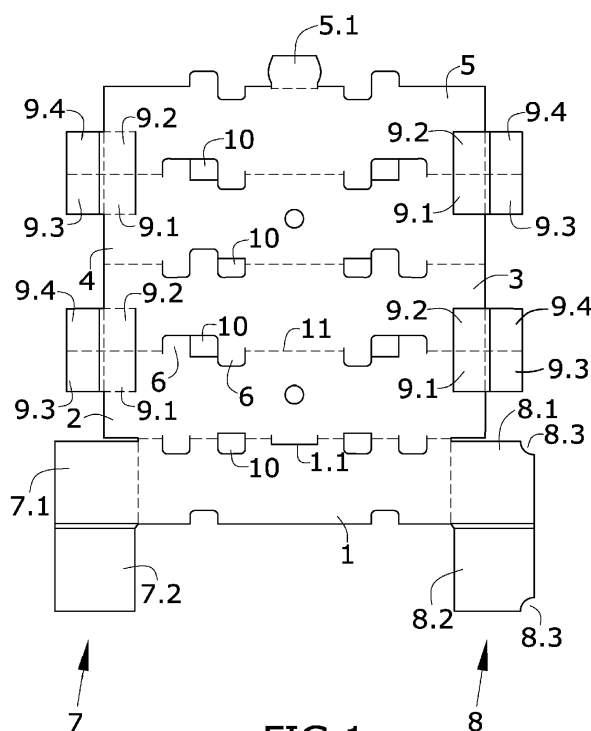


FIG.1

Description

PURPOSE OF THE INVENTION

[0001] The purpose of the present invention, as the title of the invention states, is a reinforced protector for bottles, which has a substantially prismatic shape with a quadrangular base within which an interior space is defined to house a bottle, so that it is protected from all sides both laterally and at the top and bottom.

[0002] The protector is formed from a sheet of cardboard or similar material, die-cut and cut.

[0003] The present invention is characterised by the reinforced way in which the top and bottom closure of the protector are carried out, closure meaning the assembly formed by the lid and the locking tabs, which correspond to the closure of the base and mouth of the bottle, which closure is performed in a reinforced manner resulting in a safe and effective seal throughout.

[0004] Therefore, the present invention lies within the field of bottle protectors, and in particular, within the construction characteristics thereof.

BACKGROUND OF THE INVENTION

[0005] It is known in the state of the art protectors for bottles having a essentially prismatic shape, which are formed from a punched and cut sheet and that, once shaped, enclose an inner space to house bottles.

[0006] One of the areas for improvement are the upper and lower protector closures, which would correspond with the base and with the mouth or top of the bottle. The documents that reflect the state of the art are represented by patent US 2749019 and EP 2583906.

[0007] These documents note the manner in which the closure of the protector ends is produced by means of a cover formed by a flap and hinged tabs that provide support to the cover. However, it has been observed that sometimes neither the cover itself nor the means supporting the cover is sufficient to hold the weight of the bottle contained therein.

[0008] Therefore, the purpose of the present invention is to develop a protector for bottles of the type formed from die-cut and cut sheets, which is reinforced on both its ends, which serve as upper and lower closures, thus developing a protector such as the one described below and gathered in its essence in the first claim.

DESCRIPTION OF THE INVENTION

[0009] The bottle protector now proposed is formed from a die-cut and cut sheet with a series of cuts and slittings so as to form a quadrangular prismatic body in which to house a bottle, thus presenting side walls and top and bottom covers for closure.

[0010] The die-cut sheet can have a geometry such that it allows the formation of a single prism in which to house a bottle, or two, three or as many as desired. To

do this simply repeat the general configuration of the assembly.

[0011] The sheet from which the protector is formed presents five different sides arranged adjacently, where four of them make up the side walls and the fifth serves as the assembly closure.

[0012] Along the lines joining the adjacent side walls there are cut and slotted lines, such that upon folding the assembly some perimetric tabs emerge that project outward from the protector with the purpose that, once the protector is placed into the box where it will be transported, they will protect against bumps that directly impact its sidewalls, which would in turn have direct impact on the bottle contained therein.

[0013] The arrangement of the cuts made on the joining lines of each adjacent side walls, those forming the perimeter guard tabs, is alternating relative to the next joining line, so as to allow a coupled, attached and unspaced arrangement of adjacent guard tabs.

[0014] Importantly, one of the side walls, in particular the wall from which emerge the flaps that serve as the upper and lower cover of the protector, has a shorter length relative to the other side walls, and is arranged to the centre relative to the other side walls. Thus the upper and lower covers are inset from the ends of the protector.

[0015] To affix the covers through what we call support means, at the ends of the lines joining the adjacent side walls there are some preferably rectangular areas outlined for subsequent folding, so that there are defined zones over what could be termed as the protruding part of the side walls with respect to closing covers, at diagonally opposite corners, which can be folded and which after folding towards the interior of the space defined by the highlighted area, form an "L"-shaped support means or closure.

[0016] For said "L"-shaped support means or closure located over the diagonally opposite corners of both the upper and lower end to be released once formed, by having to press on both folding zones forces the simultaneous deforming of the folding zones of the side walls, since the length of the distance that separates the ends of the folding areas is shorter than the sum of the lengths of both folding segments, making it impossible that any action resulting from an accident or blow might produce the release of the support means or closure of the protector covers.

[0017] To achieve the configuration of a reinforced closure, both the flaps that make up the closure covers and the means of support or closure are reinforced by an additional extension.

[0018] Through the means described, both the reinforcement of the base and upper part of the protector, and the support means or closure are achieved.

EXPLANATION OF FIGURES

[0019] To supplement the description being offered and in order to support an enhanced comprehension of

the features of the invention, using a preferred example of the practical embodiment thereof, attached as an integral part of said description is a set of drawings where in an illustrative and non-limiting manner the following has been represented.

[0020] Figure 1 shows the sheet that provides the basis from which is formed a protector such as the one in the invention.

[0021] In Figures 2 to 5 the folding process is shown for the sheet of one single protector.

[0022] In Figure 6, the sheet used for forming a double protector is shown, and the configuration shown may be extended for triple and quadruple protectors and so on.

PREFERRED EMBODIMENT OF THE INVENTION

[0023] In view of the figures, described below is a preferred embodiment of the proposed invention.

[0024] In Figure 1 it can be observed the shape presented by the die-cut and cut sheet from which an individual bottle protector is formed, and which includes five attached segments, a first segment (1), a second segment (2), a third segment (3), a fourth segment (4) and a fifth segment (5), which are approximately rectangular in shape and are arranged consecutively, joined by one of its longer sides, wherein the first segment (1), the second segment (2), the third segment (3) and the fourth segment (4) form the side walls of the protector, while the fifth segment (5) is the closing length, forming a closed assembly.

[0025] Separation of an adjacent segment is materialized through a fold line (11), where there are also a number of die-cuts and cuts made that define a series of tabs (6) and gaps (10), such that once the protector is formed the tabs are in a protruding arrangement so as to serve as a spacer medium and to protect the walls that are directly in contact with the bottle.

[0026] The perimetral tabs (6) are arranged alternately with respect to the perimetral tabs (6) made on the same side as the joining stretch of the next segment, and also with respect to the tabs facing the next joining line.

[0027] Furthermore, the gaps (10) maintain their position relative to the perimetral tabs, but their position is alternating relative to the folding line facing the adjacent segment, being located alternately between the two peripheral tabs, and on one side of the two tabs.

[0028] Importantly, segments (2), (3), (4) and (5) are all of equal length, while the first segment (1) is shorter than the previous ones and arranged in a centred manner relative to its greater length, presenting:

- at one of its ends a lower closure cover (7) made up of a first tab (7.1) connected to the first segment (1), and emerging from the first tab (7.1), a second or reinforcing tab (7.2) for the lower cover, which can be folded about the first tab (7.1).
- at its other end, an upper closure cover (8) made up of a first tab (8.1) connected to the first segment (8),

and emerging from the first tab (8.1) a second or reinforcing tab (8.2) for the upper closure (8).

[0029] The dual upper closing flap (8) has at one of its corners a recess or cut out (8.3) in order to facilitate removal of the cover by introducing a finger into the space left free.

[0030] To affix the closing covers, top and bottom, there are support means or reinforced closures outlined preferably formed by rectangular segments (9.1) and (9.2) presenting a few extra segments (9.3) and (9.4). These rectangular segments which form the support means or reinforced closures of the protector of invention, are arranged at the ends of the lateral portions and about the fold lines that are diagonally opposite at the formation of the protector.

[0031] Thus Figure 1 shows the support or closure segments (9.1) and (9.2) and the extra segments (9.3) and (9.4) for support or reinforced closure arranged adjacently to the segments (9.1) and (9.2) and about the fold lines that are diagonally opposed when the box is formed.

[0032] Figures 2 and 3 show how the process unfolds to form the protector for bottles and how at the segment (5), at its free edge and in the centre a closure tab emerges (5.1) to be inserted into the slot (1.1) created along the fold line of the first segment (1) with the adjacent (2).

[0033] The formation of the bottle protector initially requires that the second tab (8.2) is refolded over the first upper closure tab (8.1). The second tab (7.2) is also refolded over the first lower closure tab (7.1).

[0034] Once the protector is closed on its sides, as shown in Figure 4, via the two lower closure tabs (7.1) and (7.2) on one side and the two upper closure tabs (8.1) and (8.2) on the other side, the protector can then be closed at its two ends.

[0035] Subsequently, the extra segments (9.3) and (9.4) for support or reinforced closure are folded over the support or closure segments (9.1) and (9.2) respectively, forming a means of support or reinforced closure, which are then folded so as to form a staggered configuration on the surface of the closure covers which blocks their opening movement, as shown in figure 5 for the lower closure cover (7).

[0036] In order to perform the folding of the support and closure segments (9.1) and (9.2) and the extra segments (9.3) and (9.4) for support or reinforced closure, it may be necessary in addition to the marked fold lines, to make a partial cut about one side of the fold lines. These cuts will be such that the cut made on the central fold line is on the side of the sheet facing the interior of the assembly, while the cut on the end folding lines is made on the opposite side, that is, the side of the sheet that is facing outwards.

[0037] Figure 6 shows the configuration of a sheet used to make a double protector, showing that it is two individual sheets arranged adjacently, except that the last segment, which on its edge had a means of support or closure, is now connected to the edge of the last segment,

in other words it adopts a symmetrical configuration relative to the edge of the last segment (5). Also appearing are the reinforced means of both the cover, through a double tab, and the supports of the cover through a support means or double closure.

Claims

1. Bottle protector which has at least five attached segments, a first segment (1), a second segment (2), a third segment (3), a fourth segment (4) and a fifth segment (5), which are approximately rectangular in shape and are arranged consecutively, joined by one of their longer sides, wherein the first (1), second (2), third (3) and fourth (4) segments form the side walls of the protector, and the fifth segment (5) is the closure segment, configuring an enclosed assembly where the second (2), third (3), fourth (4) and fifth (5) segments are of equal length, while the first segment (1) is shorter relative to the previous and is arranged centrally in relation to their longer length, presenting at their ends tabs that serve as the upper cover (8) and lower cover (7) for closing the bottle protector, and on the joining fold lines of the segments that are diagonally opposite once the protector is formed, on their ends there are support or closure segments (9.1) and (9.2) to support the adjacently arranged covers on the fold lines which are diagonally opposite in the formation of the protector, **characterised in that** the upper cover (8), the lower cover (7) and the support or closure segments (9.1) and (9.2) for support of the covers are reinforced, where:

- the lower closure cover (7) comprises a first tab (7.1) connected to the first segment (1), and emerging from the first tab (7.1), a second or reinforcing tab (7.2) for the lower cover, which can be folded about the first tab (7.1).

- the upper closure cover (8) comprises a first tab (8.1) connected to the first segment (1), and emerging from the first tab (8.1), a second or reinforcing tab (8.2) for the lower cover, which can be folded about the first tab (8.1).

- the support or closure segments (9.1) and (9.2) have some additional segments (9.3) and (9.4) for support or reinforced closure arranged adjacent to the segments (9.1) and so (9.2). These additional segments (9.3) and (9.4) for support or reinforced closure can be refolded over the support or closure segments (9.1) and (9.2) respectively and allow the formation of a means of support or reinforced closure of the upper (8) and lower (7) covers.

2. Bottle protector according to claim 1, **characterised in that** the support or closure segments (9.1) and

(9.2) and the additional support segments (9.3) and (9.4), and the fold lines have a partial cut on one side of the fold lines, these cuts will be such that the cut made on the central fold line is on the side of the sheet facing the interior of the assembly, while the cut on the end folding lines is made on the opposite side, that is, the side of the sheet that is facing outwards.

3. Bottle protector according to claim 1, **characterised in that** the tabs (8.1) and (8.2) making up the upper closure cover (8) have in one of their corners a recess or cut out (8.3).

4. Bottle protector according to claim 1, **characterised in that** on segment (5) at its free edge and in the centre a closure tab (5.1) emerges that is inserted into the slot (1.1) made on the fold line of the first segment (1) with the adjacent one (2).

5. Bottle protector according to claim 1, **characterised in that** the separation of an adjacent segment is through a fold line (11), where there are also a number of die-cuts and cuts made that define a series of tabs (6) and gaps (10), such that once the protector is formed the tabs are arranged so that they protrude.

6. Bottle protector according to claim 5, **characterised in that** the perimetral tabs (6) are arranged alternately with respect to the perimetral tabs (6) made on the same side as the joining stretch of the next segment, and also with respect to the tabs facing the next joining line.

7. Bottle protector according to claim 5, is **characterised in that** the gaps (10) maintain their position relative to the perimetral tabs, but their position is alternating relative to the folding line facing the adjacent segment, being located alternately between the two perimetral tabs, and on one side of the two tabs.

8. Bottle protector according to the claims above, **characterised in that** if the desire is to make a double bottle protector, there are two sets of adjacent segments available, where the last segment is connected to the edge of the last segment of the following protector, in other words it adopts a symmetrical configuration relative to the edge of the last segment (5).

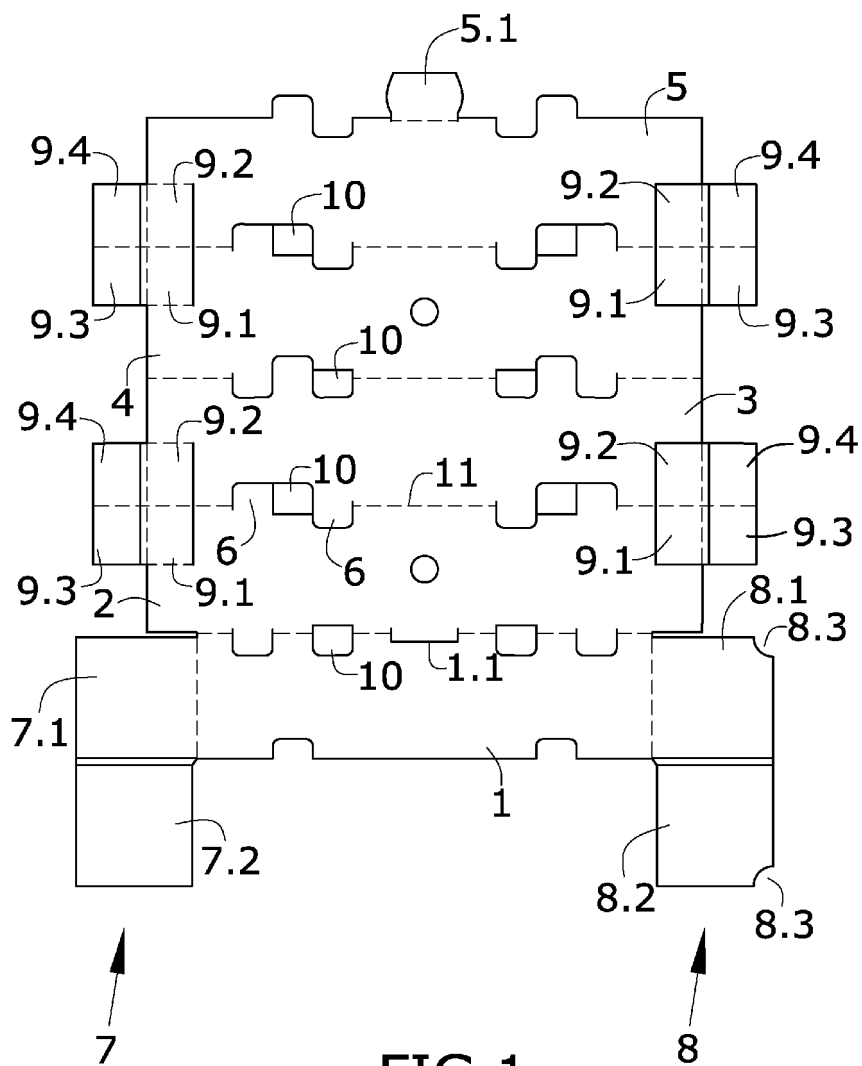


FIG.1

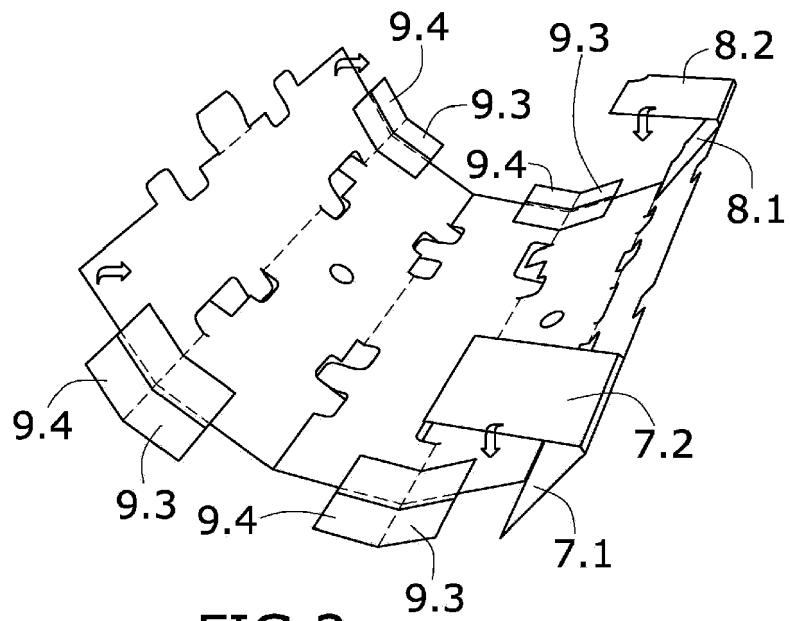


FIG. 2

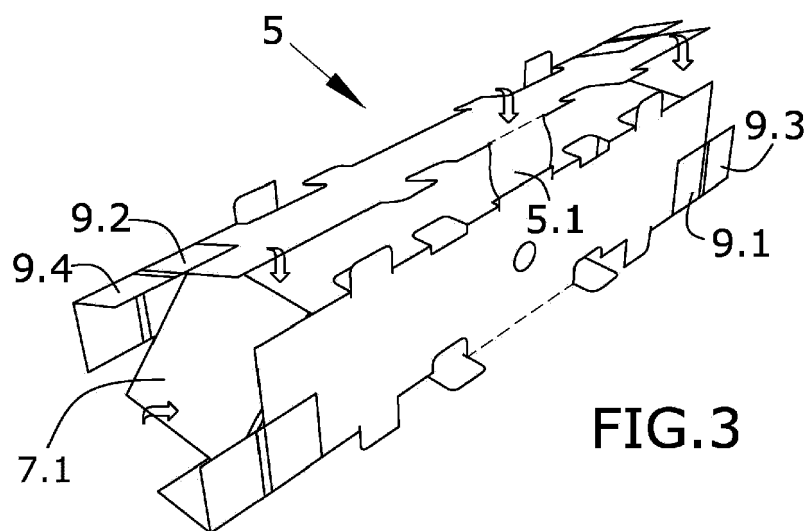
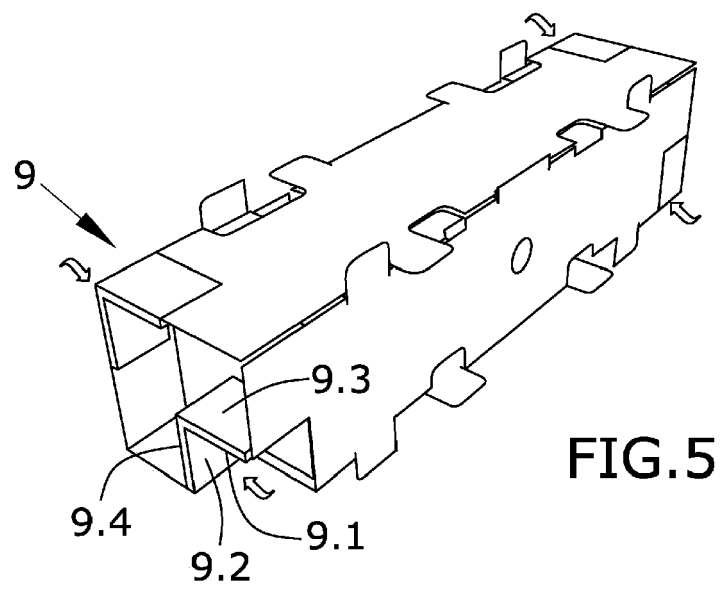
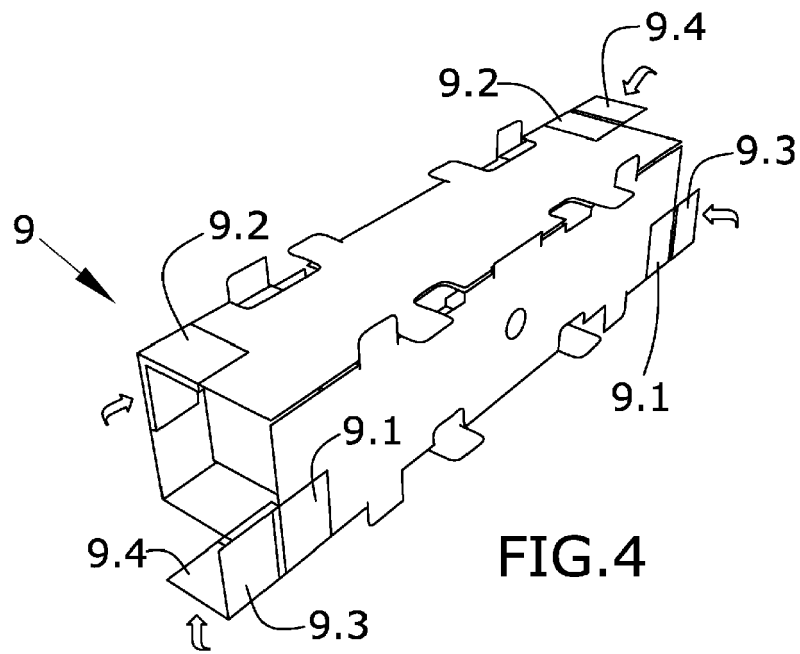


FIG. 3



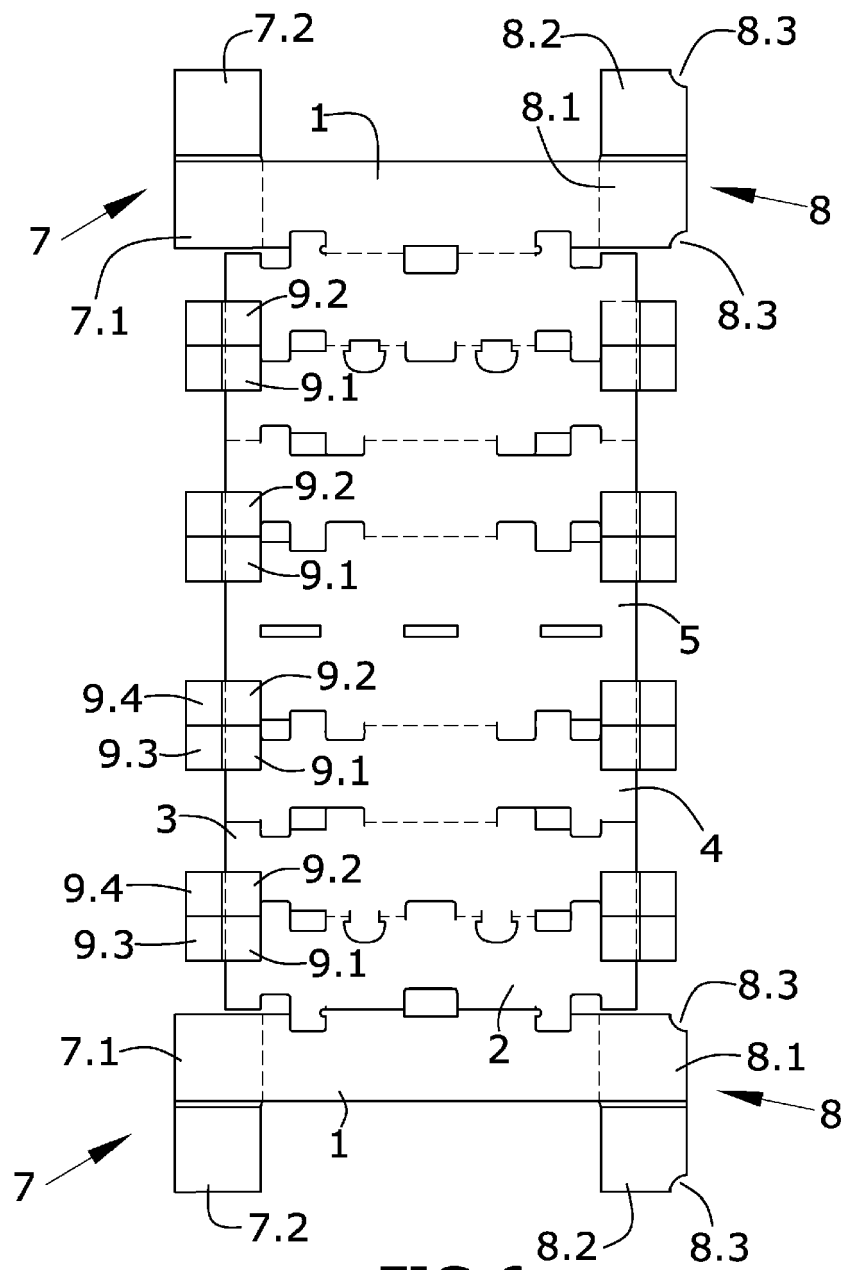


FIG.6



EUROPEAN SEARCH REPORT

Application Number
EP 14 38 2187

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	EP 2 583 906 A1 (CARTONAJES FONT S A [ES]) 24 April 2013 (2013-04-24) * paragraph [0001] - paragraph [0032] * * figures 1-6 *	1-8	INV. B65D5/50
A,D	US 2 749 019 A (WILFRED OHLUND) 5 June 1956 (1956-06-05) * columns 1-4 * * figures 1-8 *	1-8	
A	FR 2 170 930 A1 (ALPES CARTONNERIE MODERN [FR]) 21 September 1973 (1973-09-21) * figures 1-4 *	1-8	
A	US 5 730 289 A (CAPPELS BRUCE [US]) 24 March 1998 (1998-03-24) * figures 1a, 1b, 2a, 2b, 3 *	1-8	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 November 2014	Examiner Duc, Emmanuel
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
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 38 2187

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.

18-11-2014

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2583906 A1	24-04-2013	EP 2583906 A1 ES 1075626 U	24-04-2013 11-11-2011
US 2749019 A	05-06-1956	NONE	
FR 2170930 A1	21-09-1973	NONE	
US 5730289 A	24-03-1998	US 5730289 A US 5967320 A	24-03-1998 19-10-1999

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 2749019 A [0006]
- EP 2583906 A [0006]