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(54) **A blank and method suitable for sandwich packaging**

(57) The invention relates to a blank suitable for producing a substantially prism shaped sandwich packaging (1), comprising a trapezoid shaped bottom portion (3), a trapezoid shaped top portion (2), at least three sidewall portions (4,5,6,7), wherein at least two of the at least three sidewall portions are provided with a mini perforation (16).
The invention further relates to a method for producing a substantially prism shaped sandwich package, wherein a blank as described above is provided, of which blank the side wall portions (4,5,6,7) are folded upwards, the at least three sidewall portions are glued or heat sealed to the bottom and the top portions (2,3), thus providing a one-side-open packaging, a subject to be packaged e.g. a stack of sandwiches in the packaging is inserted in the one-side-open packaging and a fourth side wall portion (7) is glued or heat sealed to the open side of the packaging.

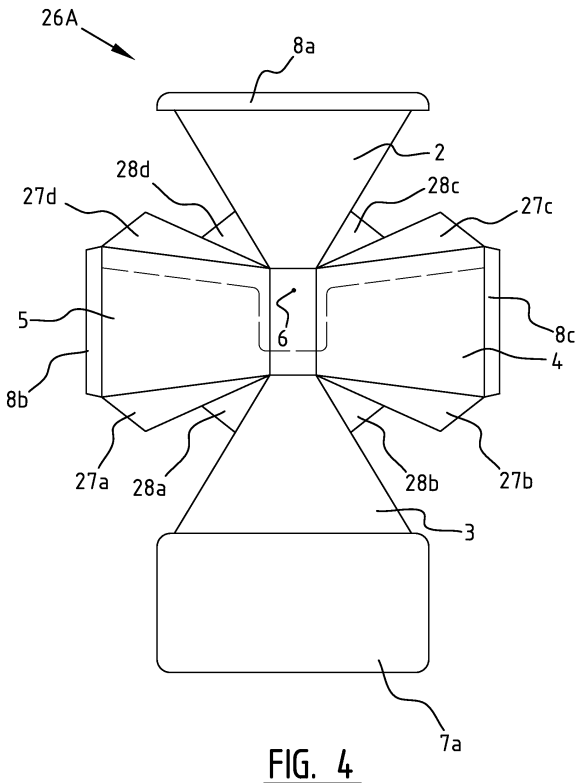


FIG. 4

EP 2 261 128 A1

Description

[0001] The invention relates to a blank and a method suitable for sandwich packaging. More specific, the invention relates to a substantially prism shaped packaging.

[0002] Such a packaging is for instance in detail described in the international application W02008/037986. This document discloses besides a packaging a blank for forming a substantially prism shaped packaging.

[0003] The packaging proposed in this international application is provided with an opening, being a side wall portion arranged between the hypotenuse sides of the top and bottom portions. When this packaging is opened and placed on a surface, the package has to be positioned on either one of the substantially triangular side wall portions, urging the opening to face a sideward direction. Thus the contents can get out easily, especially when a portion of the contents is liquid.

[0004] Accordingly it is an object of the invention to mitigate or solve this above described and/or other problems of packaging suitable for sandwiches in the art, while maintaining and/or improving the advantages thereof.

[0005] A further object of the invention is to provide a packaging that can be practically manufactured, while providing a user friendly solution to the impractical sideward facing opening.

[0006] This object is reached by a blank suitable for producing a substantially prism shaped sandwich packaging, comprising: a trapezoid shaped bottom portion, a trapezoid shaped top portion, at least three sidewall portions, wherein at least two of the at least three sidewall portions are provided with a mini perforation.

[0007] By the mini perforation, the packaging can be opened by opening up one of the triangular or topped triangular sides portions, thus after opening still providing a stable container with intact side walls or at least portions thereof.

[0008] A further aspect of the invention is A blank wherein the mini perforation is arranged in the topside section of the sidewall portions and arranged substantially parallel to the top portion. By arranging the mini perforation in the top side sections, only a small cover can be provided while the bigger part of the wall portions remain as a container or box.

[0009] Another aspect of the inventions is blank wherein the mini perforation is running over the full width of the at least two side wall portions and is provided with a first substantially S-shaped curve in a first sidewall portion and a second substantially S-shaped curve in a second side wall portion, providing a opening lip. By providing such a mini perforation, the cover can be easily opened and can pivot around an edge of that side wall through which the mini perforation is not running.

[0010] By providing the S-shaped curve, an opening lip is provided which renders opening the packaging easy. Furthermore, the region left when the lip is removed provides an easy finger access to the contents of the package.

[0011] Yet a further aspect of the invention is a blank wherein the opening lip is extending over three sidewall portions. In case the prism shaped package is provided with a topped triangular cross section, a third relative small rectangular wall is present, through which the mini perforation can be running as well.

[0012] The disclosure encompasses also a sandwich package, comprising a blank as described above.

[0013] Another aspect of the invention is a method for producing a substantially prism shaped sandwich package, wherein a blank as described above is provided, of which the sidewall portions are folded upward and heat sealed or glued to the bottom and the top portions, thus providing a one-side-open packaging, wherein the subject to be packaged e.g. a stack of sandwiches is inserted in the packaging, wherein a fourth side wall portion is heat sealed or glued to the open side of the packaging.

[0014] In order to further elucidate the invention, exemplary embodiments will be described with reference to the drawing. In the drawing:

Figure 1 represents a schematic perspective view of a prism shaped packaging according to the state of the art;
Figure 2 represents a schematic perspective view of the packaging according to the invention;
Figure 2A represents the packaging according to figure 2 after opening;
Figure 3 represents a schematic top view of a blank according to a first embodiment of the invention;
Figure 4 represents a schematic top view of a blank according to a second embodiment of the invention;
Figure 5 represents a schematic top view of a blank according to a third embodiment of the invention;
Figure 6 represents a schematic top view of a blank according to a fourth embodiment of the invention.

[0015] The figures represent specific exemplary embodiments of the inventions and should not be considered limiting the invention in any way or form. Throughout the figures the same or corresponding reference numerals are used for the same or corresponding elements.

[0016] The expression "substantially prism shaped" is to be understood as, though not to be considered limited to a three dimensional shape, having a triangular or topped triangular bottom and top surfaces and three or when the triangular top and bottom are topped, four substantial rectangular side walls.

[0017] The expression "substantial rectangular" is to be understood as, though not to be considered limited to a rectangular shaped form, having two pairs of substantially parallel edges, wherein slight deviations in the parallel direction of the edges, of for instance 10 degrees are allowed.

[0018] The expression "mini perforation" is to be understood though not to be considered limited to a perfo-

ration that provides a reduced strength in all but one layer of a multilayered web, thus, the web is easily being ruptured at the mini perforation, while the one intact layer maintains up to the opening of the package a substantially gas and/or bacteria tight closure. In general the multi layered web comprises a card board layer and a polymeric sealing layer laminated thereupon. In such material, the mini perforation provides a reduced strength in the cardboard material while maintain the sealing layer substantially in tact.

[0019] In figure 1, a schematic perspective view of a packaging 1 according to the state of the art is given. In this figure the packaging is having a prism shape such that a triangular stack of sandwiches can be inserted. The packaging comprises two topped triangular wall portions 2 and 3, two substantially rectangular side wall portions 4 and 5, a relative small triangular wall portion 6 and a closing surface 7, which can be glued or heat sealed on the closing edges 8.

[0020] A packaging 8 like this is generally made of plastic or card board, where for environmental reasons cardboard is preferred. By applying card board with a laminated layer of a plastic such as e.g. polylactic acid a heat sealable closed package can be shaped.

[0021] This packaging can be opened by peeling off the closing surface 7, for instance by a corner lip 10 facing a non glued portion 9 of the closing edges 8, making an opening 11. The thus provided opening 11 opposes a relative small rectangular wall portion 6, which does not provide a stable positioning surface. In order to put the packaging away in a stable position, it can only be placed on the triangular wall portions 2 or 3. Thus the opening 11 is facing sideward in stead of upward, providing the unwanted possibility that the contents of the packaging can get out.

[0022] In figure 2, a schematic perspective view of a prism shaped packaging 1 according to a first embodiment of the invention is provided. This packaging 1 is provided with a mini perforation 16, running over the wall portions 4, 5 and 6. The mini perforation 16 runs from edge 12 at a distance A from edge 19 over wall portion 5 towards edge 13, where it is provided with a downward curve 17, crossing the edge 13 at a distance B from edge 21. The mini perforation 16 runs further crossing the relative small rectangular wall portion 6, and after crossing edge 14, on the wall portion 4 it is provided with an upward curve 18. From the upward curve 18 the mini perforation 16 runs further at a distance A from edge 20 to edge 15. Since the distance B is larger than the distance A, a lip 19 is formed, which can be squeezed by a user in order to open the packaging.

[0023] By squeezing the lip 19, the mini perforation 16 ruptures at the curves 17 and 18 and by lifting the lip, the mini perforation 16 can be ruptured up to the edges 12 and 15. Thus by rupturing the mini perforation, a lid shaped cover 21 and a container like box 22 are provided as is represented in figure 2A. The cover 21 is thus allowed to pivot with respect to the container like box around folding line 23.

[0024] Thus, a more practical box 22 remains, from which the contents cannot simply fall out or run out. The edge of the opening 24 is provided with a lower edged region 25. This lower edge portion can provide an easy finger access being a practical space for taking out the contents such as sandwiches from the packaging 1.

[0025] In figure 3 a schematic top view of a blank 26 according to an embodiment of the invention is provided. In this blank 26 the side wall portions 4 and 5 a are slightly tapered towards the closing edges 8a-8d. Thus machine folding can be performed more practically, since the completed packaging can loosen from a folding stamp of a folding machine. The wall portions 2-5 can be connected by means of triangular connecting portions 27a-27d and 28a-28d.

[0026] In the blank 26, the wall portions 4, 5 and 6 are provided with the mini perforation 16 as described hereinabove. When blank 26 is folded to the package and heat sealed or glued by means of the connecting portions 27a-28d, an opening 11 can remain for inserting the packaging contents. After filling this packaging, a closing portion 7 can be glued or heat sealed upon the closing edges 8a-8d.

[0027] Alternatively, the closing portion can also be integrated in the blank as is represented by figure 4. The blank 26A is provided with an additional wall portion 7a, which can fit on the closing edges 8a-8c.

[0028] In figure 5 an alternative arrangement of the mini perforation 16a and 16b is depicted. Instead of the wall portion 4, here wall portions 5, 6 and 7a are provided with mini perforations 16a and 16b respectively. Thus the package 1 is opened by squeezing the packaging material around the edge 12, in order to rupture the mini perforation 16a and 16b. The cover 22 that is provided by rupturing the mini perforations 16a and 16b can pivot on edge 20. In this embodiment again a box like container remains after opening the package 1, from which the contents will not easily get out.

[0029] In figure 6, the mini perforation 16 comprises a downward curve 17 and an upward curve 18 that are provided with enlarged radii 17a, 17b, 18a, 18b. These enlarged radii 17a, 17b, 18a, 18b can prevent the material from rupturing at locations other than at the mini perforation. Thus by these more gentle curves 17 and 18 a ripping or rupture of the lid 21 or the box like container 22 at unwanted locations can be prevented.

[0030] Throughout the description, the described edges 12-15, 19, 20, 23 correspond to folding lines 12-15, 19, 20, 23 in the blanks as presented in figures 3-5. These folding lines can be pre-embossed in order to provide more rapid, well defined folding during the mechanically folding of the blanks 26-26b into the packaging 1.

[0031] The invention is to be understood not to be limited to the exemplary embodiments shown in the figures and described in the specification. For instance the wall portion 6 can be omitted such that the edges 13 and 14 coincide and the wall portions 2 and 3 are virtually trian-

gular.

[0032] The portions 28a-d can be provided for a better leak tight closure in the corners. These portions 28a-d are not extending along the full length of the edged of the wall portions 2 and 3, such that when folded together, the portions 27a-d still provide sufficient heat sealable material towards the wall portions 2 and 3.

[0033] These and other modifications are considered to be variations that are part of the framework, the spirit and the scope of the invention outlined in the claims.

Claims

1. A blank suitable for producing a substantially prism shaped sandwich packaging, comprising a

- a trapezoid shaped bottom portion;
- a trapezoid shaped top portion;
- at least three sidewall portions;
- wherein at least two of the at least three sidewall portions are provided with a mini perforation.

2. A blank according to claim 1, wherein the mini perforation is arranged in the topside section of the sidewall portions and arranged substantially parallel to the top portion.

3. A blank according to any preceding claims, wherein the mini perforation is running over the full width of the at least two side wall portions and is provided with a first substantially S-shaped curve in a first sidewall portion and a second substantially S-shaped curve in a second side wall portion, providing a opening lip.

4. A blank according to a claim 3, wherein the opening lip is extending over three sidewall portions.

5. A sandwich package, comprising a blank according to any of the preceding claims.

6. A method for producing a substantially prism shaped sandwich package, comprising the following steps:

- providing a blank according to any one of claims 1-5;
- folding upward the side wall portions;
- heat sealing or gluing the at least three sidewall portions to the bottom and the top portions, thus providing a one-side-open packaging;
- inserting the subject to be packaged e.g. a stack of sandwiches in the packaging;
- heat sealing or gluing a fourth side wall portion to the open side of the packaging.

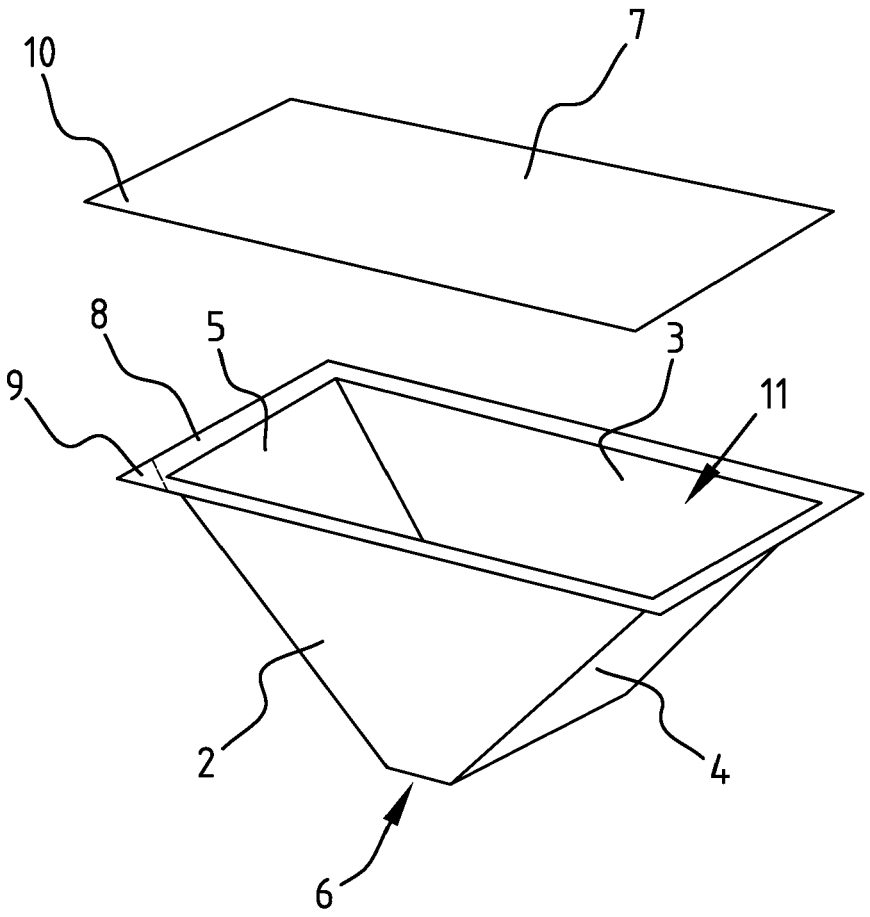


FIG. 1

STATE OF THE ART

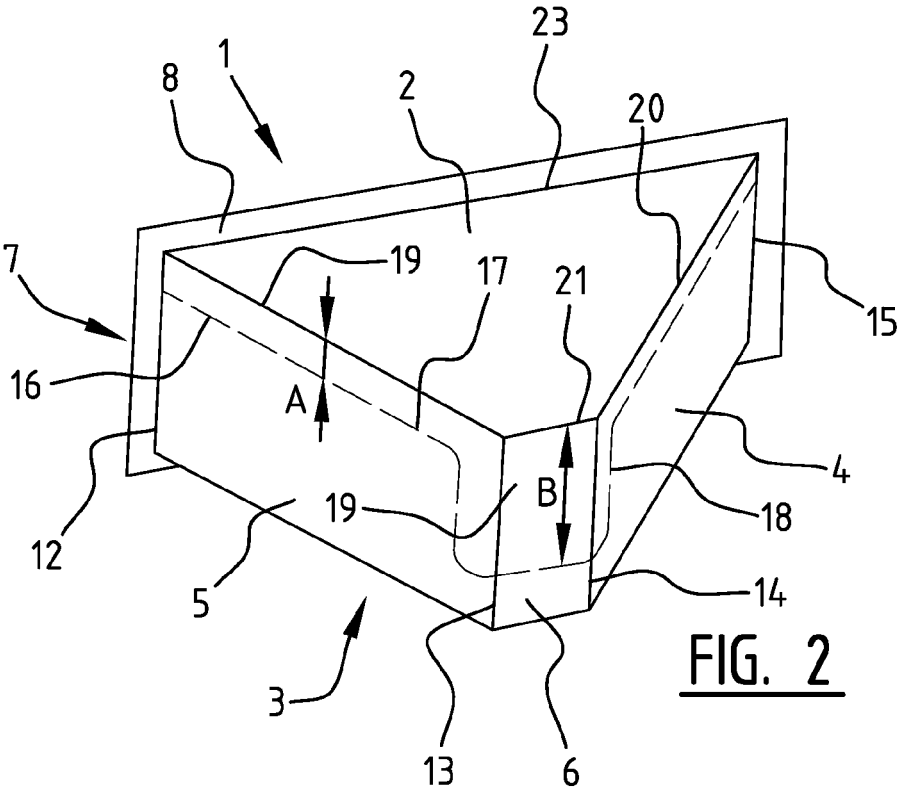
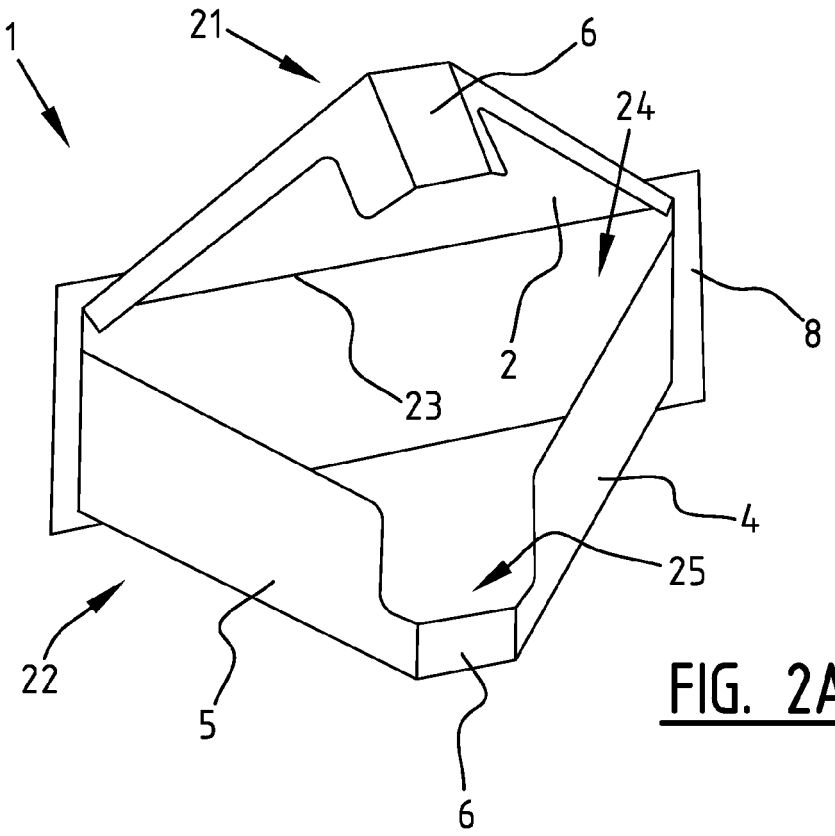

23
1
8
2
20
7
19
17
21
15
16
A
4
B
19
18
12
5
14
3
13
6

FIG. 2


1
21
6
24
8
2
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22
5
6

FIG. 2A

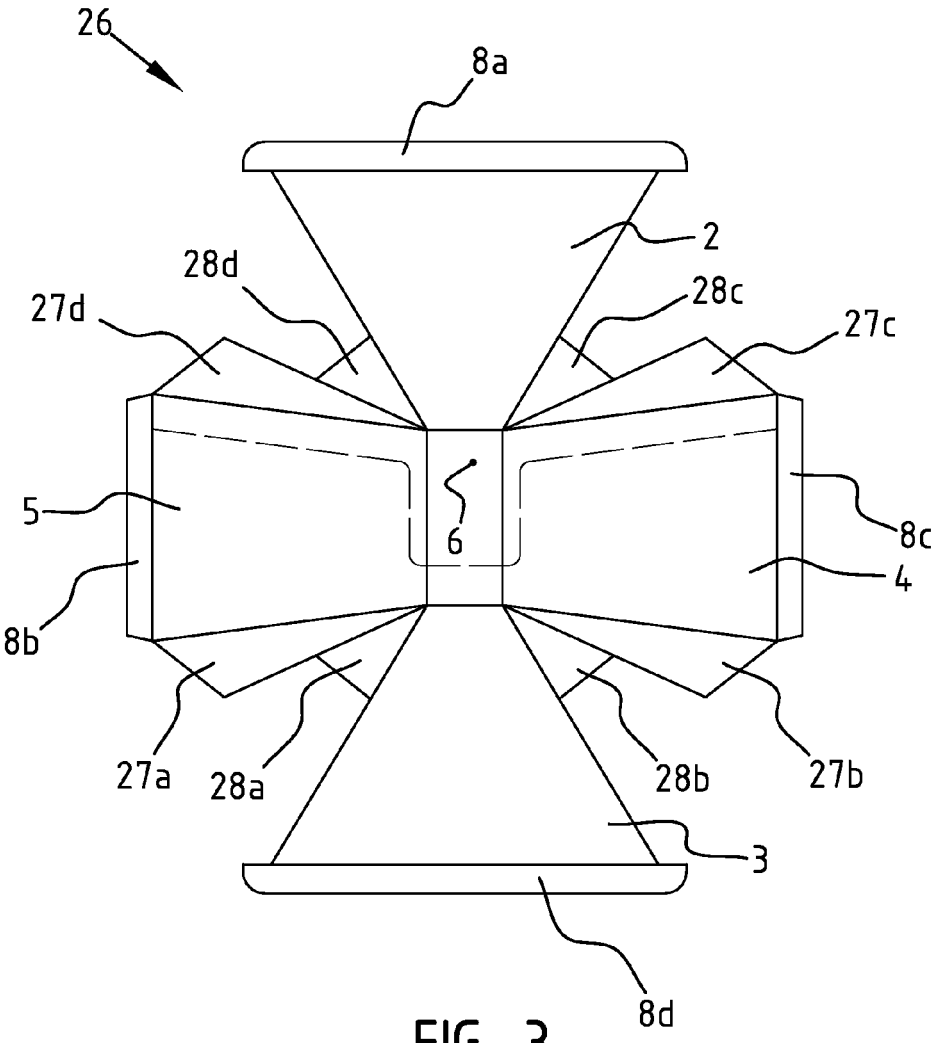

FIG. 3

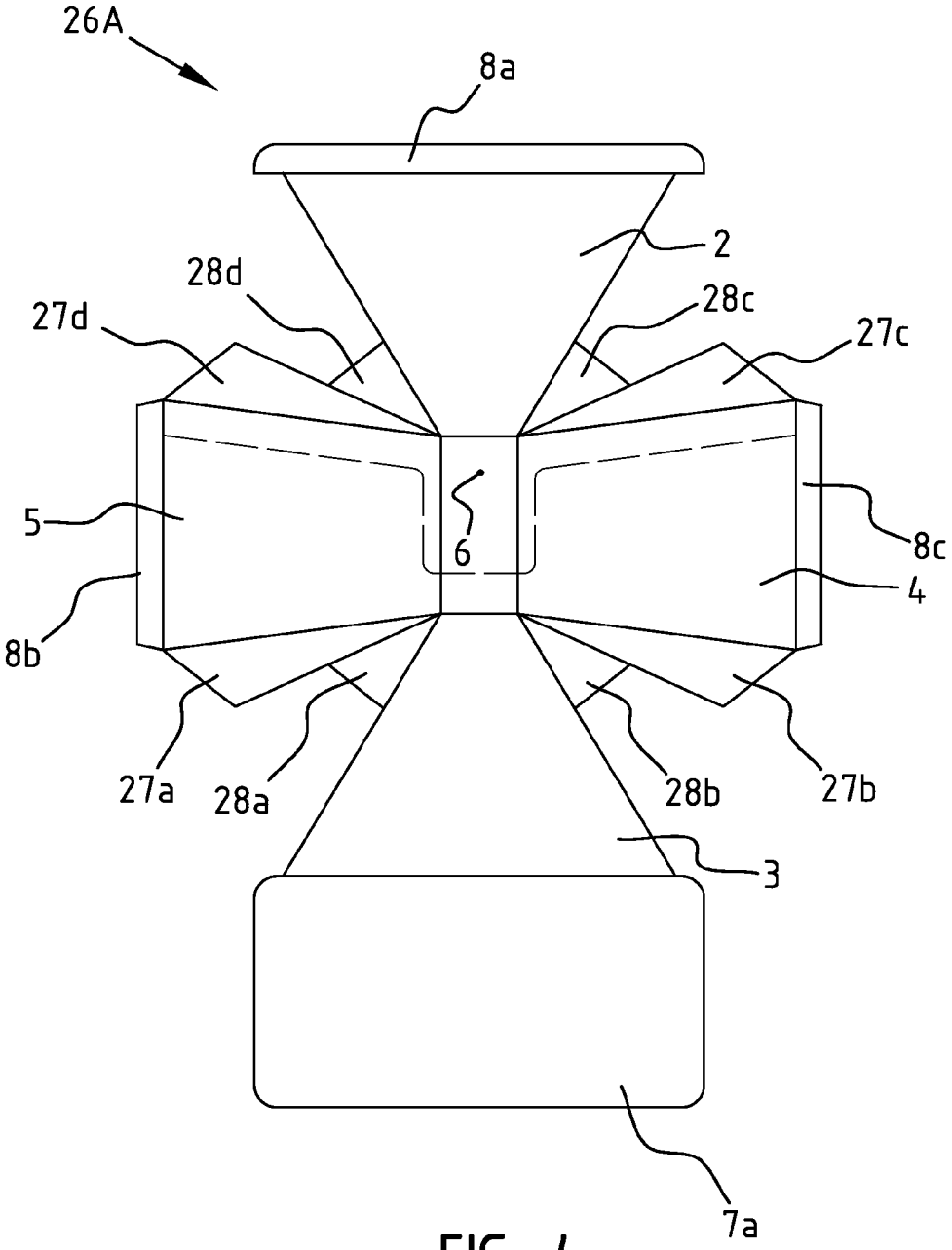

FIG. 4

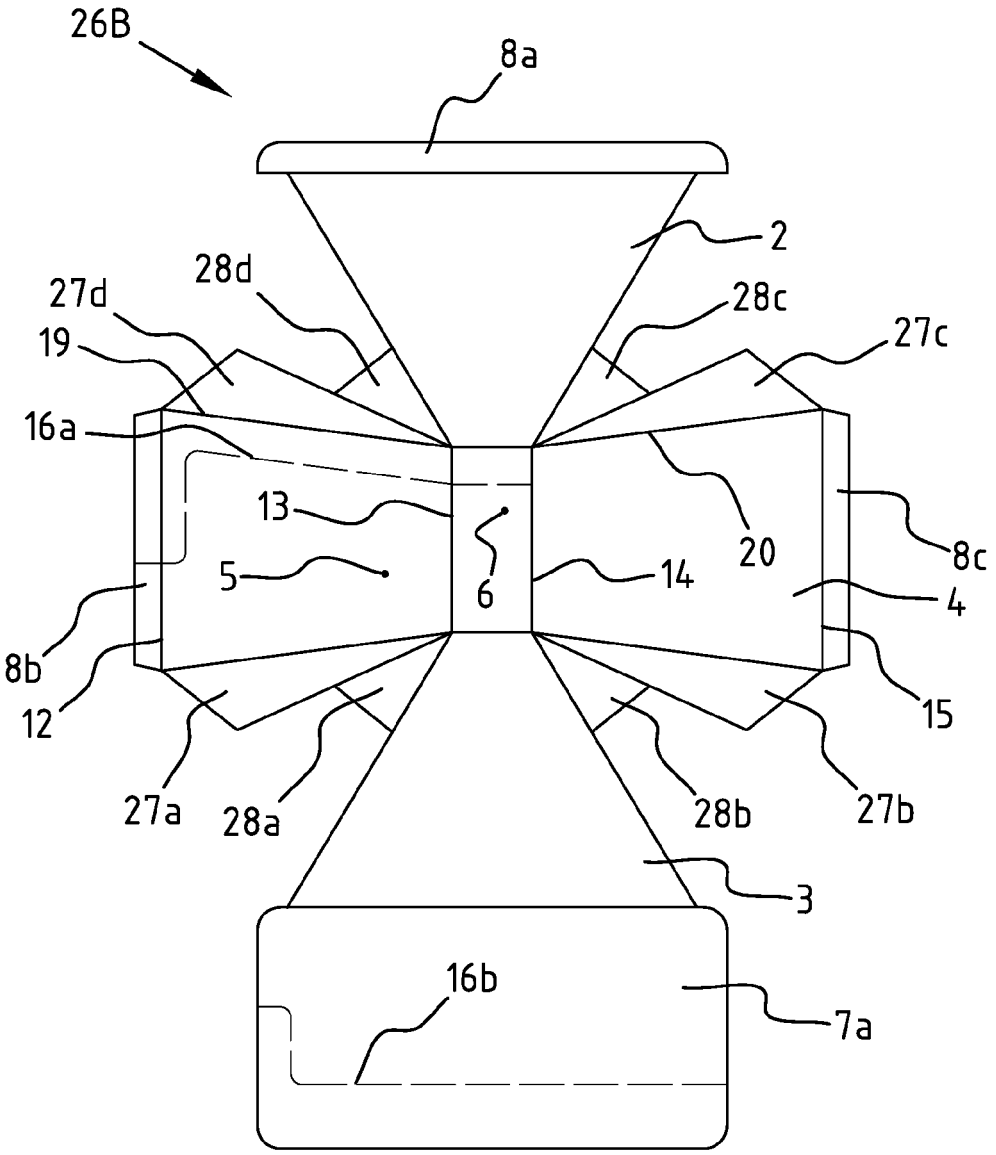
26B
8a
2
28d
27d
19
28c
27c
16a
13
20
8c
5
6
14
4
8b
12
15
27a
28a
28b
27b
3
16b
7a

FIG. 5

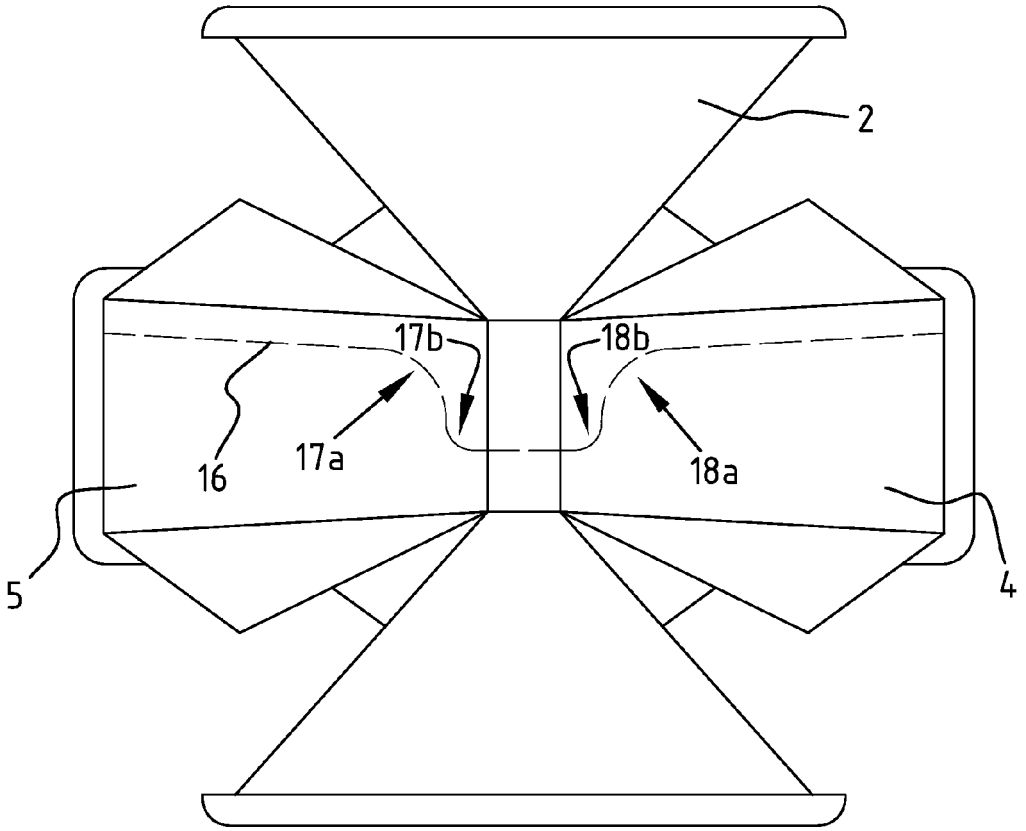

FIG. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 09 16 2577

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2 305 349 A (GOODWIN GEORGE W) 15 December 1942 (1942-12-15) * page 2, left-hand column, line 1 - right-hand column, line 28; claim 1; figures 1-3 * -----	1,2,4,5	INV. B65D5/54
Y	GB 2 378 938 A (COLPAC LTD [GB]) 26 February 2003 (2003-02-26) * page 5, paragraph 2 - page 7, paragraph 4; figures 1-6 * -----	1,2,5,6	
Y	EP 0 511 680 A (WALDORF CORP [US]) 4 November 1992 (1992-11-04) * column 6, line 17 - line 37; claim 1; figures 1-12 * -----	1,2,5,6	
			TECHNICAL FIELDS SEARCHED (IPC) B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	19 October 2009	Janosch, Joachim

CATEGORY OF CITED DOCUMENTS

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19-10-2009

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

REFERENCES CITED IN THE DESCRIPTION

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