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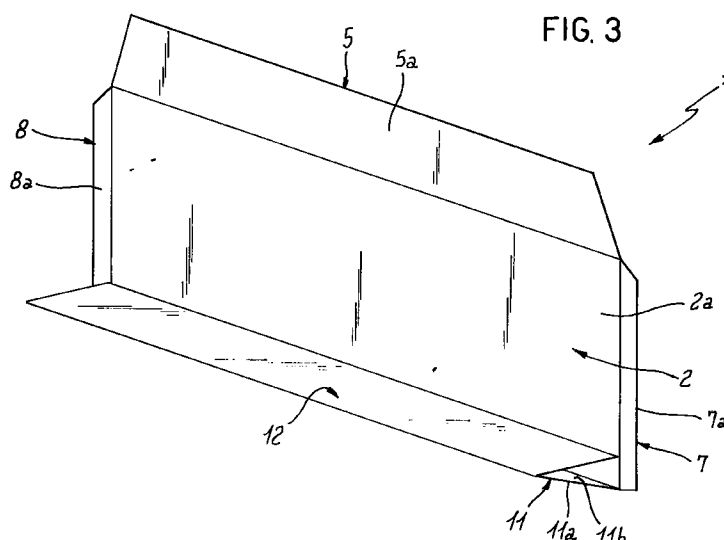
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(54) **Mail envelope**

(57) A mail envelope is described which comprises a main panel (2), an auxiliary panel (3) connected to the main panel (2) at a first fold line (4), a longitudinal flap (5) disposed on the opposite side from the auxiliary panel (3) along a second fold line (6), as well as first and second side flaps (7, 8) each connected to a corresponding side of the main panel (2) along a third and a fourth fold lines (9, 10), respectively. The auxiliary panel (3) has at least one first band (11) extending next to the

first fold line (4) and at least one second band (12) connected to the first band (11) at a fifth fold line (13), so that, under assembling conditions of the envelope, the second band (12) is folded over the first band, in turn folded over the main panel (2) to define an envelope configuration and the side flaps (7, 8) are connected to an outer face (11a) of the first band (11).



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Description

[0001] The present invention relates to a mail envelope. More particularly the invention relates to envelopes of paper or paperboard material arranged to house flat bodies inside them, such as sheets, sheaves of papers, documents, discs and the like.

[0002] It is known that different types of envelopes to be used for sending letters, sheaves of papers, documents and the like are widely spread on the market.

[0003] In particular, a first known type of envelope comprises a main panel to which an auxiliary panel, an upper flap and two side flaps are joined along respective fold lines. When the envelope is being made, the side flaps are folded back on the main panel and subsequently the auxiliary panel is folded back too in superposed relationship with the main panel and then glued to an outer face of the previously folded side flaps.

[0004] In this way the main panel, auxiliary panel and flaps define a housing into which the envelope contents can be inserted. While this first type of envelope is widely used, it is not at all adapted to receive words or symbols in printed form, of the advertising type for example or of still other types, located on the inner face of the main panel and/or the auxiliary panel, in that, when an already made envelope is to be opened and laid down in a plane, damaging of the inner surface of the auxiliary panel inevitably occurs at the connecting areas with the flaps.

[0005] In addition, an envelope of the above type does not offer the possibility of utilizing parts thereof such as coupons or cards for reuse, in that substantially the whole envelope is damaged as a result of opening.

[0006] A second known type of envelope described in the European Patent Application EP 0695649 comprises a main portion on which an auxiliary portion provided with side flaps will be superposed.

[0007] When the envelope is to be made, a connection between the side flaps and main portion is carried out. In particular, the main portion is provided to be first folded over the auxiliary portion and subsequently folding of the side flaps takes place, the latter being connected to the outer surface of the auxiliary portion.

[0008] As an alternative solution, the side flaps may be folded back before carrying out a superposition between the main portion and auxiliary portion so that said flaps are connected with an inner surface of the auxiliary portion.

[0009] The envelope thus made is then provided with a band extending from the auxiliary portion, which band is then detached from said auxiliary portion and can be easily inserted in the envelope as it is of lower width than the envelope itself.

[0010] Although an envelope of the above described type can be easily printed as it can be readily fed to laser printers or ink-jet printers of the traditional type, it however appears somewhat complicated during the step of closing or sealing the envelope because the

detachable band must be separated from the rest of the envelope and then must undergo an additional insertion operation for completing the envelope sealing.

[0011] It is to note in this connection that, since the intrinsic cost of an envelope is very reduced, every complication during the production step or the sealing step has a great repercussion on the overall costs of the product and/or the practical use thereof.

[0012] In addition, since the band is separated from the rest of the envelope, the maximum surface adapted to receive a possible printing is rather reduced because it is defined either by the surface of the detachable band or by the sum of the surfaces of the inner faces of the main and auxiliary portions.

[0013] Under this situation, the main object of the present invention is to provide a new envelope capable of substantially overcoming all the above mentioned drawbacks.

[0014] In particular, it is a fundamental object of the invention to make an envelope which is very simple in terms of production and that is capable of receiving inscriptions or graphic symbols making use of conventional printing systems. It is a further object of the invention to provide an envelope in which the area intended for receiving inscriptions or graphic symbols is maximized as compared with traditional envelopes.

[0015] Finally, it is a further important object of the invention to make an envelope which can be easily assembled and in which the closing step is carried out directly during the envelope manufacture without involving operations for detachment of parts or additional insertion operations.

[0016] The foregoing and further objects that will become more apparent in the course of the following description are substantially achieved by an envelope according to the features recited in the appended claims.

[0017] Further features and advantages will be best understood from the detailed description of a preferred but non-exclusive embodiment of an envelope in accordance with the invention. This description will be taken hereinafter with reference to the accompanying drawings, given by way of non-limiting example, in which:

- Fig. 1 is a first embodiment of the envelope in accordance with the invention showing its development in a plane;
- Fig. 2 is a second embodiment of an envelope in accordance with the invention still showing its development in a plane;
- Fig. 3 is a diagrammatic perspective view of an envelope in accordance with the invention during the sealing step.

[0018] With reference to the accompanying drawings, an envelope in accordance with the present invention to be used for sending sheet materials such as letters,

sheaves of papers, documents, discs and the like, has been generally identified by reference numeral 1.

[0019] Envelope 1 comprises a main panel 2 as well as an auxiliary panel 3 connected to the main panel at a first fold line 4. With reference to Figs. 1 and 2 where two possible typologies of envelope according to their development in a plane are shown, one can see that the main panel 2 and auxiliary panel 3 are substantially of rectangular form. Envelope 1 also comprises a longitudinal flap 5 disposed next to the main panel 2 at an opposite position relative to the auxiliary panel 3 along a second fold line 6 opposite and parallel to the first fold line 4. In a conventional manner, the longitudinal flap 5 has an inner face 5a provided with adhesive means 5b arranged in a rectangular strip for example.

[0020] Also connected to the main panel 2 are first and second side flaps 7 and 8, each in engagement with a corresponding side of the main panel itself, along a third and a fourth fold lines, 9 and 10 respectively. Conventionally, both the longitudinal flap 5 and the side flaps 7 and 8 are in the form of a trapezium the major base of which is disposed at the fold lines 6, 9, 10 through which said flaps are connected to the main panel 2.

[0021] In an original manner, the auxiliary panel 3 of the envelope in question is comprised of at least one first band 11 extending next to the first fold line 4 and at least one second band 12 connected to the first band 11, on the opposite side relative to the main panel 2, at a fifth fold line 13. The fifth fold line 13 too is preferably parallel to the first fold line 4. Still in accordance with the invention, under assembling conditions of the envelope, the second band 12 is folded back on the first band 11 in turn folded back on the main panel 2 so as to define envelope 1. Under these assembling conditions, the side flaps 7, 8 are connected by rigid engagement with an outer face 11a (see Fig. 3) of the first band 11, whereas the second band is located between the inner face 2a of the main panel 2 and the inner face 11b of the first band 11 without any direct connection with the side flaps 7, 8. In more detail, an inner face 7a, 8a of flaps 7, 8 is for example connected by adhesive means 7b, 8b, to the outer face 11a of the first band 11.

[0022] It is to note that the auxiliary panel 3 may comprise three or more bands disposed parallel to each other away from the main portion and adapted to be folded upon each other in such a manner that, in any case, once the envelope configuration has been reached, the band appearing externally and on top of the others and therefore offering its outer face 11a for a rigid connection with the side flaps 7, 8, is always the first one.

[0023] Advantageously, the auxiliary panel 11 is provided on both its sides with recessed areas 14 relative to the third and fourth fold lines 9 and 10. By virtue of said recessed areas 14, folding back of the different bands forming the auxiliary panel 3 over the main panel is made possible without any possibility that the sides of

the auxiliary panel 3 may take a superposed position on the third and/or fourth fold lines 9 and 10 even if working faults occur. Actually, it is to note that in the absence of the above described recessed areas 14, it would be necessary during the production step to ensure a perfect alignment between the sides of the auxiliary panel and the third and fourth fold lines, in order to enable a correct folding of the side flaps on the auxiliary panel.

[0024] From a construction point of view, the recessed areas 14 can be shaped like a right-angle undercut (see Fig. 1) or they can be made by suitably shaping the sides of each band defining the auxiliary panel. In particular, in Fig. 2 the sides of the first band 11 are defined by inwardly inclined edges 15 away from the main panel which are connected at the ends with the sides of the second band defined by outwardly inclined edges 16 away from the main panel 2.

[0025] Obviously, arc-shaped sides could be for example also provided, so as to define recessed areas capable of ensuring an easy closure of the envelope even in the presence of slight working errors during die-cutting of the envelope itself.

[0026] With reference to a further aspect of the invention, it is to note that the second, third and fourth fold lines 6, 9 and 10 could also be frangible lines, that is lines in which cuts are formed to enable easier opening of the envelope, so that the inner faces of the main panel 2 and auxiliary panel 3, once opening of the envelope has been carried out, are not at all damaged.

[0027] It is also to note that along the second fold line 6 preferably a thread-like element 17 (Fig. 1) may be disposed which is in engagement with the main panel by gluing or stitching and has an end grip portion 17a projecting from a perimetric edge of the envelope. This end grip portion may be acted upon by a user who can carry out tearing of the thread-like element so as to cause opening of the envelope along the second fold line. Likewise, thread-like elements 18 could be provided along the third or fourth fold lines 9, 10, said elements being connected to the main panel 2 by gluing or stitching and also having an end grip portion 18a projecting from a perimetric edge of the envelope. In this case too the user will be able to act on the end grip portion 18 and, by a tearing action, carry out opening of the envelope along the third or fourth fold lines. It is to note that from a construction point of view the above described thread-like elements can be made of a textile, plastic (nylon), metal material, etc.

[0028] Therefore, the envelope being the object of the invention has an overall inner surface, defined by the inner face 2a of the main panel and the inner face of the auxiliary panel 3 which is of great extension and is arranged for internally receiving graphic symbols of any nature.

[0029] It is finally to note that the fifth fold line 13 too can be provided with perforated or frangible lines so that at least the second band 12 of the auxiliary panel 3 can be a coupon to be sent back or reused. In particular, this

second band may comprise a median fold line 19 perpendicular to the fifth fold line 13 to define two halves 20, 21 to be folded and closed upon each other. For the purpose, one or both halves, close to the sides of the second band, can be provided with adhesive means 22, 23 such as adhesive strips for mutual engagement of the two halves.

[0030] The invention achieves important advantages.

[0031] Firstly, the envelope in question is of very easy manufacture in that it can be obtained in a single die-cutting or pressing step from a sheet material. In addition, the envelope can be made by simple folding operations, insertion of the message or coupon (second band of the auxiliary panel) occurring automatically without additional steps being required for insertion of sheet elements, which would necessarily make the envelope-production process more complicated and would reduce the production rates. Practically, the envelope may take advantage of print systems that are capable of reproducing possible inscriptions/graphic symbols and carrying out a complete closure of the envelope, so that in a single step the envelope is ready to be forwarded.

[0032] It is also important to note that, due to the presence of frangible lines and thread-like elements, opening is made easier without any of the inner faces of the main and auxiliary panels being damaged, so that said panels can define a wide surface on which printing can take place for advertising or other purposes.

[0033] It will be also recognized that the presence of recessed areas at the auxiliary-panel sides is advantageous in that the envelope can be made without involving too strict working tolerances, while, on the other hand, the final quality of the product is not jeopardized.

Claims

1. A mail envelope comprising:

- a main panel (2);
 - an auxiliary panel (3) connected to the main panel (2) at a first fold line (4);
 - a longitudinal flap (5) disposed next to the main panel (2) at an opposite position relative to the auxiliary panel (3) along a second fold line (6);
 - first and second side flaps (7, 8) each connected to a corresponding side of the main panel (2) along a third and a fourth fold lines (9, 10), respectively,
- characterized in that the auxiliary panel (3) has at least one first band (11) extending next to the first fold line (4) and at least one second band (12) connected to the first band (11) on the opposite side from the main panel (2) at a fifth fold line (13), and in that under assembling conditions of the envelope the second band (12) is folded over the first band, in turn folded over the main panel (2) to define an envelope configura-

tion, said side flaps (7, 8) being connected by rigid engagement to an outer face (11a) of the first band (11), the second band (12) being placed between the inner face (2a) of the main panel (2) and the inner face (11b) of the first band (11).

2. An envelope as claimed in claim 1, characterized in that said fifth fold line (13) is parallel to the first fold line (4).
3. An envelope as claimed in claim 2, characterized in that the auxiliary panel (3) is comprised of three or more bands disposed parallelly to each other away from the main portion and adapted to be folded upon each other.
4. An envelope as claimed in claim 1, characterized in that on both its sides the auxiliary panel (3) has recessed areas (14) relative to the third and fourth fold lines.
5. An envelope as claimed in claim 1, characterized in that it comprises a thread-like element (17) disposed along the second fold line (6) and having an end grip portion (17a) projecting from a perimetric edge of the envelope.
6. An envelope as claimed in claim 5, characterized in that the second fold line (6) comprises perforations or frangible lines to enable easy opening of the envelope.
7. An envelope as claimed in claim 5, characterized in that said thread-like element (17) is in engagement with the main panel at the second fold line (6) by gluing or stitching.
8. An envelope as claimed in claim 1, characterized in that it comprises a thread-like element (18) disposed at least along the third or fourth fold lines (9, 10) and having an end grip portion (18a) projecting from a perimetric edge of the envelope.
9. An envelope as claimed in claim 1, characterized in that said third or fourth fold lines (9, 10) comprise perforations or frangible lines for detachment of the respective side flap (7, 8) to enable easy opening of the envelope.
10. An envelope as claimed in claim 8, characterized in that the thread-like element (18) is in engagement with the main panel at least at the third or fourth fold lines (9, 10) by gluing or stitching.
11. An envelope as claimed in claim 1, characterized in that it comprises graphic symbols, reproduced by printing for example, on the whole inner surface of

the envelope defined by the inner face of the main panel (2) and the inner face of the auxiliary panel (3).

12. An envelope as claimed in claim 2, characterized in 5
that the fifth fold line (13) comprises perforations or
frangible lines, said second band (12) defining a
coupon to be sent back or reused.
13. An envelope as claimed in claim 12, characterized 10
in that said second band (12) comprises a median
fold line (19) perpendicular to the fifth fold line (13),
to define two halves (20, 21) to be folded over and
closed upon each other.

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FIG. 1

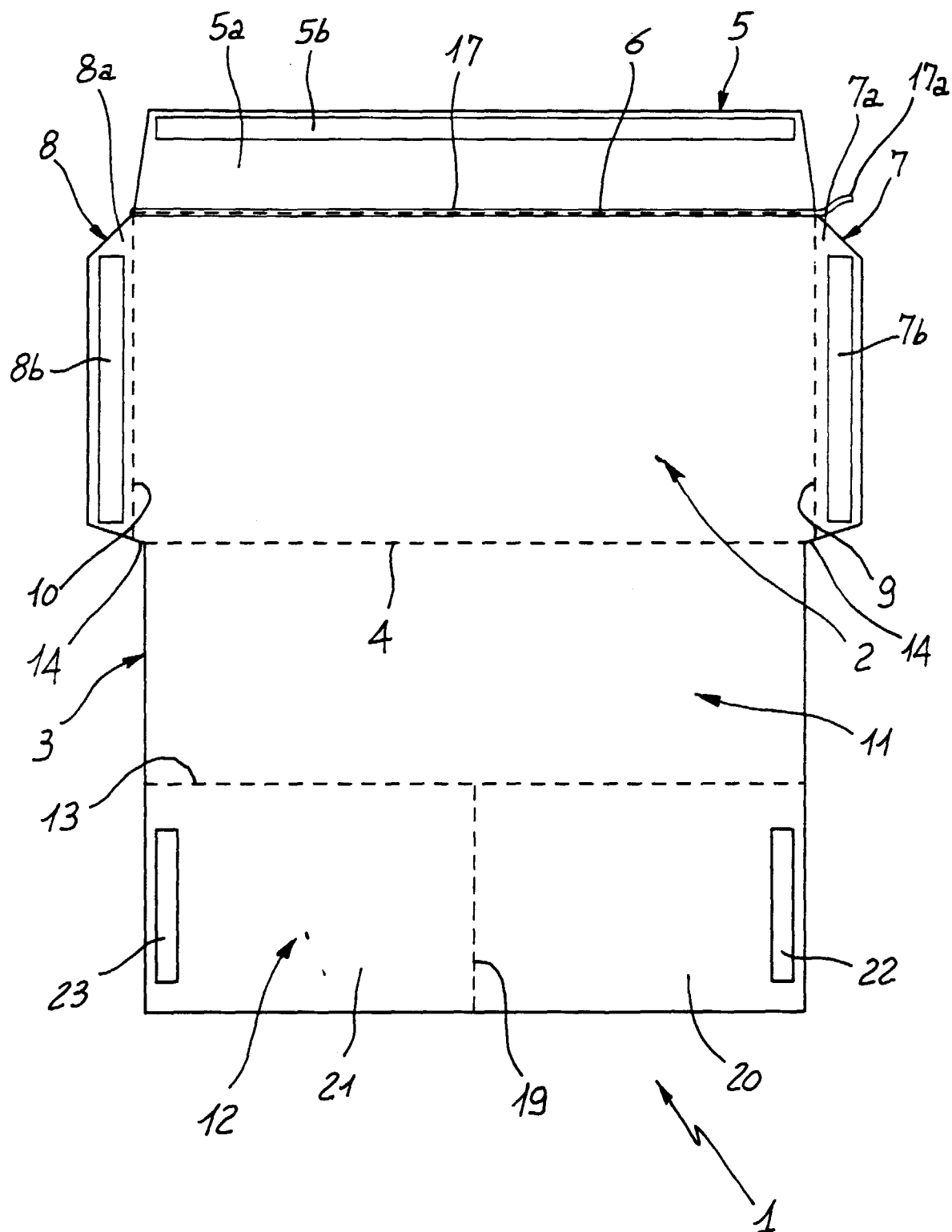
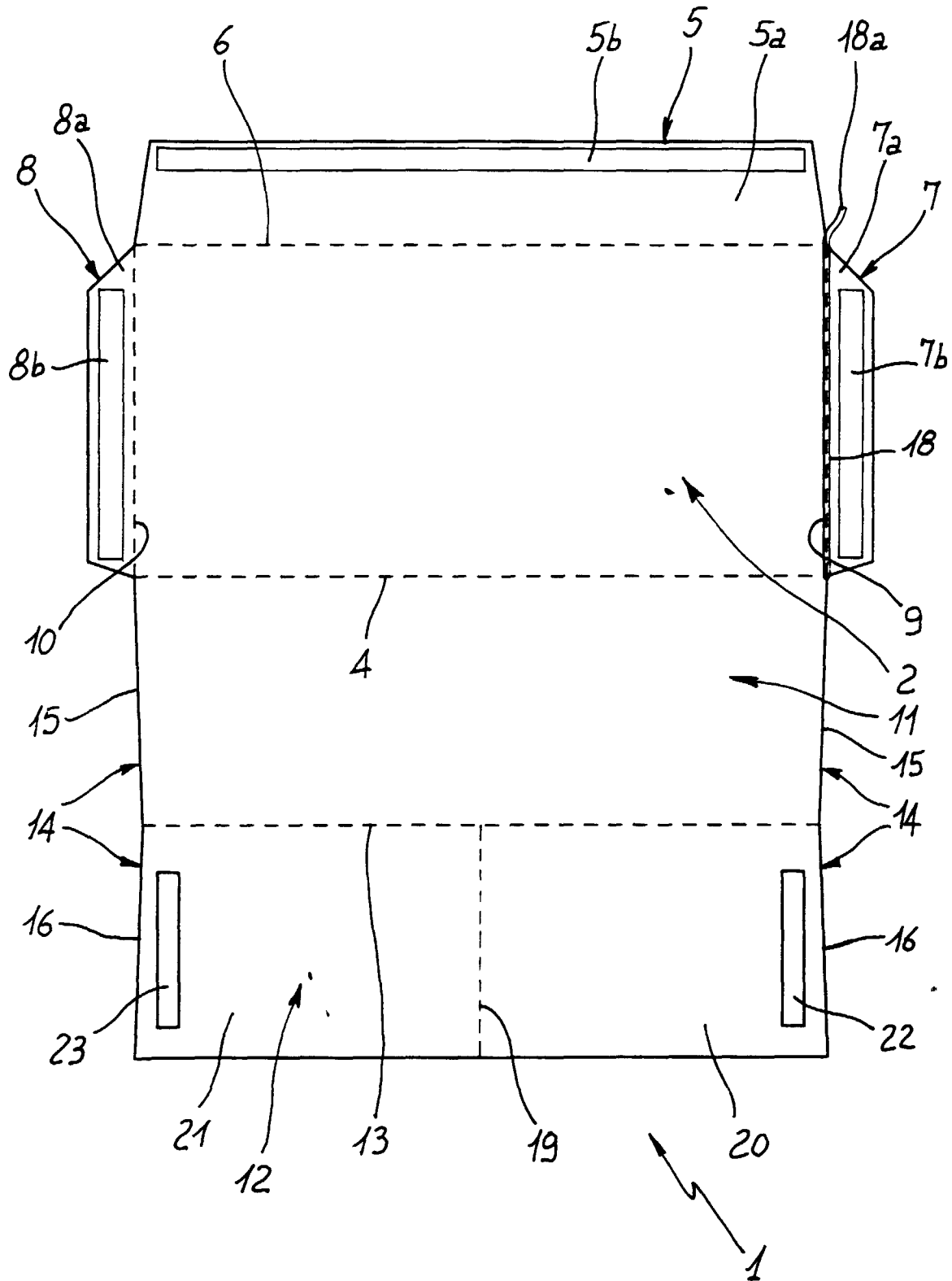
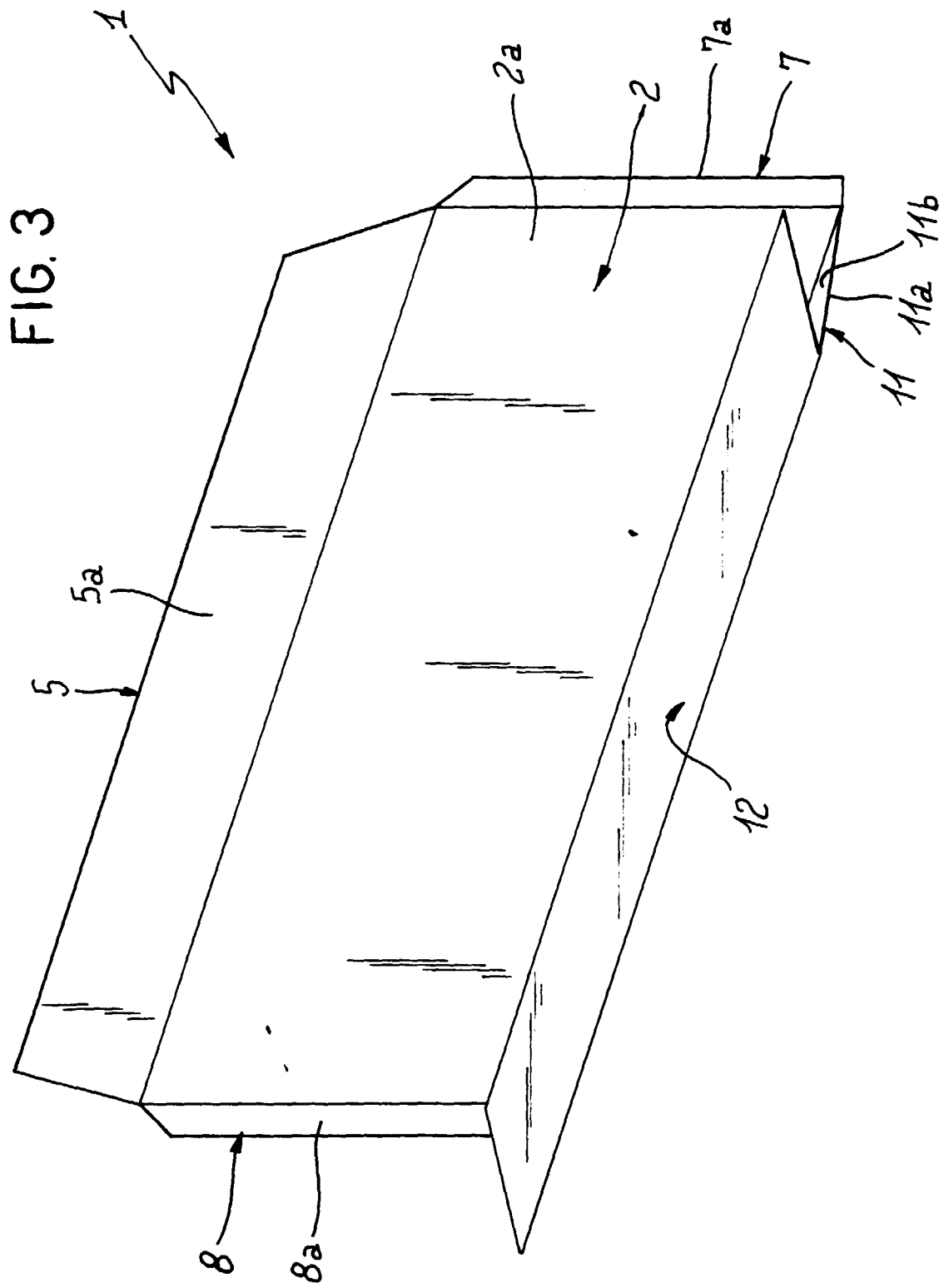


FIG. 2







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EUROPEAN SEARCH REPORT

Application Number
EP 97 83 0666

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.6)
X	FR 2 098 856 A (ÉTABLISSEMENTS COGERY)	1-4	B42D1/00
Y	* the whole document *	12,13	B42D15/08

X	FR 1 428 896 A (BERNARD)	1-4	
	* the whole document *		

Y	US 5 398 867 A (MURPHY)	12,13	
	* figure 2 *		

			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B42D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		30 March 1998	Evans, A
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			

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