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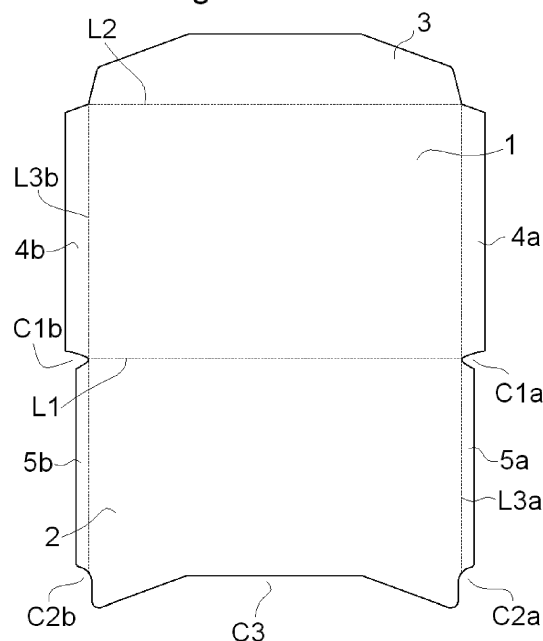
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(54) **Flat envelope**

(57) Flat envelope, of the type having a rear surface (2), a front surface (1) and a closing flap (3), both the front and rear surfaces having two side flaps (4-5) separated by two "V"-shaped cuts (C1 a and C1 b), the vertices of which coincide with the transverse line (L1) that separates the rear and front surfaces, and with the corresponding side line (L3). The flaps (5a and 5b) have two

cuts (C2a and C2b) affecting the areas corresponding to the free ends, next to the mouth of the envelope, that have a length at least equivalent to the sides of the flap (3), such that when making up the envelope it is located on top of said cuts; in such a way that the sides of the envelope have a uniform thickness along their entire length since they are formed by the same number of overlapping paper surfaces.

Fig. 1



Description

Object of the invention

[0001] The present invention is framed in the field of the art of manufacture of envelopes for sending letters or documentation, especially flat envelopes the lateral edges of which have a uniform thickness, even in the area of the closing tab. In particular, these are envelopes capable of feeding an automatic enveloping machine that introduces the documentation in its interior at high speed, without human intervention.

[0002] This type of envelopes have a rear surface, joined by a bending line with a front surface, which extends in a closing flap, separated from it by a transverse line, parallel to the above and perpendicular to the edges of said surfaces. The edges have a flap of the side, which is introduced between both surfaces, or on top of the rear surface, sticking all of them during the manufacturing process, to achieve the closure of the envelope by the edges. Usually the rear surface is shorter or has a cut in the mouth, usually trapezoidal, which opens up towards the centre, which facilitates the introduction of the documentation on the inside, both manually and automatically. While the front surface is perfectly rectangular, the rear surface normally has a trapezoidal configuration, the largest base of which is situated on the base and the smallest one coincides with the mouth; this configuration is adopted to prevent that a small mismatch in the formation of the envelope causes the slightly protrusion of this surface by one of the sides and which causes, in addition to an unsightly effect, a jam in the enveloping machine.

[0003] The conventional envelopes have a problem for their storage and transport given that all of them are stacked or annexed in the same position and, while there are three overlapping surfaces at the edges, in the area where the flap is situated on top of the edges there are four overlapping surfaces, what causes the stack to bow, or that when introducing them in a box or forming a package with them the envelopes are tightened by the part corresponding to the location of the flaps, while by the other parts are formed gaps that facilitate the bowing and even the slightly bending of the envelopes with transport.

[0004] An additional problem, when it comes to envelopes that will be filled in automatically, lies in the existence of side interior tabs that cause jams in the enveloping machine, which involve economic and time losses in the enveloping process.

Background of the invention

[0005] To facilitate that the stack or package of envelopes has uniform height or length, the envelopes that are subsequently subject of the printout have been manufactured with a small flap located on the vertices opposite to the closing flap, i.e. at both ends of the base of the envelope, making it easy to keep a column of enve-

lopes of this type vertically and preventing it from twisting while lifting the side corresponding to the closing flap more than the side that forms the base or bottom of the envelope.

Description of the invention

[0006] The envelope object of the invention conveniently solves both problems, on one part it is a flat envelope, insofar as its side edges have identical thickness along their entire length, since it has the same number of paper surfaces. In this way the envelope behaves in the stacking, or when forming a package of envelopes, all of them placed in the same position, as an element that has a more rigid frame, which are the two side edges and an intermediate surface slightly lighter since it has one or two less paper surfaces than said edges. When pressing the stack or package of envelopes, it is not tilted, nor the package is distorted which facilitates its transportation and its introduction into a printer or another type of machine, since the stack or row of envelopes is kept uniform by itself.

[0007] This envelope has, on the sides of both the front surface and the rear surface, two side flaps. The flaps of the front surface are slightly wider than two side flaps on the rear surface.

[0008] The respective flaps on each side are separated from the front and rear surfaces by two bending lines, which define the edges in the formation of the envelope. Likewise, the flaps on each side are separated by two "V"-shaped cuts, the vertices of which coincide with the transverse line that separates the front and rear surfaces and with the corresponding side line.

[0009] According to a feature of the invention, the sheet that forms an envelope has two cuts affecting the flaps on the rear surface, by the areas corresponding to the free ends, next to the mouth of the envelope, that have a length at least equivalent to the sides of the closing flap, such that when making up the envelope they are located on top of said cuts.

[0010] The envelope is formed by folding the front and rear surfaces over themselves and subsequently the respective side flaps over the rear surface and adhering the set of all the surfaces to close the edge of the envelope. This solution allows eliminating the side interior tabs that the conventional envelopes typically have, which prevents the possible jam in the enveloping machine when introducing the sheet or sheets in the interior of the envelope since they never bump into these tabs because they are not present. Likewise, since the edge is delimited by the folding of the outer flap that goes from the front surface to the top of the rear surface, the edge is sharp and uniform, whereby the package of envelopes and the own envelope itself are more aesthetic since there are no partial cuts in its edge.

Description of the figures

[0011] To complement the description being made and with the purpose of facilitating the understanding of the features of the invention, the present specification is accompanied by a set of drawings in which the following has been represented with illustrative character and without limitation:

Figure 1 shows a plan view of a sheet of paper, punched out conveniently and with bending lines to give rise to the envelope object of the invention.

Figure 2 represents an elevational view of an envelope formed according to a preferred embodiment of the present invention.

Preferred embodiment of the invention

[0012] As it can be seen in the referenced figures this envelope has a rear surface (2), provided at the free end with a recess or cutting (C3), which forms the mouth of the envelope. Said rear surface is joined by a bending line (L1) with a front surface (1), while this is prolonged in the closing flap (3), which is separated from said front surface by a transverse line (L2), parallel to the previous line (L1) and both are perpendicular to the edges of said surfaces.

[0013] The front surface (1) has two side flaps (4a and 4b) which are slightly wider than the flaps (5a and 5b) existing on the rear surface (2). For its part the rear surface (2) has two side flaps (5a and 5b), slightly narrower than the side flaps (4a and 4b) existing on the front surface (1) as already mentioned.

[0014] The flaps (4 and 5) existing respectively on the front and rear surfaces are separated from them by bending lines (L3a and L3b), which define the edges of the envelope in the conformation of the same. The flaps (4 and 5) of each side are separated by two "V"-shaped cuts (C1a and C1b), the vertices of which coincide with the transverse line (L1) that separates the front and rear surfaces, and with the corresponding side line (L3).

[0015] The flaps (5a and 5b) have two cuts (C2a and C2b) affecting the areas corresponding to the free ends, next to the mouth of the envelope. These cuts have a length at least equivalent to the sides of the flap (3), such that when making up the envelope it is located on top of said cuts, such that throughout the length of the edges the envelope has four overlapping surfaces and no more at any point, whereby envelopes having uniform thickness in these side bands are achieved, such that when stacking them or forming a package with them, they will not turn vertically or sideways.

[0016] The envelope, such as shown in figure 2 is formed by folding the front (1) and rear (2) surfaces over themselves and subsequently the respective flaps (5 and 4) over the rear surface (2) and adhering the set of all the surfaces (1-2-5-4) closing the edge of the envelope.

This solution is suitable in those cases in which the envelopes are intended for being automatically enveloped.

[0017] Once the nature of the invention has been sufficiently described, as well as at least one example of preferred embodiment, it is noted for the appropriate purposes that the materials, shape, size and arrangement of the elements described may be modified, provided that it does not involve an alteration of the essential features of the invention claimed below:

Claims

1. Flat envelope, of the type having a rear surface (2), provided at the free end with a recess or cut (C3), which forms the mouth of the envelope, said rear surface being joined by a bending line (L1) with a front surface (1), which extends in the closing flap (3), which is separated from it by a transverse line (L2), parallel to the previous line (L1) and perpendicular to the edges of said surfaces, **comprising:**

- the front surface (1) two side flaps (4a and 4b) which are slightly wider than two side flaps (5a and 5b) existing on the rear surface (2);
 - the rear surface (2) two side flaps (5a and 5b), which are slightly narrower than two side flaps (4a and 4b) existing on the front surface (1);
 - two bending lines (L3a and L3b), which define the edges of the envelope delimiting the front (1) and rear (2) sides, and the tabs (4-5) lateral to the same;
 - two "V"-shaped cuts (C1a and C1b) separating the side flaps (4 and 5) on the front and rear surfaces, the vertices of which coincide with the transverse line (L1) that separates the front and rear surfaces, and with the corresponding side line (L3);
 - two cuts (C2a and C2b) affecting the flaps (5a and 5b) by the areas corresponding to the free ends, next to the mouth of the envelope, that have a length at least equivalent to the sides of the flap (3), such that when making up the envelope it is located on top of said cuts;
- forming the envelope by folding the front (1) and rear (2) surfaces over themselves and subsequently the respective flaps (5 and 4) over the rear surface (2) and adhering the set of all the surfaces (1-2-5-4) closing the edge of the envelope.

Fig. 1

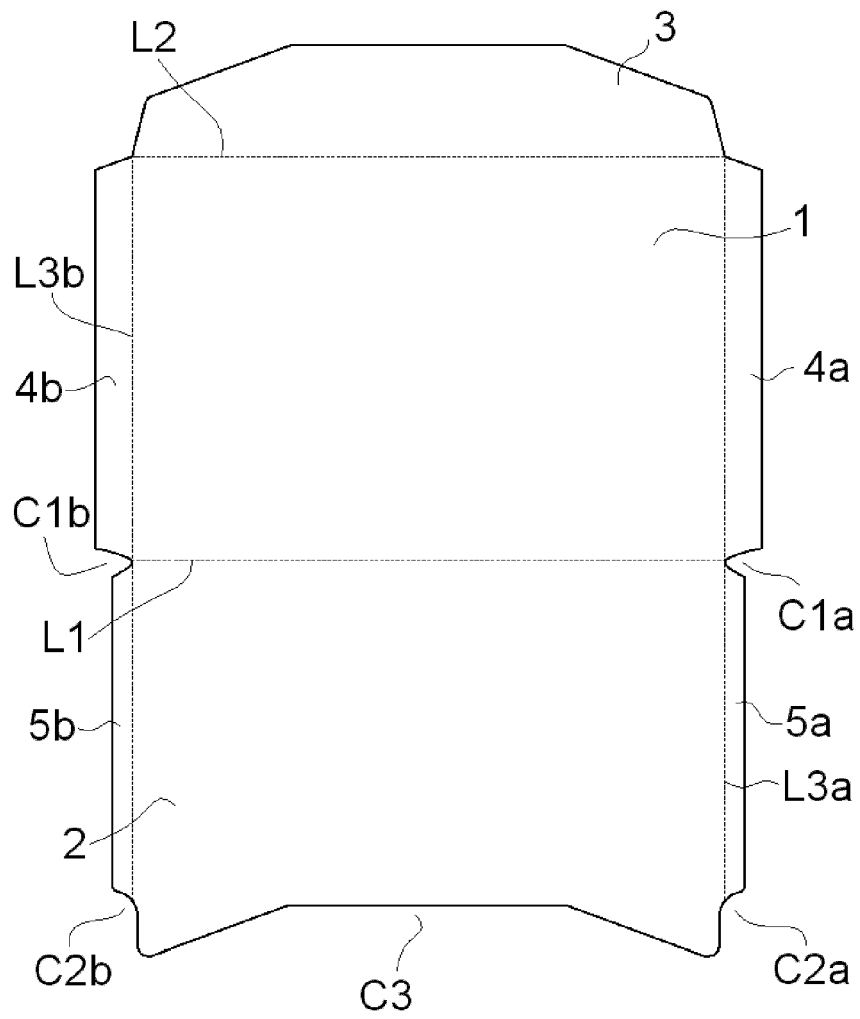
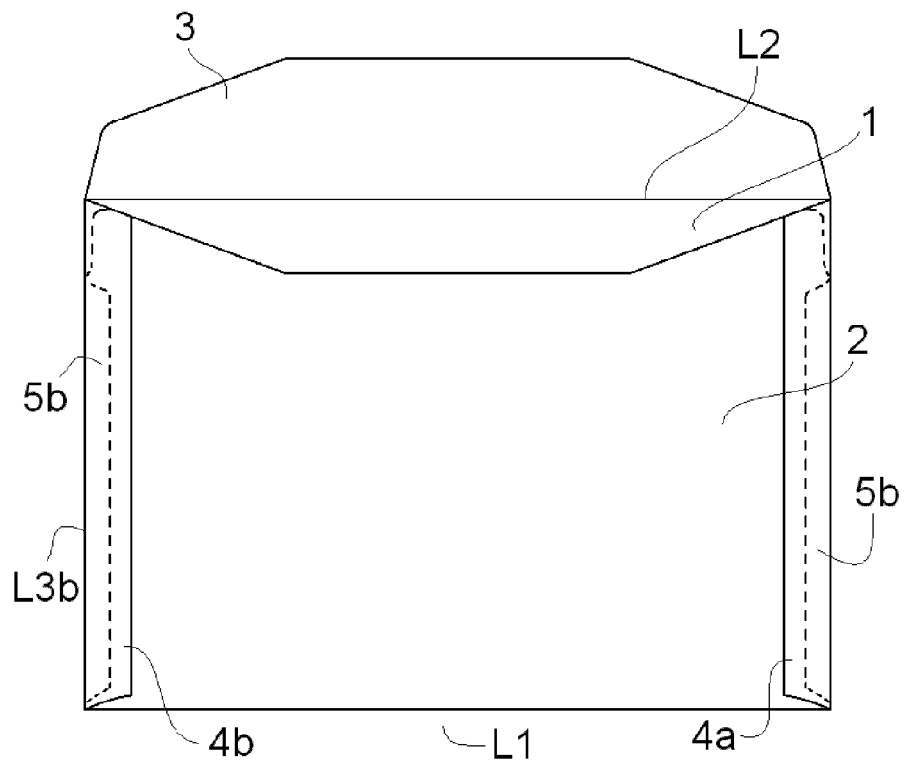


Fig. 2





EUROPEAN SEARCH REPORT

Application Number
EP 12 38 2480

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 13 November 2013	Examiner Jervelund, Niels
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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EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 12 38 2480

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
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