

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) Publication number:

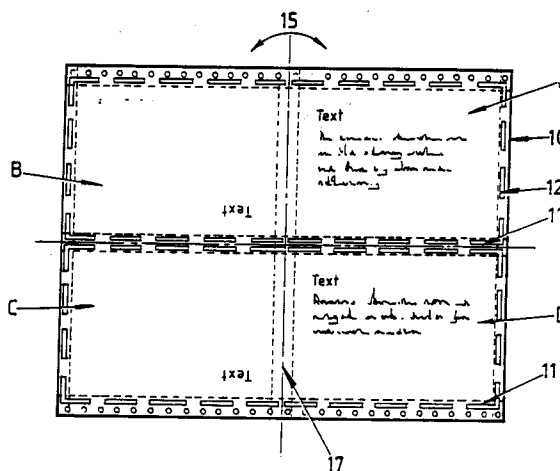
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EUROPEAN PATENT APPLICATION(21) Application number: **92301767.7**(51) Int. Cl.⁵: **B42D 15/08, B42D 5/02**(22) Date of filing: **02.03.92**(43) Date of publication of application:
08.09.93 Bulletin 93/36(84) Designated Contracting States:
DE GB NL(71) Applicant: **MOORE BUSINESS FORMS, INC.**
300 Lang Boulevard
Grand Island New York 14072-1697(US)(72) Inventor: **Jones, Philip**
PO Box 158 Wodonga
Victoria(AU)
Inventor: **Zarth, Julie Ann**
PO Box 180 Richmond
Victoria(AU)
Inventor: **Taylor, Donald**
PO Box 180 Richmond
Victoria(AU)(74) Representative: **Spence, Anne et al**
Fry, Heath & Spence Mill House Wandle
Road
Beddington Croydon Surrey CR0 4SD (GB)(54) **Mailer form.**

(57) A mailer constructed from a single ply sheet of paper (10) optionally international A3 sheet for divisional folding into a relative plurality of parts including an address sheet (E), a personalised letter and optionally a personalised return sheet and/or envelope of like information sheet or form for completion and return to the sender, wherein the printing is performed prior to said division and/or folding, said sheet including pressure activatable adhesive (11) positioned at selected locations to allow sealing of said mailer after said printing operating and/or folding and/or division to form an envelope, the mailer including perforations (12) or the like separate areas for detachment or separation of portions and/or opening of the sealed envelope.

Fig 1.

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The invention relates to the field of mailers in which, static (generic), variable and personalised correspondence destined for a plurality of customers or recipients can be prepared in a central location for mailing.

Such mailer forms have been developed including information about the sender and step-by-step instructions as to how the nominated recipient is to respond to the letter.

It is now possible to prepare such forms whereby the variable information is applied to the document by computer controlled printing apparatus. Thus, the form or series of parts of the forms can be fed through a printer or printers for printing variable information and then a collator and assembly for creating an assembled communication. Such printing methods usually utilise non-impact printing.

Forms of this type have been developed and the specification with Australian Patent Application No. 69543/87 directed to a two-part mailer with return envelope is an example. Also United States Patent No. 4927027 relates to a two part mailer with a windowed envelope made from a single ply sheet provided with an insert.

In one form the present invention provides a mailer constructed from a single ply sheet of paper optionally international A3 sheet for divisional folding into a relative plurality of parts including an address sheet, a personalised letter and optionally a personalised return sheet and/or envelope or like information sheet or form for completion and return to the sender, wherein the printing is performed prior to said division and/or folding, said sheet including pressure activatable adhesive positioned at selected locations to allow sealing of said mailer after said printing operation and/or folding and/or division to form an envelope, the mailer including perforations or the like separate areas for detachment or separation of portions and/or opening of the sealed envelope.

In another form the invention provides a mailer intermediate comprising:

a single sheet of paper having a quadrate configuration with a pair of longitudinal edges, first and second side edges, and first and second faces;

a centre fold line essentially bisecting said longitudinal edges and extending therebetween essentially perpendicular thereto;

a longitudinal fold line essentially bisecting said side edges and extending therebetween essentially perpendicular thereto;

means defining lines of weakness spaced from each of said edges and fold lines to define marginal portions and four quadrate main panels, said main panels essentially identical size;

a first plurality of pressure sensitive adhesive patterns disposed in said marginal portions on said

second face along said side edges, longitudinal edges, and longitudinal fold lines; and

a second plurality of pressure sensitive adhesive patterns disposed in said marginal portions on said first face in said marginal portions along said first side edge, and half of each of said longitudinal edges adjacent said first side edge, and adjacent said centre fold line in the marginal portion closest to said first side edge.

In a further form the invention provides a mailer intermediate comprising:

a single sheet of paper having a quadrate configuration with a pair of longitudinal edges, first and second side edges, and first and second faces;

a centre fold line essentially bisecting said longitudinal edges and extending therebetween essentially perpendicular thereto;

first and second longitudinal fold lines essentially trisecting said side edges and extending therebetween essentially perpendicular thereto, and parallel to each other and said longitudinal edges to define six quadrate main panels, said main panels of essentially identical size, including four end panels, and two centre panels;

means defining lines of weakness spaced from each of said edges and said centre fold line to define marginal portions;

a first plurality of pressure sensitive adhesive patterns disposed in said marginal portions adjacent said side edges and one of said longitudinal edges on said second face;

a second plurality of pressure sensitive adhesive patterns disposed on said first face in said marginal portions along said first side edge, and adjacent said centre fold line in the marginal portion closest to said first side edge; and

a third plurality of pressure sensitive adhesive patterns disposed on said first face in said marginal portions along said second side edge, and adjacent said centre fold line in the marginal portion closest to said second side edge, in one, and only one, of said end panels.

Conveniently, the folded sheet forms A5 size or standard letter size sheets, which when re-opened by an addressee forms a letter and/or other information and optionally together with a detachable questionnaire or form.

In a further optional form the envelope appears as an A5 size sheet adapted to be unfolded by the addressee to reveal an A4 size letter which in turn may be unfolded to form an A3 size information sheet on the back thereof.

The invention will now be described in greater detail having reference to the accompanying drawings in which:

Figures 1 and 2 are front and back examples of an A3 to A5 conversion according to the invention.

Figures 3 and 4 are front and back examples of an A3 to A4 conversion according to the invention.

Figures 5 and 6 are front and back examples of an A3 to six sheet conversion.

With reference to Figures 1 and 2, these figures show printing of material on each side with the sheet 10 broken into four equi-sized quarters to form four A5 sheets as shown, A, B, C and D. The A3 sheet is printed with material as desired, as shown, and includes adhesive strips 11 and lines of perforations 12 located on the marginal areas of the sheet. With specific reference to Figure 1, the adhesive strips 11 are located in lines along the marginal edges to form squared C-shaped formations symmetrically about the centre fold line, whilst the perforations 12 extend on the inward side of the marginal boundaries to allow subsequent "opening" of the letter by the recipient by tearing along selected lines of perforations. Figure 2 shows the other side of the A3 sheet and the provision of additional lines of adhesive strips 11 for attachment of the face 13 after folding as shown by arrows 16. This folding is performed after folding of the front sheet about arrows 15 shown in Figure 1. Thus, the first fold line is 17 and the second fold line is 18 to form an A5 size "envelope" with enclosed letter or like information for the addressee. The strips of adhesive on one face are matched to contact similarly placed strips on an abutting face after folding.

The adhesive is of the type selectively activatable by pressure after the printing procedures have been completed. That is the adhesive is of the type that will not be activated during the printing procedure but will be activated subsequent to the folding of the sheet to form the mailer construction. That is the adhesive is unaffected by heat generated during a printing operation and is only activated by the application of pressure to the adhesive after formation of the business form by folding of the sheet as previously described. Thus a substantial permanent set of the adhesive can be selectively achieved at the appropriate stage during generation of the business form thus enabling printing of the necessary information going to make up the form at a convenient stage prior to cutting and folding of the sheet. In other words the printing can be conveniently carried out on the single ply sheet of paper prior to further folding and cutting etc. of the business form. The pressure is preferably applied only to the adhesive patterns in the marginal areas.

It will be noted that the printing procedure followed as per Figures 1 and 2 will mean later matching of the pages of the letter text for subsequent reading by the recipient. Thus, pages A, B and D, C will face each other in the folded form and after said folding, pages E, H and F, G will

face one another and Pages E and H respectively form the front and back of the outgoing "envelope" as shown in Figure 2 to close the "envelope" when the adhesive is activated.

Upon opening, the recipient tears the perforations as directed and this will have the effect of aligning the pages in sequence i.e. page A and B having pages 1 and 2 of the text will be aligned, and page F with page 3 of the text will be the next page.

Similarly, the latter part of the letter with pages G, C and D representing forms or a questionnaire or the like, will follow in sequence. Additional perforations may be provided to enable easy detachment of this part of the letter for return or safe keeping.

Figures 3 and 4 relate to a similar principle except that the open letter is an A4 format rather than the double folded format of Figures 1 and 2. This can be achieved by having no tear off perforation lines adjacent the fold lines.

With reference to Figures 5 and 6, the sheet is adapted to be folded six ways about a central fold line 17 and two longitudinal fold lines which trisect the mailer (apart from the marginal edges) to form text or like panels A, B, C, D, E and F (see Figure 5); and the front and back of the envelope on further panels G, H, I, J, K and L (see Figure 6). This arrangement is a further extension of the quarter folds of Figures 1 and 2.

In this arrangement the sheet is folded first about the central transverse fold line 17, then about the longitudinal fold line to bring panels L and J together, then about the longitudinal fold line to bring panels K and H together, so that panel I forms the mailer front and panel G the mailer back. Lines of weakness spaced from each of the edges and the centre fold line define marginal portions. A first plurality of pressure sensitive adhesive panels are disposed on the marginal portions adjacent the side edges and one of the longitudinal edges on the second face (Figure 5); a second plurality of pressure sensitive adhesive patterns are disposed on the first face (Figure 6) on the marginal portions along a first side edge, and adjacent the centre fold line in the marginal portion closest to the first side edge; a third plurality of pressure sensitive adhesive patterns is disposed on the first face in the marginal portions along the second side edge and adjacent the centre fold line in the marginal portion closest to the second side edge in Panel K. Panel K also has adhesive adjacent the fold line adjacent panel I to contact adhesive in the longitudinal marginal portion adjacent panel H.

Claims

1. A mailer constructed from a standard size sheet (10) (optionally international A3 size) for divisional folding into 2, 4 or 6 parts embodying an address sheet (E), a personalised letter, a personalised return sheet or the like information sheet or form for completion and return to the sender wherein the printing is performed prior to division and/or folding, said sheet including a pressure activatable adhesive (11) positioned at selected locations to allow sealing of said mailer after said printing and folding to form an envelope, the mailer including perforated or like areas (12) for detachment or separation of portions and/or opening of the sealed envelope. 5 10 15
2. A mailer as claimed in claim 2 wherein the folded sheet forms A5 size or standard letter size sheets which when reopened by an addressee forms a letter or other like information. 20
3. A mailer as claimed in claim 2 wherein the A5 size sheet is adapted to be unfolded by the addressee to reveal an A4 size letter which in turn may be unfolded to form an A3 size information sheet on the back thereof. 25
4. A mailer intermediate comprising: 30
 - a single sheet of paper (10) having a quadrate configuration with a pair of longitudinal edges, first and second side edges, and first and second faces;
 - a centre fold line (17) essentially bisecting said longitudinal edges and extending therebetween essentially perpendicular thereto;
 - a longitudinal fold line (18) essentially bisecting said side edges and extending therebetween essentially perpendicular thereto;
 - means defining lines of weakness (12) spaced from each of said edges and fold lines to define marginal portions and four quadrate main panels, said main panels essentially identical size;
 - a first plurality of pressure sensitive adhesive patterns (11) disposed in said marginal portions on said second face along said side edges, longitudinal edges, and longitudinal fold lines; and
 - a second plurality of pressure sensitive adhesive patterns disposed in said marginal portions on said first face in said marginal portions along said first side edge, and half of each of said longitudinal edges adjacent said first side edge, and adjacent said centre fold line in the marginal portion closest to said first side edge. 40 45 50 55
5. A mailer intermediate as claimed in claim 4 wherein said pressure sensitive adhesive patterns comprise L-shaped portions at the corners at which adhesive strips intersect.
6. A mailer intermediate as claimed in claim 4 or claim 5 wherein said second face marginal portions adjacent said centre fold line are devoid of adhesive patterns except where intersected by said longitudinal fold line and said longitudinal edges.
7. A mailer intermediate comprising:
 - a single sheet of paper having a quadrate configuration with a pair of longitudinal edges, first and second side edges, and first and second faces;
 - a centre fold line essentially bisecting said longitudinal edges and extending therebetween essentially perpendicular thereto;
 - first and second longitudinal fold lines essentially trisecting said side edges and extending therebetween essentially perpendicular thereto, and parallel to each other and said longitudinal edges to define six quadrate main panels, said main panels of essentially identical size, including four end panels, and two centre panels;
 - means defining lines of weakness spaced from each of said edges and said centre fold line to define marginal portions;
 - a first plurality of pressure sensitive adhesive patterns disposed in said marginal portions adjacent said side edges and one of said longitudinal edges on said second face;
 - a second plurality of pressure sensitive adhesive patterns disposed on said first face in said marginal portions along said first side edge, and adjacent said centre fold line in the marginal portion closest to said first side edge; and
 - a third plurality of pressure sensitive adhesive patterns disposed on said first face in said marginal portions along said second side edge, and adjacent said centre fold line in the marginal portion closest to said second side edge, in one, and only one, of said end panels.
8. A mailer intermediate as claimed in claim 7 further comprising fourth pressure sensitive adhesive patterns disposed in said marginal portions on said first face adjacent the longitudinal edge most remote from said first fold line, and in the end panel adjacent said first longitudinal fold line between the second side edge and centre fold line, said fourth pressure sensitive adhesive patterns aligning when the intermediate is folded about said centre fold line, first

longitudinal fold line, and then second longitudinal fold line.

9. A mailer intermediate as claimed in any of claims 4 to 8 wherein the mailer intermediate is part of a continuous web forming a plurality of such intermediates and said marginal portions adjacent said longitudinal edges include means defining tractor drive openings.

10. A mailer intermediate as claimed in any of claims 4 to 9 wherein said pressure sensitive adhesive patterns comprise discontinuous strips of pressure sensitive adhesive which align with like strips on cooperating panels or marginal portions when said intermediate is folded about said fold lines.

11. A method of constructing a mailer from an intermediate as claimed in claim 4 comprising the steps of substantially sequentially:

(a) feeding the intermediate through a non-impact printer so as to print indicia on the first and/or second faces thereof;

(b) folding the intermediate about the centre fold line so that the first plurality of adhesive patterns of the second face thereof are moved into cooperating relationship with each other;

(c) folding the intermediate about the longitudinal fold line so that the second plurality of adhesive patterns on the first face thereof are moved into cooperating relationship with each other; and

(d) applying pressure to only the marginal portions of the intermediate containing adhesive patterns to seal all the cooperating adhesive patterns to each other.

12. A method of constructing a mailer from an intermediate as claimed in claim 7 comprising the steps of substantially sequentially;

(a) feeding the intermediate through a non-impact printer so as to print indicia on the first and/or second faces thereof;

(b) folding the intermediate about the centre fold line so that the first plurality of adhesive patterns on the second face thereof are moved into cooperating relationship with each other;

(c) folding the intermediate about the first longitudinal fold line so that some of the second plurality of adhesive patterns on the first face thereof are moved into cooperating relationship with each other;

(d) folding the intermediate about the second longitudinal fold line so that the third plurality of adhesive patterns on the first

face thereof are moved into cooperating relationship with the remaining portions of the second plurality of adhesive patterns; and

(e) applying pressure to only the marginal portions of the intermediate containing adhesive patterns to seal all the cooperating adhesive patterns to each other into a final mailer having six aligned main panels.

13. A method as claimed in claim 11 or claim 12 wherein the intermediate is in continuous form, being connected to like intermediates along the side edges thereof; and comprising the further step, after step (a) and prior to step (b), of bursting the continuous intermediates along the side edges thereof.

Fig 1.

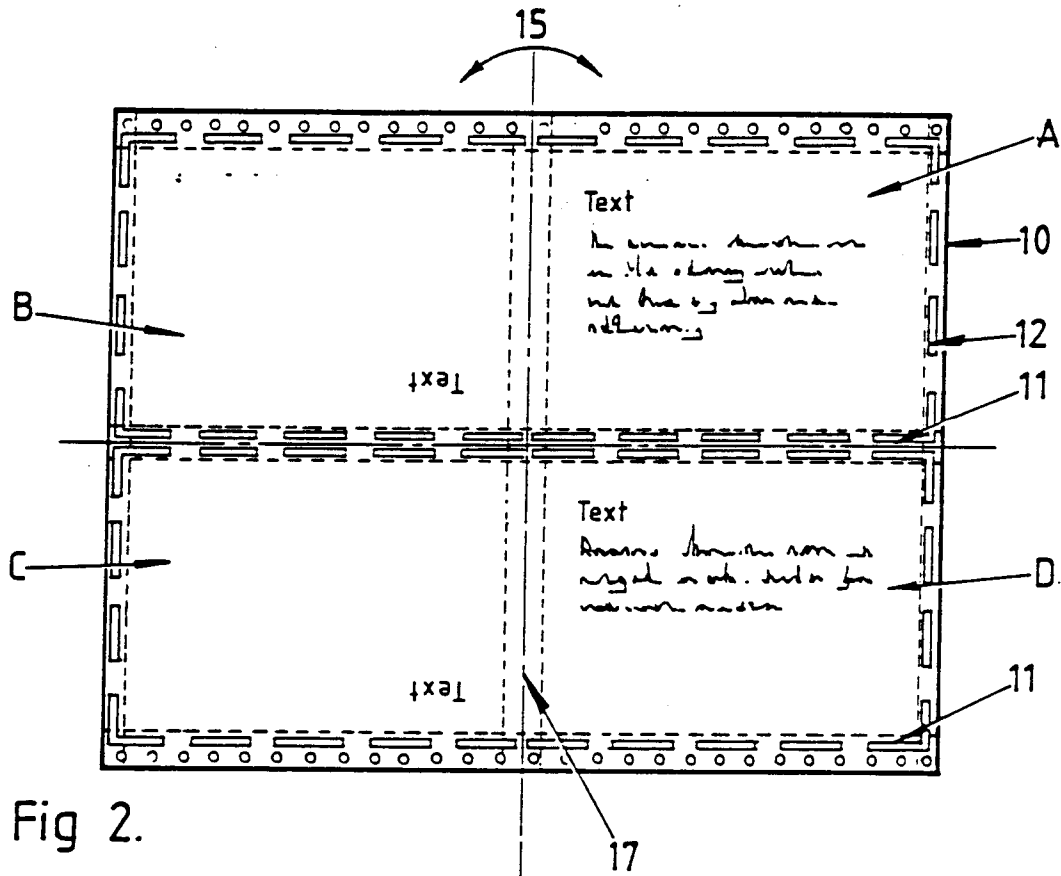


Fig 2.

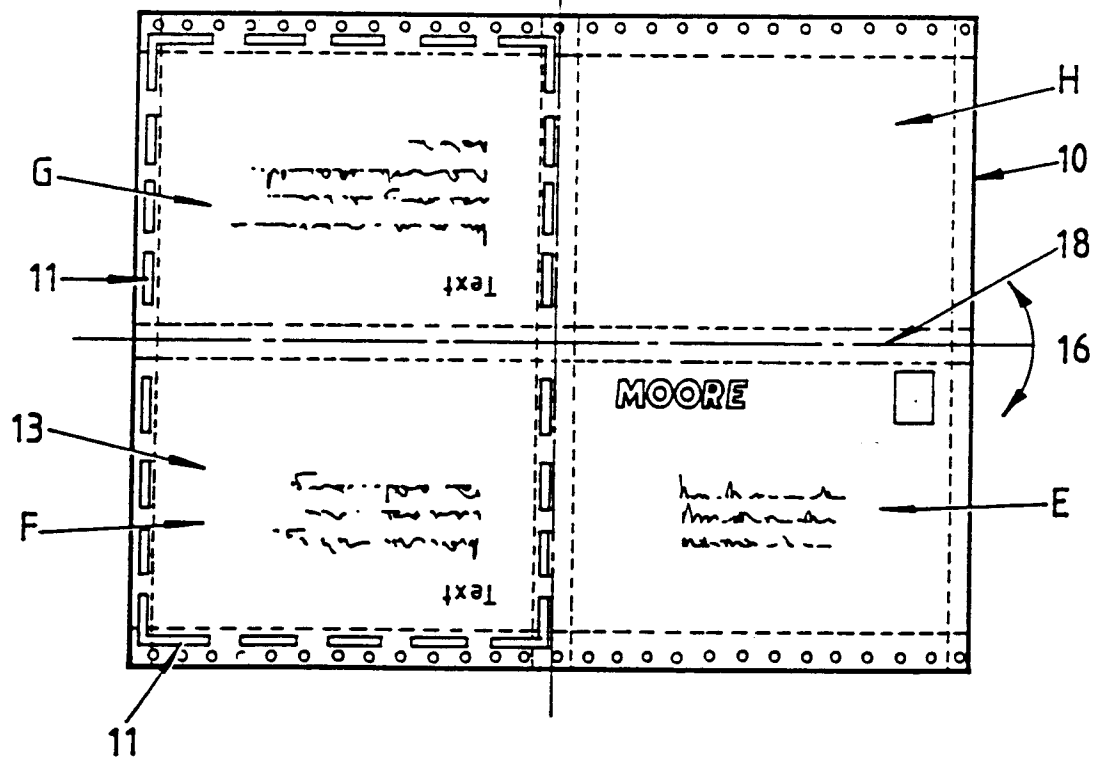


Fig 3.

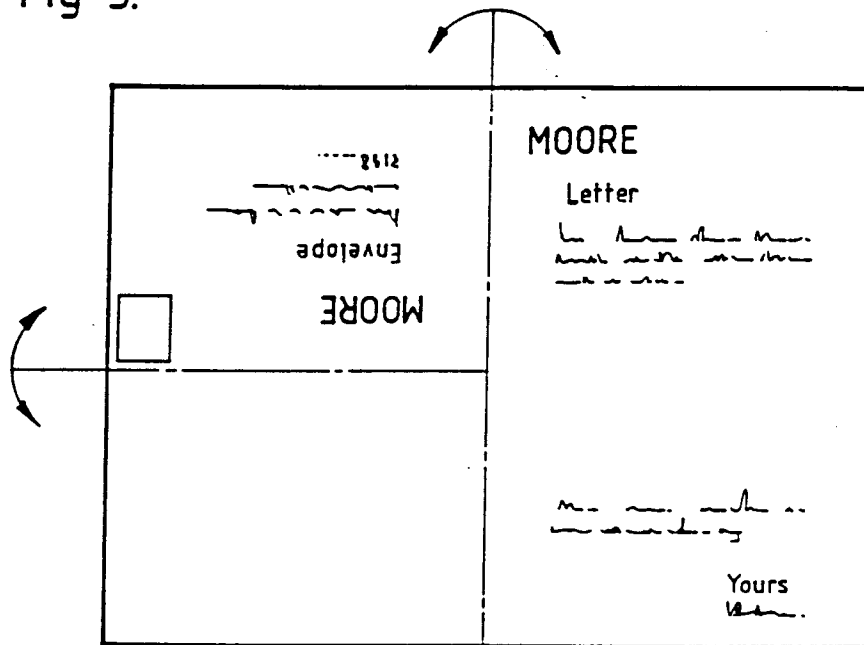


Fig 4.

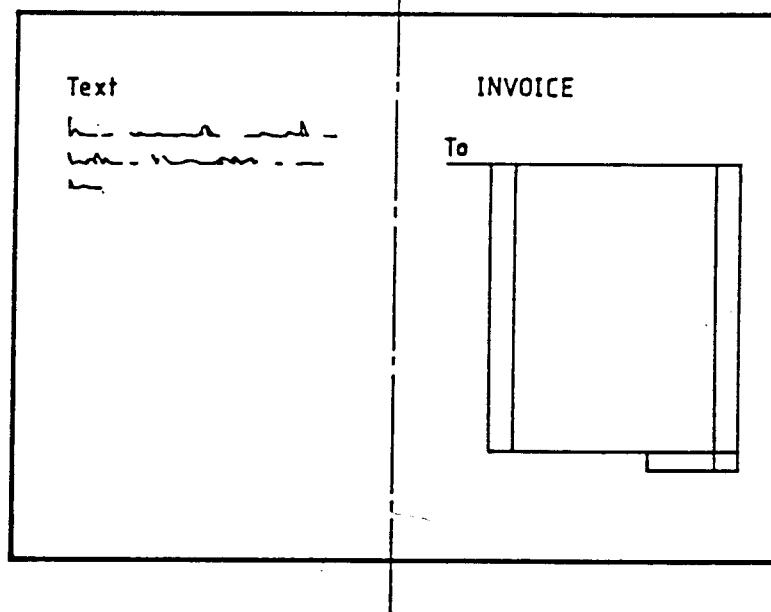


Fig 5.

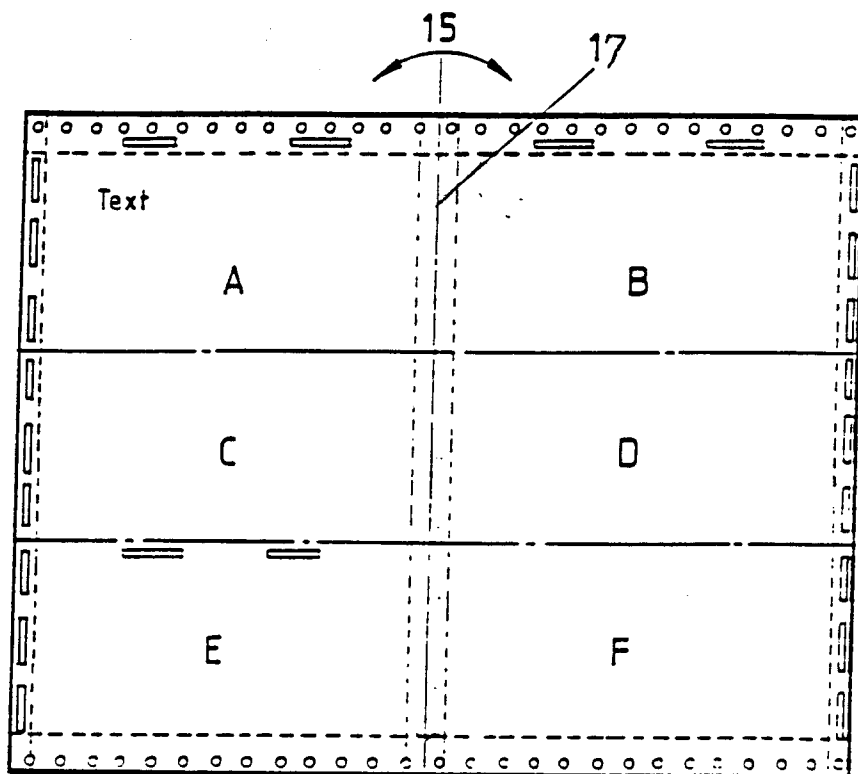
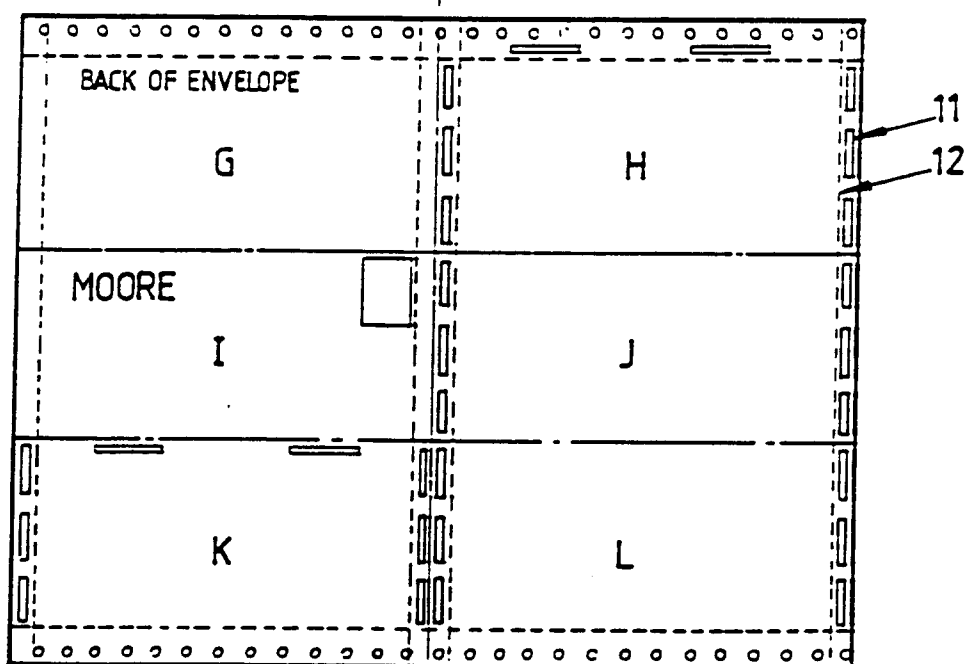


Fig 6.





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EUROPEAN SEARCH REPORT

Application Number

EP 92 30 1767

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.5)
X	US-A-4 375 868 (SLOTAR, CRAMER)	1-6, 9-11,13	B42D15/08 B42D5/02
Y	* column 2, line 51 - column 5, line 4; figures 1-7 *	7,12	

X	US-A-4 784 317 (CHEN ET AL) * column 2, line 62 - column 3, line 37; figures 1,2 *	1,2	

X	EP-A-0 049 661 (CHAMBRE) * page 7, line 26 - page 13, line 36; figures 1,2 *	1	

X	GB-A-2 225 748 (KENRICK AND JEFFERSON) * page 2, line 22 - page 4, line 32; figures 1-3 *	1	

Y	EP-A-0 228 081 (BAUMANN) * column 31, line 31 - line 35; figure 125 *	7,12	

A	FR-A-2 161 337 (CHAUAT) * the whole document *	1,4	TECHNICAL FIELDS SEARCHED (Int. Cl.5)

A	GB-A-2 168 681 (HERMBUSCHE) * the whole document *	1,4,7	B42D

The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 06 NOVEMBER 1992	Examiner EVANS A.J.
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			