



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) Publication number: **0 342 829 B1**

(12)

EUROPEAN PATENT SPECIFICATION

(49) Date of publication of patent specification: **10.08.94** (51) Int. Cl.⁵: **B42C 3/00, B42D 15/08**

(21) Application number: **89304539.3**

(22) Date of filing: **05.05.89**

(54) **Envelope for table top printer.**

(30) Priority: **20.05.88 US 196299**

(43) Date of publication of application:
23.11.89 Bulletin 89/47

(45) Publication of the grant of the patent:
10.08.94 Bulletin 94/32

(84) Designated Contracting States:
BE ES IT LU NL

(56) References cited:
EP-A- 0 078 967 DE-C- 3 508 114
FR-A- 325 706 US-A- 3 476 307
US-A- 3 952 942 US-A- 4 031 818
US-A- 4 313 557

(73) Proprietor: **MOORE BUSINESS FORMS, INC.**
300 Lang Boulevard
Grand Island New York 14072-1697(US)

(72) Inventor: **Badger, Ernest E.**
603 Mellowood
Orlando Florida 32825(US)
Inventor: **Sornberger, Russel G.**
6299 Hoover Road
Sanborn New York 14132(US)
Inventor: **Anderson, Michale W.**
98 Allendale Road
West Seneca New York 14224(US)

(74) Representative: **Spence, Anne et al**
Fry, Heath & Spence
St. Georges House
6 Yattendon Road
Horley Surrey RH6 7BS (GB)

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid (Art. 99(1) European patent convention).

EP 0 342 829 B1

Description

BACKGROUND AND SUMMARY OF THE INVENTION

This invention relates to envelope constructions and, particularly, to envelope constructions for use with conventional table or desk top laser printers.

Presently, it is difficult for standard business envelopes to be fed into a table or desk top laser printer without the addition of a specially constructed envelope feed device. In addition, and even with this feed device, standard solid-pasted envelopes will pucker and/or wrinkle when processed through a laser printer as a result of the heat and pressure applied during the printing process.

In particular Specification DE-C-3508114 describes a process for securing together unprinted sheets etc., in which adhesive is applied to a sheet by a rising electrostatic charge pattern in conjunction with a copying or printing process and using a powdered toner adhesive substance to produce adhesive areas. Sheets to which this toner has been applied are brought together after printing and plastification of the toner adhesive substance to render it sticky is undertaken after the actual copying or printing operation.

US Specification No: US-A-4313557 describes an envelope insert for a magazine including a first and second sheet with superposed edges and with areas of adhesive and perforation lines so that the sheets can be separated from the magazine and used to provide an envelope.

US Specification No: US-A-3952942 describes a continuous form mailer comprising two overlying sheets secured together along peripheral side edges and having a return envelope portion over a detachably removable invoice/receipt portion.

US Specification No: US-A-3476307 describes a foldable mailing piece capable of being folded to form overlying panels and including a strip of mounting adhesive to secure the sheet to one surface of a carrying piece until need for use as a mailing piece and sealing adhesive along predetermined edges to seal edges of the panels together.

US Specification No. US-A-4031818 describes apparatus for preparing sealed envelopes with messages which apparatus includes storing message information on a computer system, moving a single continuous strip of paper across printing means to print the desired message information on the continuous strip and thereafter folding and severing the strip of paper to form separate envelope units.

European Specification No. EP-A-78967 describes an envelope assembly including folded over portions and areas of adhesive covered by

removable barrier coverings.

French Specification No. FR-A-325706 describes a method of manufacturing double sacks of strong paper including applying marginal lines of adhesive and intermediate particles of adhesive.

The present invention solves these problems in a unique way by utilizing the heat fusing rolls of the laser printer, which are employed to fix the toner on the printed substrate, to activate a heat sealable or heat activatable adhesive provided about three peripheral borders of at least one of the envelope forming panels to seal the front and rear panels of the envelope along the borders to thereby form a conventional envelope pocket.

More specifically, in the present invention, a pair of sheets or webs (in discrete or continuous form) are superimposed and adhesively secured along a single leading edge thereof. The leading edge in this context refers to a forward edge relative to the direction of feeding. The upper and lower sheets or webs incorporate front and rear envelope panels with the front panel in direct overlying and vertically aligned relationship with the rear panel. It is also a feature of the invention that the envelope panels have at least two edges which coincide with corresponding edges of the web or sheet to minimize subsequent trimming to finished form.

The front panel of the envelope includes a foldable sealing panel portion which is provided on its rearward face with an adhesive, and preferably with a rewettable adhesive. Thus, in use, the sealing panel may be folded over the rear envelope panel and sealed in a conventional manner via application of moisture to the rewettable adhesive.

The rear sheet or web is provided on its front face with an antistick composition, and preferably a moisture barrier composition, directly underlying the rewettable adhesive on the superimposed foldable sealing panel to prevent accidental and unintended sticking of the sealing panel portion to the underlying sheet or web during production of the envelope.

At the same time, the envelope border portions, with the exception of the border defined by the foldable sealing flap portion, are provided with a heat activatable adhesive, applied in any conventional manner. The adhesive is preferably applied only to the front face of the rear panel, but may be applied additionally or alternatively to the rear face of the front panel.

To print and finalize the formation of the envelope construction, the superimposed webs or sheets are fed into a printing machine, such as a toner based table or desk top laser printer, with the sheets or webs adhered only along the forward leading edge extending across the sheets or webs, i.e., transverse to the direction of feeding.

After the envelope (typically only the front panel) has been printed with return address information and the like, the webs or sheets are passed between a pair of heat fusing rollers which not only fix the toner, but also activate the adhesive about the three peripheral borders of one of the envelope panels, so as to securely fasten one panel to the other and thereby form the envelope, including a pocket portion sealed on three sides and open on one side.

Subsequently, the individual envelopes are separated from the webs manually, or alternatively, webs or sheets may be fed into a trimming machine for removal of all or part of the web or sheet material lying outside the bounds of the envelope panels. The web portions which do not form part of the envelope per se, may also be printed and used as a voucher, invoice, or the like to be inserted in the envelope and mailed to a customer, client, etc.

In one exemplary embodiment, a standard size 10 business envelope may be oriented lengthwise of standard 8½" (21,6cm) wide webs or sheets in such a way as to minimize the amount of paper required to be trimmed. In another exemplary embodiment, the envelope is oriented cross-wise to the longitudinally extending webs or sheets to form a smaller envelope in a manner that also minimizes trimming.

In either case, the webs or sheets may be in continuous or discrete form. If continuous, transverse lines of perforations extending across the webs or sheets may be employed to facilitate separation of the individual envelopes and, if appropriate, associated voucher, invoice, or the like. The separation may occur before or after, but preferably after the printing operation.

Accordingly, in one aspect, the invention provides a partially formed envelope for use with a non-impact printer, comprising a first sheet incorporating a front panel of the envelope;

a second sheet incorporating a rear panel of the envelope; wherein one of said first and second sheets is provided with a line of heat activatable adhesive along at least three sides of the panel and the front panel includes a foldable sealing flap portion along a fourth edge, the sealing flap portion having rewettable or pressure sensitive adhesive applied thereto; characterised in that the first and second sheets are held together solely by a line of adhesive located outside the front and rear panels and a portion of the rear panel lying directly underneath the sealing flap portion is provided with an antistick composition.

The present invention also provides a method of producing a printed envelope comprising the steps of:

(a) aligning a pair of sheets incorporating respectively front and rear envelope panels in overlying relationship, one of the sheets being provided with a heat activatable adhesive in predetermined areas corresponding to peripheral edge portions of its envelope panel, said areas lying on a face of the one sheet which engages a second of the pair of sheets;

(b) feeding the overlying sheets into a non-impact printing means for printing indicia on at least one face of one of said sheets, said non-impact printing means including heating means;

(c) characterised in that prior to step (b) said sheets are fixed together along a single edge by a line of adhesive located outside the peripheral edge portions of the envelope panel, and in that the heating means of the printer is utilized to activate the heat activatable adhesive in predetermined areas to seal the sheets or webs, thereby forming an envelope pocket.

From the above, it will be appreciated that the present invention solves particular problems with respect to the ability and/or ease with which standard business envelope constructions can be printed by conventional toner-based table or desk top laser printers. The invention is particularly advantageous in that it reduces the number of steps required to form and print the envelope, and in that it enables envelopes to be printed in standard table or desk top laser printers without requiring specially designed feed devices heretofore required in the prior art to align and properly feed conventional envelopes.

Further objects and advantages of the invention will become apparent from the detailed description which follows.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 illustrates a front envelope panel incorporated within a sheet or web in accordance with one exemplary embodiment of the invention;

Figure 2 illustrates a rear envelope panel incorporated within a sheet or web for use with the sheet or web shown in Figure 1;

Figure 3 illustrates a front envelope panel incorporated within a sheet or web in accordance with another exemplary embodiment of the invention;

FIGURE 4 illustrates a rear envelope panel incorporated within a sheet or web for use with the sheet or web shown in FIGURE 3; and

FIGURE 5 is a schematic diagram illustrating an envelope printing and sealing process in accordance with the invention.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring to FIGURE 1, an upper sheet or web 10 of an envelope blank construction is shown, and includes a forward edge 12, a pair of side edges 14, 16 and a rearward edge 18.

In FIGURE 2, there is shown a lower sheet or web 20 of an envelope blank assembly, and including a forward edge 22, a pair of side edges 24, 26 and a rearward edge 28.

Sheets 10 and 20 are held together in superimposed relationship by a line of adhesive 30 extending along the leading edge 12 of the rearward face of the upper sheet 10 and along the aligned forward edge 22 of the front face of the lower sheet 20. It will be appreciated, of course, that the adhesive 30 may be applied, alternatively, to only one of the upper and lower sheets. Adhesive 30 may be of any conventional type including, but not limited to, the pressure sensitive type. In either case, superimposed lines of perforations 32, 42, formed in sheets 10, 20, respectively, extend adjacent and inwardly of the adhesive 30. The lines of perforations 32, 42 permit separation of the adhesively secured forward peripheral edge portions of the upper and lower sheets upon completion of the printing/forming operation as will be described in greater detail below. As indicated above, in the event sheets 10 and 20 are in continuous form, a similar line of perforations (not shown) would extend along or adjacent the rearward edges 18, 28 to facilitate separation of the individual envelopes from the continuous sheets or webs.

The sheet 10 is also provided with a perforation line 34 extending between forward edge 12 and rearward edge 18 which serves as a line about which an envelope sealing flap, described below, may be folded in a conventional manner. The sheet 10 also includes a trim line 36 extending substantially parallel and spaced from the line of perforations 34. It will thus be appreciated that the sheet 10 incorporates a front panel 38 of an envelope defined by web edges 16 and 18, perforation line 32 and trim line 36. This front panel further includes a sealing flap portion 40, defined by lines 34 and 36, and foldable about the line of perforations 34.

Referring again to FIGURE 2, the underlying or lower sheet 20 incorporates a rear panel 48 of an envelope, defined by edges 26, 28, a transverse perforation line 42 which underlies perforation line 32, and a trim line 44 which underlies the line of perforations 34 in the upper sheet 10.

Thus, it may be seen that trim lines 36 and 44 are offset by the width W of the sealing flap portion 40, so that flap 40 may be folded about line 34 and over the trim line 44 (ultimately the upper free edge) of the rear panel 48 in a conventional man-

ner.

Trim lines 36 and 44 are preferably in the form of elongated perforations or slits to facilitate manual removal of the excess web portions which do not form part of the finished envelope.

It will be understood, of course, that other trimming methods may be employed, incorporating, for example, an automatic trimming machine.

With reference again to FIGURE 1, it may be seen that the foldable sealing flap portion 40 is provided on its rearward face, i.e., the face that ultimately engages the rearward face of the rear panel 48 in the folded-over position, with an adhesive pattern 50, extending over substantially the entire flap portion. Adhesive 50 may be of a conventional rewettable type typically employed in envelope construction. One suitable adhesive of this type is a compounded synthetic resin emulsion produced by the Craig Adhesives Company and sold under the name Craigbond 3078S. Other suitable rewettable, or pressure sensitive adhesives may also be used.

With specific reference also to FIGURE 2, it may be seen that in registration with the rearward face of flap portion 40, there is provided on the front face of lower sheet 20, a strip or pattern 52 of an antistick composition applied to prevent accidental and unintended sticking of the foldable sealing flap portion 40 to the lower sheet 20 during the printing and heat sealing processes.

The antistick composition is preferably of the moisture barrier type, and most preferably a vegetable based ink, such as that manufactured by Colorcon, Inc. and sold under the name NoTox™. This is a non-toxic and contaminant free ink which may be ordered in several colors such as yellow, magenta, blue or black. This latter feature is advantageous inasmuch as certain color inks may be more desirable for use with variously colored envelope assemblies. Of course, it will be understood by those skilled in the art that other vegetable based inks with good moisture barrier characteristics may also be employed. In addition, if the adhesive pattern 50 comprises a pressure sensitive adhesive, the antistick composition may comprise a conventional release liner or coating.

The pattern 52 may extend from an upper edge 46 (substantially underlying trim line 36) to a line adjacent trim line 44, thus extending slightly above and below the adhesive pattern 50 to insure that sealing flap is not caused to adhere to any portion of sheet 20 during the entire envelope forming and printing production process.

The front face of lower sheet 20 is also provided with strips 54, 56 and 58 of heat activatable adhesive extending along edges 26, 28 and perforation line 42, within the confines of the rear panel 48 of the envelope construction. It will be

appreciated that when panels 38 and 48 are heat sealed along adhesive lines 54, 56 and 58 during the printing operation, an open-ended envelope pocket will be formed which can be closed by sealing flap 40 in a conventional manner. While the strips 54, 56 and 58 are shown applied to the front face of the rear panel 48, they may also be applied to the rearward face of front panel 38.

The heat activatable adhesive may be a waxy hot melt adhesive particularly designed for preapplied heat seal applications, such as that described herein. One exemplary adhesive is sold by the H.B. Fuller Company as product No. HM-4199. Other heat activatable adhesives may also be used.

Turning to FIGURE 5, a schematic diagram is presented which illustrates the sequence of events in a process according to an exemplary embodiment of the invention. Thus, sheet feeder 70 feeds a pair of superimposed sheets 10, 20 preferably in continuous web form and secured together only along the adhesive line 30 adjacent the leading edge 12 of each envelope construction, to a non-impact printer 72. In this regard, reference is made again to FIGURE 1 showing the preferred feeding direction indicated by arrow 60 and noting that the adhesive line 30 extends transverse to the direction of feeding.

The blank envelope assembly of this invention has been specifically designed for use with non-impact printers and especially for non-impact printers having heat fusing toner based table or desk top printers, e.g., laser printers.

As the envelope blanks are fed through the printer, a business logo and/or address are printed, usually in the upper left hand portion of the front panel of each envelope (such as area 74 in FIGURE 1). The continuous web then passes through heat fusing rolls, schematically indicated at 76, 78, which fix the toner and activate the heat sealable adhesive strips 54, 56, 58 in the border areas of each envelope to seal the front and rear panels so as to form an envelope pocket therebetween.

Thereafter, individual envelopes may be separated manually from the web by tearing along the perforation lines 32, 42 and trim lines 36 and 44. If in continuous form, an additional tear must be made along edges 18, 28. Alternatively, the web may be fed to a trimmer 80 which removes at least the leading edge portion (between lines 32, 42 and edges 12, 22) of each envelope construction. Further trimming along lines 36, 44 may be done here, or the separated but only partially trimmed envelopes may be shipped to the customer for final trimming. As indicated earlier, one (or both) of the web portions which do not form part of the envelope per se, such as shown at 82 and 84 in Figures 1 and 2, respectively, may be utilized as vouchers, invoices, or other inserts for use with the

envelopes.

It will be appreciated by those skilled in the art that the envelope shown in FIGURES 1 and 2 represents a standard business envelope, formed within standard $8\frac{1}{2}$ " by 11" (21.6cms by 27.9cms) paper sheets, or sections of continuous sheets.

With reference now to FIGURES 3 and 4, a second embodiment of the invention is illustrated wherein a smaller envelope construction is formed within similar sized sheets or webs.

The envelope construction illustrated in FIGURES 3 and 4 is identical in every respect with that illustrated in FIGURES 1 and 2 with the exception of size of the envelope and its orientation relative to the feeding direction of the webs or sheets. In this regard, reference numerals in FIGURES 3 and 4 are identical to those used in FIGURES 1 and 2, with the addition of a prefatory "1." Because of the identical construction, the embodiment shown in FIGURES 3 and 4 need not be described in detail. It is sufficient to indicate that the envelope has been reoriented relative to the webs or sheets 110, 120 so that the length dimension of the envelope extends transverse to the direction of feeding indicated by arrow 160, rather than parallel to the direction of feeding as in the case of the embodiment shown in FIGURES 1 and 2.

In both embodiments, the envelope orientation is such as to maximize the use of existing edges of the webs or sheets and thereby minimize the amount of final trimming required.

While only two envelope sizes and orientations have been described herein, it will be appreciated by those of ordinary skill in the art that other conventional, or customized envelopes may be formed in accordance with the invention.

It will therefore be appreciated that the present invention provides a unique solution to the problem of producing standard or other size envelopes that can be printed in heat fused toner based table or desk top laser printers without the addition of a special envelope feed device, and further provides manufacturing economies by reducing the number of both process steps and pieces of equipment required to form finished envelopes.

While the invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not to be limited to the disclosed embodiment, but on the contrary, is intended to cover various modifications and equivalent arrangements included within the scope of the appended claims.

Claims

1. A partially formed envelope (10, 20) for use with a non-impact printer (72),
 comprising a first sheet (10) incorporating a front panel (38) of the envelope;
 a second sheet (20) incorporating a rear panel (48) of the envelope; wherein one of said first and second sheets is provided with a line of heat activatable adhesive (54, 56, 58) along at least three sides of the panel and the front panel includes a foldable sealing flap portion along a fourth edge, the sealing flap portion (40) having rewettable or pressure sensitive adhesive (50) applied thereto; characterised in that the first and second sheets (10, 20) are held together solely by a line of adhesive (30) located outside the front and rear panels (38, 48) and a portion of the rear panel lying directly underneath the sealing flap portion (40) is provided with an antistick composition (52).
2. A partially formed envelope as claimed in claim 1 characterised in that one of the first and second sheets (10, 20) incorporates an envelope insert to be printed by said non-impact printer.
3. A partially formed envelope as claimed in claim 1 or claim 2 characterised in that said first and second sheets are incorporated in a respective pair of continuous webs, each sheet being defined in part by lines of perforations (32, 42) extending transversely of the respective webs.
4. A partially formed envelope according to any of claims 1 to 3 characterised in that the single line of adhesive (30) lies outside and adjacent superimposed lines of perforations (32, 42) which define the leading edges of said envelope panels.
5. A partially formed envelope according to any of claims 1 to 4 in which the envelope panels have at least two edges which coincide with corresponding edges of the web or sheets.
6. A method of producing a printed envelope comprising the steps of:
 - (a) aligning a pair of sheets (10, 20) incorporating respectively front and rear envelope panels in overlying relationship, one of the sheets (10, 20) being provided with a heat activatable adhesive (54, 56, 58) in predetermined areas corresponding to peripheral edge portions of its envelope panel, said areas lying on a face of the one sheet (10, 20) which engages a second of the pair of sheets (10, 20);
 - (b) feeding the overlying sheets (10, 20) into a non-impact printing means (72) for printing indicia on at least one face of one of said sheets, said non-impact printing means including heating means;
 - (c) characterised in that prior to step (b) said sheets (10, 20) are fixed together along a single edge by a line of adhesive located outside the peripheral edge portions of the envelope panel, and in that the heating means of the printer (72) is utilized to activate the heat activatable adhesive (54, 56, 58) in predetermined areas to seal the sheets or webs, thereby forming an envelope pocket.
7. A method according to claim 6 characterised in that said sheets (10, 20) are fixed together along a leading edge (12).
8. A method according to claim 6 or claim 7 in which each of the sheets forms part of a continuous web of such sheets.
9. A method according to any of claims 6 to 8 characterised in that said sheets define front and rear panels (38, 48) of said envelope, each of said panels (38, 48) having a front face and a rearward face, the front panel (38) including a foldable sealing flap portion (40).
10. A method according to claim 9 characterised in that prior to step (b), the foldable sealing flap portion (40) is provided on its rearward face with a rewettable adhesive (50).
11. A method according to any one of claims 6 to 10 wherein said panels (38, 48) extend longitudinally in the direction of feeding.
12. A method according to any one of claims 6 to 10 wherein said panels extend longitudinally in a direction transverse to the direction of feeding.
13. A method according to claim 10 wherein prior to step (b), the rear panel (48) is provided on its front face with a moisture barrier composition (52) in an area corresponding substantially to said rewettable adhesive (50) on the foldable sealing flap portion (40).
14. A method according to claim 13 wherein said moisture barrier comprises a vegetable-based ink.

15. A method according to any one of claims 6 to 14 further including the step of:
(d) trimming the sheets (10, 20) to separate the envelope therefrom.

Patentansprüche

1. Teilweise geformter Umschlag (10, 20) zur Verwendung mit einem Impaktdrucker (72),
mit einem ersten Blatt (10), das eine vordere Lage (38) des Umschlags aufweist;
einem zweiten Blatt (20), das eine hintere Lage (48) des Umschlags aufweist; wobei eines der ersten und zweiten Blätter mit einer Linie aus wärmeaktivierbarem Klebstoff (54, 56, 58) entlang wenigstens drei Seiten der Lage versehen ist und die vordere Lage einen falzbaren Verschußklappenabschnitt entlang einer vierten Kante aufweist, wobei der Verschußklappenabschnitt (40) einen wiederbefeuchtbaren oder druckempfindlichen Klebstoff (50) an sich aufweist; dadurch gekennzeichnet, daß die ersten und zweiten Blätter (10, 20) nur durch eine Klebelinie (30) zusammengehalten sind, die außerhalb der vorderen und hinteren Lagen (38, 40) angeordnet ist, und ein Abschnitt der hinteren Lage direkt unterhalb dem Verschußklappenabschnitt (40) mit einer Anti-Haftzusammensetzung (52) versehen ist.
2. Teilweise geformter Umschlag nach Anspruch 1, dadurch gekennzeichnet, daß eines der ersten und zweiten Blätter (10, 20) einen Umschlag-Einschub aufweist, der durch den Impaktdrucker bedruckbar ist.
3. Teilweise geformter Umschlag nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß die ersten und zweiten Blätter in einem jeweiligen Paar fortlaufender Bahnen enthalten sind, wobei jedes Blatt als Teil durch Perforationslinien (32, 42) definiert ist, die sich quer zu den jeweiligen Bahnen erstrecken.
4. Teilweise gebildeter Umschlag nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß die einzige Klebstofflinie (30) außerhalb und neben einander überlagernden Perforationslinien (32, 42) liegt, die die führenden Kanten der Umschlaglagen definieren.
5. Teilweise gebildeter Umschlag nach einem der Ansprüche 1 bis 4, bei dem die Umschlaglagen wenigstens zwei Kanten haben, die mit entsprechenden Kanten der Bahn oder der Blätter zusammentreffen.

6. Verfahren zur Herstellung eines bedruckten Umschlages mit folgenden Schritten:
(a) Ausrichten eines Paares von Blättern (10, 20), die jeweilige vordere und hintere Umschlaglagen in übereinanderliegender Beziehung aufweisen, wobei eines der Blätter (10, 20) mit einem wärmeaktivierbaren Klebstoff (54, 56, 58) in vorbestimmten Bereichen versehen ist, die den randseitigen Kantenabschnitten ihrer Umschlaglage entsprechen, wobei die Bereiche auf einer Fläche des einen Blattes (10, 20) liegen, die mit einem zweiten des Paares von Blättern (10, 20) zusammentrifft;
(b) Einführen der übereinanderliegenden Blätter (10, 20) in eine Impaktdruckvorrichtung (72) zum Aufdrucken von Angaben auf wenigstens einer Fläche der Blätter, wobei der Impaktdrucker Erwärmungseinrichtungen aufweist;
(c) dadurch gekennzeichnet, daß vor dem Schritt (b) die Blätter (10, 20) miteinander entlang einer einzigen Kante durch eine Klebstofflinie verbunden werden, die außerhalb der randseitigen Kantenabschnitte der Umschlaglagen angeordnet ist, und daß die Wärmeeinrichtungen des Druckers (72) verwendet werden, um den wärmeaktivierbaren Klebstoff (54, 56, 58) in vorbestimmten Bereichen zu aktivieren, um die Blätter oder Bahnen miteinander zu verkleben, um so eine Umschlagtasche zu bilden.
7. Verfahren nach Anspruch 6, dadurch gekennzeichnet, daß die Blätter (10, 20) entlang einer führenden Kante zusammengeklebt werden.
8. Verfahren nach Anspruch 6 oder 7, bei dem jedes der Blätter einen Teil einer fortlaufenden Bahn derartiger Blätter bildet.
9. Verfahren nach einem der Ansprüche 6 bis 8, dadurch gekennzeichnet, daß die Blätter vordere und hintere Lagen (38, 40) des Umschlages bilden, wobei jede der Bahnen (38, 40) eine Vorderseite und eine Rückseite hat, und die vordere Lage (38) einen faltbaren Verschußklappenabschnitt (40) aufweist.
10. Verfahren nach Anspruch 9, dadurch gekennzeichnet, daß vor dem Schritt (b) der faltbare Verschußklappenabschnitt 40 an seiner hinteren Fläche mit einem wiederbefeuchtbaren Klebstoff (50) versehen wird.
11. Verfahren nach einem der Ansprüche 6 bis 10, bei dem die Lagen (38, 40) sich in Längsrichtung zu der Förderrichtung erstrecken.

12. Verfahren nach einem der Ansprüche 6 bis 10, bei dem die Lagen sich in Längsrichtung in einer quer zur Förderrichtung verlaufenden Richtung erstrecken.

5

13. Verfahren nach Anspruch 10, bei dem vor dem Schritt (b) die hintere Lage (48) auf ihrer Vorderseite mit einer Feuchtigkeit abschirmenden Zusammensetzung (52) in einem Bereich versehen wird, der im wesentlichen dem wiederbefeuchtbaren Klebstoff (50) auf dem faltbaren Verschußklappenabschnitt (40) entspricht.

10

14. Verfahren nach Anspruch 13, bei dem die Feuchtigkeitsabschirmung eine Tinte auf pflanzlicher Basis aufweist.

15

15. Verfahren nach einem der Ansprüche 6 bis 14, das des weiteren den Schritt aufweist:

(d) Beschneiden der Blätter (10, 20) um den Umschlag davon zu trennen.

20

Revendications

1. Enveloppe (10, 20) partiellement formée, devant être utilisée sur une imprimante sans impact (72),

25

comprenant une première feuille (10) comportant un panneau (38) de devant de l'enveloppe ;

30

une deuxième feuille (20) comprenant un panneau (48) de derrière de l'enveloppe ; dans laquelle l'une desdites première et deuxième feuilles est pourvue d'une ligne (54, 56, 58) d'adhésif activable à chaud, le long d'au moins trois côtés du panneau, et le panneau de devant comprend, le long d'un quatrième bord, une partie formant volet de fermeture pliable, la partie (40) formant volet de fermeture portant de l'adhésif (50) sensible à la pression ou pouvant être réhumecté ;

35

40

caractérisé en ce que les première et deuxième feuilles (10, 20) sont maintenues ensemble, uniquement par une ligne d'adhésif (30) située en dehors des panneaux de devant et de derrière (38, 48) et en ce qu'une partie du panneau de derrière, située directement sous la partie formant volet de fermeture (40), est pourvue d'une composition anti-adhésive (52).

45

50

2. Enveloppe partiellement formée, selon la revendication 1, caractérisée en ce que l'une des première et deuxième feuilles (10, 20) comprend un insert d'enveloppe devant être imprimé sur ladite imprimante sans impact.

55

3. Enveloppe partiellement formée, selon l'une quelconque des revendications 1 ou 2, caractérisée en ce que la première et la deuxième feuilles sont incorporées dans une paire respective de bandes continues, chacune des feuilles étant définie en partie par des lignes de perforations (32, 42) s'étendant en travers des bandes respectives.

4. Enveloppe partiellement formée, selon l'une quelconque des revendications 1 à 3, caractérisée en ce que la ligne d'adhésif (30) unique se situe en dehors de lignes de perforations (32, 42) superposées et près de celles-ci qui définissent les bords principaux desdits panneaux d'enveloppe.

5. Enveloppe partiellement formée, selon l'une quelconque des revendications 1 à 4, dans laquelle les panneaux d'enveloppe comportent au moins deux bords qui coïncident avec les bords correspondant des bandes ou feuilles.

6. Procédé pour produire une enveloppe imprimée, comprenant les étapes consistant à :

(a) aligner une paire de feuilles (10, 20) incorporant respectivement des panneaux de devant et de derrière d'enveloppe, superposés l'un à l'autre, l'une des feuilles (10, 20) étant pourvue dans des zones prédéterminées d'un adhésif (54, 56, 58) activable à chaud, correspondant aux parties formant bords périphériques de son panneau d'enveloppe, lesdites zones étant situées sur une face de l'une des feuilles (10, 20) qui est en contact avec une deuxième feuille de la paire de feuilles (10, 20) ;

(b) introduire les feuilles superposées (10, 20) dans un moyen d'impression (72) sans impact, afin d'imprimer des informations sur au moins une face de l'une desdites feuilles, ledit moyen d'impression sans impact, comprenant des moyens de chauffage ;

(c) caractérisé en ce qu'avant de réaliser l'étape (b), lesdites feuilles (10, 20) sont fixées ensemble le long d'un seul bord par une ligne d'adhésif, située en dehors des parties formant bords périphériques du panneau d'enveloppe, et en ce que les moyens de chauffage de l'imprimante (72) sont utilisés pour activer l'adhésif (54, 56, 58) activable à chaud, dans des zones prédéterminées, afin de sceller les feuilles ou bandes, formant ainsi le corps d'une enveloppe.

7. Procédé selon la revendication 6, caractérisé en ce que lesdites feuilles (10, 20) sont fixées ensemble, le long d'un bord (12) d'entraîne-

ment.

8. Procédé selon l'une quelconque des revendications 6 ou 7, dans lequel chacune des feuilles constitue une partie d'une bande continue de feuilles de ce type. 5
9. Procédé selon l'une quelconque des revendications 6 à 8, caractérisé en ce que lesdites feuilles définissent des panneaux (38, 48) de devant et de derrière de ladite enveloppe, chacun desdits panneaux (38, 48) présentant une face frontale et une face arrière, le panneau de devant (38) incluant une partie (40) formant volet de fermeture pliable. 10
15
10. Procédé selon la revendication 9, caractérisé en ce qu'avant de réaliser l'étape (b), la partie (40) formant volet de fermeture pliable est pourvue sur sa face arrière d'un adhésif (50) pouvant être réhumecté. 20
11. Procédé selon l'une quelconque des revendications 6 à 10, dans lequel lesdits panneaux (38, 48) s'étendent dans le sens longitudinal, dans la direction d'alimentation. 25
12. Procédé selon l'une quelconque des revendications 6 à 10, dans lequel lesdits panneaux s'étendent dans le sens longitudinal, dans une direction transversale à la direction d'alimentation. 30
13. Procédé selon la revendication 10, dans lequel, avant de réaliser l'étape (b), le panneau de derrière (48) est pourvu, sur sa face avant, d'une composition (52) formant barrière à l'humidité dans une zone correspondant sensiblement à celle de l'adhésif (50) pouvant être réhumecté, sur la partie (40) formant volet de fermeture pliable. 35
40
14. Procédé selon la revendication 13, dans lequel ladite barrière contre l'humidité comprend une encre à base de substance végétale. 45
15. Procédé selon l'une quelconque des revendications 6 à 14, incluant en outre l'étape consistant à : 50
 - (d) découper les feuilles (10, 20) pour séparer l'enveloppe de celles-ci. 50

55

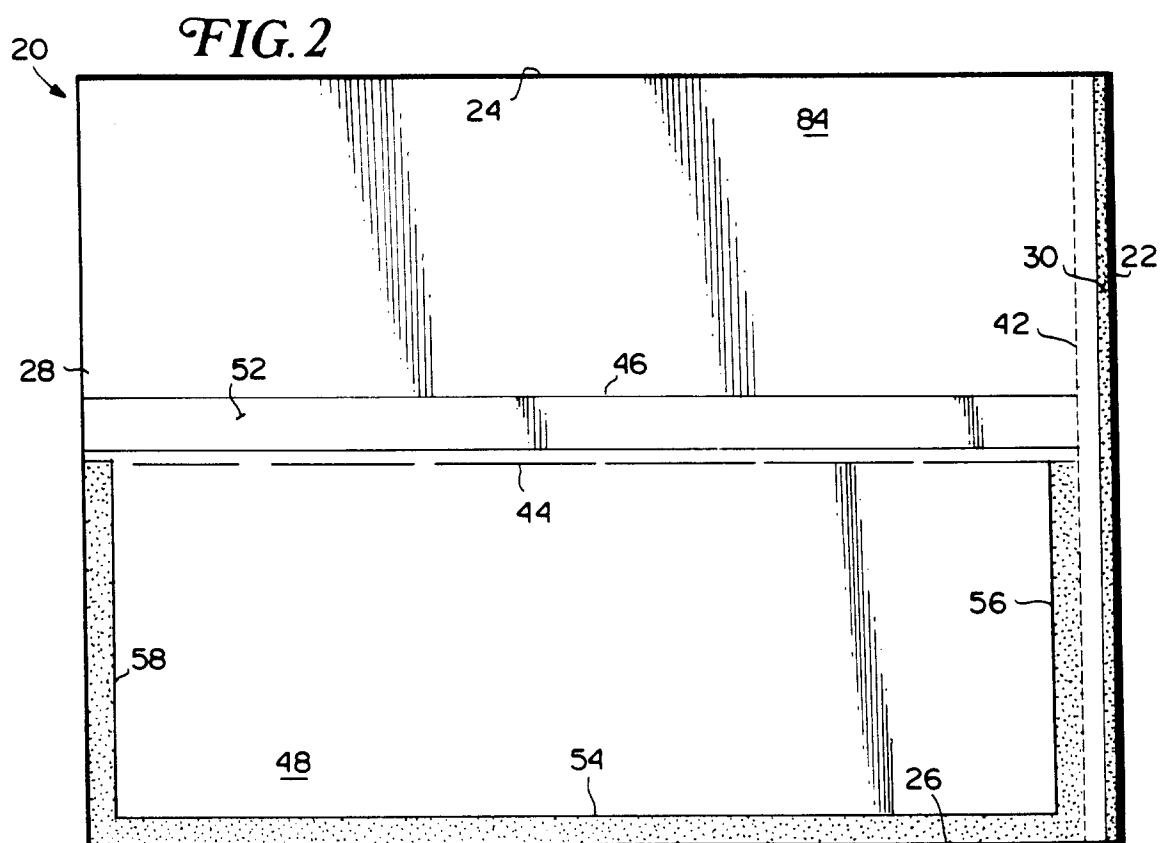
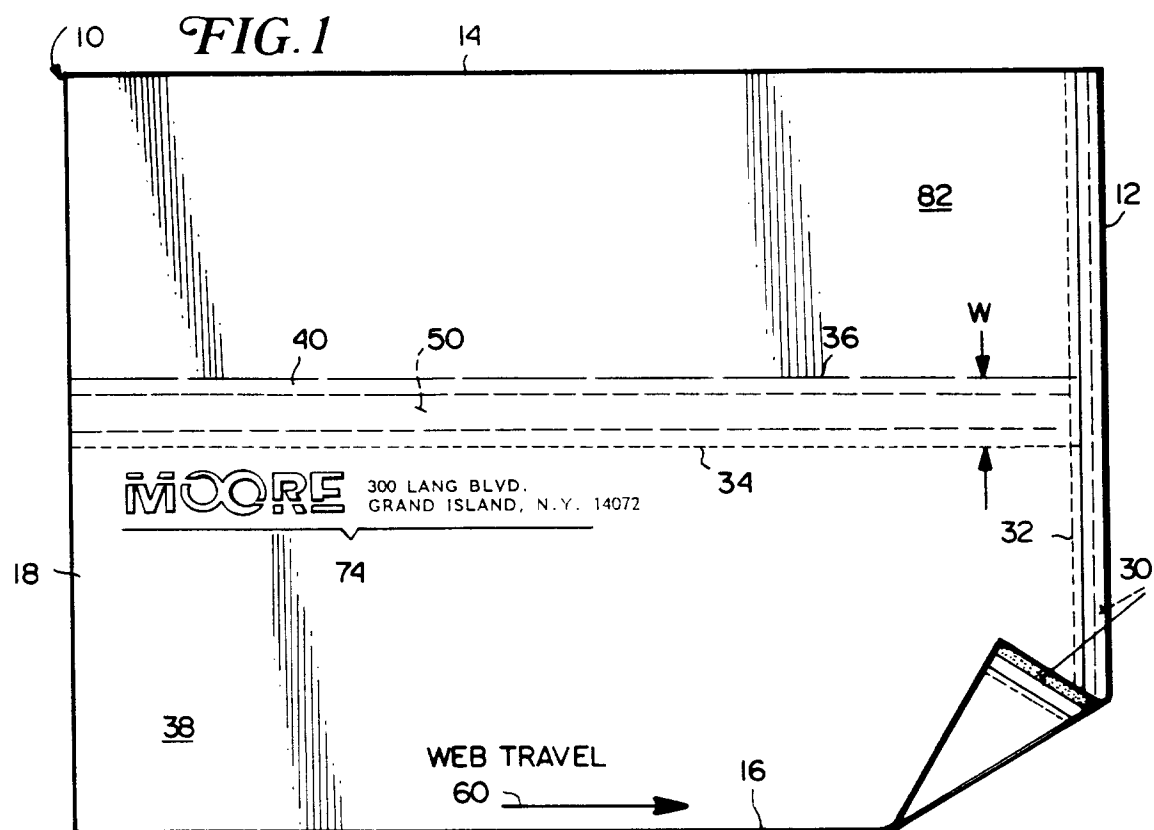


FIG. 4

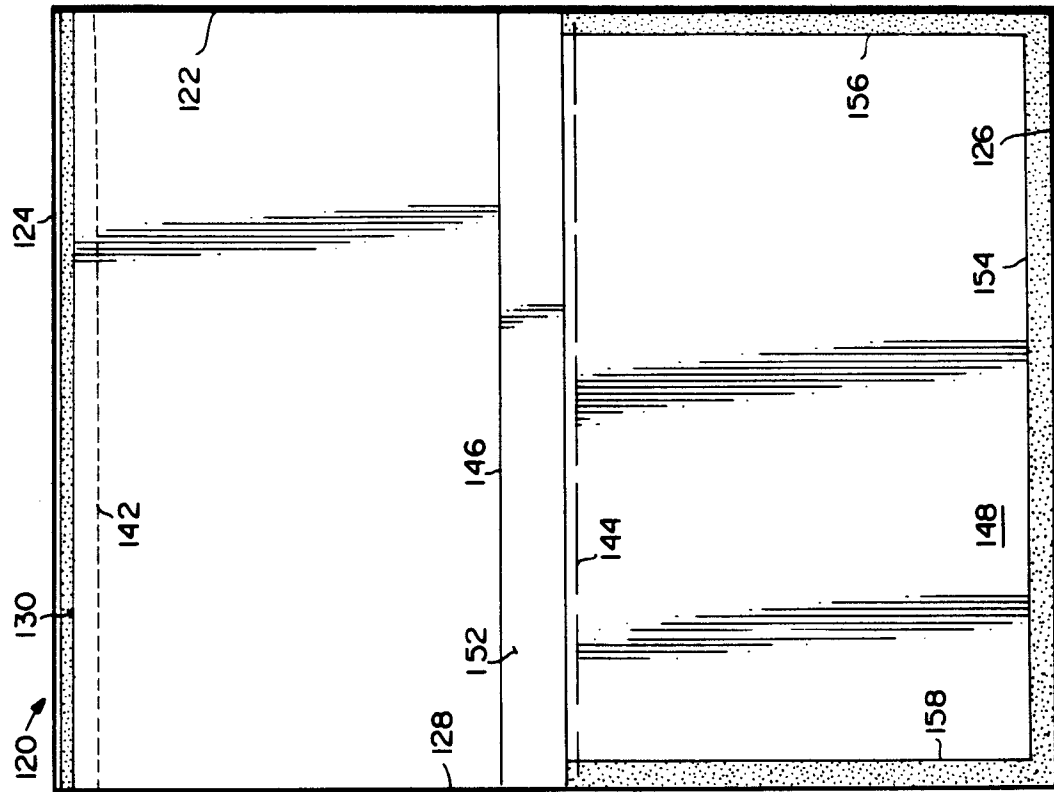


FIG. 3

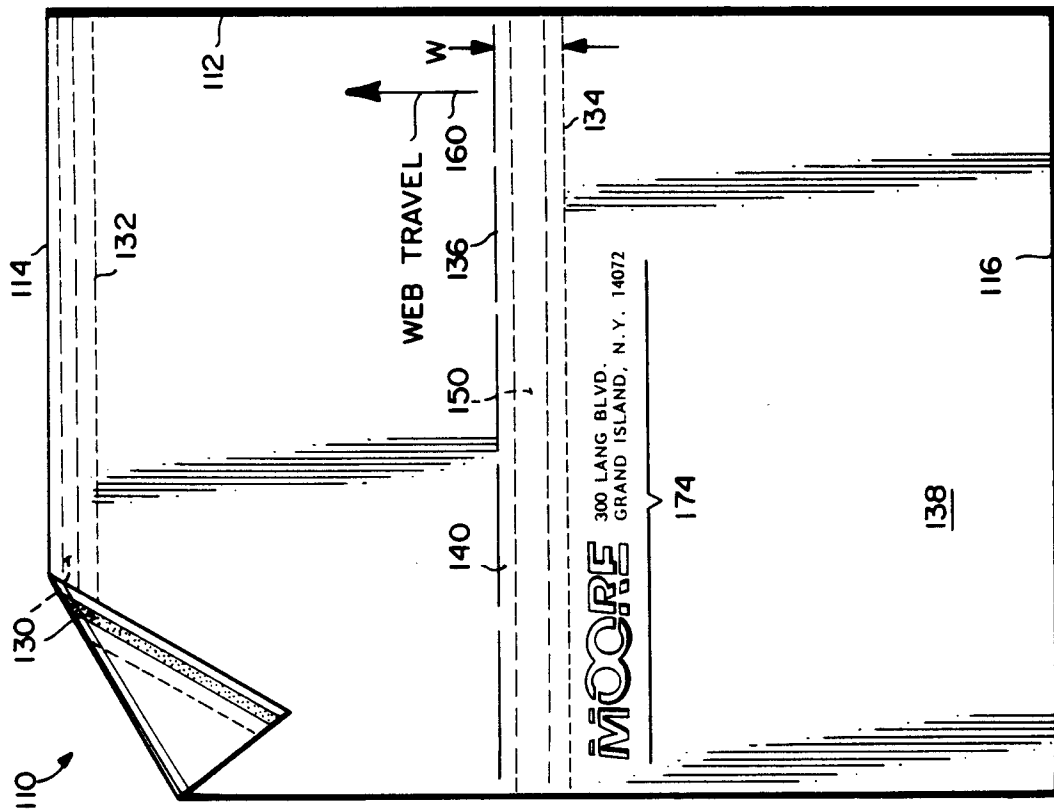


FIG. 5

