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EP 0 246 740 B1

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Description

This invention relates to a process and apparatus for making a postcard for use in mailing sheet-form articles.

There have been earlier proposals for mailing photographs through the mail and for mounting photographs. However, generally these earlier proposals have had complex constructions, which would be complicated, difficult and costly to manufacture.

Thus, in U.S. - A - 3,304,641 (Gonczy), there is disclosed a picture postcard having numerous removable portions, which when removed reveal areas of adhesive. The stated intention is to enable different sized photographs to be stuck to the card. The provision of numerous separately removable portions, requires a complex pattern of separation lines to be cut into the top of the card structure. Such a card would be difficult to manufacture. Further, it leaves the top surface of any article stuck to it exposed.

In U.S. - A - 3,329,333, (Ormond) there is disclosed a postcard, that is not intended for mailing articles, but simply to enable selected portions of a message to be concealed. To this end, it provides a cut out portion in one sheet, and a notch forming a tab. These features again would create considerable production difficulties, and prevent the postcard being produced readily in any continuous form.

An article for postal conveyance is disclosed in U.S. - A - 3,899,127 (Melander). Here a somewhat complex structure is provided. A transparent envelope cover is stuck to a card around three edges thereof, which immediately creates the problem of forming an adhesive layer around just those three edges, rather than all over the two components of the card. Thus, this structure is not suited to continuous mass production.

There is disclosed an apertured mailing card and method of using it in U.S. - A - 4,008,852 (Davis). This structure is complex. The card has two card sections which are folded together. An adhesive portion is provided along the edge of one section, so that the two sections can be secured in the folded configuration. One card section is provided with an adhesive area and a removable backing sheet for a photograph, whilst the other card section is provided with an opening for viewing the photograph. The opening is covered by a transparent sheet. It will thus be apparent that this card includes numerous components of different proportions, and it is not at all clear how such a construction could be economically produced.

A photographic mailing postcard is disclosed in U.S. - A - 4,237,633 (Murrell). Here, a complex construction is disclosed. The card includes nu-

merous cuts, score lines and folds. It has six separate patches of adhesive, which apparently use two or three different sorts of adhesive. Thus, mention is made of both a moistenable type adhesive and a contact adhesive. To construct such a card with all the cuts, score lines etc. and different types of adhesive in different places would be extremely complex. It would require a lengthy and complicated production process.

U.S. - A - 4,249,328 (Plumadore) discloses an electrophotographic slide, whilst U.S. - A - 4,378,647 (Stancato) discloses a photographic album. In both these proposals, the constructions are again quite complex. In the Plumadore proposal, each slide includes a pair of panels hingedly connected together. Each panel defines a window, and is coated with an adhesive. The film section is bonded to one panel, whilst a transparent protective film is bonded to the other panel. Thus, the structure is quite complicated, and not readily produced in a simple, economical fashion. The Stancato patent discloses a photograph album, which is intended to give the effect that each individual page has a photograph mounted on it and then the pages bound into an album. As such, the construction requires numerous fixed and movable components of different dimensions and orientation.

This again would require a complex and expensive production technique.

The technical problem is to produce postcards which each have uniform properties or dimensions in one direction, across their width as a continuous strip. All of the main components are assembled together in strip form, and, at the end of the production process, this strip is cut to form the individual postcards.

Thus, in accordance with the present invention, there is provided a process for making a postcard, for use in mailing sheet-form articles, the process comprising the steps of: continuously supplying a first elongate sheet-member strip including a first layer of adhesive on one side thereof; continuously supplying a second, elongate strip of a transparent sheet including a second layer of generally transparent adhesive on one side thereof; continuously mounting a third, elongate strip of a protective sheet between said first and second strips so as to leave opposed edge regions of the first and second adhesive layers bonded to one another, with the remainder of the first and second adhesive layers separated by the protective sheet thereby forming a fourth, composite strip; and cutting the fourth, composite strip transversely to form individual postcards.

The process of the present invention thus enables the various components of the postcard to be assembled together as continuous strips. This produces a composite strip having a section corre-

sponding to that of the finished postcard. This composite strip can then simply be cut transversely, to form the individual postcards.

In a preferred form of the invention, the first elongate strip is supplied as said first elongate strip bearing said first layer of adhesive and an intermediate protective sheet having the same dimensions as the first elongate strip and covering the first layer of adhesive, and the intermediate protective sheet is removed prior to the step of continuously mounting the said third elongate strip. If necessary, the bonded edges of the sheet member and transparent sheets can be trimmed, to give a flush edge. One then has the composite strip of appropriate section, which can be cut transversely to form the finished cards.

As all the operations can be carried out in a continuous manner and as the forming operations required are relatively simple, the postcards can be produced in large quantity economically. There is no need to subject each individual postcard to separate and complex forming operations.

In accordance with another aspect of the present invention, there is provided an apparatus, for use in producing postcards, the apparatus comprising: a strip path; means for moving an elongate strip along the strip path; a first supply unit for supplying a first, elongate, sheet-form member strip to the strip path; a second supply unit for supplying a second, elongate strip of a transparent sheet to the strip path; a laminating station, downstream from the first and second supply units, for laminating together the first and second elongate strips to form a composite strip; a trimming section downstream from the laminating station for trimming the composite strip; and a cutting section downstream from the trimming section for cutting the composite strip into individual postcards. The means for moving the elongate strip can comprise driven rollers along the strip path.

For a better understanding of the present invention, and to show more clearly how it may be carried into effect, reference will now be made, by way of example, to the accompanying drawings, in which:

Figure 1 shows a side view of an apparatus in accordance with the present invention, for carrying out the process of the present invention;

Figure 2 shows a section along the line 2-2 of Figure 1;

Figure 3 shows a section along the line 3-3 of Figure 1;

Figure 4 shows a section along the line 4-4 of Figure 1;

Figure 5 shows a section along the line 5-5 of Figure 1;

Figure 6 shows a section along the line 6-6 of Figure 1;

Figure 7 shows a cross-section, comparable to that of Figure 6, of a variant of the process;

Figure 8 shows a perspective view of a postcard produced by the process of the present invention; and

Figure 9 shows a perspective view of the postcard of Figure 8, including a photograph.

In the drawings, the sections of Figures 2-6 are all taken in the same direction. The description relates to a postcard structure, in which the height of the postcard extends across the strip and the width extends along the strip. For consistency, the term "height" is used throughout to refer to both the height of the postcard and dimensions across the strip.

With reference to Figure 1, there is shown an apparatus, generally denoted by the reference 1. The apparatus 1 includes a card stock supply unit 2 and a transparent sheet stock supply unit 4. These units 2, 4 have respective cores rotatably mounted on them on which a roll of card or transparent sheet stock is wound. It also includes four rewind units 6, 8, 10 and 12. Each of the rewind units 6, 8, 10 and 12 similarly has a core rotatably wound on it for rewinding part of the strip, as detailed below. Also, to guide the card stock and other strips, there are numerous transverse rollers 14. These rollers 14 guide the card stock in known manner, and will not be described in greater detail. The rollers 14 form part of a strip path 15 and may be driven to move material through the apparatus.

The card stock unit 2 bears a roll of an elongate strip of card stock having the section shown in Figure 2, and denoted by the reference 50. This section 50 need simply be slightly greater than the height of a finished card to allow for trimming. The card stock 50 includes the actual card strip 51, which provides the sheet-form member. The card strip 51 is shown uppermost in the section of Figure 2, and carries on its lower surface a first layer of adhesive 52. An intermediate protective or backing sheet 53 is provided against the layer of adhesive 52 to protect it. This protective strip 53 can, for example, be silicone coated paper. As shown in the section of Figure 2, all the components of the card stock 50 are of the same width.

The card stock 50 is caused to travel over rollers 14 to a print station 16. At this print station 16, the upper or exposed side of the card strip 51 is printed, to provide desired information on what will become the reverse side of the finished postcards. Thus, in known manner, it can be printed with an outline or box indicating a place for a postage stamp, an indication of where the recipient's address should be placed, and an indication where a message should be placed. It could also include material indicating the source of the postcard, trade marks and other information.

The card stock 50, after leaving the print station 16, passes to a dryer 18. The dryer 18, like the print station 16 is shown schematically. Here, the ink on the upper side of the card stock 50 is dried.

The next major operation is to combine the card stock 50 with a transparent sheet stock. For this, it is necessary to reverse the card stock 50. This is achieved by a turn bar unit 20, which is shown schematically in Figure 1. The turn bar unit 20 reverses the card stock 50, so that the protective sheet 53 is uppermost, and the reversed configuration is shown in Figure 3.

Then, the intermediate protective sheet 53 is removed from the card stock 50 across its full width. This separation takes place at 22. The protective sheet 53 is pulled vertically upwards and wound on a protective sheet rewind core of the intermediate protective sheet rewind unit 6. The unit 6 is driven, so as to maintain sufficient tension in the protective sheet 53, to cause it to separate from the layer of adhesive 52. This leaves a modified card stock strip 50a, comprising the card strip 51 with the first adhesive layer 52, to travel to the next step of the process.

The card strip 51 and adhesive layer 52 travel to a laminating station 24. Simultaneously, a strip of transparent sheet stock 54 is supplied to the laminating station 24. This transparent sheet stock 54 is supplied as a roll on a core on the transparent sheet stock supply unit 4. The transparent sheet stock 54, as detailed below has a height greater than the height of the transparent sheet in finished postcards plus the height of a tab. The transparent sheet stock 54 comprises, as shown in Figure 4, a strip 55 of a transparent material, a second adhesive layer 56, and a protective sheet 57. The transparent sheet stock 54 is supplied with the protective sheet 57 already slit along one side, as indicated at 58. This slit 58 separates the protective sheet 57 into a main part 59 and an edge strip 60.

The slit 58 enables the edge strip 60 to be separated immediately. This edge strip 60 is removed as indicated, and disposed of by a vacuum waste removal system 26. Figure 4 shows the section immediately after the edge strip 60 is lifted from the second adhesive layer 56. The modified transparent sheet stock, without this edge strip 60 is denoted by the reference 54a.

It is to be noted that, due to the location of the section line 4-4, the protective sheet 57 is on the top in Figure 4. As the modified transparent sheet stock 54a travels around the roller 4, the protective sheet 57 is turned to the underside. The edge strip 60 is shown, schematically, as travelling around a roller 29 to the vacuum waste removal system 26.

The laminating station 24 includes rollers, which laminate or press the modified card stock

50a against the modified transparent sheet stock 54a. The main part 59 of the protective sheet maintains the first and second layers of adhesive 52, 56 largely separated. However, edge portions of the adhesive layers, denoted by the references 52a, 56a, are pressed together. This is shown at the left-hand side of Figure 5. It results in a composite strip denoted by the reference 62. This composite strip 62 has a uniform section at its center, comprising five layers, namely the card strip 51, the first adhesive layer 52, the protective sheet 57, the second adhesive layer 56 and the transparent strip 55. These five layers are all generally level with one another at the right-hand edge. The composite strip 62 has the section shown in Figure 5, but prior to removal of the edge trim 66 detailed below. As a right-hand edge of the card strip 51 is discarded, it need not extend to the right so as to be flush with the edge of the protective sheet 57.

The composite strip 62 then travels to a first trim station 28. The trim station 28, like later trim stations, is shown schematically as including a circular cutting blade on one side and a support roller on the other side. At this first trim station 28, the transparent strip 55 is cut through, together with the adhesive layer 56, to the protective sheet 57. This cut is marked at 64 in Figure 5. This separates a transparent edge trim 66, which comprises an edge of the transparent strip 55 together with a corresponding part of the second adhesive layer 56. This transparent edge trim 66 is removed and wound on the transparent trim rewind unit 8. This results in a first, modified composite strip 62a, which has the section shown in Figure 5, without the edge trim 66.

This modified composite strip 62a passes to a second trim station 30. At this second trim station 30, the card strip 51 is cut through, as indicated at 68 in Figure 6. The cut 68 extends through to the protective sheet 57, and separates a card edge trim 70 comprising part of the card strip 51 and part of the first adhesive layer 52. This card edge trim 70 is then separated, as indicated in Figure 6, and wound on a core on the card stock trim rewind unit 10. This results in a second, modified composite strip 62b, as shown in the section of Figure 6. Here, an edge of the protective sheet 57 is now exposed as a tab 61.

This modified composite strip 62b then passes to a third trim station 32. As indicated in Figures 5 and 6, after the card stock 50 and transparent sheet stock 54 have been laminated, the edges of the various components need not be necessarily flush, and in general will not be flush. The third trim station 32 is provided for trimming this left-hand edge of the composite strip 62b, to ensure that the various layers are flush at the left-hand edge of the

strip 62b. This final edge trim at the station 32 is indicated by dotted lines 72 in Figure 6. This results in the removal of a composite edge trim 74, which is removed and wound on a core on the composite edge trim rewind unit 12.

This results in a third and final, modified composite strip 62c, which has the profile required for the final postcard. This composite strip 62c passes to a cutting unit 34, which can be conventional. The cutting unit 34 includes an anvil 35 and a cutting or sheeter blade 36, both shown schematically. The sheeter blade 36 cuts the strip to the required length, to form finished postcards 100. The cutting unit 34 is synchronized with the printing station 16, to ensure proper alignment of the printed matter on the postcards 100. The finished postcards 100 are then transported by a conveyor 38 to a stacker 40. The stacker 40 stacks the postcards 100 for packaging, delivery etc.

Figures 8 and 9 show the finished postcard 100. Here, the various components of the postcard 100 are given references corresponding to those used for the strips in the process, but greater by 100. Thus, the postcard 100 has a main card, or sheet-form part 151, and a transparent sheet 155.

The card 151 bears a first layer of adhesive 152, whilst the transparent sheet 155 bears a corresponding second layer of adhesive 156. These adhesive layers 152, 156 contact one another along an edge strip 149. Otherwise, the protective strip 157 maintains the adhesive layers 152, 156 separate. The protective sheet 157 includes a tab 161.

As indicated in Figure 8, the top of the protective sheet 157 is preferably pre-printed with instructions 167. These instructions 167 need not be synchronized with cutting unit 34, as the protective sheet 157 is discarded. Instead, the instructions can be repeated at regular intervals, e.g. at intervals less than one half the width of the postcard 100, to ensure that each sheet 157 contains at least one complete set of instructions.

With regard to preferred materials, the card 151 can be made from cardboard sold under the name Kromecote (Registered Trade Mark), which has 12 point thickness. One side of the card is matte and the other side is shiny. The matte side is the side that is printed at the print station 16 with information regarding address etc. The glossy side is coated with the first layer of adhesive 152. Preferably, this side is first coated or printed with a grey colour, before the first layer of adhesive 152 is applied. This first layer of adhesive is preferably a pressure-sensitive adhesive, and need not be transparent.

The transparent sheet 155 is, preferably, a laminate formed from polyester having 2 mil. thickness. The second adhesive layer 156 needs to be transparent, or largely transparent, in order that the

photograph or other article can be viewed through it. This second adhesive layer 156 can also be a pressure-sensitive adhesive. It could, for example, be tinted with some colour, which may be desirable for some purposes.

The protective sheet 157 is formed from paper stock having a weight of 65 pounds/ream. It is coated on both sides with silicone. The instructions 167 are printed onto the sheet 157, before coating with the silicone. The silicone is also transparent, to permit the instructions 167 to be read through the transparent sheet 155. The bottom silicone coating 163 and a top silicone coating 165 should preferably be of different weights. Preferably, the bottom silicone layer 163 should cause the protective sheet 157 to release readily from the first layer of adhesive 152, whilst the second silicone layer 165 should require a positive peel action, to separate the sheet 157 from the transparent sheet 155. This should ensure that the postcard 100 is used correctly.

With regard to preferred dimensions, it is suggested that the components of the postcard 100 be dimensioned to accept standard sized photographs. At the present time, a standard sized photograph has the dimensions of 4" x 6". Accordingly, all the components have a width of 6". The card 151 and transparent sheet 155 have a height of 4 $\frac{1}{4}$ ", as do their adhesive layers 152, 156. The edge strip 160 has a width of approximately $\frac{1}{4}$ ", depending on the trimming operation, so that the usable area of the card 100 is 4" x 6". Since the insertion of a photograph will distort the transparent sheet 155, it could be cut with a slightly increased height, to allow for such distortion. Thus, the lower edge of the transparent sheet 155 could be 1/32" below the bottom edge of the card 151. Then, after insertion of a photograph as detailed below, the lower edges of the card 151 and transparent sheet 155 will be flush.

In Figure 8, the protective sheet 157 is shown schematically separate from both the adhesive layers 152, 156; in practice, the tab 161 is used to lift the protective sheet 157 together with the transparent sheet 155. This then exposes the first adhesive layer 152, except along the edge strip 149. A photograph, indicated at 170 in Figure 9, is then mounted on the first adhesive layer. Figure 9 shows a photograph smaller than the adhesive layers, to leave an exposed border of adhesive around the photograph 170. The protective sheet 157 is then removed, and the transparent sheet 155 replaced. This causes the second adhesive layer 156 to contact and adhere to the exposed border of the first adhesive layer 152 and to the photograph 170. Figure 9 shows the transparent sheet 155 as it is being replaced. This results in a laminated structure, which should protect the photograph 170 dur-

ing handling in the postal system etc.

The process described above with reference to Figures 1-6 is based on a process that produces a composite strip having a section equal to that of a single postcard. Figure 7 shows a variant embodiment, in which a composite strip 80 is produced. This composite strip 80 includes a card strip 81, bearing a first layer of adhesive 82. A transparent strip 85 has a second adhesive layer 86 extending across it. Two separate protective sheet portions 87, 88 are provided, separating the adhesive layers 82, 86 on either side. This leaves a central region 89, in which the adhesive layers 82, 86 are bonded to one another. The protective sheets 87, 88 have respective tabs 90, 91.

The components of this composite strip 80 can be formed similarly to the technique detailed above. Thus, a central part of a protective strip would be removed, to form the two separate protective sheets 87, 88. The transparent sheet 85 with the protective sheets would then be laminated with the card strip 81 bearing the first adhesive layer 82. Both edges of the transparent strip 85 and the card strip 81 would then be cut and removed, to form the tabs 90, 91. It will then be appreciated that this composite strip 80 is comparable to two of the composite strips 62c placed back to back. Accordingly, as indicated at 92, the composite strip 80 is cut in half, to form separate strips, each of which needs simply be cut transversely to form the individual postcards.

Claims

1. A process for making a postcard (100) for use in mailing sheet-form articles, the process comprising the steps of continuously supplying a first, elongate, sheet-member strip (51,151) including a first layer of adhesive (52,152) on one side thereof; continuously supplying a second, elongate strip of a transparent sheet (55,155) including a second layer of generally transparent adhesive (56,156) on one side thereof; continuously mounting a third, elongate strip of a protective sheet (57,157) between said first and second strips (51,151,55,155) so as to leave opposed edge regions (52a, 56a) of the first and second adhesive layers (52,152,56,156) bonded to one another, with the remainder of the first and second adhesive layers (52,152,56,156) separated by the protective sheet (57,157), thereby forming a fourth, composite strip (62); and cutting the fourth, composite strip (62) transversely to form individual postcards (100).
2. A process as claimed in claim 1, which includes the additional step of continuously coat-

ing the first elongate strip (51,151) with the first layer of adhesive (52,152) as the first elongate strip (51,151) is supplied.

3. A process as claimed in claim 1, wherein the first elongate strip (51,151) is supplied as said first elongate strip (51,151) bearing said first layer of adhesive (52,152) and an intermediate protective sheet (53) having the same dimensions as the first elongate strip (51,151) and covering the first layer of adhesive (52,152), and wherein the intermediate protective sheet (53) is removed prior to the step of continuously mounting the said third elongate strip (57,157).
4. A process as claimed in claim 1,2 or 3, which includes the additional step of printing on the other side of the first, elongate strip (51,151).
5. A process as claimed in claim 1,2 or 3, which includes the additional step of printing on the other side of the first, elongate strip (51,151) prior to the step of continuously mounting the said third elongate strip (57,157), and synchronizing the printing with the step of cutting the said fourth composite strip (62), to ensure that printed matter occurs at desired locations on the individual postcards (100).
6. A process as claimed in claim 1, wherein the second elongate strip (55,155) is provided with a height equal to the height of the first, elongate, sheet-form strip (51,151) in the individual postcards plus the height of a tab (61,161) of the protective sheet (57,157).
7. A process as claimed in claim 6, wherein the second and third elongate strips (55,155,57,157) have the same height and are provided as a single composite strip (54), and wherein one edge strip (60) of the third elongate strip (57,157) is separated from a main body thereof (59) by a slit (58), which edge strip (60) is removed prior to the step of continuously mounting the said third elongate strip (57,157), to permit said opposed edge regions (52a,56a) of the adhesive layers (52,152,56,156) to be bonded together.
8. A process as claimed in claim 7, wherein, after the step of continuously mounting the said third elongate strip (57,157), the other edge (64) of the second elongate strip (55,155), remote from said opposed edge regions (52a,56a), is cut, to separate a transparent edge trim (66) from a main body thereof, which transparent edge trim (66) together with a cor-

responding part of the second adhesive layer (56,156) is removed, to leave one side of an edge portion of the protective sheet (57,157) exposed as a tab (61,161).

9. A process as claimed in claim 8, which includes, after the step of continuously mounting the said third elongate strip (57,157), the additional step of cutting through the edge of the first elongate strip (51,151) remote from said opposed edge regions (52a,56a) to separate a sheet-member edge trim (70) from a main body thereof, and removing the sheet-member edge trim (70) together with a corresponding part of the first layer of adhesive (52,152), to leave another side of said tab (61,161) of the protective stock (57,157) exposed.
10. A process as claimed in claim 9, wherein after the step of continuously mounting the said third elongate strip (57,157), one edge of the first and second elongate strips (51,151,55,155) is trimmed adjacent said opposed edge regions (52a,56a), and a resultant composite edge trim (74) removed.
11. A process as claimed in any of claims 6 to 10, which prior to the step of continuously supplying the said second elongate strip (55,155) includes the additional steps of printing on the other side of the first, elongate strip (51,151) and synchronizing the printing with the step of cutting the said fourth composite strip (62) to ensure that printed matter occurs at desired locations on the individual postcards (100); drying the printed other side of the first elongate strip (51,151); and reversing the orientation of the sheet-form member stock (51,151,52,152).
12. An apparatus for making a postcard for use in mailing sheet-form articles, the apparatus comprising: a strip path (15); means (6,8,10,12,14) for moving an elongate strip along the strip path (15); a first supply unit (2) for supplying a first, elongate, sheet-form member strip (51,151) to the strip path (15); a second supply unit (4) for supplying a second, elongate strip of a transparent sheet (55,155) to the strip path (15); a laminating station (24), downstream from the first and second supply units (2,4), for laminating together the first and second elongate strips (51,151,55,155) to form a composite strip (62); a trimming section (28,30,32) downstream from the laminating station (24) for trimming the composite strip (62); and a cutting section (34) downstream from the trimming section (28,30,32) for cutting the composite

strip (62) into individual postcards (100).

13. An apparatus as claimed in claim 12, which includes, in the strip path (15), a printing station (16), downstream from the first supply unit (2).
14. An apparatus as claimed in claim 13, which includes a dryer (18) in the strip path (15), downstream from the printing station (16).
15. An apparatus as claimed in claim 12,13 or 14, which includes a turn bar unit (20) in the strip path (15) downstream from the first supply unit (2) and before the second supply unit (4), for turning the first, elongate strip (51,151).
16. An apparatus as claimed in claim 12, which includes an intermediate protective sheet rewind unit (6), provided between the first and second supply units (2,4) for removing and rewinding an intermediate protective sheet (53) provided on the first, elongate strip (51,151).
17. An apparatus as claimed in claim 16, which includes a removing device (26), for removing an edge strip (60) of a main, protective sheet (57,157) covering a second layer of adhesive (56,156) on the second, elongate strip (55,155).
18. An apparatus as claimed in claim 17, which includes in the strip path (15) downstream from the laminating station (24), a first trim station (28), for separating a transparent edge trim (66) from the composite, elongate strip (62), and a transparent edge trim rewind unit (8) for removing the transparent edge trim (66).
19. An apparatus as claimed in claim 18, which includes, in the strip path (15) downstream from the first trimming station (28), a second trimming station (30) for separating an edge trim (70) of the sheet-form member (62), and a sheet-form member edge trim rewind unit (10) for removing that edge trim (70).
20. An apparatus as claimed in claim 19, including in the strip path (15) downstream from the second trimming station (30), a third trimming station (32) for trimming an edge (74) of the composite strip (62), and a composite edge trim rewind unit (12) for removing that composite edge trim (74).

Revendications

1. Procédé pour la fabrication d'une carte postale

- (100) destinée à l'utilisation dans le publipostage d'articles se présentant sous la forme de feuilles, le procédé comprenant les étapes consistant à amener en continu une première bande de feuille allongée (51, 151) comprenant une première couche de substance adhésive (52, 152) sur un côté de celle-ci ; à amener en continu une seconde bande allongée d'une feuille transparente (55, 155) comprenant une seconde couche d'une substance adhésive de façon générale transparente (56, 156) sur un côté de celle-ci ; à monter de façon continue une troisième bande allongée d'une feuille de protection (57, 157) entre les première et seconde bandes (51, 151, 55, 155) de façon à laisser les régions de bord opposé (52a, 56a) des première et seconde couches adhésives (52, 152, 56, 156) collées l'une sur l'autre, avec le reste des première et seconde couches adhésives (52, 152, 56, 156) séparées par la feuille de protection (57, 157), moyennant quoi on forme une quatrième bande composite (62) ; et à découper la quatrième bande composite (62) transversalement pour former des cartes postales individuelles (100).
2. Procédé selon la revendication 1, qui comprend l'étape supplémentaire consistant à revêtir en continu la première bande allongée (51, 151) avec la première couche de substance adhésive (52, 152) à mesure qu'est amenée la première bande allongée (51, 151).
 3. Procédé selon la revendication 1, dans lequel la première bande allongée (51, 151) constitue la première bande allongée (51, 151) portant la première couche de substance adhésive (52, 152) et une feuille de protection intermédiaire (53) présentant les mêmes dimensions que la première bande allongée (51, 151) et recouvrant la première couche de substance adhésive (52, 152), et dans lequel la feuille de protection intermédiaire (53) est enlevée avant l'étape consistant à monter en continu la troisième bande allongée (57, 157).
 4. Procédé selon la revendication 1, 2 ou 3, qui comprend l'étape supplémentaire consistant à imprimer sur l'autre côté de la première bande allongée (51, 151).
 5. Procédé selon la revendication 1, 2 ou 3, qui comprend l'étape supplémentaire consistant à imprimer de l'autre côté de la première bande allongée (51, 151) avant l'étape consistant à monter en continu la troisième bande allongée (57, 157), et à synchroniser l'impression avec l'étape de découpe de la quatrième bande composite (62), pour s'assurer que la matière imprimée se situe aux emplacements souhaités des cartes postales individuelles (100).
 6. Procédé selon la revendication 1, dans lequel la seconde bande allongée (55, 155) est d'une hauteur égale à la hauteur de la première bande allongée en forme de feuille (51, 151) dans les cartes postales individuelles plus la hauteur d'une languette (61, 161) de la feuille de protection (57, 157).
 7. Procédé selon la revendication 6, dans lequel les seconde et troisième bandes allongées (55, 155, 57, 157) ont la même hauteur et sont prévues sous forme de bande composite unique (54) et dans lequel une bande de bord (60) de la troisième bande allongée (57, 157) est séparée de son corps principal (59) par une fente (58), laquelle bande de bord (60) est enlevée avant l'étape consistant à monter en continu la troisième bande allongée (57, 157) pour permettre le collage des régions de bord opposé (52a, 56a) des couches de substance adhésive (52, 152, 56, 156).
 8. Procédé selon la revendication 7, dans lequel, après l'étape consistant à monter en continu la troisième bande allongée (57, 157), l'autre bord (64) de la seconde bande allongée (55, 155), éloignée des régions de bord opposé (52a, 56a), est découpée, pour sectionner un premier rognage ou massicotage de bord transparent (66) de son corps principal, lequel rognage de bord transparent (66) est enlevé conjointement avec une partie correspondante de la seconde couche adhésive (56, 156), pour laisser à nu un côté d'une portion de bord de la feuille de protection (57, 157) sous la forme d'une languette (61, 161).
 9. Procédé selon la revendication 8, qui comprend après l'étape consistant à monter en continu la troisième bande allongée (57, 157), l'étape supplémentaire consistant à découper sur le long du bord de la première bande allongée (51, 151), éloignée des régions de bord opposé (52a, 56a), pour séparer un rognage de bord de l'élément de feuille (70) de son corps principal, et enlever le rognage de bord de l'élément de feuille (70) conjointement avec une partie correspondant de la première couche de substance adhésive (52, 152) pour laisser à nu un autre côté de la languette (61, 161) de la feuille de protection (57, 157).
 10. Procédé selon la revendication 9, dans lequel après l'étape consistant à monter en continu la

- troisième bande allongée (57,157), on découpe un bord des première et seconde bandes allongées (51, 151, 55, 155) de façon contigüe aux régions de bord opposé (52a, 56a) et on enlève un rognage de bord composite résultante (74).
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11. Procédé selon l'une quelconque des revendications 6 à 10, lequel préalablement à l'étape consistante à amener en continu la seconde bande allongée (55, 155) comprend les étapes supplémentaires consistant à imprimer sur l'autre côté de la première bande allongée (51, 151) et à synchroniser l'impression avec l'étape de coupe de la quatrième bande composite (62) pour assurer que la matière imprimée se situe aux emplacements souhaités sur les cartes postales individuelles (100) ; à sécher l'autre côté imprimé de la première bande allongée (51, 151) ; à inverser l'orientation de la souche de l'élément en forme de feuille (51, 151, 52, 152).
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12. Appareil pour la fabrication d'une carte postale destiné à l'utilisation dans le publipostage d'articles en forme de feuilles, appareil comprenant : un passage de bande (15) ; des moyens (6, 8, 10, 12, 14) destinés à déplacer une bande allongée le long d'un passage de bande (15) ; une première unité d'alimentation (2) destinée à amener une première bande d'élément en forme de feuille allongée (51, 151) sur le passage de bande (15) ; une seconde unité d'alimentation (4) destinée à amener une seconde bande allongée d'une feuille transparente (55, 155) sur le passage de bande (15) ; un poste de contrecollage (24), en aval des première et seconde unités d'alimentation (2,4), destiné à contrecoller ensemble les première et seconde bandes allongées (51, 151, 55, 155) pour former une bande composite (62) ; une section de rognage (28, 30, 32) en aval du poste de contrecollage (24) destinée à rogner la bande composite (62) ; et une section de coupe (34) en aval de la section de rognage (28, 30, 32) destinée à couper la bande composite (62) en carte postale individuelle (100).
13. Appareil selon la revendication 12, qui comprend dans le passage de bande (15), un poste d'impression (16) en aval de la première unité d'alimentation (2).
14. Appareil selon la revendication 13, qui comprend un sécheur (18) dans le passage de bande (15) en aval du poste d'impression (16).
15. Appareil selon les revendications 12, 13 ou 14
- qui comprend une unité de barre de retournement (20) dans le passage de bande (15) en aval de la première unité d'alimentation (2) et avant la seconde unité d'alimentation (4) destinée à retourner la première bande allongée (51, 151).
16. Appareil selon la revendication 12, qui comprend un dispositif réenrouleur de feuille de protection intermédiaire (6), prévu entre les première et seconde unités d'alimentation (2, 4) destiné à enlever et à réenrouler une feuille de protection intermédiaire (53) prévue sur la première bande allongée (51, 151).
17. Appareil selon la revendication 16, qui comprend un dispositif d'enlèvement (26) destiné à enlever une bande de bord (60) d'une feuille de protection principale (57, 157) recouvrant une seconde couche de substance adhésive (56, 156) sur la seconde bande allongée (55, 155).
18. Appareil selon la revendication 17, qui comprend dans le passage de bande (15) en aval du poste de contrecollage (24) un premier poste de rognage (28) destiné à séparer un rognage de bord transparent (66) de la bande composite allongée (62) et un dispositif réenrouleur de rognage de bord transparente (8) destiné à enlever le rognage de bord transparent (66).
19. Appareil selon la revendication 18, qui comprend dans le passage de bande (15) en aval du premier poste de rognage un second poste de rognage (30) destiné à séparer un rognage de bord (70) de l'élément en forme de feuille (62) et un dispositif réenrouleur de rognage de bord d'élément en forme de feuille (10) destiné à enlever ce rognage de bord (70).
20. Appareil selon la revendication 19, comprenant dans le passage de bande (15) en aval du second poste de rognage (30), un troisième poste de rognage (32) destiné à découper un bord (74) de la bande composite (62) et un dispositif réenrouleur de rognage de bord composite (12) destiné à enlever ce rognage de bord composite (74).

Patentansprüche

1. Verfahren zur Herstellung einer Postkarte (100) zur Verwendung beim Versand bahnförmiger Gegenstände, bestehend aus den Schritten der kontinuierlichen Zufuhr eines ersten länglichen Bahnstreifens (51,151) mit einer ersten Kleb-

- stoffschicht (52,152) an einer seiner Seiten, der kontinuierlichen Zufuhr eines zweiten länglichen Streifens einer transparenten Bahn (55,155) mit einer zweiten, im wesentlichen transparenten Klebstoffschicht (56,156) an einer seiner Seiten, dem kontinuierlichen Anbringen eines dritten länglichen Streifens einer Schutzfolie (57,157) zwischen dem ersten und zweiten Streifen (51,151;55,155), wobei einander gegenüberliegende Randbereiche (52a;56a) der ersten und zweiten Klebstoffschicht (52,152;56,156) aneinander haften gelassen werden und wobei der Rest der ersten und zweiten Klebstoffschicht (52,152;56,156) durch die Schutzfolie (57,157) voneinander getrennt sind, wodurch ein vierter, ein Verbundstreifen (62) gebildet wird, und des querverlaufenden Durchtrennens des vierten, des Verbundstreifen (62) zur Bildung einzelner Postkarten (100).
2. Verfahren nach Anspruch 1, gekennzeichnet durch den zusätzlichen Schritt des kontinuierlichen Überziehens des ersten länglichen Streifens (51,151) mit der ersten Klebstoffschicht (52,152) während der Zufuhr des ersten länglichen Streifens (51,151).
3. Verfahren nach Anspruch 1, dadurch gekennzeichnet, daß der erste längliche Streifen (51,151) als der erste, die erste Klebstoffschicht (52,152) und eine die erste Klebstoffschicht (52,152) bedeckende Zwischen-Schutzfolie (53) mit denselben Abmessungen wie der erste längliche Streifen (51,151) tragende längliche Streifen (51,151) zugeführt wird und daß die Zwischen-Schutzfolie (53) vor dem Schritt des kontinuierlichen Anbringens des dritten länglichen Streifens (57,157) entfernt wird.
4. Verfahren nach Anspruch 1, 2 oder 3, gekennzeichnet durch den zusätzlichen Schritt des Bedruckens der anderen Seite des ersten länglichen Streifens (51,151).
5. Verfahren nach Anspruch 1, 2 oder 3, gekennzeichnet durch den zusätzlichen Schritt des Bedruckens der anderen Seite des ersten länglichen Streifens (51,151) vor dem Schritt des kontinuierlichen Anbringens des dritten länglichen Streifens (57,157) und des Synchronisierens des Bedruckens mit dem Schritt des Durchtrennens des vierten, des Verbundstreifens (62), um sicherzustellen, daß die Aufdrucke an den erwünschten Stellen auf den einzelnen Postkarten (100) auftreten.
6. Verfahren nach Anspruch 1, dadurch gekennzeichnet, daß der zweite längliche Streifen (55,155) mit einer Höhe versehen wird, die gleich der um die Höhe eines Lappens (61,161) der Schutzfolie (57,157) vermehrten Höhe des ersten länglichen Bahnstreifens (51,151) in den einzelnen Postkarten ist.
7. Verfahren nach Anspruch 6, dadurch gekennzeichnet, daß der zweite und dritte längliche Streifen (55,155;57,157) dieselbe Höhe aufweisen und als einzelner Verbundstreifen (54) geschaffen werden und daß ein Randstreifen (60) des dritten länglichen Streifens (57,157) von einem Hauptkörper (59) desselben durch einen Schlitz (58) getrennt wird, wobei der Randstreifen (60) vor dem Schritt des kontinuierlichen Anbringens des dritten länglichen Streifens (57,157) entfernt wird, um die gegenseitige Verbindung der einander gegenüberliegenden Randbereiche (52a;56a) der Klebstoffschichten (52,152;56,156) zu ermöglichen.
8. Verfahren nach Anspruch 7, dadurch gekennzeichnet, daß nach dem Schritt des kontinuierlichen Anbringens des dritten länglichen Streifens (57,157) der von den einander gegenüberliegenden Randbereichen (52a,56a) abliegende andere Rand (64) zur Abtrennung eines transparenten Randabschnittes (66) von einem Hauptkörper desselben durchschnitten wird, wobei der transparente Randabschnitt (66) zusammen mit einem entsprechenden Teil der zweiten Klebstoffschicht (56,156) entfernt wird, um eine Seite eines Randbereiches der Schutzfolie (57,157) als Lappen (61,161) freizulegen.
9. Verfahren nach Anspruch 8, dadurch gekennzeichnet, daß nach dem Schritt des kontinuierlichen Anbringens des dritten länglichen Streifens (57,157) in einem zusätzlichen Schritt der von den einander gegenüberliegenden Randbereichen (52a,56a) abliegende Rand des ersten länglichen Streifens (51,151) zur Abtrennung eines Bahnrandabschnittes (70) von einem Hauptkörper desselben durchschnitten und der Bahnrandabschnitt (70) zusammen mit einem entsprechenden Teil der ersten Klebstoffschicht (52, 152) entfernt wird, um eine weitere Seite des Lappens (61, 161) des Schutzmaterials (57,157) freizulegen.
10. Verfahren nach Anspruch 9, dadurch gekennzeichnet, daß nach dem Schritt des kontinuierlichen Anbringens des dritten länglichen Streifens (57,157) je ein Rand des ersten und zweiten länglichen Streifens (51,151;55,155) neben den einander gegenüberliegenden Randberei-

- chen (52a, 56a) weggeschnitten und der sich ergebende Verbund-Randabschnitt (74) entfernt wird.
- 11.** Verfahren nach den Ansprüchen 6 bis 10, dadurch gekennzeichnet, daß vor dem Schritt der kontinuierlichen Zufuhr des zweiten länglichen Streifens (55,155) in einem zusätzlichen Schritt die andere Seite des ersten länglichen Streifens (51,151) bedruckt und das Bedrucken mit dem Schritt des Durchtrennens des vierten, des Verbundstreifens (62) synchronisiert wird, um sicherzustellen, daß die Aufdrucke an den erwünschten Stellen der einzelnen Postkarten (100) auftreten, daß die bedruckte andere Seite des ersten länglichen Streifens (51,151) getrocknet wird und daß die Orientierung des Bahnmateriales (51,151,52,152) umgekehrt wird.
- 12.** Vorrichtung zur Herstellung einer Postkarte zur Verwendung beim Versand bahnförmiger Gegenstände, bestehend aus einem Streifen-Weg (15), einer Einrichtung (6,8,10,12, 14) zum Transport eines länglichen Streifens längs des Streifen-Weges (15), einer ersten Zufuhreinheit (2) zur Zufuhr eines ersten länglichen Bahnstreifens (51,151) zu dem Streifen-Weg (15), einer zweiten Zufuhreinheit (4) zur Zufuhr eines zweiten länglichen Streifens einer transparenten Bahn (55,155) zu dem Streifen-Weg (15), einer in Transportrichtung nach der ersten und zweiten Zufuhreinheit (2,4) angeordneten Laminierstation (24) zum Laminieren des ersten länglichen Streifens (51,151) mit dem zweiten länglichen Streifen (55,155) zur Bildung eines Verbundstreifens (62), einer in Transportrichtung nach der Laminierstation (24) angeordneten Schneidstelle (28,30,32) zum Beschneiden des Verbundstreifens (62) und aus einer in Transportrichtung nach der Schneidstelle (28,30,32) angeordneten Trennstelle (34) zum Durchtrennen des Verbundstreifens (62) in einzelne Postkarten (100).
- 13.** Vorrichtung nach Anspruch 12, dadurch gekennzeichnet, daß auf dem Streifen-Weg (15) in Transportrichtung nach der ersten Zufuhreinheit (2) eine Druckstation (16) vorgesehen ist.
- 14.** Vorrichtung nach Anspruch 13, dadurch gekennzeichnet, daß auf dem Streifen-Weg (15) in Transportrichtung nach der Druckstation (16) ein Trockner (18) vorgesehen ist.
- 15.** Vorrichtung nach Anspruch 12, 13 oder 14, dadurch gekennzeichnet, daß auf dem
- Streifen-Weg (15) in Transportrichtung nach der ersten Zufuhreinheit (2) und vor der zweiten Zufuhreinheit (4) eine Wendestabeinheit (20) zum Wenden des ersten länglichen Streifens (51,151) vorgesehen ist.
- 16.** Vorrichtung nach Anspruch 12, dadurch gekennzeichnet, daß zwischen der ersten und zweiten Zufuhreinheit (2,4) eine Zwischen-Schutzfolien-Aufwickleinheit (6) zum Entfernen und Aufwickeln einer auf dem ersten länglichen Streifen (51,151) vorgesehenen Zwischen-Schutzfolie (53) vorgesehen ist.
- 17.** Vorrichtung nach Anspruch 16, gekennzeichnet durch eine Abnahmevorrichtung (26) zum Entfernen eines Randstreifens (60) einer zweiten Klebstoffschicht (56,156) auf dem zweiten länglichen Streifen abdeckenden Haupt-Schutzfolie (57,157).
- 18.** Vorrichtung nach Anspruch 17, dadurch gekennzeichnet, daß auf dem Streifen-Weg (15) in Transportrichtung nach der Laminierstation (24) eine erste Abtrennstation (28) zum Abtrennen eines transparenten Randabschnittes (66) von dem länglichen Verbundstreifen (62) und eine Randabschnitt-Aufwickleinheit (8) zum Entfernen des transparenten Randabschnittes (66) vorgesehen sind.
- 19.** Vorrichtung nach Anspruch 18, dadurch gekennzeichnet, daß auf dem Streifen-Weg (15) in Transportrichtung nach der ersten Abtrennstation (28) eine zweite Abtrennstation (30) zum Abtrennen eines Randabschnittes (70) des Bahnmateriales (62) und eine Bahnmateriale-Randabschnitt-Aufwickleinheit (10) zum Entfernen des Randabschnittes (70) vorgesehen sind.
- 20.** Vorrichtung nach Anspruch 19, dadurch gekennzeichnet, daß auf dem Streifen-Weg (15) in Transportrichtung nach der zweiten Abtrennstation (30) eine dritte Abtrennstation (32) zum Abtrennen eines Randes (74) des Verbundstreifens (62) und eine Randabschnitt-Aufwickleinheit (12) zum Entfernen des Verbund-Randabschnittes (74) vorgesehen sind.



