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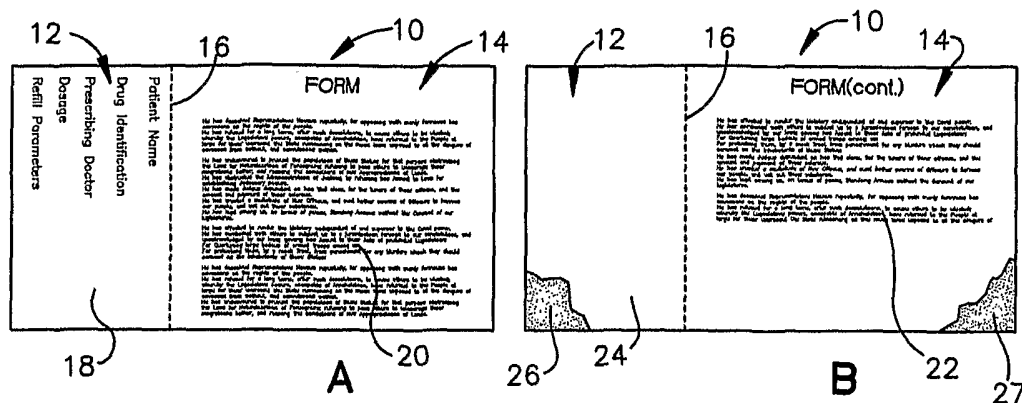
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(54) Title: INTEGRATED LABEL/FORM STRUCTURE



(57) Abstract: An integrated label/form structure (10) comprising a label portion (12) and a form portion (14) connected to the label portion (12). The label portion (12) comprises a printing section (18), a release section (24), and an adhesive section (26) therebetween, with the release section (24) being releasable from the adhesive section (26). The form portion (14) comprises a first printing section (20), a second printing section (22), and an adhesive section (27) therebetween, with the first section (20) being permanently adhered to the second printing section (22) by the adhesive section (27).

Title: INTEGRATED LABEL/FORM STRUCTUREFIELD OF THE INVENTION

This invention relates generally, as indicated, to an integrated label/form structure and, more particularly, to a structure which integrates a label portion that can be adhered to an article as well as a form portion that can be routed
5 independently of the label portion.

BACKGROUND OF THE INVENTION

An integrated label/form structure is a structure which integrates a label portion and a form portion. Such an integrated structure commonly permits printing on a surface of the label portion and on a surface of the form portion, and is usually
10 designed for selective (and post-printing) separation of the label portion and the form portion. The printed label portion is adhered to an article and the printed form portion is routed independently of the printed label portion. For example, in a pharmacy setting, the printed label portion can be adhered to a receptacle for the prescribed drug product, and the form portion can be handed to the patient and/or
15 be filled by the pharmacy. In a travel carrier setting, the label portion can be adhered to a piece of luggage, and the form portion can be provided to the passenger for luggage-claiming purposes. In a courier setting, the label portion can be adhered to a package, and the corresponding form portion can be provided to the customer and/or carrier to track delivery progress.

20

SUMMARY OF THE INVENTION

The present invention provides an integrated label/form structure that can be constructed so as to have continuous exterior surfaces (*i.e.*, top and bottom), no exterior surface seams, even edges, and/or a substantially equal thickness. These features of the invention facilitate manufacturing procedures by, for example, simplifying inter-layer alignment issues in the blanks made to produce such
25 structures. Also, these features enhance efficient printing by, for example, minimizing printer jamming problems. Interlayer alignment issues, printer jamming, and other problems have historically plagued the production, printing, and/or use of conventional integrated label/form structures, as they often include non-continuous

exterior surfaces (*i.e.*, top and bottom surfaces), seamed sections, uneven edges, and/or stepped constructions.

Additionally or alternatively, the present invention provides an integrated label/form structure, wherein the form portion can be printed on both sides. In many situations, the form portion requires substantially more printed information than the label portion, whereby often overall structure size is dictated by the printing space required on the form portion. In these situations, the integrated label/form structure of the present invention allows for a significant size reduction.

More particularly, the present invention provides an integrated label/form structure comprising a label portion and a form portion connected to the label portion. The label portion comprises a preferably printable section, a release section, and an adhesive section which releasably attaches the release section to the printable section. The form portion comprises a first preferably printable section, a second preferably printable section, and an adhesive section which permanently adhering the first section to the second section. The label section and the first section of the form portion can be formed from a continuous ply, and/or the release section and the second section portion can be formed from a continuous ply.

The integrated label/form structure of the present invention may be made from a blank comprising a top ply, a bottom ply, and an adhesive layer between the upper face of the top ply and the lower face of the bottom ply. A release coating is positioned between the upper face of the bottom ply and the adhesive layer in an area corresponding to the label portion of the structure to form the release section. The adhesive layer extends into an area corresponding to the form portion of the structure to form the adhesive section, which permanently adheres the printed form sections together.

These and other features of the invention are fully described and particularly pointed out in the claims. The following description and drawings set forth in detail certain illustrative embodiments of the invention, which are indicative of but a few of the various ways in which the principles of the invention may be employed.

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DRAWINGS

Figures 1A and 1B are top and bottom views, respectively, of an integrated label/form structure according to the present invention.

Figures 2A - 2C are schematic views showing a method of utilizing the integrated label/form of Figure 1 according to the present invention.

Figures 3A and 3B are top and bottom views, respectively, of another integrated label/form structure according to the present invention.

5 Figures 4A - 4C are schematic views showing a method of using the integrated label/form of Figure 3 according to the present invention.

Figures 5A and 5B are top and bottom views, respectively, of another integrated label/form structure according to the present invention.

10 Figures 6A - 6C are schematic views showing a method of utilizing the integrated label/form of Figure 5 according to the present invention.

Figure 7A and 7B are top and bottom views, respectively, of a blank for making a plurality of the integrated label/forms according to the present invention.

Figure 7C is a sectional view of the blank of Figure 7A as seen along lines 7C - 7C.

15 Figure 7D is a top view of the blank after perforations have been formed thereon.

Figure 7E is a sectional view of the perforated blank of Figure 7D as seen along lines 7E - 7E.

20 Figures 8A - 8E are top views of other integrated label/form structures according to the present invention.

Figures 9A - 9E are sectional views of the label/form structures of Figures 8A - 8E, respectively.

DETAILED DESCRIPTION

25 Referring now to the drawings in detail, and initially to Figures 1-6, integrated label/form structures 10 according to the present invention are shown. Each structure 10 integrates a label portion 12 and a form portion 14 which, in the illustrated embodiments, are separated by perforations 16 or other designed weaknesses. As is explained in more detail below, the structures 10 are designed to ease manufacturing procedures and/or enhance printing efficiency.

30 The integrated label/form structures 10 of the present invention each permit printing on one surface of the label portion 12 and on two surfaces of the form

portion 14. Specifically, the label portion 12 includes a printing section 18 and the form portion 14 includes a first printing section 20 and a second printing section 22. When the size of the label/form structure 10 is dictated by the amount of information that must be printed on the form portion 14, this feature of the invention will allow
5 the use of a smaller-sized structure.

The integrated label/form structures 10 are designed for selective (and post-printing) separation of the label portion 12 and the form portion 14, via the perforation 16. The structures 10 are also designed for selective (and post-printing) removal of a release section 24 from the label portion 12 to expose an adhesive
10 section 26. The printed label portion 12 can thereby be adhered to an article, and the printed form portion 14 can be routed independently of the printed label portion 12. An adhesive section 27 permanently adheres the first and second printing sections 20 of the form portion 14 together, thereby providing a two-sided form.

Referring now specifically to Figures 1 and 2, one integrated label/form
15 structure 10 according to the present invention is shown. The integrated structure 10 could find special application, for example, in a pharmacy setting. Upon the filling of a prescription for a patient, the pharmacy printer could simultaneously print certain information on the printing section 18 of the label portion 12 (e.g., patient name, drug identification, prescribing doctor, dosage, refill parameters, etc.) and
20 corresponding information on the printing sections 20 and 22 of the form portion 14. (See Figures 1A and 1B.) Upon separation of the portions 12/14 and removal of the release section 24, the label portion 12 can be adhered (via the exposed adhesive section 26) to a receptacle R for the prescribed drug product, and the form portion 14 can be handed to the patient and/or the filled by the pharmacy. (See Figures 2A
25 - 2C.)

Referring now to Figures 3 and 4, another integrated label/form structure 10 according to the present invention is shown. This integrated structure 10 could be used, for example, by a travel carrier (e.g., airline, bus, train) with the carrier's printer simultaneously printing certain information on the printing section 18 of the label
30 portion 12 (e.g., passenger name, carrier identification, destination, etc.) and corresponding claim information on the printing sections 20 and 22 of the form portion 14. (See Figures 3A and 3B.) After separation of the printed label portion 12 from the printed form portion 14 and removal of the release section 24, the label

portion 12 can be adhered (via the exposed adhesive section 26) to luggage L and the corresponding form portion 14 can be handed to the passenger to present when claiming his/her luggage. (See Figures 4A - 4C.)

Referring now to Figures 5 and 6, another integrated label/form structure 10 according to the present invention is shown. This structure 10 could be used, for example, in a courier setting with the courier's printer simultaneously printing certain information on the printing section 18 of the label portion 12 (e.g., sender, recipient, tracking numbers, special delivery instructions, expected date of arrival, etc.) and corresponding information on the printing sections 20 and 22 of the form portion 14. (See Figures 5A and 5B.) The printed portions 12/14 are separated, the release section 24 removed, the label portion 12 adhered to a package P, and the corresponding form portion 14 provided to the customer and/or the courier for package- tracking purposes. (See Figures 6A - 6C.)

Referring now to Figure 7, a blank 30 is shown for the production of a plurality of the integrated label/form structures 10 according to the present invention. The illustrated blank 30 can be provided in sheet or roll form for continuous feeding through a printer. (That being said, a separate blank 30 for each individual structure 10 could instead be provided for one-by-one feeding into a printer.)

The blank 30 may be viewed as having a first portion 32, which corresponds in size, shape, and location to the label portion 12; and a second portion 34, which corresponds in size, shape, and location to the form portion 14. (See Figures 7A, 7B and 7C.)

The blank 30 comprises a top ply 42 having an upper face 44 and a lower face 46, and a bottom ply 48 having an upper face 50 and a lower face 52. The top ply 42 and the bottom ply 48 each have a width corresponding to the desired length or width of the structure 10. (See Figures 7A, 7B and 7C.) The top ply 42 and/or the bottom ply 48 can be made of any material compatible with the desired printing techniques, and possible candidates include low-friction paper and/or polymeric film.

The blank 30 also comprises an adhesive layer 54 positioned between the lower surface 46 of the top ply 42 and the upper surface 50 of the bottom ply 48. (See Figure 7C.) The illustrated adhesive layer 54 covers the entire lower surface 46 of the top ply 42, whereby it also has a width corresponding to the desired length or width of the structure 10. However, other layer constructions are possible,

provided that, in the finished structure 10, the label portion 12 can be adhered to the intended article and the form printing sections 20 and 22 will be adhered to each other. Additionally or alternatively, the adhesive layer 54 need not be continuous and/or solid, but can instead comprise a repeating or random pattern, or any other
5 arrangement for that matter, which provides the desired bonding. The adhesive layer 54 preferably comprises a pressure sensitive adhesive, such as a rubber-based adhesive and/or an acrylate-based adhesive.

The blank 30 further comprises a release coating 56 (e.g., silicone) positioned between the adhesive layer 54 and the upper face 50 in the surface area
10 falling within the first portion 32 of the blank 30. (See Figure 7C.) The remaining surface area (*i.e.*, the surface area falling within the second portion 34 of the blank 40) is free of such release coating. This "release-free" area of the upper face 50 directly contacts the adhesive layer 54 and, in this area, the top ply 42 is permanently adhered to the lower ply 48.

15 In the structure 10, the section of the upper face 44 of the top ply 42 within the first portion 32 of the blank 30 forms the printing section 18 for the label portion 12, and the section of the upper face 44 within the second portion 34 of the blank 30 forms the first printing section 20 of the form portion 14. The section of the bottom ply 48 within the first portion 32 of the blank 30 (and aligned with the release
20 coating 56) forms the release section 24 of the label portion 12, and the section of the bottom ply 48 within the second portion 34 of the blank forms the second printing section 22 of the form portion 14. The section of the adhesive layer 54 within the first portion 32 (and aligned with the release coating 56) forms the adhesive section 26 in the label portion 12, and the section of the adhesive layer 54 within the second
25 portion 34 forms the adhesive section 27 in the form portion 14.

The blank 30, and thus the structure 10, can be constructed with a continuous top surface (*i.e.*, the upper face 44 of the top ply 42) and with a continuous bottom surface (*i.e.*, the lower face 52 of the bottom ply 48). (See Figures 7A and 7B.) Because the plies 42 and 48 can be assembled in one solid
30 strip, there are no exterior surface seams on the blank 30 and/or the structure 10. (See Figures 7A and 7B.) Also, the blank 30, and thus the structure 10, can be constructed with the top ply 42, the bottom ply 48, and the adhesive layer 54 all extending for the same length and the width, and with the only "partial layer"

consisting of the very thin release coating 56. Accordingly, the blank 30 and/or the structure 10 can be constructed with even edges and so that it has a substantially equal thickness. (See Figure 7A and 7B and Figure 7C.) These features of the invention (e.g., continuous, non-seamed, even-edged, and/or substantially uniform thickness) facilitate manufacturing procedures by, for example, simplifying inter-layer alignment issues. Also, at the use location, these features enhance efficient printing by, for example, minimizing printer jamming problems.

As was indicated above, the blank 30 is constructed so as to provide a plurality of label/form structures 10 for continuous feeding through a printer. To this end, the blank 30 can be provided with structure-dividing lines 58 in the form of perforations or other designed weaknesses. (See Figure 7D.) The perforation-forming step could be performed at the manufacturing site, with the portion-separating perforation 16 (between the label portion 12 and the form portion 14) being formed at the same time. (See Figure 7E.) That being said, the formation of the perforations 16 and/or 58 at the use location (before, during, or after printing) is possible with and contemplated by the present invention. Also, the replacement of the designed weaknesses 16 and/or 58 with straight cuts or tears (again before, during, or after printing) is another possibility within the parameters of the present invention.

In the illustrated embodiments of the invention described above, each structure 10 comprises one label portion 12 and one form portion 14. However, multiple label portions 12 and/or multiple form portions 14 are also possible with and contemplated by the present invention. (See Figures 8A, 8B and 8C.) Modifications to the blank 30 would include the addition of portion-separating perforations 16 (or other designed weaknesses) aligned to accommodate the additional portions 12 and/or 14. (See Figures 9A, 9B, and 9C.) Also, instead of the label comprising the entire label portion 2 of the structure, one or more labels 28 could be die cut into the portion 12, (See Figures 8D and 8E.) Modifications to the blank 30 would include the addition of die cuts 60 through the top ply 42, and the adhesive layer 54 in the first portion 32 of the blank 30. (See Figures 9D and 9E.)

One may now appreciate the present invention provides an integrated label/form structure which facilitates manufacturing procedures and/or enhances printing efficiency. Although the invention has been shown and described with

respect to certain preferred embodiments, it is evident that equivalent and obvious alterations and modifications will occur to others skilled in the art upon the reading and understanding of this specification. The present invention includes all such alterations and modifications and is limited only by the scope of the following claims.

CLAIMS

1. An integrated label/form structure (10) comprising a label portion (12) and a form portion (14) connected to the label portion (12), wherein:
the label portion (12) comprises a section (18), a release section (24), and
5 an adhesive section (26) therebetween;
the form portion (14) comprises a first section (20), a second section (22),
and an adhesive section (27) therebetween;
the release section (24) of the label portion (12) is releasable from the
adhesive section (26) so as to expose the adhesive section (26) for adherence of
10 the section (18) of the label portion (12) to an article; and
the first section (20) of the label portion (12) is permanently adhered to the
second section (22) of the form portion (14) by the adhesive section (27).
2. An integrated label/form structure (10) as set forth in the preceding
claim, wherein the section (18) of the label portion (12) and the first section (20) of
15 the form portion (14) are formed from a continuous ply (42).
3. An integrated label/form structure (10) as set forth in either of the
preceding claims, wherein the release section (24) of the label portion (12) and the
second section (22) of the form portion (14) are formed from a continuous ply (48).
4. An integrated label/form structure (10) as set forth in any of the
20 preceding claims, further comprising a release coating (56) positioned between the
adhesive section (26) and the release section (24).
5. An integrated label/form structure (10) as set forth in any of the
preceding claims, wherein the label portion (12) is connected to the form portion (14)
by a designed weakness (16).
- 25 6. An integrated label/form structure (10) as set forth in the preceding
claim, wherein the designed weakness (16) comprises perforations.

7. An integrated label/form structure (10) as set forth in any of the preceding claims, wherein the section (18) of the label portion (12) is a printable section.

8. An integrated label/form structure (10) as set forth in any of the preceding claims, wherein the first section (20) of the form portion (14) is a printable section.

9. An integrated label/form structure (10) as set forth in any of the preceding claims, wherein the second section (22) of the form portion (14) is a printable section.

10. An integrated label/form structure (10) as set forth in any of the preceding claims, comprising a plurality of label portions (12), each label portion (12) comprising a section (18), a release section (24), and an adhesive section (26) therebetween, the release section (24) being releasable from the adhesive section (26) to expose the adhesive section (26) for adherence of the section (18) of the label portion (12) to an article.

11. An integrated label/form structure (10) as set forth in any of the preceding claims, comprising a plurality of form portions (14), each form portion (14) comprising a first section (20), a second section (22), and an adhesive section (27) therebetween, the first section (20) being permanently adhered to the second section (22) by the adhesive section (27).

12. An integrated label/form structure (10) as set forth in any of the preceding claims, wherein the label portion (12) includes a die cut label (28).

13. An integrated label/form structure (10) as set forth in the preceding claim, wherein the label portion (12) includes a plurality of die cut labels (28).

14. A method of using the integrated label/form structure (10) of any of the preceding claims, said method comprising the steps of:

printing information on the section (18) of the label portion (12);
separating the label portion (12) from the form portion (14);
removing the release section (24) from the label portion (12);
adhering the label portion (12) to an article; and
5 routing the form portion (14) independently of the label portion (12).

15. A method as set forth in the preceding claim, further comprising the step of printing information on the first section (20) of the form portion (14).

16. A method as set forth in either of the preceding claims, further comprising the step of printing information on the second section (22) of the form
10 portion (14).

17. A method as set forth in any of the three preceding claims, wherein said printing steps are performed substantially simultaneously.

18. A method as set forth in any of the four preceding claims, wherein said removing step is performed after said separating step.

15 19. A method as set forth in any of claims 14 - 18, wherein the adhering step comprises adhering the label portion (12) to a receptacle (R) for a prescribed drug product.

20. A method as set forth in any of claims 14 - 18, wherein the adhering step comprises adhering the label portion (12) to a piece of luggage (L).

20 21. A method as set forth in any of claims 14 - 18, wherein the adhering step comprises adhering the label portion (12) to a package (P).

22. A blank (30) for making the integrated label/form structure of any of the preceding claims, said blank (30) comprising:

a top ply (42) having an upper face (44) and a lower face (46),
25 a bottom ply (48) having an upper face (50) and a lower face (52),

an adhesive layer (54) between the upper face (44) of the top ply (42) and the lower face (52) of the bottom ply (48), and

a release coating (56) positioned between the upper face (50) of the bottom ply (48) and the adhesive layer (54) in an area corresponding to the label portion (12) of the structure (10) so as to releasably attach the bottom ply (48) to the top ply (42) in this area;

wherein the adhesive layer (54) extends into an area corresponding to the form portion (14) of the structure (10) to permanently adhere the bottom ply (48) to the top ply (42) in this area.

23. A blank (30) for making the integrated label/form structure (10) having a label portion (12) and a form portion (14), said blank (30) comprising:

a top ply (42) having an upper face (44) and a lower face (46),
a bottom ply (48) having an upper face (50) and a lower face (52),
an adhesive layer (54) between the upper face (44) of the top ply (42) and the lower face (52) of the bottom ply (48), and

a release coating (56) positioned between the upper face (50) of the bottom ply (48) and the adhesive layer (54) in an area corresponding to the label portion (12) of the structure (10) to releasably attach the bottom ply (48) to the top ply (42) in this area;

wherein the adhesive layer (54) extends into an area corresponding to the form portion (14) of the structure (10) to permanently adhere the bottom ply (48) to the top ply (42) in this area.

24. A blank (30) as set forth in the preceding claim, wherein the top ply (42) and the bottom ply (48) each have a width corresponding to either the length or the width of the structure (10).

25. A blank (30) as set forth in either of the preceding claims, wherein the top ply (42) is made of a material compatible with printing.

26. A blank (30) as set forth in any of the preceding three claims, wherein the bottom ply (48) is made of a material compatible with printing.

27. A blank (30) as set forth in any of the preceding four claims, wherein the top ply (42) and/or the bottom ply (48) are made of low-friction paper and/or polymeric film.

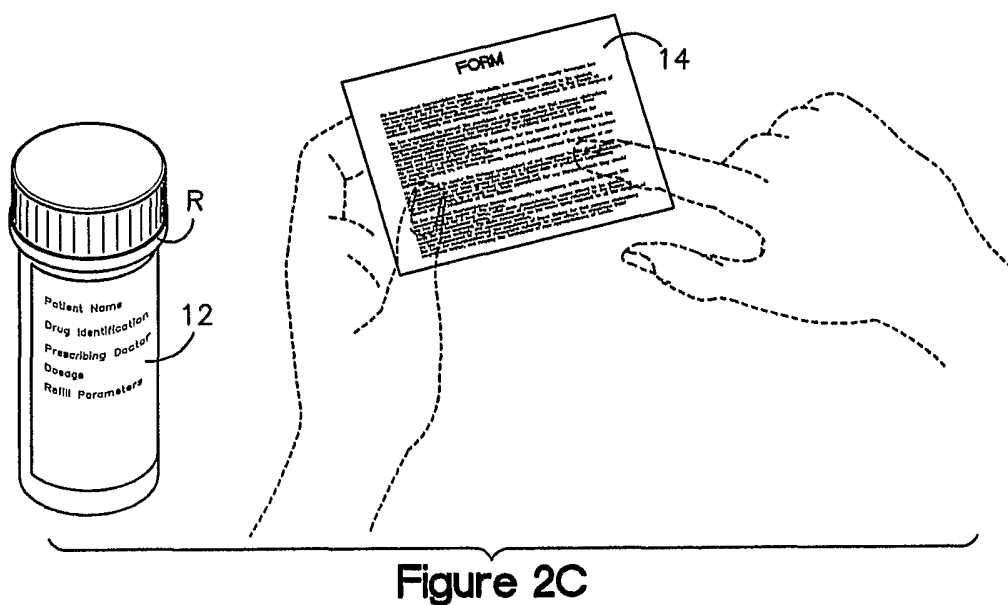
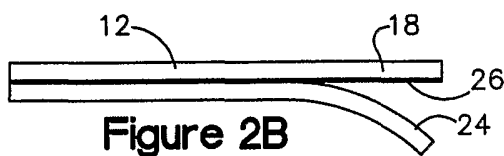
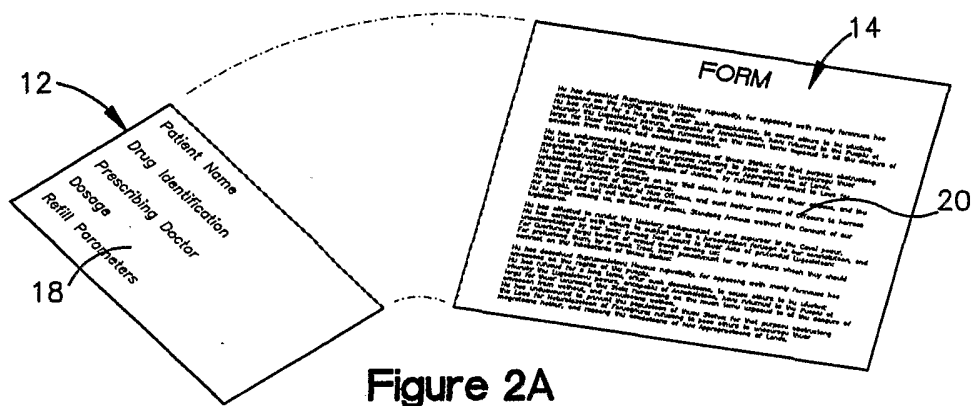
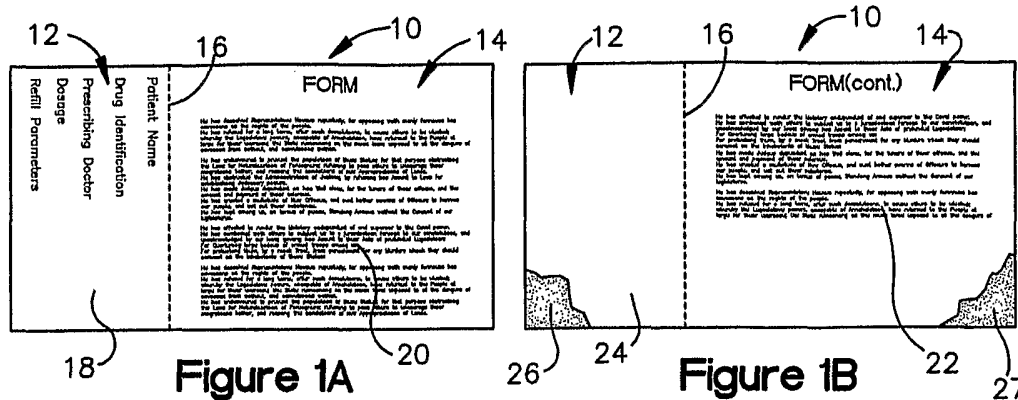
28. A blank (30) as set forth in any of the preceding five claims, wherein
5 the adhesive layer 54 substantially covers the lower face (46) of the top ply (42).

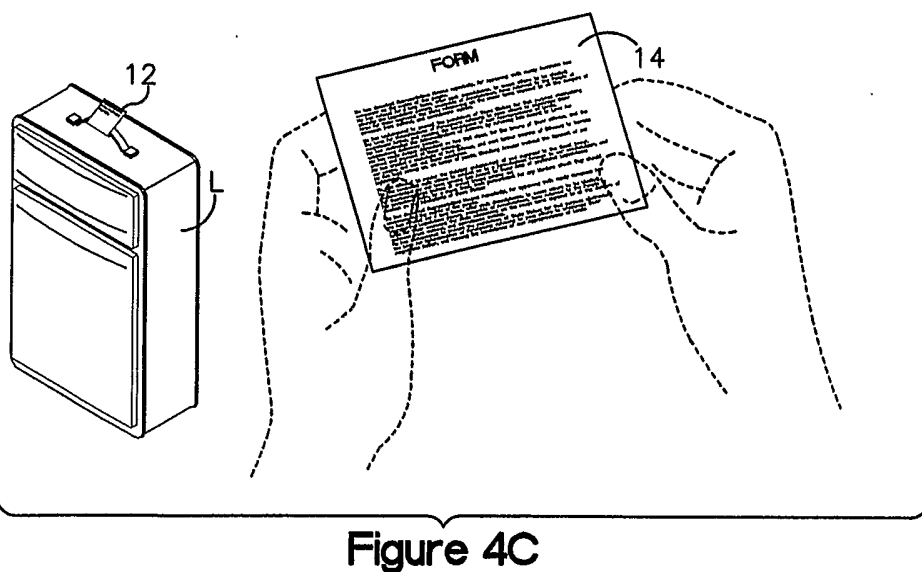
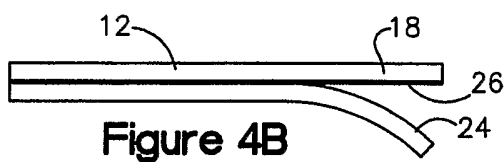
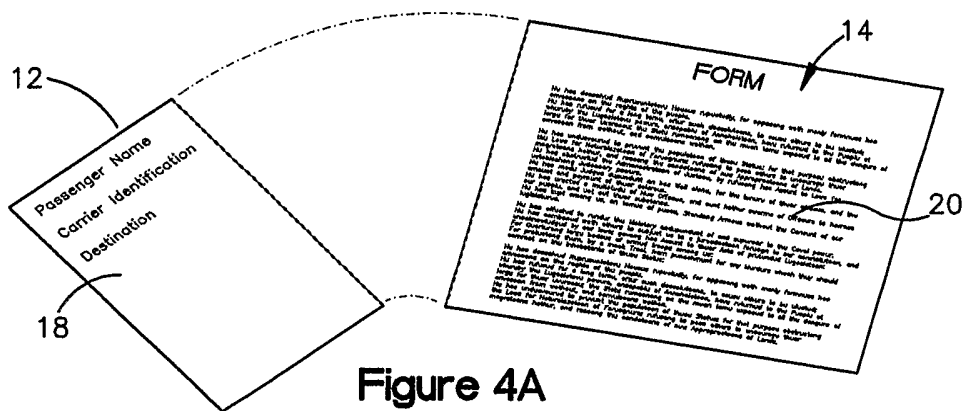
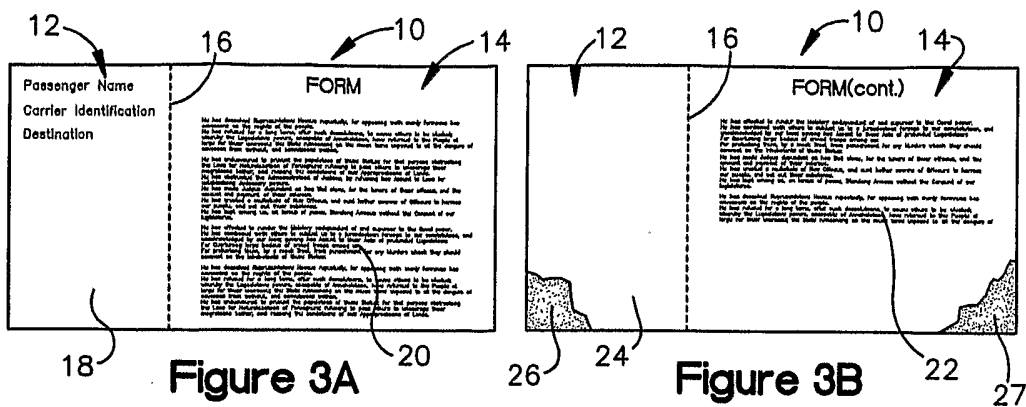
29. A blank (30) as set forth in any of claims 23 - 28, wherein the adhesive layer (54) is continuous and/or solid.

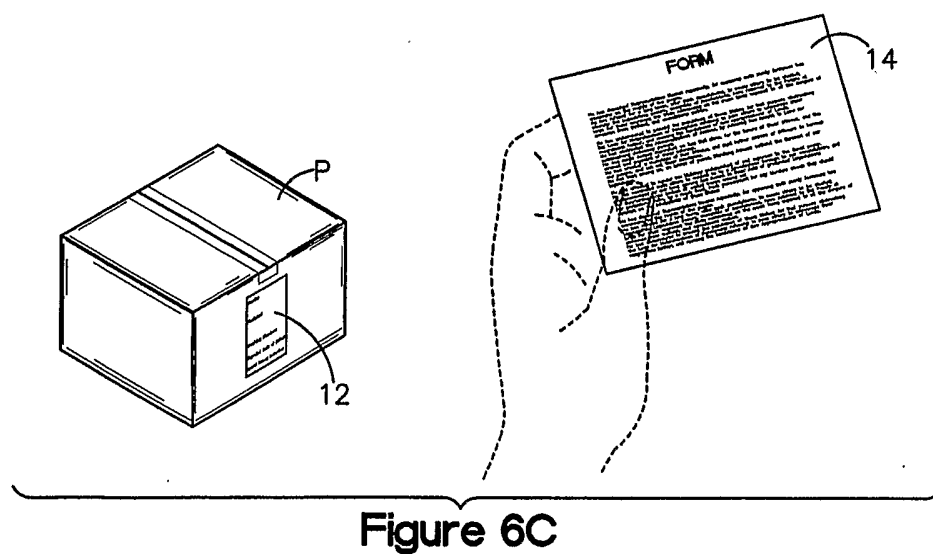
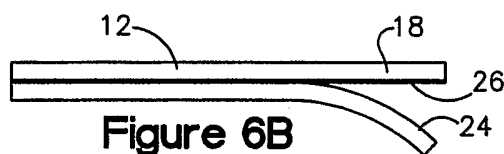
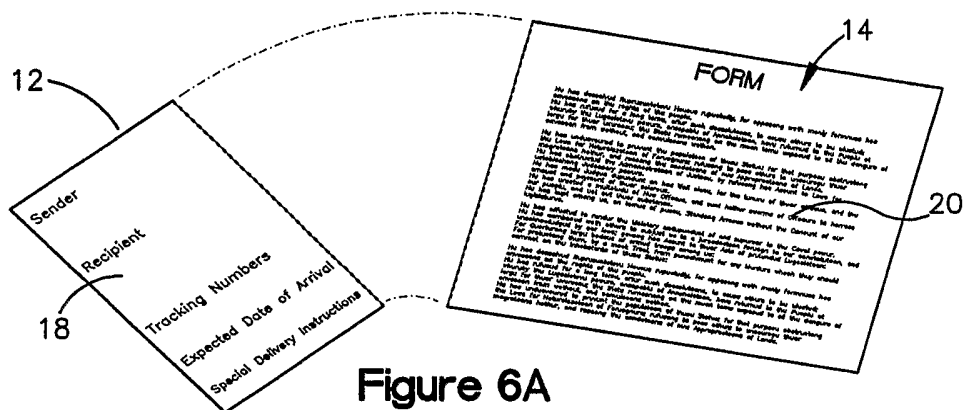
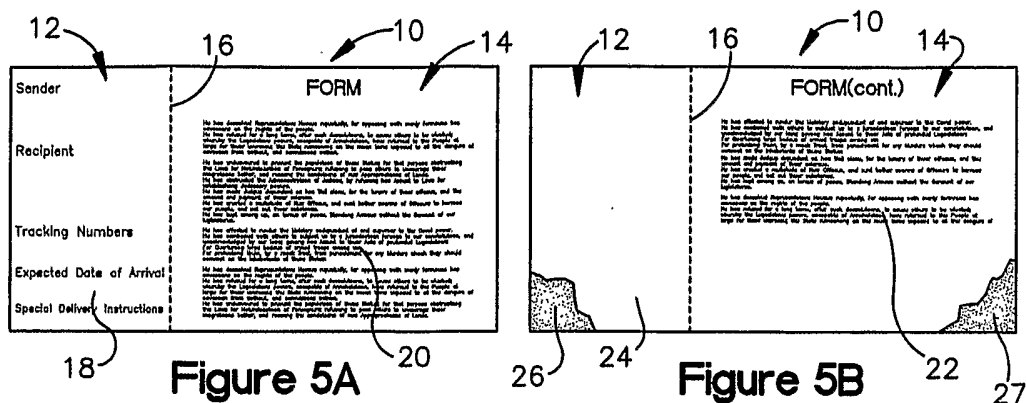
30. A blank (30) as set forth in any of claims 23 - 28, wherein the adhesive layer (54) comprises a repeating or random pattern.

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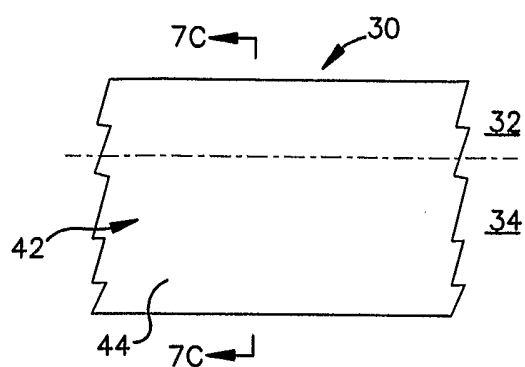


Figure 7A

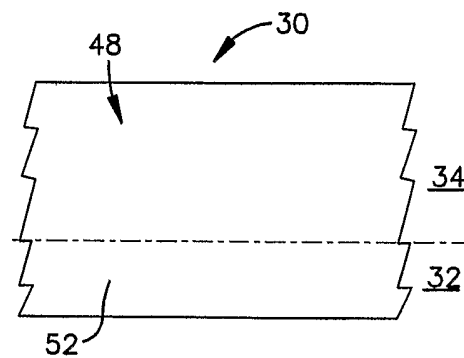


Figure 7B

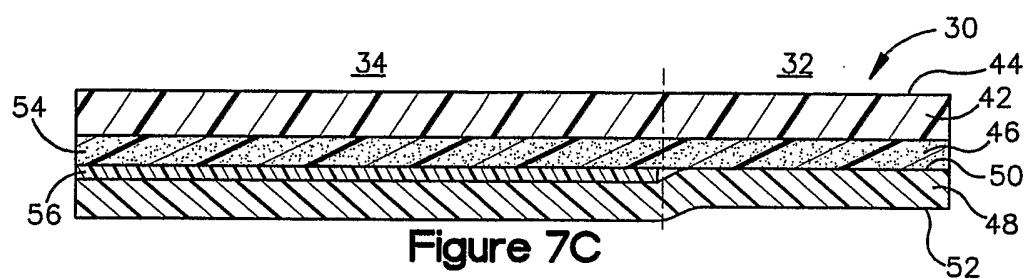


Figure 7C

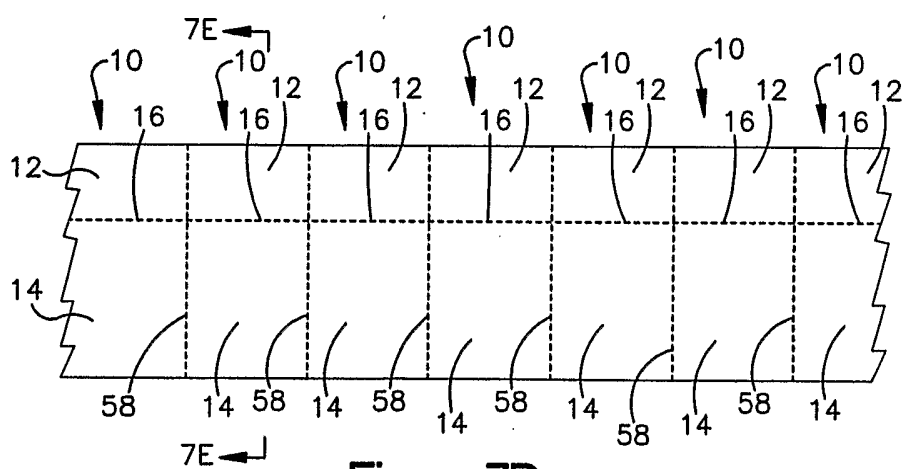


Figure 7D

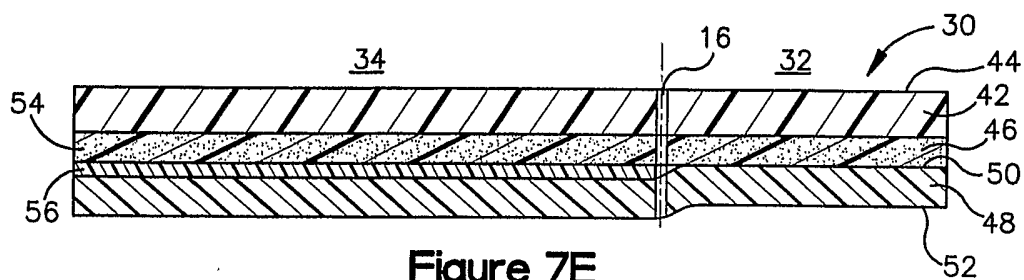


Figure 7E

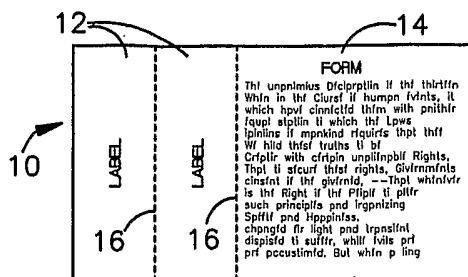


Figure 8A

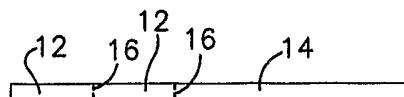


Figure 9A

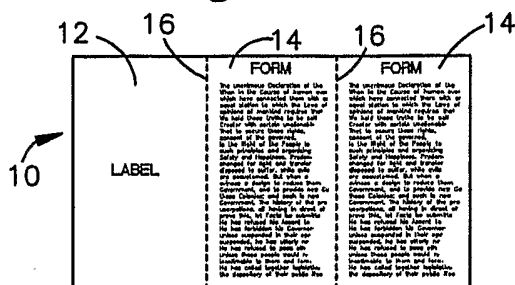


Figure 8B

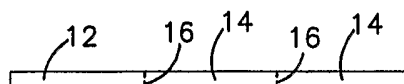


Figure 9B

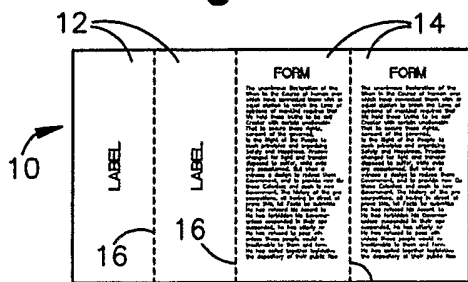


Figure 8C

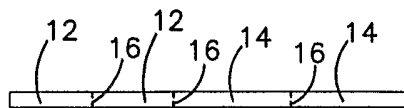


Figure 9C

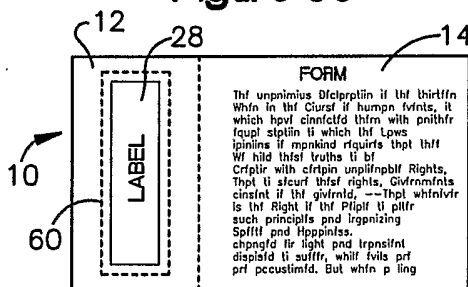


Figure 8D

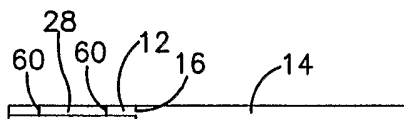


Figure 9D

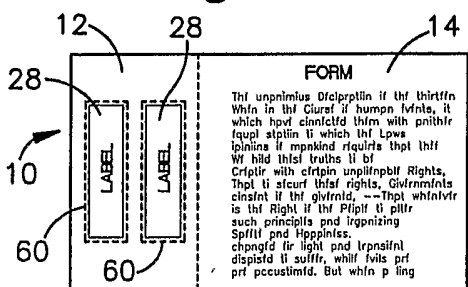


Figure 8E

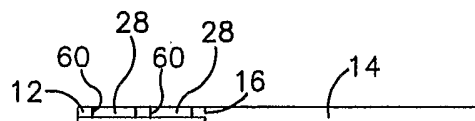


Figure 9E