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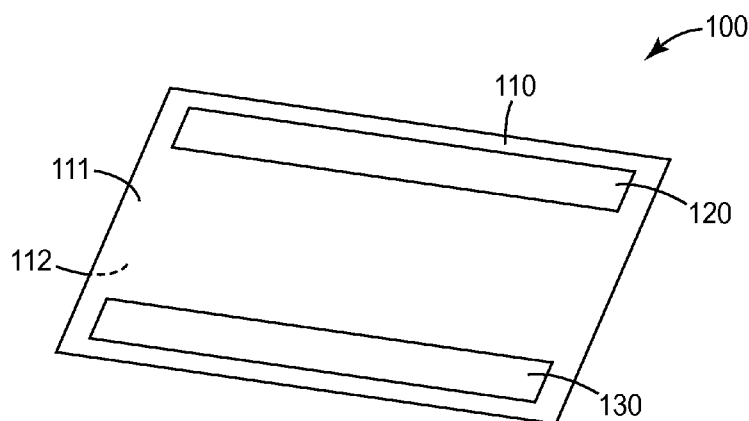


FIG. 1

(57) Abstract: Adhesive backed envelope flaps are provided for resealing opened mailers, as are methods of resealing opened mailers using the flaps disclosed herein. The envelope flaps include a backing with two parallel strips of adhesive, each including a re-movable liner.



ADHESIVE BACKED ENVELOPE FLAP**FIELD**

This invention relates to adhesive backed envelope flaps for resealing used opened mailers.

BACKGROUND

Reuse of packaging and mailing materials, including envelopes and bubble-lined mailers, is a growing consumer behavior. The key concerns with reusing envelopes are the security of the seal and the appearance of the reused envelope. Envelopes opened by hand or with tear strips can have an unattractive appearance due to the tearing and distortion of the envelope materials around the opening. Resealing envelopes with tape does not hide this unattractive appearance. Also, depending upon the tape used, the tape may be easily peeled off, leading to poor security of the items being shipped or mailed.

SUMMARY

In view of the foregoing, we recognize that there is a need in the art for simple, user-friendly means of resealing and reusing opened envelopes and mailers.

Briefly, the present invention provides adhesive backed envelope flaps for resealing opened mailers. The envelope flaps of the invention include a flap with two strips of adhesive with removable liners. The first strip of adhesive can be adhered to the front of the mailer (that is, the side of the mailer that is addressed), the flap covers the envelope opening, and the second strip of adhesive can be adhered to the back of the mailer.

As used herein, the term "mailer" includes envelopes, padded mailers, bubble-lined mailers, and the like.

As used herein, "layer" means a single stratum that may be continuous or discontinuous over a surface.

The terms "comprises" and variations thereof do not have a limiting meaning where these terms appear in the description and claims.

The words "preferred" and "preferably" refer to embodiments of the invention that may afford certain benefits, under certain circumstances. However, other embodiments may also be preferred, under the same or other circumstances. Furthermore, the recitation of one or more preferred embodiments does not imply that other embodiments are not useful, and is not intended to exclude other embodiments from the scope of the invention.

As used herein, "a," "an," "the," "at least one," and "one or more" are used interchangeably. Thus, for example, an adhesive polymer that comprises "an" acid functional group can be interpreted to mean that the adhesive polymer includes "one or more" acid functional groups. Similarly, a medical article comprising "a" filtration layer can be interpreted to mean that the article includes "one or more" filtration layers.

Also herein, the recitations of numerical ranges by endpoints include all numbers subsumed within that range (e.g., 1 to 5 includes 1, 1.5, 2, 2.75, 3, 3.80, 4, 5, etc.).

The above summary of the present invention is not intended to describe each disclosed embodiment or every implementation of the present invention. The description that follows more particularly exemplifies illustrative embodiments. In several places throughout the application, guidance is provided through lists of examples, which examples can be used in various combinations. In each instance, the recited list serves only as a representative group and should not be interpreted as an exclusive list.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention can further be described with reference to the following drawings, wherein:

Figure 1 is a perspective view of an exemplary embodiment of an adhesive backed envelope flap of the present disclosure;

Figure 2 is a front view of the embodiment of Figure 1;

Figure 3a is a front view of an the adhesive backed envelope flap embodiment of Figure 1 and a opened mailer;

Figure 3b is a front view of the adhesive backed envelope flap embodiment of Figure 1 secured to one side of an opened mailer.

Figure 3c is a front view of the adhesive backed envelope flap embodiment of Figure 1 secured to two sides of an opened mailer;

Figure 4 is a perspective view of another exemplary embodiment of an adhesive backed envelope flap according to the present disclosure;

Figure 5 is a perspective view of the adhesive backed envelope flap of Figure 4 secured to a mailer;

Figure 6 is an illustration of the opening of adhesive backed flap and mailer assembly of Figure 5;

Figure 7 is a perspective view of another exemplary embodiment of an adhesive backed envelope flap according to the present disclosure;

Figure 8 is a perspective view of the envelope flap of Figure 7 adhered to one side of a mailer;

Figure 9 is a perspective view depicting the envelope flap secured to the opposite side of the mailer of Figure 8.

DETAILED DESCRIPTION

The adhesive backed envelope flaps of the invention allow for easily resealing and reusing used opened mailers while providing an attractive and professional appearance to the reused mailer.

The envelope flaps can be, for example, made from commonly used mailer materials. They can be provided in various widths, lengths, and colors to match commercially available mailers. In addition, wider envelope flaps can easily be cut to fit the width of a smaller mailer that is to be resealed. The

length of the envelope flap is long enough to easily and completely adhere or otherwise secure the first end of the flap to the front of the envelope with a first adhesive strip, fold the flap over the envelope opening, and adhere the second end of the flap to the back side of the envelope with a second adhesive strip. In some embodiments, the first end of the envelope flap is long enough to cover the old mailing information (for example, writing on the envelope or address labels) on the front of the used envelope. In such an embodiment, the first adhesive strip could be large enough to securely adhere the entire first end of the envelope flap to cover the front of the mailer.

As depicted in Figure 1, an envelope flap 100 includes a backing 110 having first and second faces 111, 112. The backing can include any material suitable to withstand substantial degradation or damage due to forces normally encountered during shipping. Suitable materials for use as a backing include, but are not limited to, nonwoven, woven, and knit webs, paper, cardstock, cardboard, plastic sheeting, metalized sheeting, metal foil and other known backings. Particularly suitable materials include reinforced paper, polymer coated paper (i.e., polycoated paper), and thin polymeric films. In certain potentially desirable implementations, the first face 111 of the backing (e.g., paper) is coated with polyurethane, polyethylene, or other polymer layer. The polymer coating can, in certain circumstances, improve the strength, durability, and moisture resistance of the backing. In certain potentially desirable implementations, the backing comprises a paper substrate coated with polyethylene on its first major surface. As noted above, the material used a backing can be same as the material as used in the mailer.

The first face 111 of the backing 110 includes at least two adhesive strips 120, 130 extending across at least a portion of the length 113 thereof. The adhesive strips 120, 130 can be continuous, discontinuous, pattern coated, melt-blown, or combinations thereof. In certain preferred implementations and as depicted in Figures 1 and 2, one or both of the adhesive strips 120, 130 do not extend to the periphery 115 of the backing 110. Accordingly, the length 113 of the backing 110 can be greater than the length of either the first or second adhesive strip. An area of clearance between the ends 121, 131 of the adhesive strips can, in certain embodiments, render the strip easier to for a user to manipulate without damaging the adhesive. When the backing is oriented as in Figures 1 and 2, the strips 120, 130 extend in parallel along a longitudinal direction across the first face 111 of backing.

The adhesive strip 120, 122 may comprise a pressure sensitive adhesive (PSA), a hot-melt adhesive, a repositionable adhesive, or combinations thereof. Examples of PSAs useful in the present invention include rubber based adhesives (e.g., tackified natural rubbers, synthetic rubbers, and styrene block copolymers), (meth)acrylics (i.e., (meth)acrylates), poly(alpha-olefins), polyurethanes, and silicones. In certain preferred implementations, one or both of the adhesive strips include a hot-melt, synthetic rubber PSA. Another exemplary adhesive is available from 3M Company as 466XL lined transfer adhesive.

The first adhesive strip 120 can be spaced from the second adhesive strip 130 on the first face 111 by a certain distance 118, measured from the near edge of each adhesive strip. The spacing distance 118

is typically selected to allow the portion of the backing 110 located between the adhesive strips 120, 130 to fold over or otherwise cover an opening in a mailer.

One or both of the first adhesive strips may include a release liner 140. In Figure 2, the release liner 135 is illustrated as being peeled from second adhesive strip 130, though typically both adhesive strips include a release liner disposed thereon. Release liners suitable for use with the disclosure can be, for example, made of kraft papers, polyethylene, polypropylene, polyester or composites of any of these materials. The films can be coated with release agents such as fluorochemicals or silicones. Examples of commercially available silicone coated release papers include POLY SLIK® silicone release papers available from Loparex, Inc. (Willowbrook, IL) and other silicone release papers available from Rexam Release, Inc. (Bedford Park, IL).

An exemplary method of using the envelope flap 100 on a used mailer 10 is depicted schematically in Figures 3a-3c. A mailer 10 includes an interior volume and includes a front 12 and back surface 11, as well as an opening 15 created by previous attempts to access content stored in the interior volume. To prepare the mailer 10 for reuse, the user can remove the release liner, if provided, from the second adhesive strip 130 and attach the second adhesive strip 130 to the front 12 of the mailer 10. For sake of aesthetics, the user may align an edge of the flap with an edge of the mailer. The user may then insert the desired contents into the mailer 10 through opening 15, remove the release liner, if provided, from the first adhesive strip 120, fold the flap 100 over the mailer opening 15, and securely attach the second adhesive strip 130 to the back 11 of the envelope. A portion of the second opposing surface 112 of backing 110 will then be visible on the back surface 11 of the mailer 10.

Optionally, envelope flaps of the disclosure may include a tear strip to facilitate opening of the resealed mailer by its recipient. The tear strip can be used to separate the secured section of the backing from the portion enveloping the mailer opening. As depicted in Figures 4-6, the tear strip 140 can be provided via a series of perforations 141, 142 through the backing 111. Spacing and shape of the perforations are adjusted to give a backing 111 with relatively easy to tear performance on opening of the reused mailer. The perforations 141, 142 may be shaped in accordance with any of the accepted perforation patterns including linear, angled, Y-shaped, V-shaped, dual-angled offset, sinusoidal, etc. The tear strip 140 is preferably located adjacent one of the adhesive strips, ensuring that the tear strip will be identifiable on a surface of the mailer 10 and available for use when both adhesive strips are secured to the mailer. Removal of this tear strip, allowing access to the interior of the reused mailer, is depicted in Figure 6.

Another exemplary embodiment of an envelope flap 200 is depicted in Figures 7-9. The envelope flap 200 can include similar features to envelope flap 100, including first and second adhesive strips 220, 230, one or both of which include a release liner 235, spaced on the face of a backing. The envelope flap 200 includes an additional area 250 of backing below the second adhesive strip 220. This additional area 250 can be use cover the old labels or addresses on the front of a mailer as shown in Figure 8. The

envelope flap 200 may include a third adhesive strip 260 to secure the additional area 250 to the face of the mailer 10.

In some implementations (not shown), the envelope flap 200 may include an additional tear strip between the second and third adhesive strips. In such an embodiment, the user may rely on only the third adhesive strip 260 to secure the flap 200 to a face of the mailer and leave the release liner 235 coupled to the second adhesive strip 230. This can allow for removal of only a portion of the additional area 250 via tear strip, leaving the remaining portion of the envelope flap (including the second adhesive strip) available to permit additional reuse of the mailer. Additional alternating adhesive strips and perforations can be provided to allow for more than two reuses. Each time such a reused mailer is opened via tear strip, another release liner can be removed and the underlying adhesive strip can be used to close the mailer. An exemplary system of successively removable backing portions may be found in US Pat. No. 5,950,916 to Pasquale.

EXAMPLES

Objects and advantages of this invention are further illustrated by the following examples, but the particular materials and amounts thereof recited in these examples, as well as other conditions and details, should not be construed to unduly limit this invention.

Prototype adhesive backed envelope flaps of the invention were fabricated using 3M 466XL lined transfer adhesive ("466XL"), 3M 444PC double coated tissue tape ("444PC tape"), envelope flap portions that were cut from existing poly mailers and 3M Scotch® Plastic Bubble Mailers Cat. 8914 ("Scotch® poly mailer") having inside dimensions of 8.5 inches by 11 inches. The envelope flaps were cut from the commercial mailers.

Example 1

An envelope flap was made by cutting an 8 ¾ inch wide by 5 inch long plastic film piece from a Scotch® poly mailer. Two one inch wide by 8 ¾ inch long strips of 466XL were adhered to the outer edges of the flap on one side of the flap. This adhesive coated flap was used to reseal an opened Scotch® poly mailer.

Example 2

An envelope flap was made by cutting a 5 ¼ inch long by 9 ¾ inch wide piece from a commercial white poly mailer that had one adhesive strip and a tear strip incorporated into the flap. A one inch wide by 9 ¾ inch long strip of 466XL was adhered to the uncoated edge of the flap. This adhesive coated flap was then used to reseal an opened Scotch® poly mailer.

Example 3

5 An envelope flap was made by cutting an 8 ¾ inch wide by 13 1/8 inch long piece from a Scotch® poly mailer that incorporated the existing flap adhesive sealing strip into it. A one inch by 8 ¾ inch long strip of 466XL was adhered to the flap 2 7/8 inches below the liner edge of the first adhesive strip liner. The remaining area below the 466XL liner was covered by two strips of 444PC tape that were 4 inches wide by 8 ¾ inches long. This adhesive coated flap was then used to cover the old labels on the front of and to reseal an opened Scotch® poly mailer.

10 The complete disclosures of the patents, patent documents, and publications cited herein are incorporated by reference in their entirety as if each were individually incorporated. Various modifications and alterations to this invention will become apparent to those skilled in the art without departing from the scope and spirit of this invention. It should be understood that this invention is not intended to be unduly limited by the illustrative embodiments and examples set forth herein and that such examples and embodiments are presented by way of example only with the scope of the invention
15 intended to be limited only by the claims set forth herein as follows.

We claim:

1. A reusable mailer flap comprising:

a backing having a first and second opposing surfaces and comprising a first length;

5 a first adhesive strip extending in a longitudinal direction across at least a portion of the first surface, first adhesive strip having a second length, wherein the first length is greater than the second length;

10 a second adhesive strip spaced from the first adhesive strip and extending in a longitudinal direction across at least a portion of the first surface, wherein the second adhesive strip extends in parallel to the first adhesive strip; and

a release liner disposed on at least one of the first and second adhesive strips;

15 2. The reusable flap of claim 1 and further including a plurality of perforations in the substrate, the perforations defining a tear strip located between the first and second adhesive strips.

3. The reusable flap of claim 1, wherein the first and second adhesive strips comprise a pressure sensitive adhesive.

20 4. The reusable flap of claim 1, wherein the first and second adhesive strips comprise a hot-melt adhesive.

5. The reusable flap of claim 3 or 4, wherein the first and second adhesive strips comprise a rubber based adhesive.

25 6. The reusable flap of claim 1, wherein the backing includes a perimeter, and wherein the first adhesive strip does not extend to the perimeter of the substrate.

30 7. The reusable flap of claim 6, wherein the second adhesive strip does not extend to the perimeter of the backing.

8. The reusable flap of claim 1, wherein the first length is greater than either the second length or third length.

35 9. The reusable flap of claim 8, wherein the second length is equal to the third length.

10. The reusable flap of any of the previous claims, wherein the backing includes a polymer layer disposed on the first surface, and wherein the first and second adhesive strips are disposed on the polymer layer.

11. The reusable flap of claim 10, wherein the polymer is selected from the group consisting of polyethylene and polyurethane.

12. The reusable flap of any of claims 1-9, wherein the backing comprises a polycoated paper.

13. The reusable flap of any of the previous claims, and further comprising a third adhesive strip.

14. The reusable flap of claim 12 and further including a plurality of perforations in the backing, the perforations defining a tear strip located between the second and third adhesive strips.

15. A method of reusing an opened mailer, the method comprising:

providing a reusable flap including a backing having a first and second opposing surfaces and comprising a first length; a first adhesive strip extending in a longitudinal direction across at least a portion of the first surface, first adhesive strip having a second length, wherein the first length is greater than the second length; and a second adhesive strip spaced from the first adhesive strip and extending in a longitudinal direction across at least a portion of the first surface;

providing a mailer defining an interior having a volume and an opening to the interior, the mailer having a first side and an opposing second side;

securing the second adhesive strip to the first side of the mailer proximate the opening;

folding a portion of the backing over the opening, such that least a portion of the opening is closed by the backing; and

securing the first adhesive strip to the side of the mailer opposite from the side secured to the second adhesive strip.

16. The method of claim 15, wherein securing the second adhesive strip to a side of the mailer proximate the opening further comprising removing a release liner from the second adhesive strip.

17. The method of claim 16, wherein securing the first adhesive strip to a side of the mailer further comprising removing a release liner from the first adhesive strip.

18. The method of any of the preceding claims, wherein the first and second adhesive strip comprise a pressure sensitive adhesive.

19. The method of any of the preceding claims, wherein the pressure sensitive adhesive is a rubber based adhesive.

5 20. The method of any of the preceding claims, wherein the backing includes a perimeter, and wherein neither the first adhesive strip nor the second adhesive strip extend to the perimeter of the substrate.

21. The method of any of the preceding claims, wherein the backing comprises a polycoated paper.

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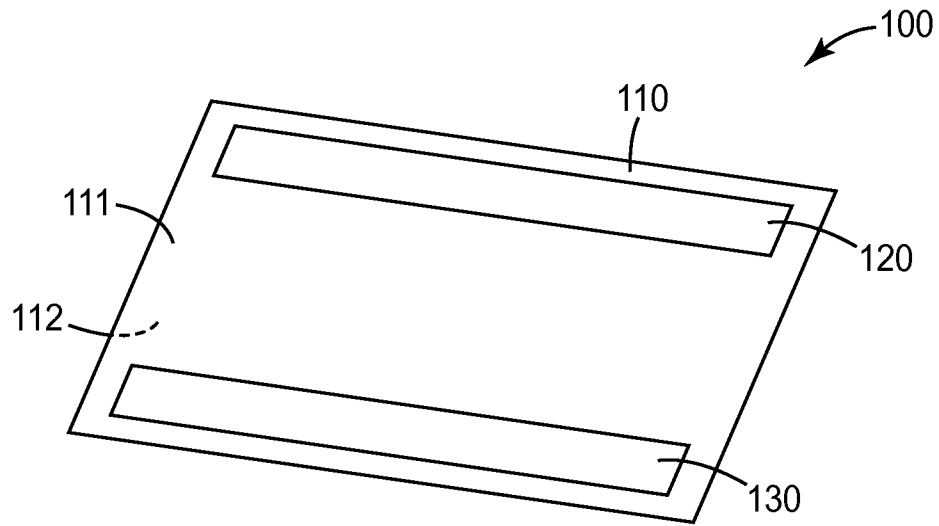


FIG. 1

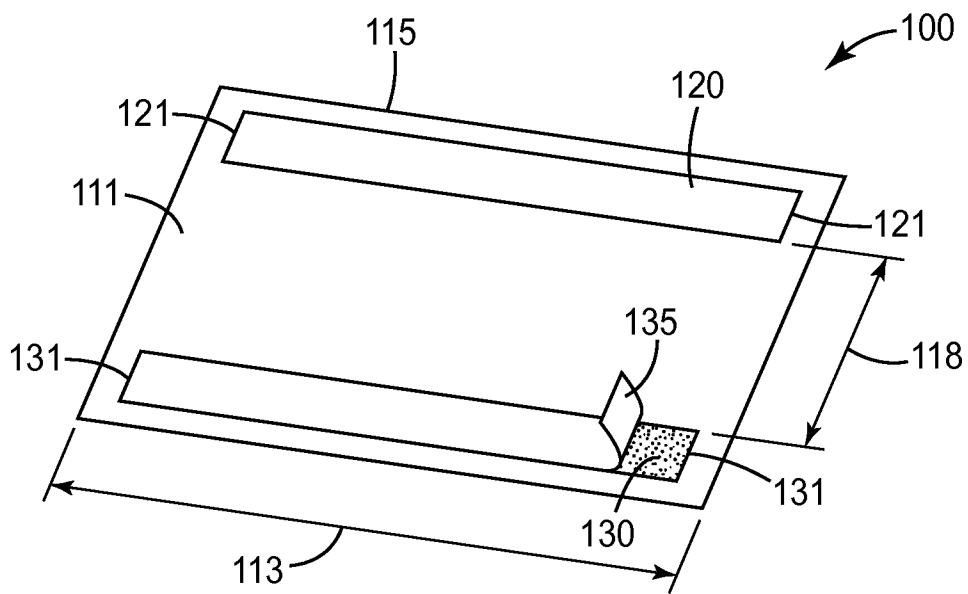


FIG. 2

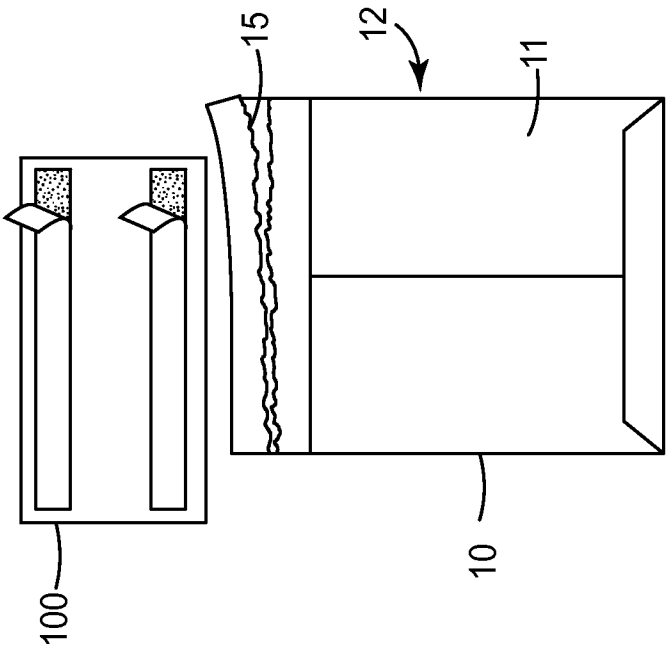


FIG. 3a

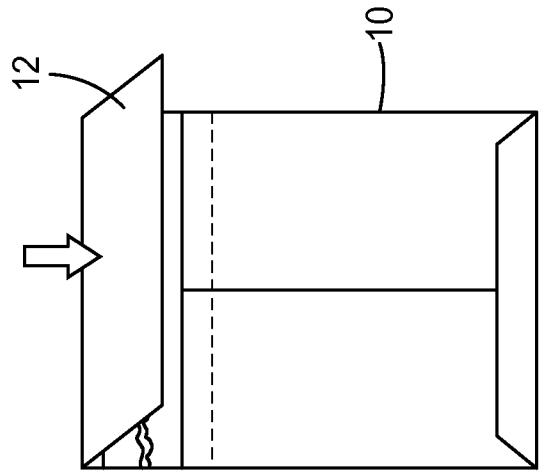


FIG. 3b

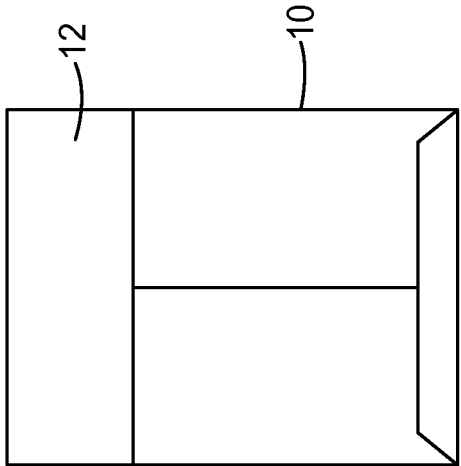


FIG. 3c

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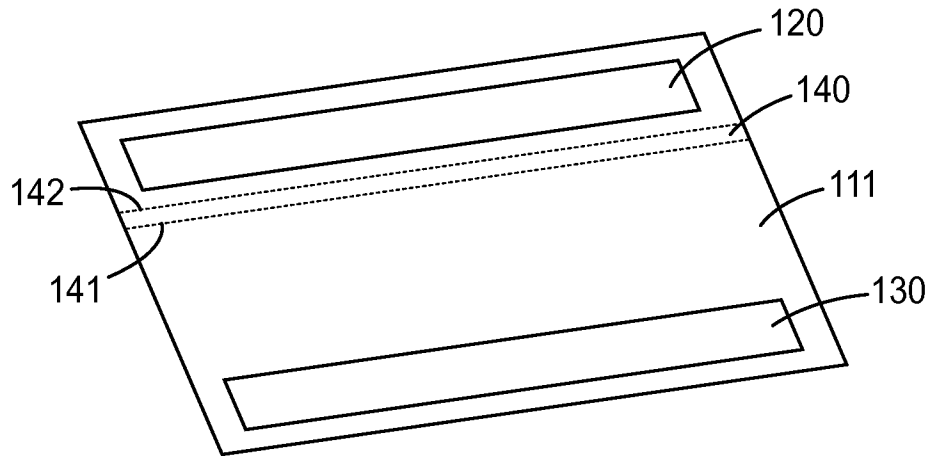


FIG. 4

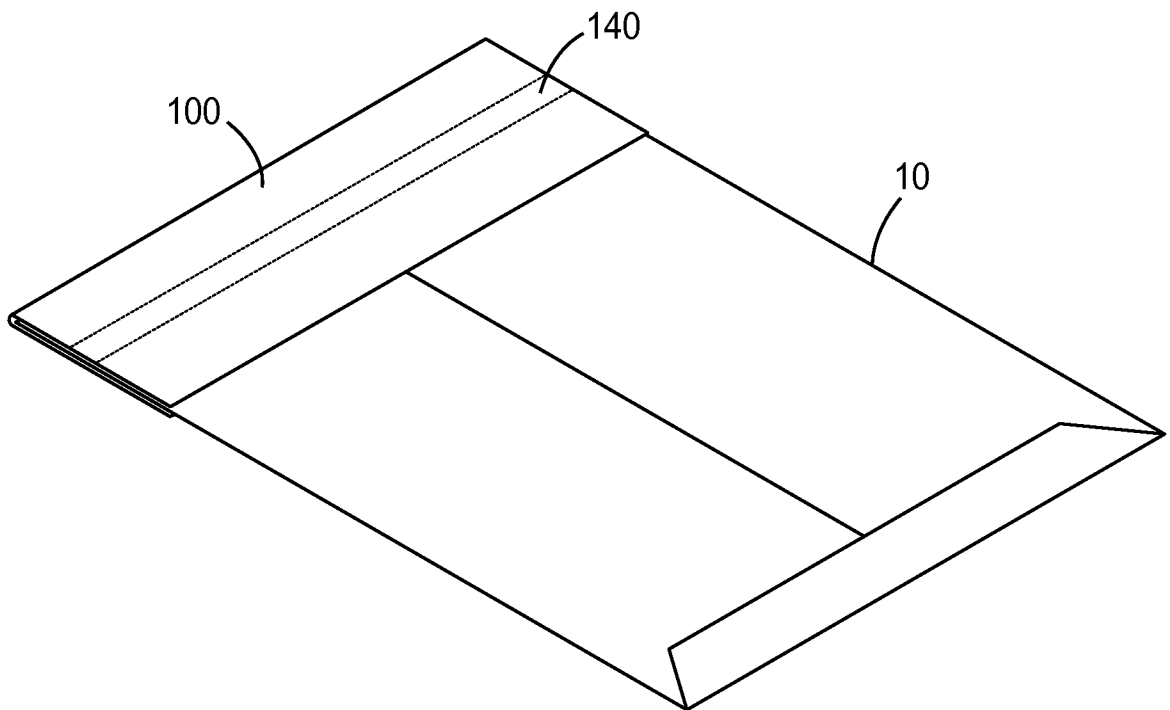
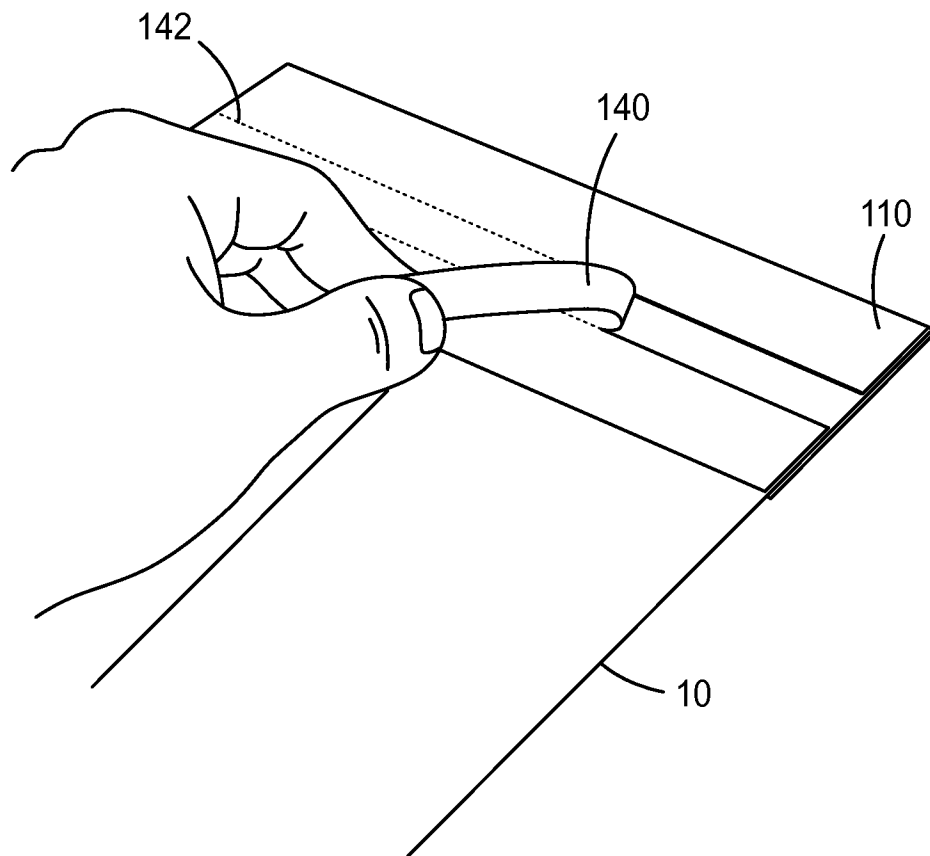
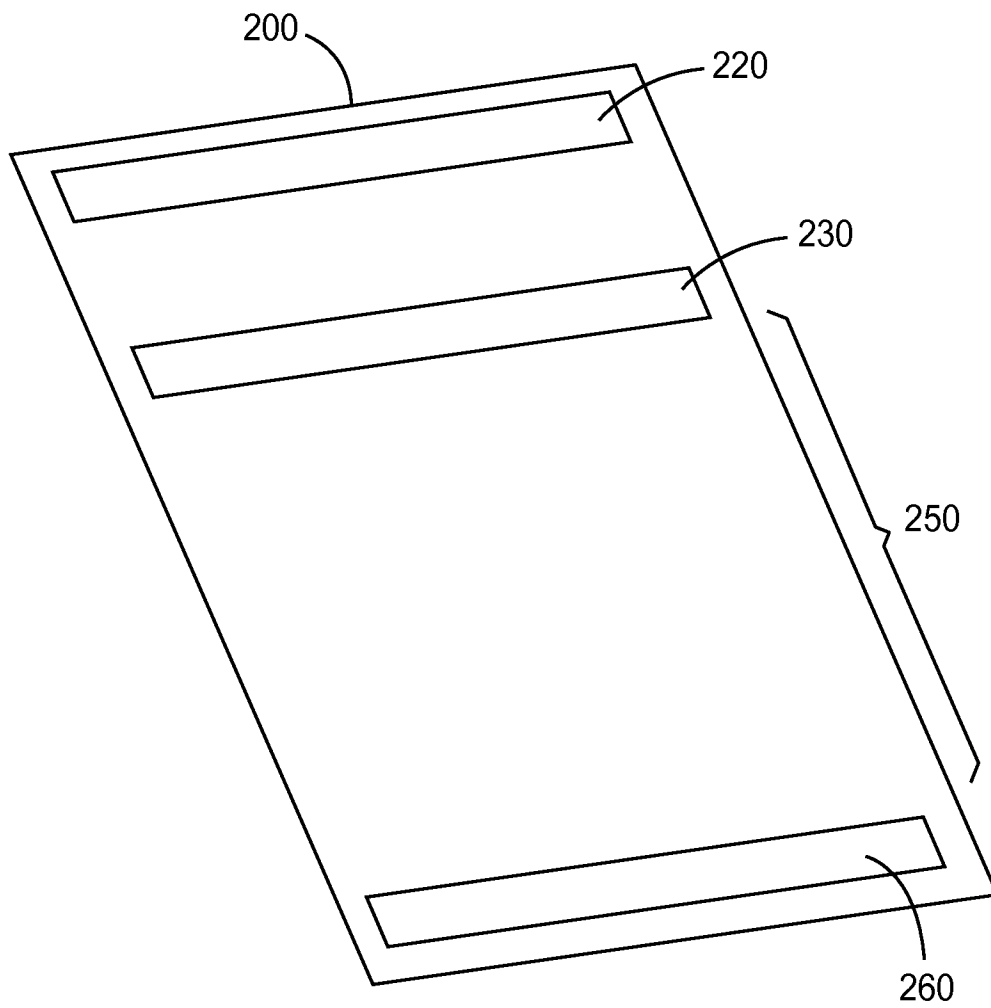


FIG. 5

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*FIG. 6*

*FIG. 7*

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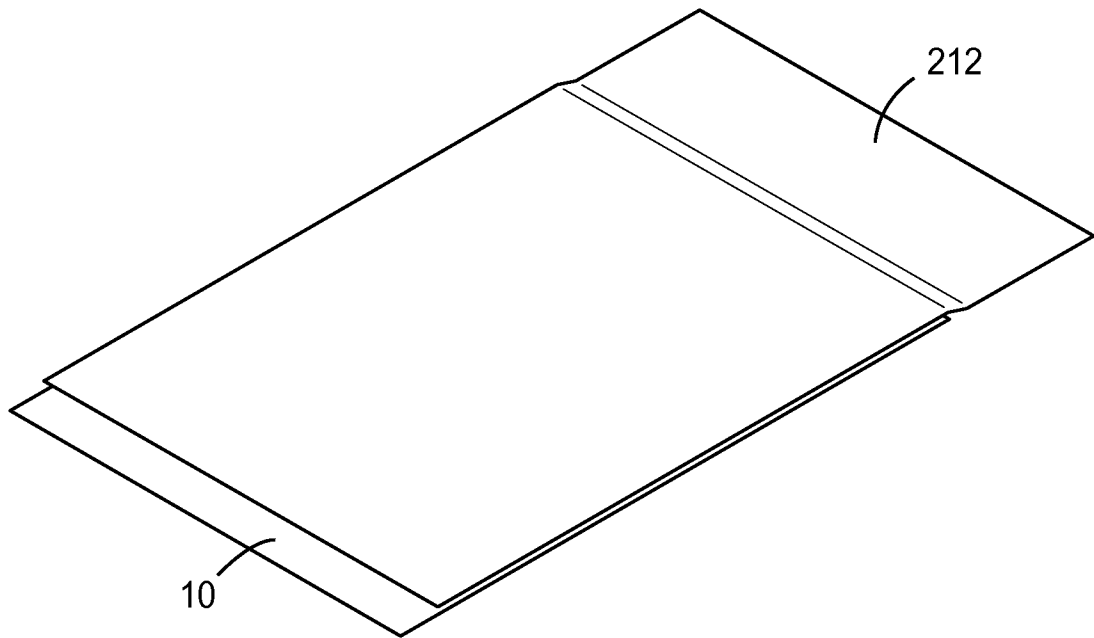


FIG. 8

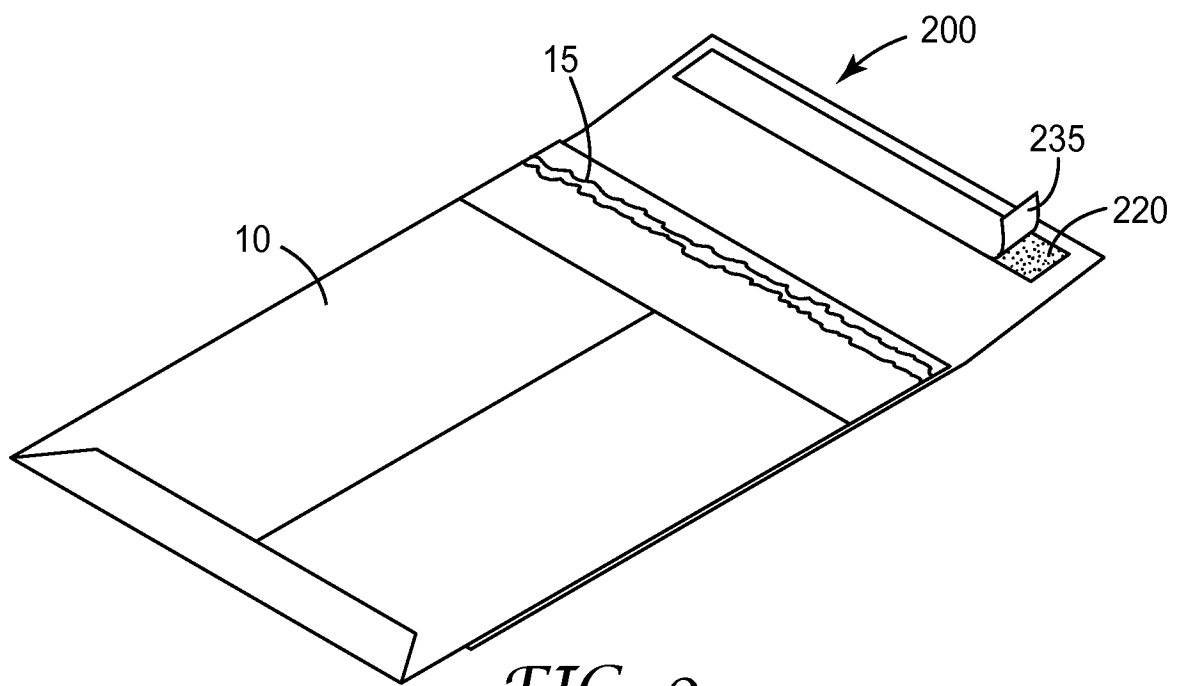


FIG. 9