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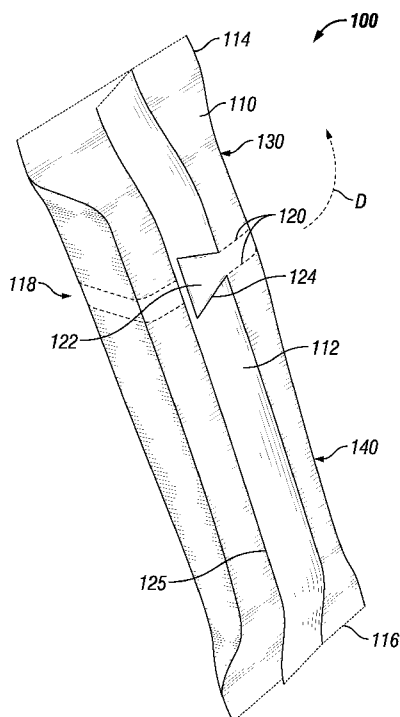


FIG. 1

(57) Abstract: An easy open package is provided including a package body formed from a flexible film having a pair of transverse end seals (114, 116) and a longitudinal seal (112) generally therebetween. The longitudinal seal (112) includes a sealed region between a first longitudinal edge portion of the flexible film sealed to a second longitudinal edge portion of the flexible film. A tear strip (118) and pull tab (122) formed in the package body are configured such that initiation of a tear by pulling the pull tab (122) in one direction causes controlled tearing of the flexible film along the line of weakness (120) defining the tear strip (118). Flexible films and methods for fabrication of the flexible films and packages also are provided.



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EASY-OPEN FLEXIBLE PACKAGE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Application No. 62/094,727,
5 filed on December 19, 2014, the disclosure of which is incorporated by reference herein in its entirety as an example.

TECHNICAL FIELD

[0002] The present application relates to flexible packaging that is easily opened.
10 More particularly, the present application is directed to flexible packaging that can be easily opened using a controlled tear to provide full access for removal of a product contained therein.

BACKGROUND

15 [0003] Flexible packages are widely used for storing items such as various food products. Various problems associated with opening such packages are well known, and various attempts have been made to overcome such problems. For example, in some embodiments, flexible packages are opened at a profiled end seal, which may contain serrations to aid in opening the package. The tear that is generated is generally not guided,
20 meaning that the opening is unpredictable and doesn't allow for controlled opening of the package. Another particular problem occurring in opening of flexible wrap packages in the cross direction from cuts or other opening initiations is that such mechanisms are terminated by the longitudinal seal or product, which is generally situated in the middle of the flexible package. Once the tear reaches this longitudinal seal, the tear stops or
25 becomes unpredictable. Furthermore, some easier to open packages are susceptible to unintentional opening.

[0004] Accordingly, it is desirable to provide new flexible packages that avoid one or more disadvantages associated with existing easy open features.

30 SUMMARY

[0005] Embodiments of the present application address the above-described needs by providing an easy open package including a package body formed of a flexible film having a pair of transverse end seals and a longitudinal seal generally therebetween. The

longitudinal seal includes a sealed region between a first longitudinal edge portion of the flexible film and a second longitudinal edge portion of the flexible film. The package body further includes a tear strip defined by a line of weakness disposed partially through the flexible film and a pull tab positioned in the longitudinal seal. The pull tab is defined by a cut through both the first longitudinal edge portion and second longitudinal edge portion of the flexible film in the longitudinal seal, and is positioned within the sealed region and interior to a terminal edge of the longitudinal seal. The line of weakness defining the tear strip may include two spaced lines extending about at least a portion of the package body, the line of weakness extending from proximate the pull tab and the longitudinal seal about at least a portion of the package body. The pull tab and tear strip are configured such that initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness.

[0006] In another aspect, an easy open package is provided including a package body formed of a flexible film having a pair of transverse end seals and a longitudinal seal generally therebetween, the longitudinal seal having a sealed region between a first longitudinal edge portion of the flexible film sealed to a second longitudinal edge portion of the flexible film. A tear strip is defined by a line of weakness disposed partially through the flexible film, and a pull tab is positioned in the longitudinal seal and defined by a cut through the first longitudinal edge portion of the flexible film in the longitudinal seal, the cut being positioned within the sealed region and interior to a terminal edge of the longitudinal seal. The line of weakness defining the tear strip includes one or more lines extending about the package body, the line of weakness extending from proximate the pull tab and the longitudinal seal and about at least a portion of the package body. The pull tab and tear strip are configured such that initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.

[0007] In still another aspect, a flexible film for forming an easy open package is provided. The flexible film comprises a pair of transverse end seal areas, a pair of longitudinal edge portions generally between the transverse end seal areas, a storage area extending generally between the transverse end seal areas and generally between the pair of longitudinal edge portions, a tear strip defined by a line of weakness disposed partially through the flexible film, the line of weakness defining the tear strip comprises one or more lines extending at least partially along the storage area, and a first cut through one of

the pair of longitudinal edge portions and a second cut through another of the pair of longitudinal edge portions. The pair of transverse end seal areas, the pair of longitudinal edge portions, the storage area, the tear strip and the first and second cuts are configured such that the flexible film can be folded to form a package by adhering the pair of transverse end seal areas to themselves to form a pair of transverse end seals, adhering the pair of longitudinal edge portions to one another to form a longitudinal seal including a sealed region between the longitudinal edge portions, and aligning the first and second cuts to define a pull tab positioned in the longitudinal seal and positioned within the longitudinal seal and interior to a terminal edge of the longitudinal seal. When the package is formed, the line of weakness extends from proximate the pull tab and the longitudinal seal and about at least a portion of the package body. In addition, the pull tab and tear strip are configured such that, when the package is formed, initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.

[0008] In yet another aspect, another flexible film for forming an easy open package is provided. The flexible film comprises a pair of transverse end seal areas, a pair of longitudinal edge portions generally between the transverse end seal areas, a storage area extending generally between the transverse end seal areas and generally between the pair of longitudinal edge portions, a tear strip defined by a line of weakness disposed partially through the flexible film, the line of weakness defining the tear strip comprises one or more lines extending at least partially along the storage area, and a cut through one of the pair of longitudinal edge portions. The pair of transverse end seal areas, the pair of longitudinal edge portions, the storage area, the tear strip and the first and second cuts are configured such that the flexible film can be folded to form a package by adhering the pair of transverse end seal areas to themselves to form a pair of transverse end seals, adhering the pair of longitudinal edge portions to one another to form a longitudinal seal including a sealed region between the longitudinal edge portions, and aligning the cut to define a pull tab positioned in the longitudinal seal and positioned within the one of the longitudinal edge portions and interior to a terminal edge of the longitudinal seal. When the package is formed, the line of weakness extends from proximate the pull tab and the longitudinal seal and about at least a portion of the package body. In addition, the pull tab and tear strip are configured such that, when the package is formed, initiation of a tear by pulling the pull

tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.

[0009] Additional aspects will be set forth in part in the description which follows, and in part will be obvious from the description, or may be learned by practice of the aspects described below. The advantages described below will be realized and attained by means of the elements and combinations particularly pointed out in the appended claims. It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only and are not restrictive.

10

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a perspective view of an embodiment of an easy open package.

[0011] FIGS. 2A and 1B are back views of two embodiments of an easy open package.

[0012] FIG. 3 is a partial cross-sectional view of a flexible film according to an embodiment.

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[0013] FIG. 4 is a schematic illustration of a flexible film according to an embodiment.

[0014] FIGS. 5A-5C are schematic illustrations of opening an easy open package according to an embodiment.

[0015] FIG. 6A-6D are schematic illustrations of a flexible film (6A), a partially formed pouch having a longitudinal lap seal (6B), an easy open pouch having a longitudinal lap seal being opened (6C), the easy open pouch of FIG. 6C after being opened (6D) according to an embodiment.

[0016] FIG. 6E is a partial schematic illustration of an embodiment depicting a film comprising an arcuate score positioned in an unsealed area and spaced a distance from a boundary of the unsealed area with a seal area.

25

[0017] FIG. 7 is a schematic illustration of another embodiment of a flexible film.

DETAILED DESCRIPTION

[0018] Embodiments of the present application are directed generally to an easy open package and methods for manufacturing such packages. Generally described, an easy open package is provided that is formed from a flexible film comprising a tear strip defined by a line of weakness disposed partially through the flexible film and a pull tab positioned in a longitudinal seal. The pull tab and tear strip are configured such that

initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film from an initiating line of weakness along the tear strip.

[0019] An exemplary embodiment of a flexible wrap package **100** is illustrated in **FIG.**

1. The package **100** has a package body **110** formed from a continuous web of flexible
5 film. First **114** and second **116** transverse end seals may be disposed at opposing
transverse ends of the package body **110**, with a longitudinal seal **112** securing opposing
longitudinal edge portions of the flexible film in a longitudinal direction along the package
body **110**. The longitudinal seal **112** may be a fin seal, as illustrated in **FIG. 1**, or a lap
seal, as illustrated in **FIGS. 6B** and **6C**, as described below.

10 [0020] The longitudinal seal **112** may be positioned along any portion of the package
body **110**. For example, the longitudinal seal **112** may be substantially centered on a back
side of the package body **110**, off-center on a back side of the package body (not shown),
on a side of the package body (not shown), or on a corner/edge of the package body (not
shown), and generally extends the length of the package body **110**. The longitudinal seal
15 **112** may fold either to the right or the left (the "folding direction") using known
manufacturing processes; however, it may be advantageous for the longitudinal seal **112** to
fold to the left to be more easily openable by right-handed consumers (which constitute a
majority of the population).

[0021] A tear strip **118** is defined by one or more lines of weakness **120** formed
20 partially through the flexible film forming the package body **110**. For example, in the
embodiment illustrated in **FIG. 1**, the tear strip **118** includes two substantially parallel
lines of weakness **120**. In other embodiments, however, the tear strip **118** may be defined
by one or more parallel lines of weakness, or two or more parallel lines of weakness. The
tear strip **118** generally is positioned in the transverse position (e.g., in the cross direction
25 of the package body perpendicular to the longitudinal seal **112**) and extends about at least
a portion of the package body **110**. The substantially parallel lines of weakness **120** may
be spaced apart by any suitable distance. For example, in embodiments, the substantially
parallel lines of weakness are spaced apart by a distance of about 1/50 inch to about 2
inches, about 1/25 inch to about 2 inches, about 1/8 inch to about 2 inches, about 1/4 inch
30 to about 1 inch, or about 1/4 inch to about 1/2 inch. In embodiments, the distance between
two spaced lines of weakness may be relative to the width of the longitudinal seal and/or
the package body. For example, the spaced lines of weakness may be spaced apart by a
distance of more than 2 inches for larger-sized packages.

[0022] An initiating line of weakness **419** (illustrated in **FIG. 4**) may be positioned substantially perpendicular to the tear strip **118**. For example, in embodiments, the initiating line of weakness **419** may be positioned substantially perpendicular to and longitudinally between the lines of weakness **120** defining the tear strip **118**. The
5 initiating line of weakness preferably is also positioned proximal to the where the longitudinal seal **112** meets the body of the package **110** in the folding direction. For example, in embodiments in which the longitudinal seal **112** folds to the left, the initiating line of weakness **419** may be positioned proximally to the left of the longitudinal seal **112** (i.e., proximal or adjacent to the sealed region forming the longitudinal seal). Moreover,
10 where the longitudinal seal is a fin seal, the initiating line of weakness preferably is positioned on the opposite side of the flexible film from the cut defining the pull tab, such that the initiating line of weakness is located proximal or adjacent to the sealed region once the package is formed.

[0023] A pull tab **122** positioned in the longitudinal seal **112** is defined by a cut **124**
15 through both opposing longitudinal edge portions of the flexible film in the longitudinal seal **112**. The cut **124** is positioned within the sealed region of the longitudinal seal **112** and interior to a terminal edge **125** of the longitudinal seal **112**, such that the opposing longitudinal edge portions of the flexible film in the pull tab **122** remain sealed together to provide a single pull tab **122**. The longitudinal seal **112** may partially or completely
20 surround the tab **122**, and in the embodiment shown in **Fig. 1**, the longitudinal seal **112** completely surrounds the tab **122**. An unintentional tear or opening of the package is less likely with the pull tab **122** positioned within the sealed region of the longitudinal seal **112** and interior to a terminal edge **125** of the longitudinal seal **112**. The cut defining the pull tab may be any suitable shape, non-limiting examples of which include a curved shape
25 (e.g., a semi-circle or semi-ellipse) (**FIG. 2B**) or an angular shape (e.g., a trapezoid, square, or rectangle) (**FIG. 2A**), and may be any suitable size, provided that it is positioned interior to the terminal edge **125** of the longitudinal seal **112** a suitable distance. An unintentional tear or opening of the package is less likely with the pull tab **122** having a less angular shape, such as a more curved or rounded shape so that the pull tab **122** does
30 not unintentionally snag during manufacturing or handling. For example, the cut defining the pull tab **122** may be positioned from about 1/8 inches to about 1/4 inches interior to the terminal edge **125** of the longitudinal seal **112**, depending in part on the width of the longitudinal seal. In embodiments, the cut defining the pull tab may be positioned from

about 1/8 inches to about 1/5 inches or from about 1/8 inches to about 1/6 inches interior to the terminal edge of the longitudinal seal **112**.

[0024] The initiating line of weakness **419** and the line(s) of weakness defining the tear strip **118** together initiate a controlled tear in the flexible film, forming the tear strip **118** in the flexible film. For example, in some embodiments, the initiating line of weakness **419** and lines of weakness **120** defining the tear strip **118** may include two substantially parallel scored lines in the flexible film extending the same distance about the package body (e.g., a U-shape) or may include two substantially parallel scored lines in the flexible film extending different distances about the package body (e.g., a J-shape). In some embodiments, the tear strip **118** may include more than two substantially parallel scored lines of weakness **120**. Whether the line of weakness **120** extends an amount sufficient to initiate a controlled tear depends at least in part on the type of flexible film used, the size of the package body, the film orientation, the adhesive strength, and the depth of the line of weakness. For example, in embodiments, both of the lines of weakness **120** defining the tear strip **118** may extend a length greater than about 5% of the package body **110**, greater than about 25% of the package body **110**, greater than about 50% of the package body **110**, greater than about 75% of the package body **110**, or substantially entirely about the package body **110**. In other embodiments, each of the two lines of weakness **120** defining the tear strip **118** may, independent of one another, extend a length greater than about 5% of the package body **110**, greater than about 25% of the package body **110**, greater than about 50% of the package body **110**, or greater than about 75% of the package body **110**.

[0025] In some embodiments, the two or more lines of weakness **120** may extend from proximate the pull tab **122** at one side of the longitudinal seal **112** through and about the package body **110** without extending back into the longitudinal seal **112** from an opposite side of the longitudinal seal **112**. In some such embodiments, the two or more lines of weakness **120** may extend from proximate the pull tab **122** at one side of the longitudinal seal **112** through and about the package body **110** and terminate in the package body **110** and outside of longitudinal seal **112** and may also include a tear terminating feature such as a J-shaped termination or the like. The depth, length and shape of the parallel lines of weakness described herein apply to embodiments that include any number of parallel lines of weakness.

[0026] The tear strip **118** and pull tab **122** may be located at any position along the package body **110** between the transverse end seals **114**, **116**. Preferably, the tear strip **118** and pull tab **122** are positioned from about halfway between the transverse end seals **114**, **116**, or about a third or a quarter of the length of the package body **110** from a transverse end seal **114**. In an embodiment, the tear strip **118** extends about the package body **110** closer to one of the pair of transverse end seals **114** and **116** than to another of the transverse end seals. Preferably, the line(s) of weakness defining the tear strip and the cut defining the pull tab are substantially aligned.

[0027] The pull tab **122**, tear strip **118**, and initiating line of weakness **419** are configured such that a user pulling the pull tab **122** in a direction D opposite the folding direction of the longitudinal seal **112** initiates controlled tearing of the flexible film at the initiating line of weakness **419** and along the one or more line(s) of weakness **120** defining the tear strip **118** until the tear strip reaches the longitudinal seal **112**. In some embodiments, the top portion **130** of the package body **110** may be broken apart from the bottom portion **140** package body **110**. Whether the top portion **130** may be broken apart from the bottom portion **140** depends in part on the position of the cut **124** relative to the terminal edge **125** of the longitudinal seal (e.g., how much material remains connected in the longitudinal seal). Thus, in some embodiments, the top portion **130** of the package body **110** may remain attached to the bottom portion **140** (not shown).

[0028] The line(s) of weakness **120** defining the tear strip, the initiating line of weakness **419**, and the cut **124** defining the pull tab **122**, may each, independent of one another, be formed by one or more of a die cut, score line, perforation line, or other known techniques for forming such lines of weakness. For example, in embodiments, the lines of weakness **120** defining the tear strip **118** are two substantially parallel scored lines in the flexible film. Although the depth of the lines of weakness **120** defining the tear strip **118** and the terminating line of weakness may vary, they preferably extend only partially through the flexible film without penetrating substantially through the flexible film, thereby retaining the barrier properties of the package body to protect the product contained therein.

[0029] The plurality of scored lines of weakness **120** have a depth in the flexible film extending only partially through the flexible film. The depth of the plurality of scored lines of weakness **120** may be substantially constant along their lengths or may vary along their lengths. In some embodiments, the depth of the plurality of scored lines of weakness

120 may be deeper in one portion of their length than in another portion of their length. In some embodiments, the depth of the plurality of scored lines of weakness 120 may be deeper in a portion of their length extending across a portion of one of the longitudinal seal areas of the longitudinal seal 112 than in another portion of their length extending beyond the longitudinal seal 112 and across the package body 110. This may allow for less force when pulling the pull tab 122 in initiation of opening the package 110 along the tear strip 118.

[0030] A cross-section of an embodiment of a flexible film for forming the package body is illustrated in FIG. 3. The flexible film may include a monolayer film (not shown) or a multilayer film including an inner film layer and an outer film layer, either or both of which may function as a barrier layer. Additional layers, such as print and adhesive layers, also may be included in the flexible film. For example, the flexible film 310 illustrated in FIG. 3 includes an inner film layer 312, an outer film layer 314, an adhesive layer 316 disposed between at least a portion of the inner film layer 312 and outer film layer 314, a print layer 318 disposed between the outer film layer 314 and the adhesive layer 316, and a patterned cold seal adhesive layer 320 on the inner surface of the inner film layer 312. In embodiments, the tear strip and pull tab may be positioned relative to the graphic, which optionally may provide instructions for opening the package (i.e., to "open here", "pull to open", directional arrows, and the like). It should be appreciated, however, that the flexible film for forming the package body may include any combination of these layers and/or additional layers, depending on the desired aesthetics and functionality of the flexible film and package body. Thus, in some embodiments, two or more film layers may be coextruded to form an extrusion lamination rather than laminated together with an adhesive.

[0031] The one or more layers 312 and 314 of the flexible film may be formed using the same or different materials. Non-limiting examples of materials that may be used to form the one or more layers include polymeric materials, metallized polymeric materials, metallic foils, paper-based materials, and combinations thereof. Suitable polymeric materials and metallized-polymeric materials frequently used in packaging applications may include polyolefins (e.g., polyethylenes and polypropylenes), polyamides, and other thermoplastic polymers. These materials may be produced as a cast or blown film and may be subsequently bi-axially or mono-axially oriented. For example, in an embodiment the inner layer 312 may be a polyethylene terephthalate (PET) and the outer layer 314 may

be an oriented PET or biaxially-oriented polypropylene. Further functionality may be added by coating the materials by a vacuum deposition, aqueous deposition, spray process, or other means.

[0032] Although not shown in **FIG. 3**, the parallel lines of weakness in the flexible film **310** may be formed at least partially through the inner layer **312** or outer layer **314**.

[0033] An exemplary embodiment of an easy open package in the form of a flexible pouch **600** is illustrated in **FIGS. 6A-6D**. The pouch **600** has a package body **610** formed from a continuous web of flexible film **605** having an inner film layer, and an outer film layer. First **614** and second **616** transverse end seals may be disposed at opposing transverse ends of the package body **610**, with a longitudinal lap seal **612** securing opposing longitudinal edge portions of the flexible film in a longitudinal direction along the package body **610**. The longitudinal lap seal **612** comprises a first longitudinal edge portion **613** and a second longitudinal edge portion **615** adhered together and a storage area **606** of the film **605** between the first **614** and second **616** transverse end seals and the longitudinal lap seal **612**. The first longitudinal edge portion **613** may comprise a first longitudinal seal area **613a** and the second longitudinal edge portion **615** may comprise a second longitudinal seal area **615a** and the first and second longitudinal seal areas **613a** and **615a** may be adhered to one another as explained in more detail below. The package body **610**, transverse end seals **614** and **616**, and longitudinal lap seal **612** define a storage space **608**. A tear strip **618** is defined by one or more lines of weakness **620a** and **620b** formed partially through the flexible film forming the package body **610**. In the embodiment illustrated in **FIG. 6**, the tear strip **618** includes two substantially parallel lines of weakness **620**. In some embodiments, the tear strip **618** may include more than two substantially parallel scored lines of weakness **120**. Although the longitudinal seal **612** is a lap seal in **FIG. 6A**, the longitudinal seal **612** may also be a fin seal and any aspect of this embodiment is applicable to embodiments with a fin seal as well as a lap seal.

[0034] A pull tab **622** positioned in the longitudinal lap seal **612** is defined by a cut **624** through the first longitudinal edge portion **613** of the flexible film forming the longitudinal seal **612**. The cut **624** is positioned within an un-sealed area **617** of the longitudinal lap seal **612** and interior to a terminal edge **625** of the longitudinal seal **612**, such that the first longitudinal edge seal area **613a** remains sealed to the second longitudinal edge seal area **615a** except for the un-sealed area **617** proximate the cut **624**. An initiating line of

weakness **619** may be positioned substantially perpendicular to the tear strip **618** in the second longitudinal edge seal area **615**. The initiating line of weakness **619** preferably is positioned in the second longitudinal edge portion **615** such that it is positioned within the un-sealed area **617** of the second longitudinal edge seal area **615a** over which the die cut **624** defining the pull tab **622** is disposed nearer the proximal side **621** of the longitudinal lap seal **612**. The pull tab **622**, initiating line of weakness **619**, and tear strip **618** are configured such that initiation of a tear by pulling the pull tab **622** in one direction causes controlled tearing of the flexible film from the initiating line of weakness **619** along the line of weakness defining the tear strip **618**.

[0035] A patterned cold seal adhesive may be applied on the inner film layer of the first opposing longitudinal edge portion **613** and transverse end seals **614**, **616** and outer film layer of the second opposing longitudinal edge portion **615**. In some embodiments, the patterned cold seal adhesive may include a void substantially free from the cold seal adhesive (or an area having a reduced adhesive strength relative to the other portions of the longitudinal seal) substantially surrounding at least a portion of the pull tab **622**. Alternatively, a heat seal or an ultrasonic seal may be used to form the longitudinal seal **612** and transverse end seals **614**, **616**.

[0036] In an embodiment, the un-sealed area **617** of the second longitudinal edge portion **615** and the pull tab **622** may be at least partially or completely void of any sealing, such as with cold seal or heat sealing or the like, for easy grasping and opening of the package by pulling the tab.

[0037] As illustrated in **FIGS. 6A-6E**, the package **600** comprises the first and second opposing longitudinal edge portions **613** and **615**, first **614** and second **616** transverse end seals, the storage area **606** there between, the first and second substantially parallel line of weakness **620a** and **620b**, and the tab cut **624**, which has endpoints in close proximity to the first substantially parallel line of weakness **620a** and the second substantially parallel line of weakness **620b**. For example, as shown in **FIG 6A**, a first endpoint of the tab cut **624** is co-located with a first end **642a** of the first substantially parallel line of weakness **620a** and a second endpoint of the tab cut **624** is co-located with the first end **642d** of the second substantially parallel line of weakness **620b**.

[0038] As shown in **FIGS. 6A-6E**, the first and second opposing longitudinal edge portions **613** and **615** may be adhered to one another to form the longitudinal lap seal seam **612**. In this embodiment, the first and second opposing longitudinal edge portions **613**

and **615** are adhered to one another using an adhesive, which can be a cold or hot adhesive. It should be understood, however, that the adhesive could also be heat activated in a heat sealing process or by other means known to those skilled in the art. Also, note that although the embodiment illustrated in **FIGS. 6A-6E** has a lap seal as the longitudinal seal **612**, the longitudinal seal **612** may also be a fin seal as illustrated with other embodiments in this disclosure.

[0039] In **FIG. 6A**, the first opposing longitudinal edge portion **613** is partially coated with an adhesive. For example, as illustrated, the first opposing longitudinal edge portion **613** is completely coated except for a first adhesive margin **640a** and the tab **622**.

Although, in some embodiments, a first adhesive margin **640a** is not used, in which case the first opposing longitudinal edge portion **613** can be completely coated except for the tab **622**.

[0040] The second opposing longitudinal edge portion **615** is positioned opposite (e.g., across the flexible film **605**) from the first opposing longitudinal edge portion **613** and is at least partially coated with a second adhesive. For example, as illustrated, the second opposing longitudinal edge portion **615** is completely coated except for a second adhesive margin **640b**. However, in some embodiments, the second adhesive margin **640b** is not used, and the second opposing longitudinal edge portion **615** can be completely coated.

The first and second adhesive margins **640a** and **640b** remain un-adhered even after forming the package **600** and sealing the longitudinal seal **612**. This un-adhered margin facilitates an alternative way of opening the package by pulling the longitudinal seal **612** apart at the adhesive margins **640a** and **640b**. Accordingly, in some embodiments, the first and second opposing longitudinal edge portions **613** and **615** are adhered across substantially their entire respective areas (e.g., across at least 90% of, or completely across

their entire respective areas). Additionally, although the second opposing longitudinal edge portion **615** is referred to as coated with a second adhesive in the second opposing longitudinal edge portion **615**, the second adhesive is not necessarily a different adhesive than the first adhesive. For example, in some embodiments the second adhesive can be a different adhesive than the first adhesive. However, in other embodiments, the second adhesive is the same as the first adhesive. As an illustration, when the opposing longitudinal edge portions **613** and **615** form a fin seal, a cold seal process may be used to form the longitudinal lap seal seam **612** by pressing together the first and second opposing longitudinal edge portions **613** and **615**, the first adhesive and the second adhesive can be

the same adhesive, and under a specified amount of pressure, the adhesive can be activated to adhere to itself, but not the uncoated wrapper (e.g., tab **622**). When the opposing longitudinal edge portions **613** and **615** form a lap seal, for example, a patterned seal may be applied to an inside surface of one of the opposing longitudinal edge portions **613** and **615** which is then adhered to an outside surface of another of the opposing longitudinal edge portions **613** and **615**.

[0041] Thus, the first longitudinal edge portion **613** may comprise, for example, the first longitudinal seal area **613a**, the unsealed area **617**, the first adhesive margin **640a**, the tab cut **624** and/or any combination thereof, with or without additional elements.

Furthermore, the second longitudinal edge portion **615** may comprise, for example, the second longitudinal seal area **615a**, the unsealed area **617**, the second adhesive margin **640b**, and/or any combination thereof, with or without additional elements.

[0042] As illustrated in **FIG. 6A**, both the second substantially parallel line of weakness **620b** and the first substantially parallel line of weakness **620a** partially cut through the film **605**. However, the tab cut **624** (e.g., an arcuate score) completely cuts through the wrapper **65**. In some embodiments, the first substantially parallel line of weakness **620a**, the second substantially parallel line of weakness **620b**, and/or the tab cut **624** are laser scores. In some embodiments the scores or cuts **620a** and **b** and **624** can be formed using a knife or other mechanical device. As an example of another mechanical device, the tab cut **624** can be formed using a mechanical punch (e.g., similar to a hole punch) rather than a knife or laser.

[0043] As illustrated in **FIG. 6A**, the first substantially parallel line of weakness **620a** extends from a first end **642a** of the first substantially parallel line of weakness **620a** positioned in the first opposing longitudinal edge seal area **613a**, across at least a portion of the first opposing longitudinal edge seal area **613a** (e.g., tear strip seal area **646**), across at least a portion of the storage area **606** (e.g., entire width **644** between the first and second opposing longitudinal edge portions **613** and **615**), and toward the second opposing longitudinal edge portion **615** until the first substantially parallel line of weakness **620a** terminates at a second end **642b** of the first substantially parallel line of weakness **620a**. Similarly, the second substantially parallel line of weakness **620b** extends from a first end **642c** of the second substantially parallel line of weakness **620b** in the first opposing longitudinal edge seal area **613a**, across at least a portion of the first opposing longitudinal edge seal area **613a**, across at least a portion of the storage area **606**, and toward the

second opposing longitudinal edge portion **615** until the second substantially parallel line of weakness **620b** terminates at a second end **642d** of the second substantially parallel line of weakness **620b**.

[0044] In the example of **FIG. 6A**, the tab cut **624** extends from the first end **642a** of the first substantially parallel line of weakness **620a** to the first end **642c** of the second substantially parallel line of weakness **620b** to provide the tab **622** in the first opposing longitudinal edge portion **613**. Additionally, the tab **622** is positioned on an unsealed area **617** (as depicted for example in **FIGS 6A** and **6B**) of the first opposing longitudinal edge portion **613**. For example, the tab **622** can be partially or completely surrounded by the first opposing longitudinal edge seal area **613a**. This is shown in **FIG. 6A**, where the first opposing longitudinal edge seal area **613a** completely surrounds the tab **622**.

[0045] In some embodiments, also shown in **FIG. 6A**, the tab **622** is partially or completely bounded by the first opposing longitudinal edge seal area **613a**. In other words, a boundary of the first opposing longitudinal edge seal area **613a** forms a part or all of the boundary of the tab **622**. Furthermore, in some embodiments, the tab **622** is bounded by the tab cut **624** and the first opposing longitudinal edge seal area **613a**. As illustrated in **FIGS 6A** and **6E**, the tab cut **624** is positioned on a boundary of the first opposing longitudinal edge seal area **613a**. Although, in some embodiments, it is desirable for the tab cut **624** to be positioned in an unsealed area **617** of the first opposing longitudinal edge portion **613** and for at least a continuous portion of the tab cut **624** to be spaced a minimum distance **650** from a boundary of the unsealed area **617** with the first opposing longitudinal edge seal area **613a**. Furthermore, in some embodiments, the continuous portion of the tab cut **624** that is spaced the minimum distance **650** from the boundary is the entire length of the tab cut **624** except for a first length **652a** of the tab cut **624** within the minimum distance **650** from the first end **642a** of the first substantially parallel line of weakness **620a** and except for a second length **652b** of the tab cut **624** within the minimum distance **650** from the first end **642c** of the second substantially parallel line of weakness **620b**. For example, the minimum distance **650** can help ensure that no part of the tab **622**, which is defined in part by the tab cut **624**, is sealed to the second opposing longitudinal edge portion **615**. This in turn makes it easier for a user to grab the tab **622** to initiate opening the package **600**.

[0046] As shown in the illustration of **FIGS. 6A** and **6B**, the first opposing longitudinal edge portion **613** comprises the tab **622**, and the tab **622** is provided on an unsealed area

617 that is not coated with adhesive. However, a first adhesive-covered area (e.g., the tear strip seal area **646** of the first opposing longitudinal edge seal area **613a**) can be provided between the tab **622** and the storage area **606**. Similarly, a second adhesive-covered area (e.g., a part of the first opposing longitudinal edge seal area **613a**) can be provided

5 between the tab **622** and an exterior edge **654a** of the first opposing longitudinal edge seal area **613a**. In some embodiments, providing an adhesive-covered area with a minimum length or width can be useful to avoid unintentional opening or tearing of the package **600** in the area covered with the adhesive. In some embodiments, providing an adhesive-covered area with a minimum length or width can be useful to maintain a barrier between

10 the storage space **608** and an external environment (e.g., ambient atmosphere outside the package **600**). For example, in some embodiments, a shortest distance across the first adhesive-coated area between the tab **622** and the storage area **606** (e.g., shortest distance from tab **622** to boundary **656** between the storage area **606** and the first opposing longitudinal edge seal area **613a**) is second distance **658** equal to at least about .005

15 inches. As another example, in some embodiments the second distance **658** is at least about 0.125 inches. In some embodiments the second distance **658** is about 0.005 to about 10 inches. In some embodiments, the second distance **658** is about 0.125 inches. Additionally, in some embodiments, a shortest distance across the second adhesive-coated area (e.g., a part of the first opposing longitudinal edge seal area **613a**) between the tab

20 **622** and an exterior edge **654a** of the first opposing longitudinal edge seal area **613a** is a third distance **660** equal to at least about 0.005 inches. As another example, in some embodiments the third distance **660** is at least about 0.125. In some embodiments, the third distance **660** is about 0.005 to about 10 inches. As another example, in some embodiments the third distance **660** is about 0.125 inches.

25 [0047] In some embodiments, the package **600** comprises a single tab **622** (e.g., one and only one tab and excluding multiple tabs) for opening. For example, the single tab **622** is positioned in the first opposing longitudinal edge portion **613**, and the second opposing longitudinal edge portion **615** does not comprise a tab **622** for opening. In some embodiments, the second opposing longitudinal edge portion **615** is substantially solid and

30 continuous (e.g., without scores or cuts within the second opposing longitudinal edge portion **615**), for example, to provide increased structural rigidity for the seal **612**, to avoid unintentional tearing, to avoid unintentional opening, and/or to maintain a connection

between the disposable portion **662** and the holder portion **664** through the longitudinal seal **612** after opening the package **600**.

[0048] In the embodiment illustrated in **FIG. 6A**, the tear strip **618** of the film **605** between the first substantially parallel line of weakness **620a** and the second substantially parallel line of weakness **620b** is continuous with the tab **622** so that pulling the tab **622** can be used to partially or completely disconnect the tab **622** and the tear strip **618** from a remainder of the package **600**, thereby opening the package **300**. For example, the remainder of the package **600** can comprise the holder portion **664** of the wrapper and the disposable portion **662** of the wrapper. Additionally, the relative sizes of the holder portion **664** of the wrapper and the disposable portion **662** of the wrapper can vary in different embodiments.

[0049] In some embodiments, the tear strip **618** comprises the tear strip seal area **646** adjacent to the tab **622** and positioned between the tab **622** and the storage area **606**. The tear strip seal area **646** may be coated with an adhesive (e.g., the first adhesive) and, as illustrated, forms a part of the first opposing longitudinal edge seal area **613a** so that, upon forming the longitudinal seal **612** by sealing the first opposing longitudinal edge portion **613** to the second opposing longitudinal edge portion **615**, the longitudinal seal **612** provides a barrier between the storage space **608** (e.g., food bar storage space) and an atmosphere outside the storage space **608**. After the first opposing longitudinal edge portion **613** and the second opposing longitudinal edge portion **615** are sealed together to form the longitudinal seal **612**, the storage space **608** is at least partially bound by the storage area **606** of the film **605** and the longitudinal seal **612** as shown in **FIGS. 6A-6E**.

[0050] In some embodiments, in order to help ensure that the storage space **606** is sealed and in order to prevent unintended tearing of the film **605** and opening of the storage space **306** of the package **600**, the first substantially parallel line of weakness **620a** does not substantially extend (e.g., does not extend more than 0.05 inches, or does not extend at all) into the second opposing longitudinal edge seal area **615a**, and the second substantially parallel line of weakness **620b** does not substantially extend (e.g., does not extend more than 0.05 inches, or does not extend at all) into the second opposing longitudinal edge seal area **615a**. For example, in some embodiments the second end **642b** of the first substantially parallel line of weakness **620a** and the second end **642d** of the second substantially parallel line of weakness **620b** are each approximately positioned at a boundary **666** between the storage area **606** and the second opposing longitudinal edge

seal area **615a**. Although, in some embodiments, the first substantially parallel line of weakness **620a** and/or the second substantially parallel line of weakness **620b** extend partially into the second opposing longitudinal edge seal area **615a** to help ensure that the disposable portion **662**, the tab **622**, and/or the tear strip **618** are completely separated from the holder portion **664** when a user opens a package **600** by pulling the tab **622**.

[0051] The plurality of scored lines of weakness **620** have a depth in the flexible film **605** extending only partially through the flexible film **605**. The depth of the plurality of scored lines of weakness **620** may be substantially constant along their lengths or may vary along their lengths. In some embodiments, the depth of the plurality of scored lines of weakness **620** may be deeper in one portion of their length than in another portion of their length. In some embodiments, the depth of the plurality of scored lines of weakness **620** may be deeper in a portion of their length extending across a portion of the longitudinal edge seal area **613a** of the longitudinal seal **612** than in another portion of their length extending beyond the longitudinal seal **612** and across the storage area **606** of the flexible film **605**.

This may allow for less force when pulling the pull tab **622** in initiation of opening the package **600** along the tear strip **618**.

[0052] FIG. 7 illustrates another flexible film **705** of this disclosure comprising six score lines of weakness **620a**, **620b**, **720a**, **720b**, **720c**, and **720d**. The flexible film **705** in FIG. 7 is the same as the flexible film **605** in 6A except for the additional lines of weakness **720a**, **720b**, **720c**, and **720d** and therefore the reference numerals in FIG. 7 are otherwise the same as in FIG. 6A. Middle lines of weakness **620a** and **620b** are flanked on each side by pairs of guide lines of weakness **720a** and **720b** and **720c** and **720d**. The first pair of guide lines of weakness **720a** and **720b** are spaced from and proximate to the first middle line of weakness **620a** and guide the tearing of the tear strip **618** so that the tear strip **618** is more likely to tear between the first pair of guide lines of weakness **720a** and **720b** and along or proximately along the first middle line of weakness **620a** and not propagate outwardly and away from the first pair of guide lines of weakness **720a** and **720b**. Likewise, the second pair of guide lines of weakness **720c** and **720d** are spaced from and proximate to the second middle line of weakness **620b** and guide the tearing of the tear strip **618** so that the tear strip **618** is more likely to tear between the second pair of guide lines of weakness **720c** and **720d** and along or proximately along the second middle line of weakness **620b** and not propagate outwardly and away from the second pair of guide lines of weakness **720c** and **720d**. In some embodiments, the first middle line of

weakness **620a** may be spaced from the first pair of guide lines of weakness **720a** and **720b** from about 0.5 mm to about 2 mm, or from about 0.8 mm to about 1.2 mm, or about 1 mm. Likewise, in some embodiments, the first middle line of weakness **620b** may be spaced from the first pair of guide lines of weakness **720c** and **720d** from about 0.5 mm to about 2 mm, or from about 0.8 mm to about 1.2 mm, or about 1 mm. In some embodiments, the middle lines of weakness **620a** and **620b** may extend into the first longitudinal seal area **613** and from the respective first ends **642a** and **642d** at respective first and second endpoints of the tab cut **624** and then across at least a portion of the storage area **606** of the flexible film **705**, while the guide lines of weakness **720a** and **720b** and **720c** and **720d** do not extend from the tab cut **624**, but rather are spaced inwardly from the tab **622** and extend from about the boundary **656** between the storage area **606** and the first opposing longitudinal edge seal area **613a** and across at least a portion of the storage area **606**. In some embodiments, the guide lines of weakness **720a** and **720b** and **720c** and **720d** are spaced inwardly from the tab **622** from about 1/16 inch to about 1/4 inch, or about 1/8 inch.

[0053] According to still another embodiment, not shown, the package **600** may include one or more gussets and the flexible film **605** from which the package **600** is made includes one or more portions of film configured to form such gussets. In some such embodiments, the tear strip may extend at least partially or completely across at least one of the gussets. In some of such embodiments, the longitudinal seal and tab therein may be in or proximate to one or more of the gussets. In still some of those embodiments, the removal of the tear strip may provide for a pour spout.

[0054] In another aspect, a method of fabricating an easy open package is provided. In one embodiment, the method may include providing a continuous web of a flexible film comprising an inner film layer and an outer film layer; forming one or more lines of weakness defining a tear strip in either the inner or outer film layer; forming an initiating line of weakness in either the inner or outer film layer; folding the flexible film about a product and forming a longitudinal seal by joining opposing longitudinal edge portions of the flexible film; and forming at least one transverse end seal by sealing the flexible film to form a transverse seal region extending across a transverse end of the package. A cut through the flexible film defining the pull tab may be formed in one or both of the opposing longitudinal edge portions of the flexible film prior to folding the flexible film about the product or forming a flexible pouch, or after forming the longitudinal seal.

[0055] In embodiments, the one or more lines of weakness defining the tear strip, the initiating line of weakness, and the cut defining the pull tab may be formed in the flexible film using any suitable methods known to those skilled in the art, non-limiting examples of which include using a cutting tool, such as a cutting die, or a laser. These features may be formed in the flexible film in off-line or in-line processes with respect to packaging of the product, and also may be formed in both horizontal and vertical form fill seal operations, among others. For example, these features may be formed in the flexible film in-line just before the flexible film is formed into a package body, filled with product, and sealed. Alternatively, these features may be formed in the flexible film and wound on a reel by a packaging converter and then loaded into the packaging equipment on which it is then unwound and formed into a package body, filled with product, and sealed.

[0056] The easy open packages provided herein may be used for containing a variety of products, particularly rigid or semi-rigid food products or products contained in a tray about which the flexible film is disposed. For example, the easy open packages may be used for food products such as chocolate and sugar confectionary products, nutraceuticals, cookies, crackers, biscuits, and the like. The easy open packages are particularly suited for use with products that a consumer desires to access from the transverse end of the package body.

[0057] A schematic illustration of an exemplary embodiment of use of an easy open package including a food product, such as a granola bar or candy bar, is illustrated in **FIGS. 5A-5C** and **FIGS. 6C-6D**. A consumer may take an unopened package (**FIG. 5A**), grasp the pull tab and pull in the direction opposite the folding direction of the longitudinal seal to cause controlled tearing in the flexible film along the line of weakness defining the tear strip (**FIGS. 5B** or **6C**), and expose contents therein by grasping and pulling back the transverse end seal of the top portion of the package to form a full access opening in the transverse end of the package (**FIGS. 5C** or **6D**). The top portion of the package may be entirely separated from or remain partially attached to the bottom portion of the package body.

[0058] In addition to being easy to open or openable with controlled tearing or both, embodiments described herein also reduce the likelihood of unintentional tearing or opening of the package. These features therefore reduce the likelihood that the contents of the package are unintentionally exposed to the atmosphere outside the package, and in

particular, reduces the likelihood that contents of the package, such as food, would be spoiled.

[0059] The packaged products may be manufactured using any suitable packaging method, particularly form, fill, and seal methods using rolls of the flexible film having the above-described features. For example, in certain embodiments the method of packaging the product includes providing a roll of a flexible film including an inner film layer, an outer film layer, and an adhesive disposed between the inner and outer film layers, and one or more lines of weakness defining the tear strip, the initiating line of weakness, and the cut defining the pull tab in the flexible film. The flexible film may then be folded about the product (or tray), a longitudinal seal may be formed by joining opposing longitudinal edge portions of the flexible film, and two transverse end seals may be formed at opposing transverse edges of the flexible film. Alternatively, the flexible film may be first be formed into a flexible pouch by forming a longitudinal seal by joining opposing longitudinal edge portions of the flexible film (**FIG. 6B**), forming a first transverse end seal, filling the package with product, and forming the second transverse end seal (e.g., a vertical form fill seal process).

[0060] In certain embodiments (**FIG. 4**), a roll of a continuous web of a flexible film **400** is provided having an inner film layer, an outer film layer, a tear strip **418** defined by two substantially parallel lines of weakness **420** in the outer film layer, and a pull tab **422a, 422b** defined by cuts **424a, 424b** through opposing longitudinal edge portions **425a, 425b** of the flexible film. The initiating line of weakness **419** is positioned between the two substantially parallel lines of weakness **420** defining the tear strip **418**. The roll may be suitable for forming a plurality of packages. A patterned cold seal adhesive may be applied on the inner film layer for forming the longitudinal seal **412a, 412b** and transverse end seals **414, 416**. In some embodiments, the patterned cold seal adhesive may include a void **426a, 426b** substantially free from the cold seal adhesive (or an area having a reduced adhesive strength relative to the other portions of the seal and seams) substantially surrounding at least a portion of the pull tab **422a, 422b**, thereby permitting a user to more readily grasp the pull tab **422a, 422b** to open the package. Alternatively, a heat seal or an ultrasonic seal may be used to form the longitudinal seal **412a, 412b** and transverse end seals **414, 416**. When using a heat seal, a release lacquer may be applied on at least a portion of the periphery of the pull tab and/or a patterned heat seal jaw may be used in the shape of the periphery of the pull tab. In embodiments, the roll of flexible film may be fed

through a machine which folds it about each product in turn so that opposing longitudinal edge portions are brought into contact and bonded together to form a longitudinal seal.

The flexible film may then be crimped or bonded at opposing ends of the product to form the transverse end seals, and the flexible film may be cut to separate each packaged

5 product from the remainder of the roll of flexible film.

[0061] In another embodiment, a roll of a continuous web of a flexible film **605** (shown in **(FIG. 6A)** unrolled form) is provided. The roll may be suitable for forming a plurality of packages.

[0062] COMPARATIVE EXAMPLES

10 [0063] In some embodiments, the second substantially parallel line of weakness **620b** is spaced at minimum a first distance **668** from the first substantially parallel line of weakness **620a**. For example the first distance **668** can be about 1/16 to about 2.5 inches or about 1/8 inch to about 1.5 inches. As another example, the first distance **668** can be about 0.500 inches.

15 [0064] In some embodiments, a length **670** from a first end **672** of the film **605** to a second end **674** of the film **605** is at least about 1/2 inch. In some embodiments, the length **670** is about 1/2 inch to about 16 inches. In some embodiments, the length **670** is about 4 inches to about 7 inches. As another example, the length **670** can be about 5.750 inches.

20 [0065] In some embodiments, a width **676** from a first edge **678a** of the film **605** to a second edge **678b** of the film **605** is at least about 1/2 inch. In some embodiments, the width **676** is about 1/2 inch to about 16 inches. In some embodiments, the width **676** is about 4 inches to about 7 inches. As another example, the width **676** can be about 4.375 inches.

25 [0066] In some embodiments, the tab cut **624** is a curved score (e.g., arcuate score, elliptical score, a circular score, such as a score defined by a curve a fixed distance **680b** from a point **680a**). For example, in some embodiments, the tab cut **624** has an axis **680a** of curvature and a radius **680b** of curvature (e.g., the distance from the axis **680a** of curvature to the tab cut **624**) that is at least about 1/8 inch. In some embodiments, the radius of curvature **680b** is about 1/8 inch to about 3 inches. In some embodiments, the
30 radius of curvature **680b** is about 1/8 inch to about 2.5 inches. As another example, the radius **680b** of curvature can be about 0.250 inches.

[0067] In some embodiments, a fifth distance **682** from the first end **672** of the film **605** to the axis **680a** of curvature of the tab cut **624** is or averages at least about 0.65 inches. In

some embodiments, the fifth distance **682** can be or averages about 0.65 inches to about 5.25 inches. In some embodiments, the fifth distance **682** can be or average about 2.000 inches.

5 [0068] In some embodiments, a length **684** of the first transverse end seal **614** is or averages at least about 1/8 inch. In some embodiments, the length **684** is or averages about 1/8 inch to about 5 inches. As another example, the length **684** can be or average about 0.625 inches.

10 [0069] In some embodiments, a length **686** of the second transverse end seal **616** is or averages at least about 1/8 inch. In some embodiments, the length **686** is or averages about 1/8 to about 5 inches. As another example, the length **686** can be or average about 0.625 inches.

15 [0070] In some embodiments, a length **688** of the storage area **606** between the first transverse end seal **614** and the second transverse end seal **616** is or averages at least about 1/2 inches. In some embodiments, the length **688** is at least about 4 inches, or about 4.5 inches. In some embodiments, the length **688** is about 4 to about 5 inches. As another example, the length **688** can be or average about 4.500 inches.

20 [0071] In some embodiments, a width **690** of the storage area **606** between the first opposing longitudinal edge seal area **613a** and the second opposing longitudinal edge seal area **615a** is or averages at least about 2 inches. In some embodiment, the width **690** is or averages about 2 inches to about 4 inches. As another example, the width **690** can be or average about 3.001 inches.

25 [0072] In some embodiments, a width **692** of the first adhesive margin **640a** is or averages at least about 0.03 inches. In some embodiments, the width **692** is or averages about 0.04 to about 0.08 inches. As another example, the width **692** can be or average about 0.062 inches. However, some embodiments do not comprise an adhesive margin **640a**.

30 [0073] In some embodiments, a width **694** of the second adhesive margin **640b** is or averages at least about 0.03 inches. In some embodiments, the width **694** is or averages about 0.04 to about 0.08 inches. As another example, the width **694** can be or average about 0.062 inches. However, some embodiments do not comprise an adhesive margin **640b**.

[0074] In some embodiments, a width **696** of the first opposing longitudinal edge seal area **613a** is or averages at least about 1/8 inch. In some embodiments, the width **696** is or averages about 1/8 inch to about 5 inches. In some embodiments, the width **696** is about

0.25 inches to about 0.75 inches. As another example, the width **696** can be or average about 0.500 inches.

[0075] In some embodiments, a width **698** of the second opposing longitudinal edge seal area **615a** is or averages at least about 1/8 inch. In some embodiments, the width **698** is or averages about 1/8 inch to about 5 inches. In some embodiments, the width **698** is about 0.5 inches to about 1.0 inches. As another example, the width **698** can be or average about 0.750 inches.

[0076] In some large format embodiments, a width **690** of the storage area **606** between the first opposing longitudinal edge seal area **613a** and the second opposing longitudinal edge seal area **615a** is or averages from about 6 inches to about 37.5 inches, or from about 20 inches to about 37.5 inches or from about 30 inches to about 37.5 inches, and the height or length **670** is or averages from about 5 inches to about 50 inches, or from about 30 inches to about 50 inches or from about 40 inches to about 50 inches.

15 [0077] ADDITIONAL EMBODIMENTS

[0078] The following clauses are offered as further description of the disclosed invention:

[0079] Clause 1. An easy open package comprising:

[0080] a package body formed of a flexible film having a pair of transverse end seals and a longitudinal seal generally therebetween, the longitudinal seal comprising a sealed region between a first longitudinal edge portion of the flexible film sealed to a second longitudinal edge portion of the flexible film;

[0081] a tear strip defined by a line of weakness disposed partially through the flexible film; and

[0082] a pull tab positioned in the longitudinal seal and defined by a cut through both the first longitudinal edge portion and second longitudinal edge portion of the flexible film in the longitudinal seal, wherein the cut is positioned within the sealed region and interior to a terminal edge of the longitudinal seal,

[0083] wherein the line of weakness defining the tear strip comprises one or more lines extending about the package body, the line of weakness extending from proximate the pull tab and the longitudinal seal and about at least a portion of the package body,

[0084] wherein the pull tab and tear strip are configured such that initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.

- [0085] Clause 2. The package of clause 1, wherein the line of weakness extends from an initiating line of weakness and about the at least a portion of the package body, wherein the pull tab, initiating line of weakness, and tear strip are configured such that initiation of the tear by pulling the pull tab in the one direction causes controlled tearing of the flexible film from the initiating line of weakness along the line of weakness defining the tear strip.
- [0086] Clause 3. The package of clause 1, wherein one or more of the pair of transverse end seals and longitudinal seal comprise a heat seal.
- [0087] Clause 4. The package of clause 1, wherein one or more of the pair of transverse end seals and longitudinal seal comprise a cold seal.
- 10 [0088] Clause 5. The package of clause 1, wherein the longitudinal seal lies in a direction opposite the one direction for pulling the pull tab.
- [0089] Clause 6. The package of clause 1, wherein the flexible film comprises at least two layers comprising an outer layer and an inner layer.
- [0090] Clause 7. The package of clause 6, wherein the line of weakness extends at least partially through the outer layer.
- 15 [0091] Clause 8. The package of clause 6, wherein the line of weakness extends at least partially through the inner layer.
- [0092] Clause 9. The package of clause 6, wherein the line of weakness extends at least partially and only through the outer layer.
- 20 [0093] Clause 10. The package of clause 1, wherein the line of weakness extends only partially through the flexible film.
- [0094] Clause 11. The package of clause 1, wherein the tear strip is continuous with the tab.
- [0095] Clause 12. The package of clause 6, wherein the flexible film further comprises a print layer and a permanent adhesive disposed between the outer layer and the inner layer.
- 25 [0096] Clause 13. The package of clause 12, wherein the print layer includes a graphic providing instructions for opening the package.
- [0097] Clause 14. The package of clause 1, wherein the line of weakness comprises two substantially parallel lines of weakness.
- 30 [0098] Clause 15. The package of clause 14, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/8 inch to about 2 inches.

- [0099] Clause 16. The package of clause 14, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/4 inch to about 1 inch.
- [00100] Clause 17. The package of clause 14, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/4 inch to about 1/2 inch.
- 5 [00101] Clause 18. The package of clause 14, wherein the cut extends from one of the two substantially parallel lines of weakness to another of the two substantially parallel lines of weakness.
- [00102] Clause 19. The package of clause 14, wherein the pull tab is positioned from about 1/10 inch to about 1/2 inch from the terminal edge of the longitudinal seal.
- 10 [00103] Clause 20. The package of clause 1, wherein the pull tab is positioned from about 1/8 inch to about 1/4 inch from the terminal edge of the longitudinal seal.
- [00104] Clause 21. The package of clause 1, wherein the pull tab comprises a curved shape.
- [00105] Clause 22. The package of clause 1, wherein the pull tab comprises an
15 angular shape.
- [00106] Clause 23. The package of clause 22, wherein the angular shape comprises a trapezoid.
- [00107] Clause 24. The package of clause 1, wherein the line of weakness extends from proximate one of the first and second longitudinal edge portions about the at
20 least a portion of the package body without substantially extending into another of the first and second longitudinal edge portions.
- [00108] Clause 25. The package of clause 1 wherein the package defines a storage space and further comprises a seal between the tab and the storage space.
- [00109] Clause 26. The package of clause 1 wherein the one or more lines of
25 weakness and the cut are laser scored.
- [00110] Clause 27. The package of clause 1 wherein the longitudinal seal further comprises an un-adhered exterior margin.
- [00111] Clause 28. The package of clause 1 wherein the tear strip extends about the package closer to one of the pair of transverse seals than to another of the transverse
30 seals.
- [00112] Clause 29. A flexible film for forming an easy open package, the flexible film comprising:
- [00113] a pair of transverse end seal areas;

- [00114] a pair of longitudinal edge portions generally between the transverse end seal areas;
- [00115] a storage area extending generally between the transverse end seal areas and generally between the pair of longitudinal edge portions;
- 5 [00116] a tear strip defined by a line of weakness disposed partially through the flexible film, the line of weakness defining the tear strip comprises one or more lines extending at least partially along the storage area; and
- [00117] a first cut through one of the pair of longitudinal edge portions and a second cut through another of the pair of longitudinal edge areas,
- 10 [00118] wherein the pair of transverse end seal areas, the pair of longitudinal edge portions, the storage area, the tear strip and the first and second cuts are configured such that the flexible film can be folded to form a package by adhering the pair of transverse end seal areas to themselves to form a pair of transverse end seals, adhering the pair of longitudinal edge portions to one another to form a longitudinal seal including a sealed
- 15 region between the longitudinal edge portions, and aligning the first and second cuts to define a pull tab positioned in the longitudinal seal and positioned within the longitudinal seal and interior to a terminal edge of the longitudinal seal,
- [00119] wherein, when the package is formed, the line of weakness extends from proximate the pull tab and the longitudinal seal and about at least a portion of the package
- 20 body, and
- [00120] wherein the pull tab and tear strip are configured such that, when the package is formed, initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.
- [00121] Clause 30. A roll of the flexible film of clause 1.
- 25 [00122] Clause 31. An easy open package comprising:
- [00123] a package body formed of a flexible film having a pair of transverse end seals and a longitudinal seal generally therebetween, the longitudinal seal comprising a sealed region between a first longitudinal edge portion of the flexible film sealed to a second longitudinal edge portion of the flexible film;
- 30 [00124] a tear strip defined by a line of weakness disposed partially through the flexible film; and
- [00125] a pull tab positioned in the longitudinal seal and defined by a cut through the first longitudinal edge portion of the flexible film in the longitudinal lap seal, wherein

the cut is positioned within the sealed region and interior to a terminal edge of the longitudinal seal,

[00126] wherein the line of weakness defining the tear strip comprises one or more lines extending about the package body, the line of weakness extending from proximate the pull tab and the first longitudinal edge portion of the flexible film forming the longitudinal seal,

[00127] wherein the pull tab and tear strip are configured such that initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.

10 [00128] Clause 32. The package of clause 31, wherein the line of weakness extends from an initiating line of weakness and about the at least a portion of the package body, the initiating line of weakness being positioned in the second longitudinal edge portion of the flexible film forming the longitudinal lap seal, wherein the pull tab, initiating line of weakness, and tear strip are configured such that initiation of the tear by pulling the pull tab in one direction causes controlled tearing of the flexible film from the initiating line of weakness along the line of weakness defining the tear strip.

[00129] Clause 33. The package of clause 31, wherein the initiating line of weakness is positioned in the second longitudinal edge portion of the flexible film in an area adjacent to the pull tab in the first longitudinal edge portion.

20 [00130] Clause 34. The package of clause 31, wherein one or more of the pair of transverse end seals and longitudinal lap seal comprise a heat seal.

[00131] Clause 35. The package of clause 31, wherein one or more of the pair of transverse end seals and longitudinal lap seal comprise a cold seal.

25 [00132] Clause 36. The package of clause 31, wherein the flexible film comprises at least two layers comprising an outer layer and an inner layer.

[00133] Clause 37. The package of clause 36, wherein the line of weakness extends at least partially through the outer layer.

[00134] Clause 38. The package of clause 36, wherein the line of weakness extends at least partially through the inner layer.

30 [00135] Clause 39. The package of clause 36, wherein the line of weakness extends at least partially and only through the outer layer.

[00136] Clause 40. The package of clause 31, wherein the line of weakness extends only partially through the flexible film.

- [00137] Clause 41. The package of clause 31, wherein the tear strip is continuous with the tab.
- [00138] Clause 42. The package of clause 36, wherein the flexible film further comprises a print layer and a permanent adhesive disposed between the outer layer and the inner layer.
- [00139] Clause 43. The package of clause 42, wherein the print layer includes a graphic providing instructions for opening the package.
- [00140] Clause 44. The package of clause 31, wherein the line of weakness comprises two substantially parallel lines of weakness.
- [00141] Clause 45. The package of clause 44, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/8 inch to about 2 inches.
- [00142] Clause 46. The package of clause 44, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/4 inch to about 1 inch.
- [00143] Clause 47. The package of clause 44, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/4 inch to about 1/2 inch.
- [00144] Clause 48. The package of clause 44, wherein the cut extends from one of the two substantially parallel lines of weakness to another of the two substantially parallel lines of weakness.
- [00145] Clause 49. The package of claim 31, wherein the pull tab is positioned from about 1/10 inch to about 1/2 inch from the terminal edge of the first longitudinal edge portion of the longitudinal lap seal.
- [00146] Clause 50. The package of clause 31, wherein the pull tab is positioned from about 1/8 inch to about 1/4 inch from the terminal edge of the first longitudinal edge portion of the longitudinal lap seal.
- [00147] Clause 51. The package of clause 31, wherein the pull tab comprises a curved shape.
- [00148] Clause 52. The package of clause 31, wherein the pull tab comprises an angular shape.
- [00149] Clause 53. The package of clause 52, wherein the angular shape comprises a trapezoid.
- [00150] Clause 54. The package of clause 31, wherein the longitudinal lap seal surrounding the cut further comprises an area substantially void of adhesive.

- [00151] Clause 55. The package of clause 31, wherein the line of weakness extends from proximate the first longitudinal edge portion about the at least a portion of the package body without substantially extending into the second longitudinal edge portion.
- 5 [00152] Clause 56. The package of clause 31, wherein the package body, transverse end seals, and longitudinal lap seal define a storage space and the longitudinal lap seal further comprises a sealed portion between the tab and the storage space
- [00153] Clause 57. The package of clause 31 wherein the one or more lines of weakness and the cut are laser scored.
- 10 [00154] Clause 58. The package of clause 31 wherein the longitudinal seal further comprises an un-adhered exterior margin.
- [00155] Clause 59. The package of clause 31 wherein the tear strip extends about the package closer to one of the pair of transverse seals than to another of the transverse seals.
- 15 [00156] Clause 60. The package of clause 31 wherein the longitudinal seal is a lap seal.
- [00157] Clause 61. A flexible film for forming an easy open package, the flexible film comprising:
- [00158] a pair of transverse end seal areas;
- 20 [00159] a pair of longitudinal edge portions generally between the transverse end seal areas;
- [00160] a storage area extending generally between the transverse end seal areas and generally between the pair of longitudinal edge portions;
- [00161] a tear strip defined by a line of weakness disposed partially through the
- 25 flexible film, the line of weakness defining the tear strip comprises one or more lines extending at least partially along the storage area; and
- [00162] a cut through one of the pair of longitudinal edge portions,
- [00163] wherein the pair of transverse end seal areas, the pair of longitudinal area portions, the storage area, the tear strip and the first and second cuts are configured such
- 30 that the flexible film can be folded to form a package by adhering the pair of transverse end seal areas to themselves to form a pair of transverse end seals, adhering the pair of longitudinal edge portions to one another to form a longitudinal seal including a sealed region between the longitudinal edge portions, and aligning the cut to define a pull tab

positioned in the longitudinal seal and positioned within the one of the longitudinal edge portions and interior to a terminal edge of the longitudinal seal,

[00164] wherein, when the package is formed, the line of weakness extends from proximate the pull tab and the longitudinal seal and about at least a portion of the package body, and

[00165] wherein the pull tab and tear strip are configured such that, when the package is formed, initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.

[00166] Clause 62. The flexible film of clause 61 wherein the longitudinal seal is a lap seal.

[00167] Clause 63. A roll of the flexible film of clause 61.

[00168] While the invention has been described in detail with respect to specific embodiments thereof, it will be appreciated that those skilled in the art, upon attaining an understanding of the foregoing, may readily conceive of alterations to, variations of, and equivalents to these embodiments. Accordingly, the scope of the present invention should be assessed as that of the appended claims and any equivalents thereof.

We claim:

1. An easy open package comprising:
 - a package body formed of a flexible film having a pair of transverse end seals and a longitudinal seal generally therebetween, the longitudinal seal comprising a sealed region between a first longitudinal edge portion of the flexible film sealed to a second longitudinal edge portion of the flexible film;
 - a tear strip defined by a line of weakness disposed partially through the flexible film; and
 - a pull tab positioned in the longitudinal seal and defined by a cut through both the first longitudinal edge portion and second longitudinal edge portion of the flexible film in the longitudinal seal, wherein the cut is positioned within the sealed region and interior to a terminal edge of the longitudinal seal,
 - wherein the line of weakness defining the tear strip comprises one or more lines extending about the package body, the line of weakness extending from proximate the pull tab and the longitudinal seal and about at least a portion of the package body,
 - wherein the pull tab and tear strip are configured such that initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.
2. The package of claim 1, wherein the line of weakness extends from an initiating line of weakness and about the at least a portion of the package body, wherein the pull tab, initiating line of weakness, and tear strip are configured such that initiation of the tear by pulling the pull tab in the one direction causes controlled tearing of the flexible film from the initiating line of weakness along the line of weakness defining the tear strip.
3. The package of claim 1, wherein one or more of the pair of transverse end seals and longitudinal seal comprise a heat seal.
4. The package of claim 1, wherein one or more of the pair of transverse end seals and longitudinal seal comprise a cold seal.

5. The package of claim 1, wherein the longitudinal seal lies in a direction opposite the one direction for pulling the pull tab.
6. The package of claim 1, wherein the flexible film comprises at least two layers comprising an outer layer and an inner layer.
7. The package of claim 6, wherein the line of weakness extends at least partially through the outer layer.
8. The package of claim 6, wherein the line of weakness extends at least partially through the inner layer.
9. The package of claim 6, wherein the line of weakness extends at least partially and only through the outer layer.
10. The package of claim 1, wherein the line of weakness extends only partially through the flexible film.
11. The package of claim 1, wherein the tear strip is continuous with the tab.
12. The package of claim 6, wherein the flexible film further comprises a print layer and a permanent adhesive disposed between the outer layer and the inner layer.
13. The package of claim 12, wherein the print layer includes a graphic providing instructions for opening the package.
14. The package of claim 1, wherein the line of weakness comprises two substantially parallel lines of weakness.
15. The package of claim 14, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/8 inch to about 2 inches.

16. The package of claim 14, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/4 inch to about 1 inch.
17. The package of claim 14, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/4 inch to about 1/2 inch.
18. The package of claim 14, wherein the cut extends from one of the two substantially parallel lines of weakness to another of the two substantially parallel lines of weakness.
19. The package of claim 14, wherein the pull tab is positioned from about 1/10 inch to about 1/2 inch from the terminal edge of the longitudinal seal.
20. The package of claim 1, wherein the pull tab is positioned from about 1/8 inch to about 1/4 inch from the terminal edge of the longitudinal seal.
21. The package of claim 1, wherein the pull tab comprises a curved shape.
22. The package of claim 1, wherein the pull tab comprises an angular shape.
23. The package of claim 22, wherein the angular shape comprises a trapezoid.
24. The package of claim 1, wherein the line of weakness extends from proximate one of the first and second longitudinal edge portions about the at least a portion of the package body without substantially extending into another of the first and second longitudinal edge portions.
25. The package of claim 1 wherein the package defines a storage space and further comprises a seal between the tab and the storage space.
26. The package of claim 1 wherein the one or more lines of weakness and the cut are laser scored.

27. The package of claim 1 wherein the longitudinal seal further comprises an unadhered exterior margin.
28. The package of claim 1 wherein the tear strip extends about the package closer to one of the pair of transverse seals than to another of the transverse seals.
29. A flexible film for forming an easy open package, the flexible film comprising:
- a pair of transverse end seal areas;
 - a pair of longitudinal edge portions generally between the transverse end seal areas;
 - a storage area extending generally between the transverse end seal areas and generally between the pair of longitudinal edge portions;
 - a tear strip defined by a line of weakness disposed partially through the flexible film, the line of weakness defining the tear strip comprises one or more lines extending at least partially along the storage area; and
 - a first cut through one of the pair of longitudinal edge seal areas and a second cut through another of the pair of longitudinal edge areas,
- wherein the pair of transverse end seal areas, the pair of longitudinal edge seal areas, the storage area, the tear strip and the first and second cuts are configured such that the flexible film can be folded to form a package by adhering the pair of transverse end seal areas to themselves to form a pair of transverse end seals, adhering the pair of longitudinal edge portions to one another to form a longitudinal seal including a sealed region between the longitudinal edge portions, and aligning the first and second cuts to define a pull tab positioned in the longitudinal seal and positioned within the longitudinal seal and interior to a terminal edge of the longitudinal seal,
- wherein, when the package is formed, the line of weakness extends from proximate the pull tab and the longitudinal seal and about at least a portion of the package body, and
- wherein the pull tab and tear strip are configured such that, when the package is formed, initiation of a tear by pulling the pull tab in one direction

causes controlled tearing of the flexible film along the line of weakness defining the tear strip.

30. A roll of the flexible film of claim 1.
31. An easy open package comprising:
 - a package body formed of a flexible film having a pair of transverse end seals and a longitudinal seal generally therebetween, the longitudinal seal comprising a sealed region between a first longitudinal edge portion of the flexible film sealed to a second longitudinal edge portion of the flexible film;
 - a tear strip defined by a line of weakness disposed partially through the flexible film; and
 - a pull tab positioned in the longitudinal seal and defined by a cut through the first longitudinal edge portion of the flexible film in the longitudinal lap seal, wherein the cut is positioned within the sealed region and interior to a terminal edge of the longitudinal seal,
 - wherein the line of weakness defining the tear strip comprises one or more lines extending about the package body, the line of weakness extending from proximate the pull tab and the first longitudinal edge portion of the flexible film forming the longitudinal seal,
 - wherein the pull tab and tear strip are configured such that initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.
32. The package of claim 31, wherein the line of weakness extends from an initiating line of weakness and about the at least a portion of the package body, the initiating line of weakness being positioned in the second longitudinal edge portion of the flexible film forming the longitudinal lap seal, wherein the pull tab, initiating line of weakness, and tear strip are configured such that initiation of the tear by pulling the pull tab in one direction causes controlled tearing of the flexible film from the initiating line of weakness along the line of weakness defining the tear strip.

33. The package of claim 31, wherein the initiating line of weakness is positioned in the second longitudinal edge portion of the flexible film in an area adjacent to the pull tab in the first longitudinal edge portion.
34. The package of claim 31, wherein one or more of the pair of transverse end seals and longitudinal lap seal comprise a heat seal.
35. The package of claim 31, wherein one or more of the pair of transverse end seals and longitudinal lap seal comprise a cold seal.
36. The package of claim 31, wherein the flexible film comprises at least two layers comprising an outer layer and an inner layer.
37. The package of claim 36, wherein the line of weakness extends at least partially through the outer layer.
38. The package of claim 36, wherein the line of weakness extends at least partially through the inner layer.
39. The package of claim 36, wherein the line of weakness extends at least partially and only through the outer layer.
40. The package of claim 31, wherein the line of weakness extends only partially through the flexible film.
41. The package of claim 31, wherein the tear strip is continuous with the tab.
42. The package of claim 36, wherein the flexible film further comprises a print layer and a permanent adhesive disposed between the outer layer and the inner layer.
43. The package of claim 42, wherein the print layer includes a graphic providing instructions for opening the package.

44. The package of claim 31, wherein the line of weakness comprises two substantially parallel lines of weakness.
45. The package of claim 44, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/8 inch to about 2 inches.
46. The package of claim 44, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/4 inch to about 1 inch.
47. The package of claim 44, wherein the two substantially parallel lines are spaced apart by a distance of from about 1/4 inch to about 1/2 inch.
48. The package of claim 44, wherein the cut extends from one of the two substantially parallel lines of weakness to another of the two substantially parallel lines of weakness.
49. The package of claim 31, wherein the pull tab is positioned from about 1/10 inch to about 1/2 inch from the terminal edge of the first longitudinal edge portion of the longitudinal lap seal.
50. The package of claim 31, wherein the pull tab is positioned from about 1/8 inch to about 1/4 inch from the terminal edge of the first longitudinal edge portion of the longitudinal lap seal.
51. The package of claim 31, wherein the pull tab comprises a curved shape.
52. The package of claim 31, wherein the pull tab comprises an angular shape.
53. The package of claim 52, wherein the angular shape comprises a trapezoid.
54. The package of claim 31, wherein the longitudinal lap seal surrounding the cut further comprises an area substantially void of adhesive.

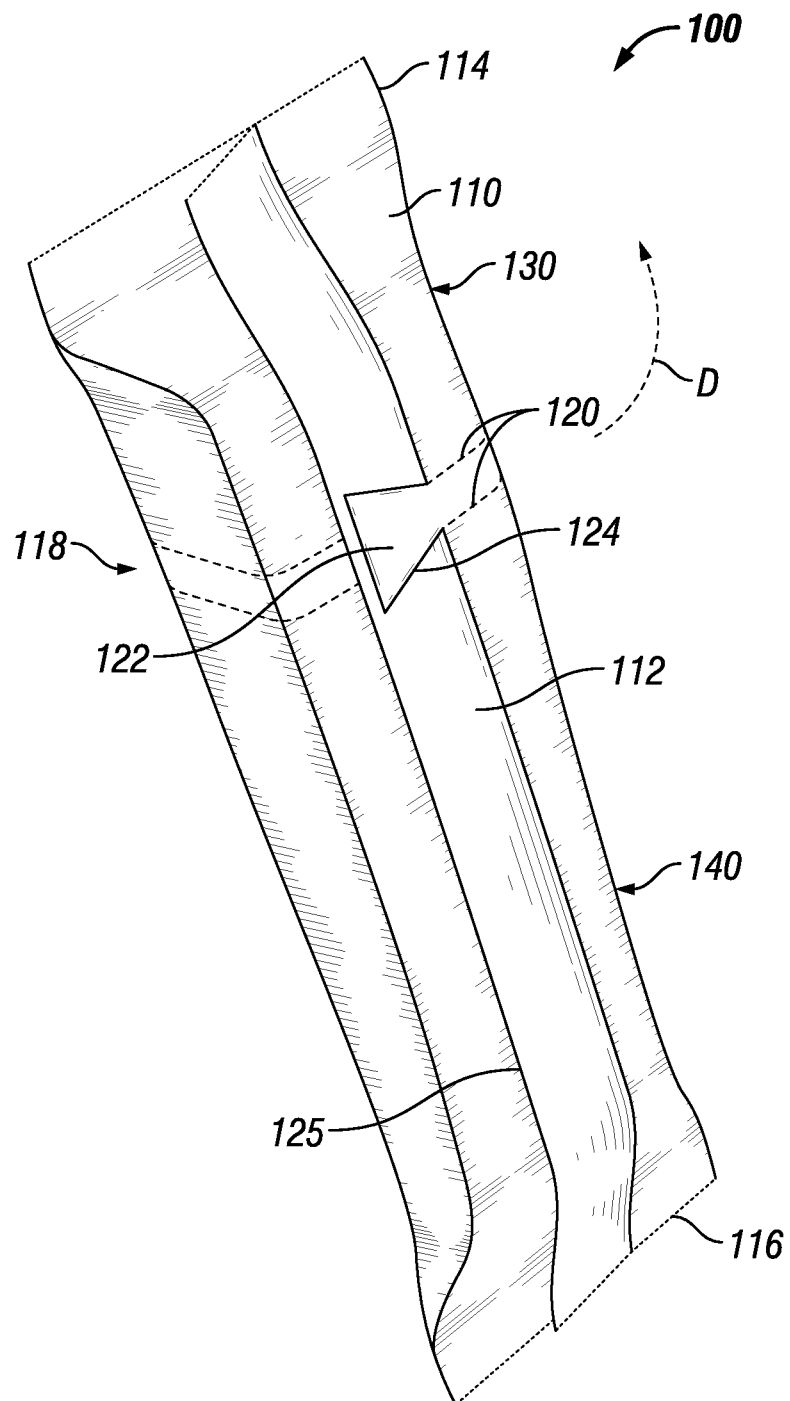
55. The package of claim 31, wherein the line of weakness extends from proximate the first longitudinal edge portion about the at least a portion of the package body without substantially extending into the second longitudinal edge portion.
56. The package of claim 31, wherein the package body, transverse end seals, and longitudinal lap seal define a storage space and the longitudinal lap seal further comprises a sealed portion between the tab and the storage space
57. The package of claim 31 wherein the one or more lines of weakness and the cut are laser scored.
58. The package of claim 31 wherein the longitudinal seal further comprises an un-adhered exterior margin.
59. The package of claim 31 wherein the tear strip extends about the package closer to one of the pair of transverse seals than to another of the transverse seals.
60. The package of claim 31 wherein the longitudinal seal is a lap seal.
61. A flexible film for forming an easy open package, the flexible film comprising:
a pair of transverse end seal areas;
a pair of longitudinal edge portions generally between the transverse end seal areas;
a storage area extending generally between the transverse end seal areas and generally between the pair of longitudinal edge portions;
a tear strip defined by a line of weakness disposed partially through the flexible film, the line of weakness defining the tear strip comprises one or more lines extending at least partially along the storage area; and
a cut through one of the pair of longitudinal edge portions,
wherein the pair of transverse end seal areas, the pair of longitudinal area portions, the storage area, the tear strip and the first and second cuts are configured such that the flexible film can be folded to form a package by adhering the pair of transverse end seal areas to themselves to form a pair of transverse end seals, adhering the pair of longitudinal edge portions to one another to form a longitudinal seal including a

sealed region between the longitudinal edge portions, and aligning the cut to define a pull tab positioned in the longitudinal seal and positioned within the one of the longitudinal edge portions and interior to a terminal edge of the longitudinal seal, wherein, when the package is formed, the line of weakness extends from proximate the pull tab and the longitudinal seal and about at least a portion of the package body, and
wherein the pull tab and tear strip are configured such that, when the package is formed, initiation of a tear by pulling the pull tab in one direction causes controlled tearing of the flexible film along the line of weakness defining the tear strip.

62. The flexible film of claim 61 wherein the longitudinal seal is a lap seal.

63. A roll of the flexible film of claim 61.

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**FIG. 1**

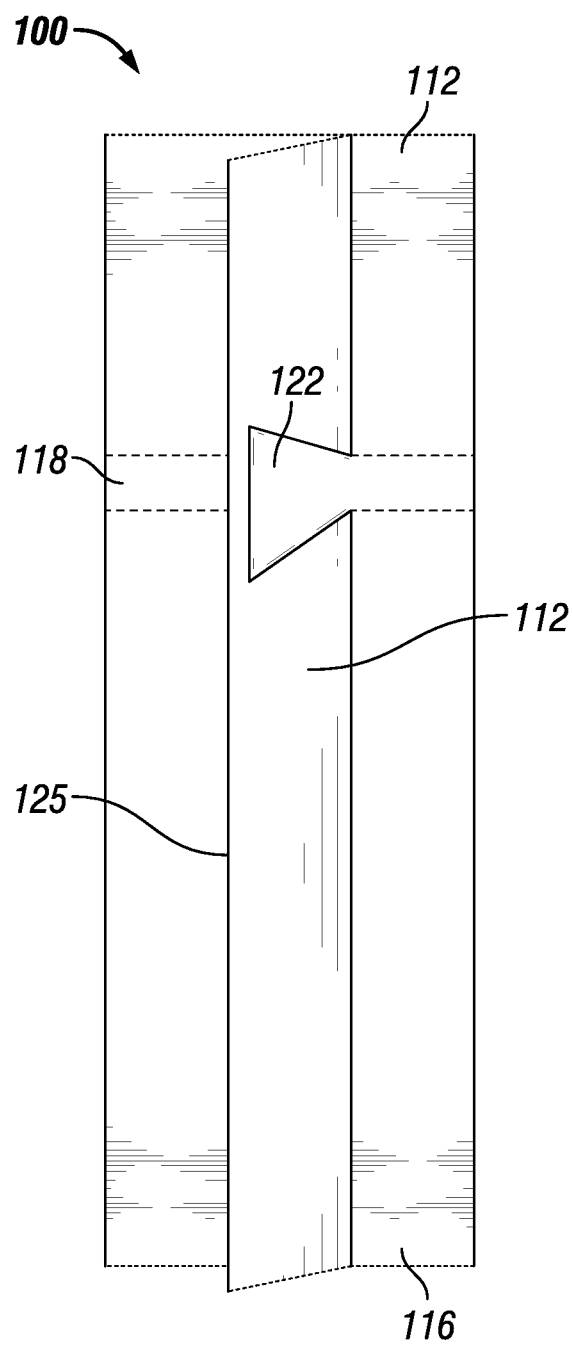


FIG. 2A

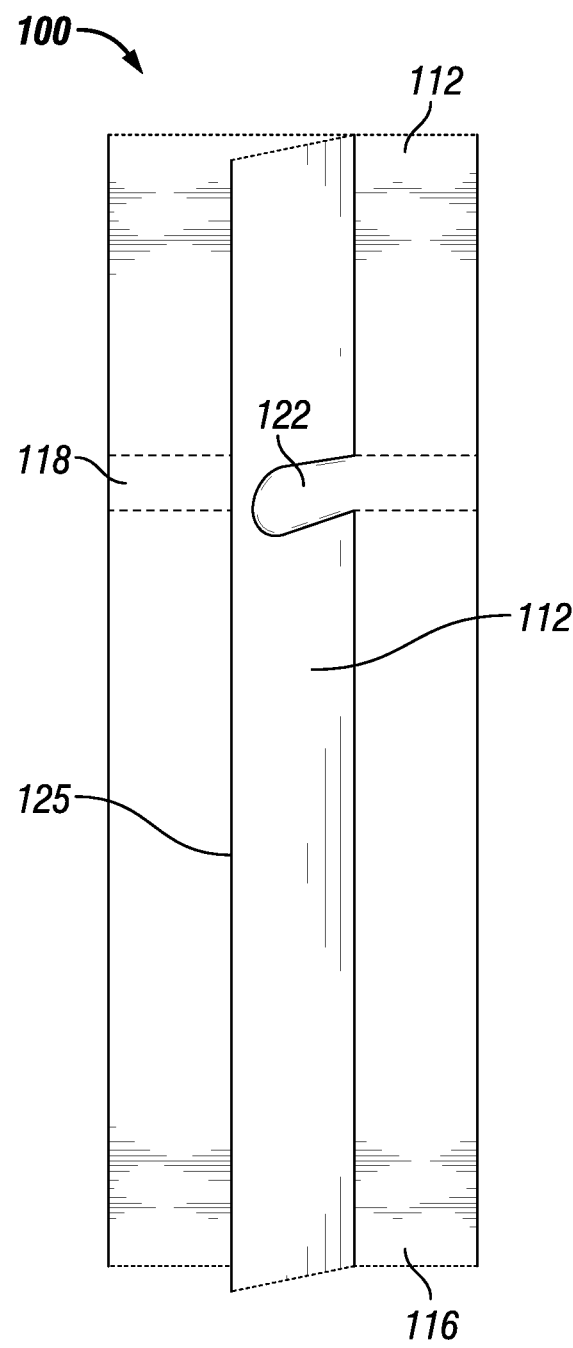
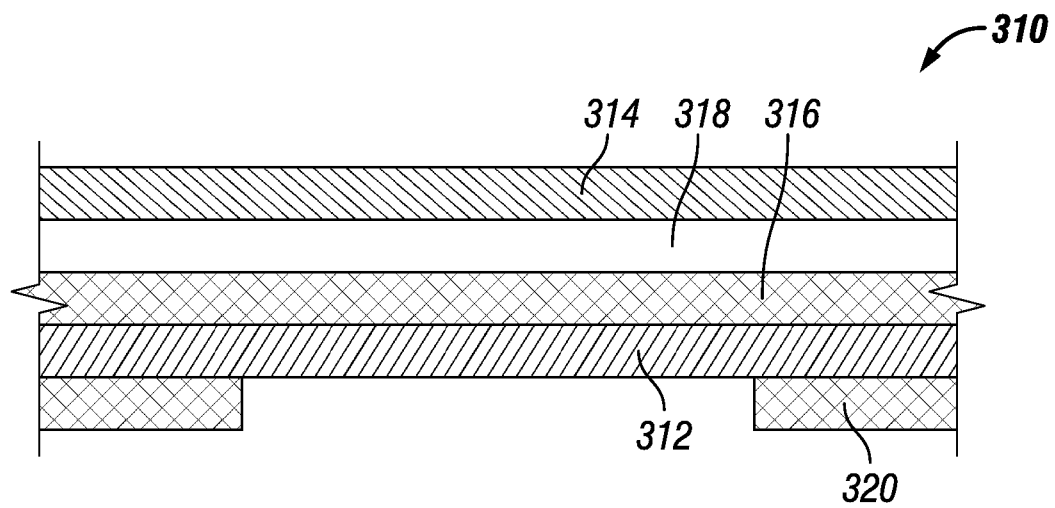
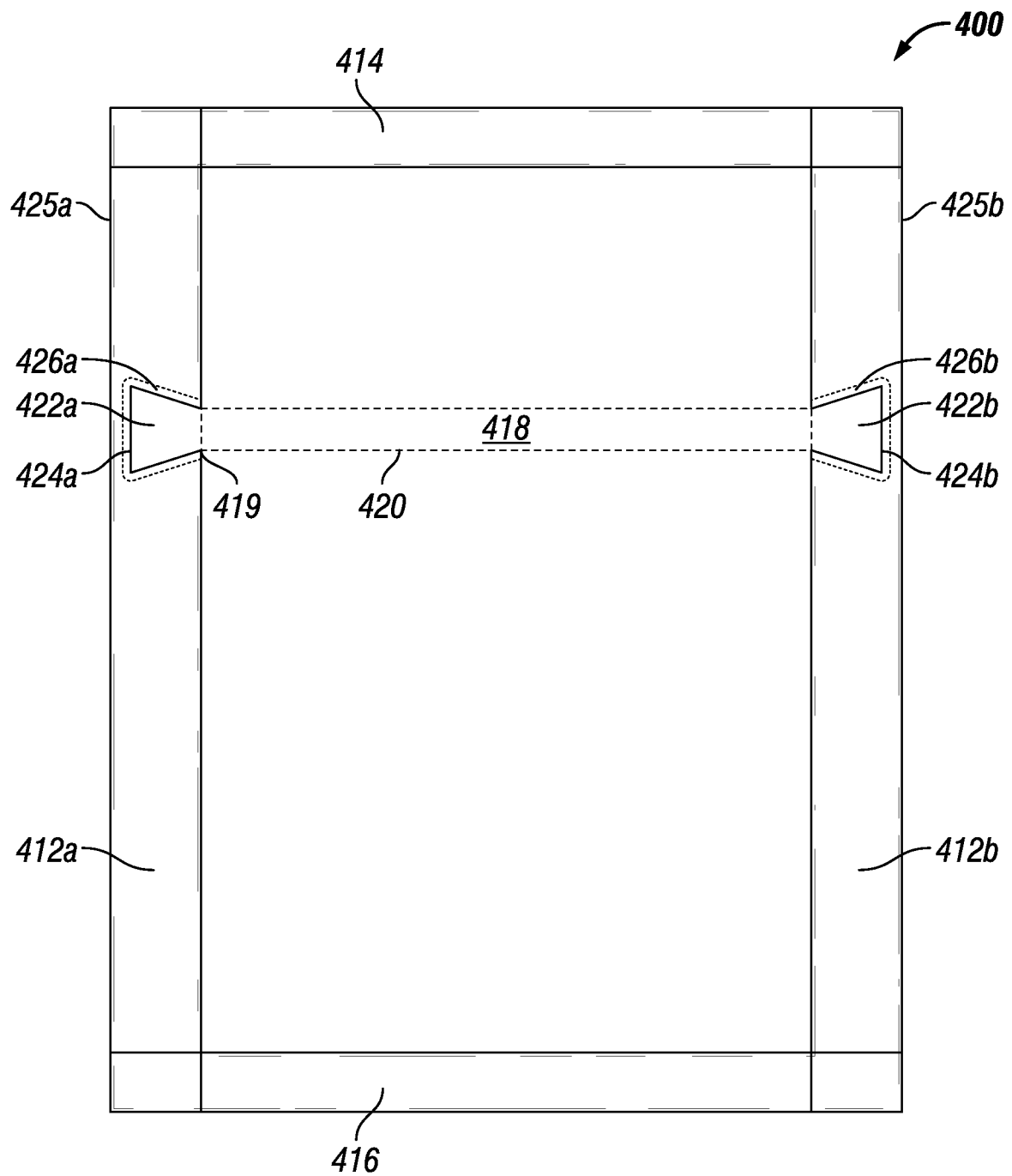


FIG. 2B

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**FIG. 4**

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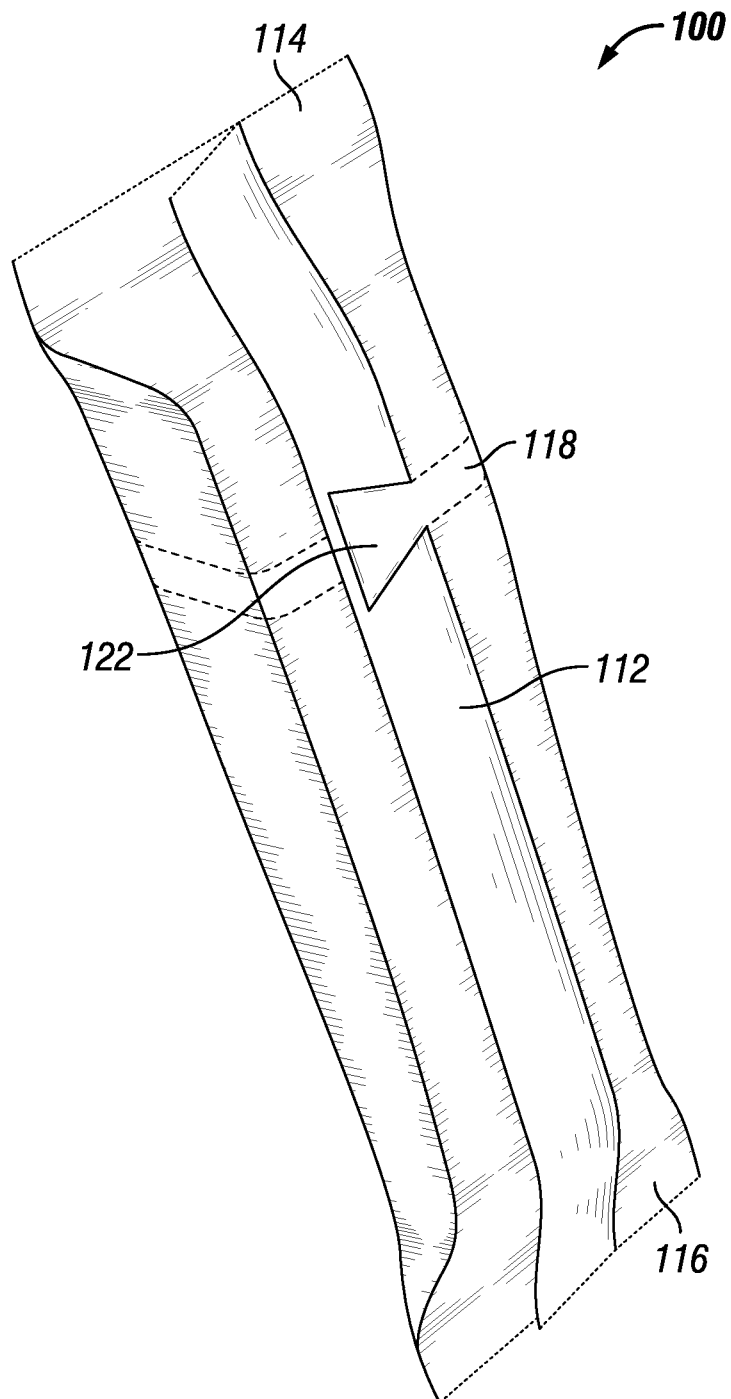


FIG. 5A

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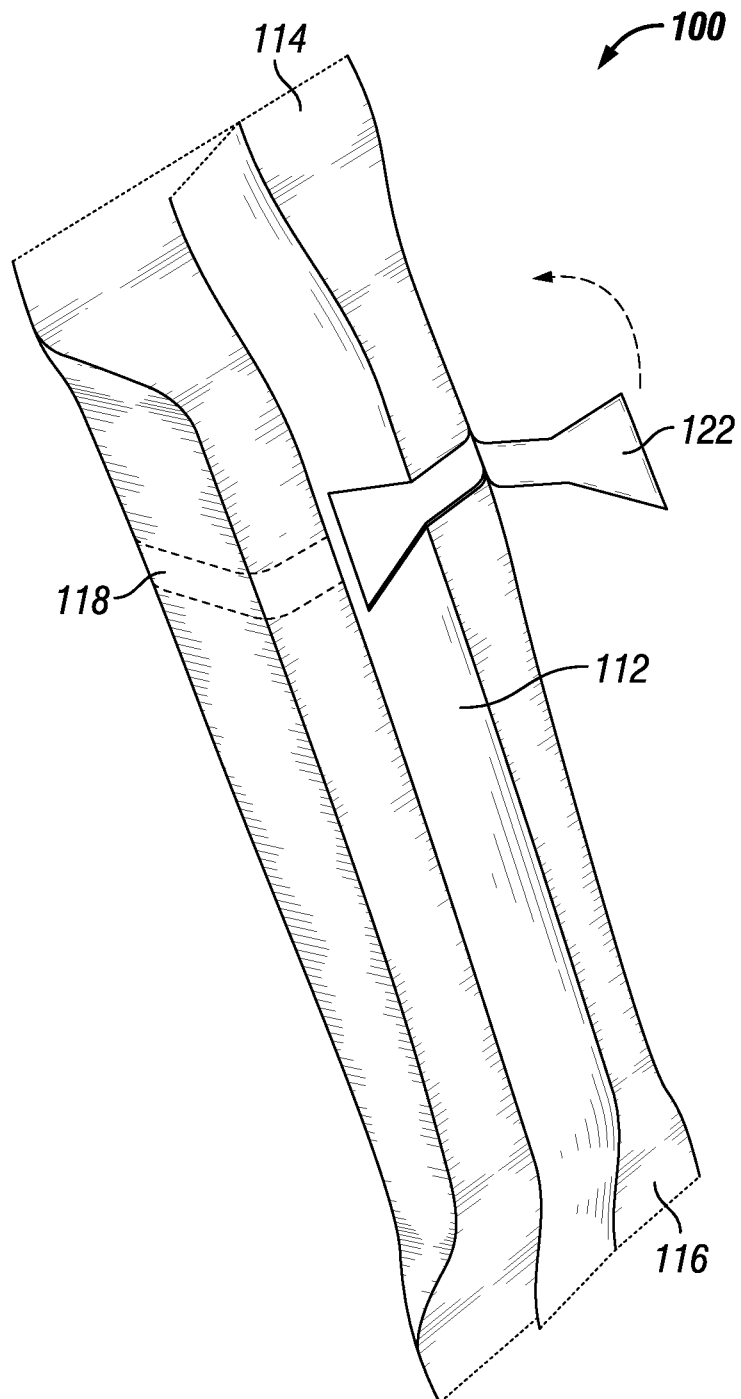


FIG. 5B

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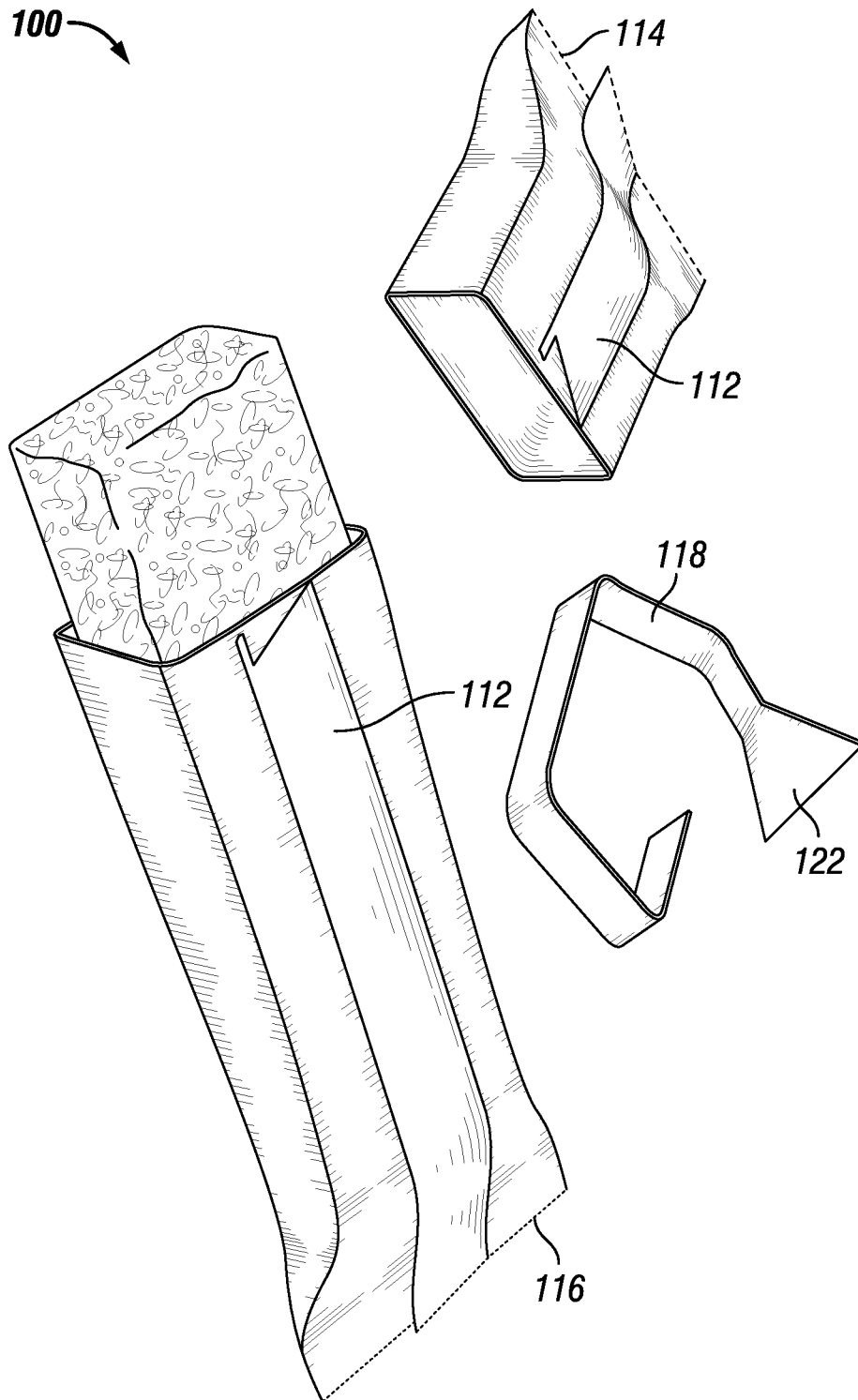


FIG. 5C

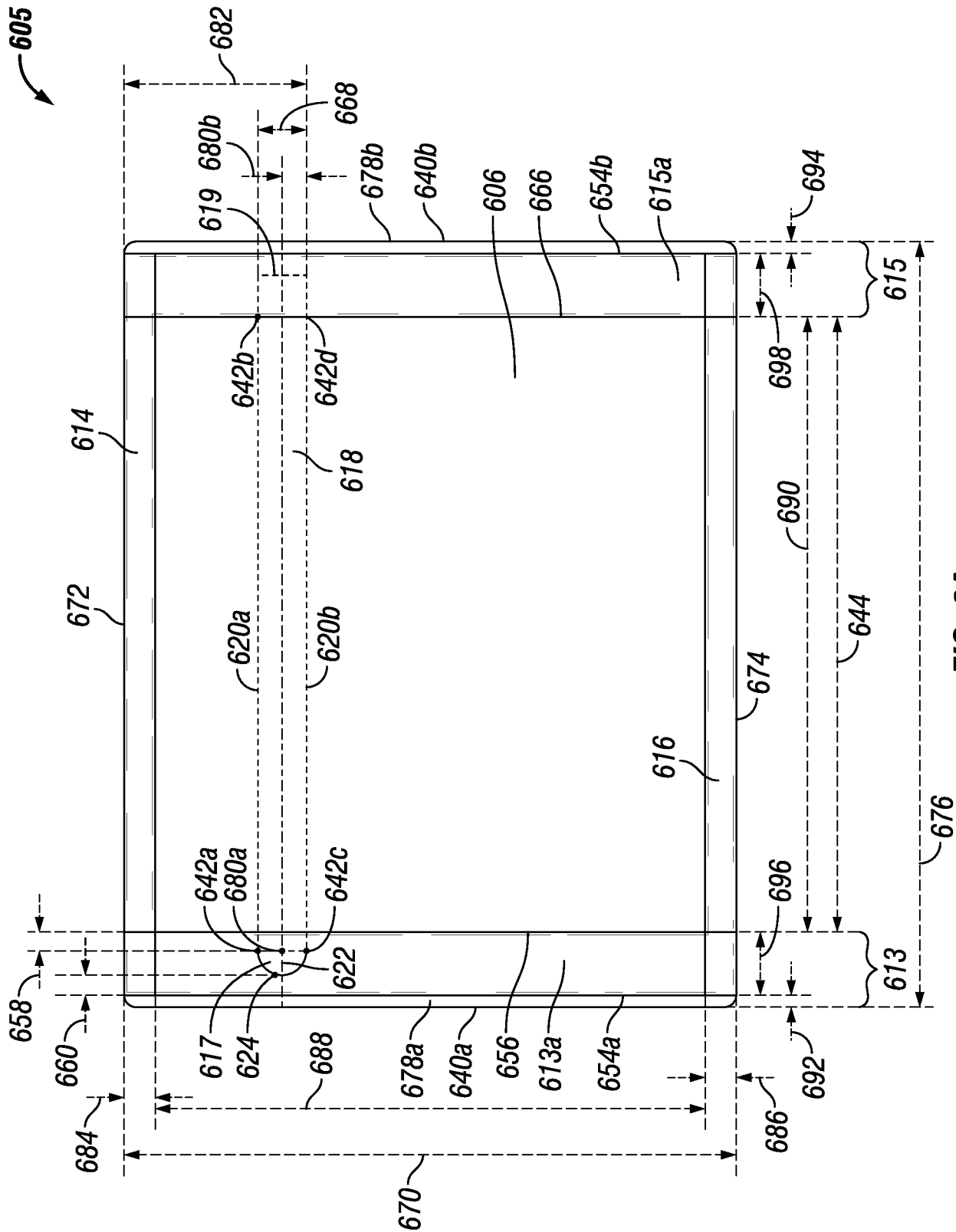


FIG. 6A

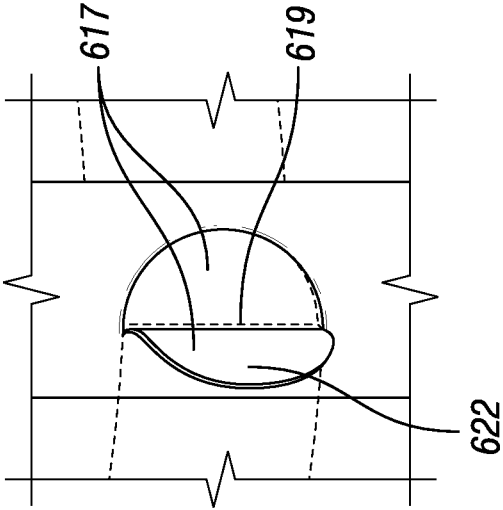
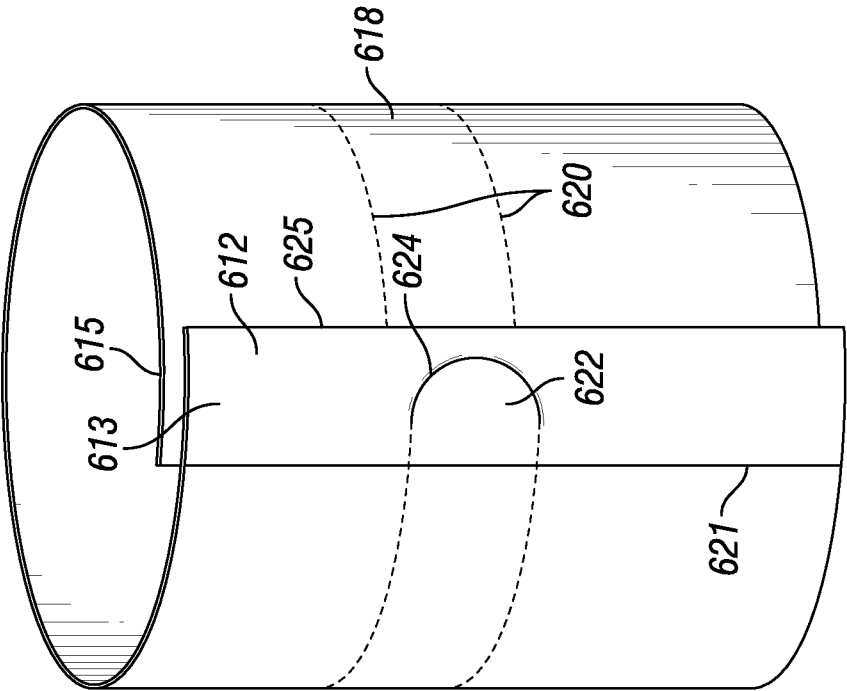
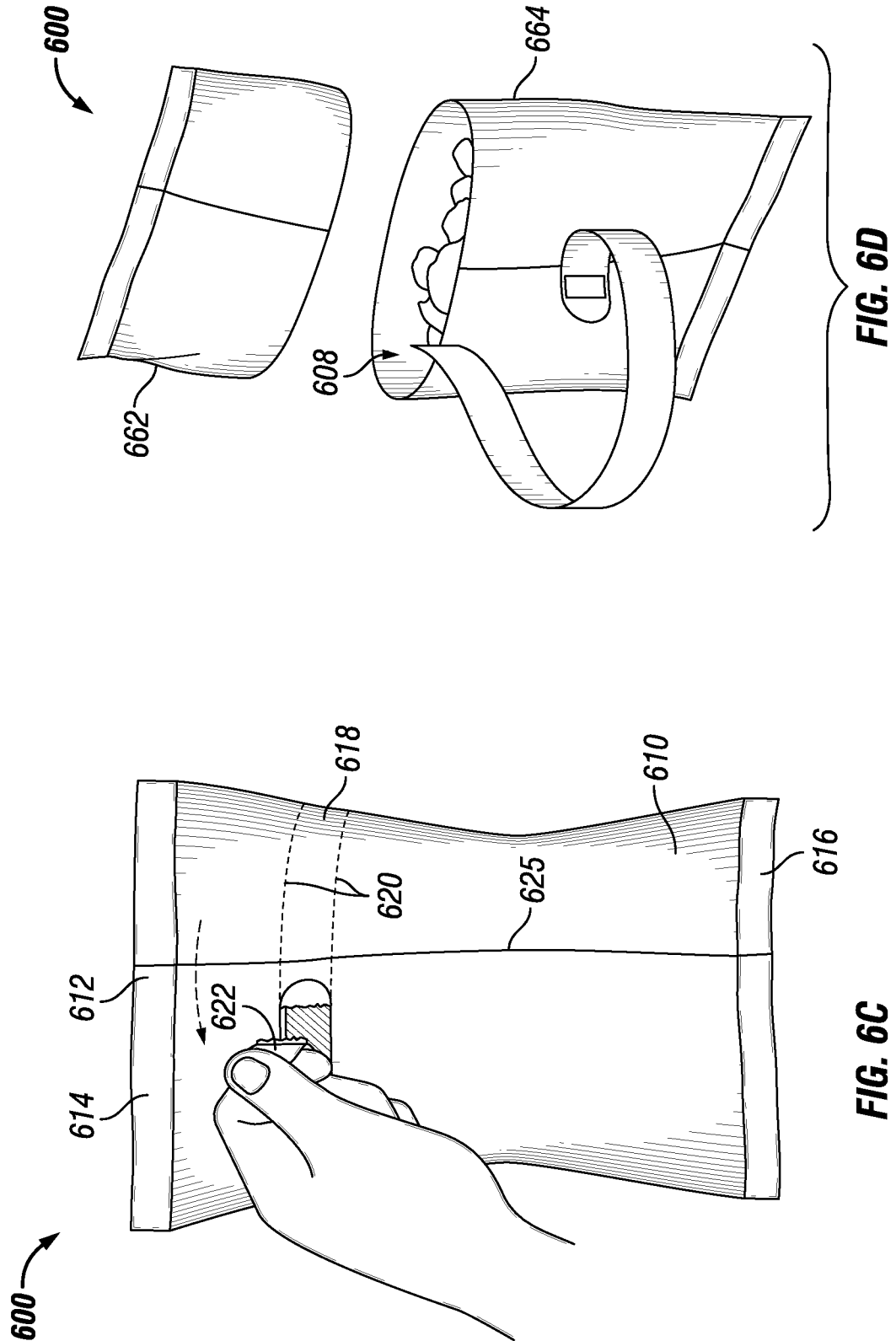
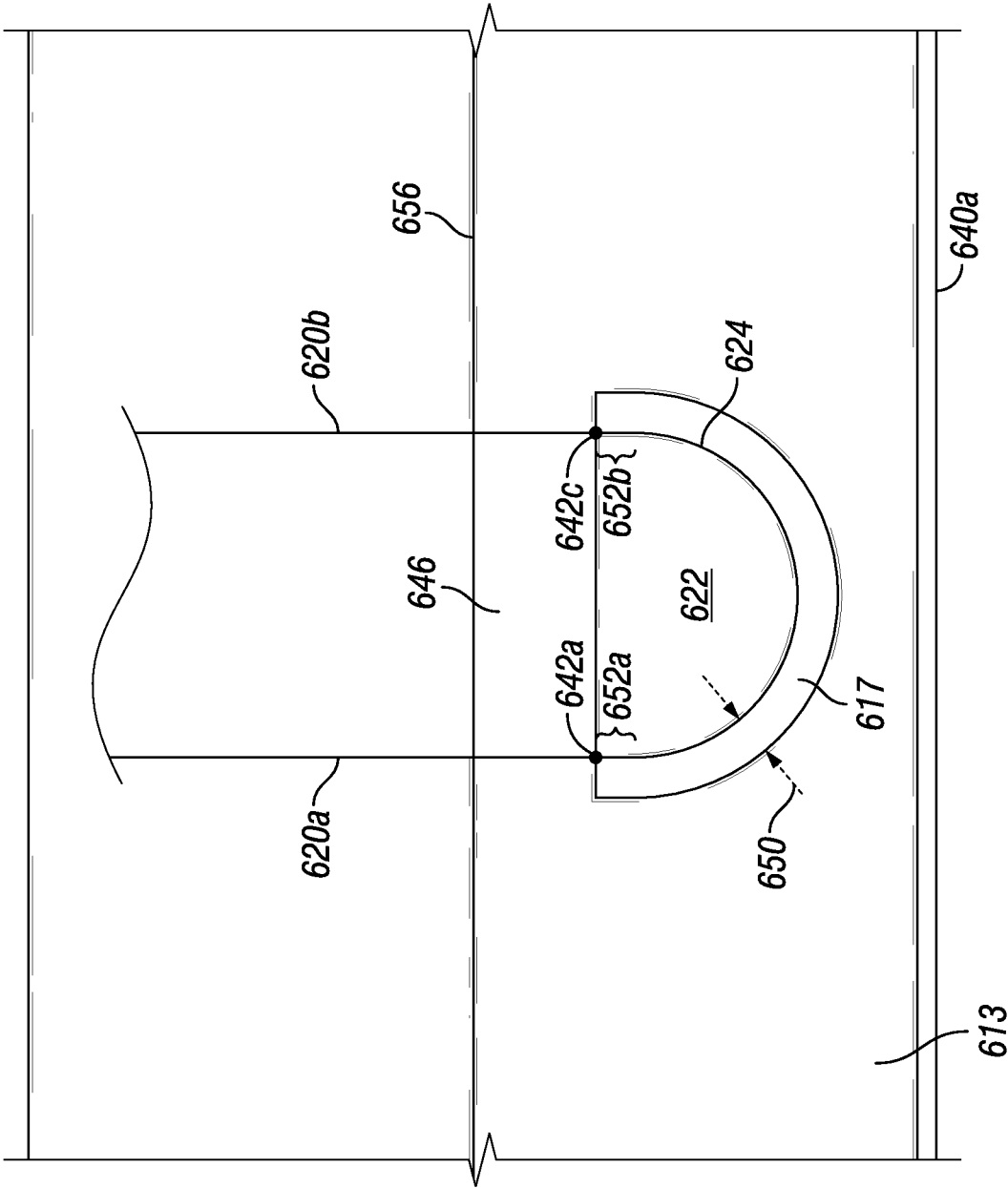


FIG. 6B

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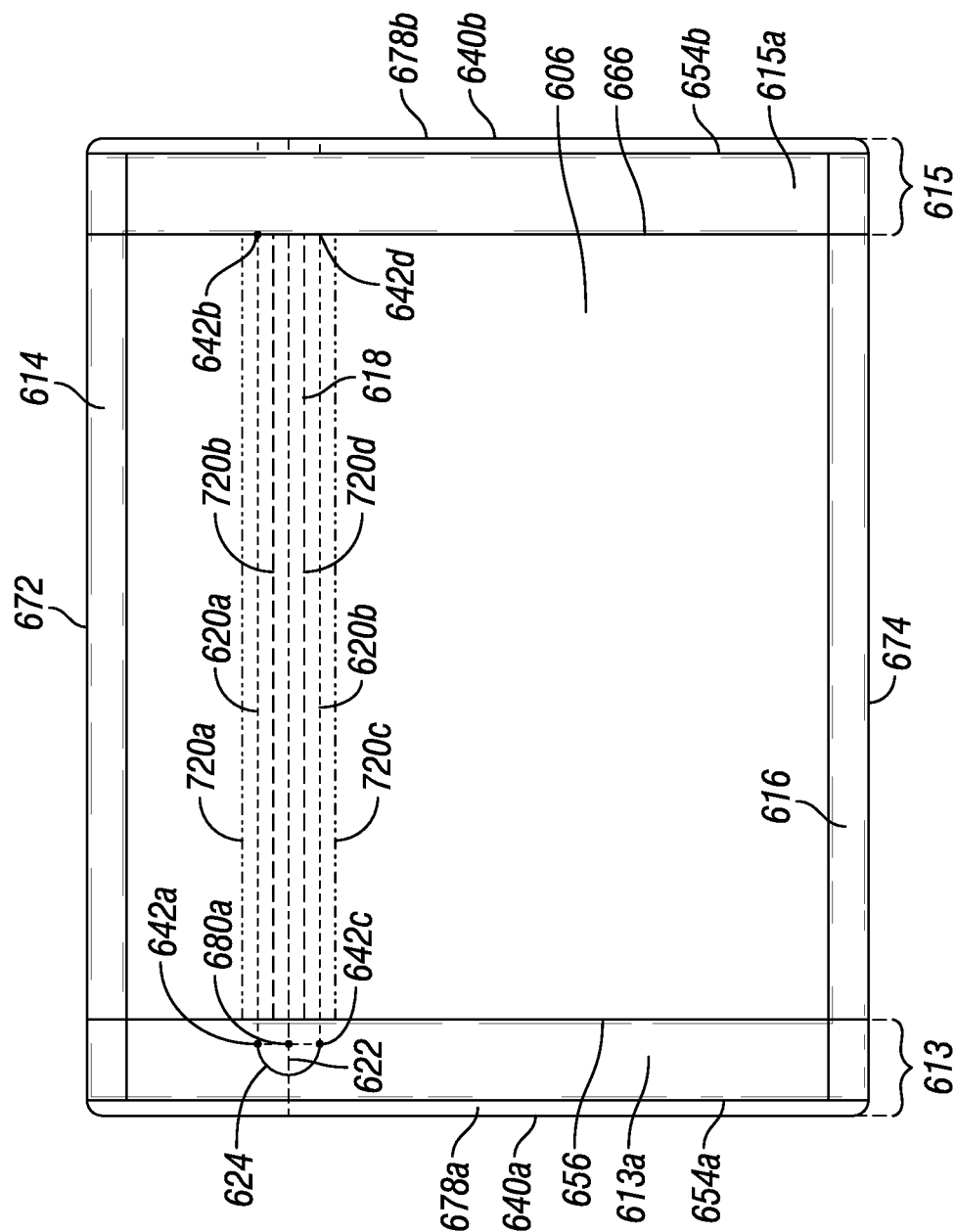


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2015/066748

A. CLASSIFICATION OF SUBJECT MATTER

INV. B65D75/58

ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 20 2011 002787 UI (MONDI AG [AT]) 5 May 2011 (2011-05-05)	1-30
A	paragraph [0051] - paragraph [0073] ; figures 1-11	31-63
A	----- GB 2 441 320 A (CADBURY SCHWEPES PLC [GB]) 5 March 2008 (2008-03-05) page 5, last paragraph - page 6, paragraph 1; figure 1	1-63
A	----- DE 20 2005 021151 UI (HUHTAMAKI RONSBERG [DE]) 22 March 2007 (2007-03-22) paragraph [0021] - paragraph [0022] ; figure 1	1-63
A	----- US 5 464 285 A (ANDERSON RICHARD F [US]) 7 November 1995 (1995-11-07) col umn 2, line 64 - col umn 3, line 32; figures 1-4	1-63



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

24 February 2016

Date of mailing of the international search report

09/03/2016

Name and mailing address of the ISA/

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Authorized officer

Derrien, Yannick

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/066748

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		WO 2008029106 A1	13-03-2008
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