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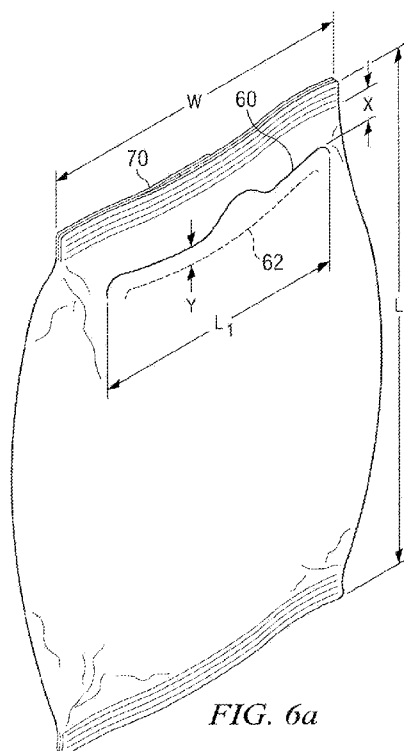
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(54) Title: TWO SIDE CUT RESEAL WITH PRESSURE SENSITIVE ADHESIVE AND THE METHOD FOR MAKING SAME



(57) Abstract: Two side cut resealed with pressure sensitive adhesive. A flexible package having a resealed integrated within the opposite layers of its film is constructed using existing vertical form fill and seal packaging machines. The invention involves a single sheet of flexible packaging film web having at least three layers. In a preferred embodiment, the resealed is comprised of two offsetting score lines on interior and exterior sides of the film and spaced apart by 0.5 to 1 inch. The scoring creates lines of weakness, which define an opening in the package. Upon opening, a pressure sensitive adhesive layer, which is pattern applied in between the offsetting score lines, is exposed from an interior side of the film. The adhesive releasably adheres the inner and outer layers of the film back together once separated by a consumer.



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TWO SIDE CUT RESEAL WITH PRESSURE SENSITIVE ADHESIVE AND THE METHOD FOR MAKING SAME

BACKGROUND OF THE INVENTION

[0001] Technical Field

[0002] The present invention relates to a flexible bag formed on a vertical form, fill, and seal machine having a resealable opening near the top, and the method for making same. The invention allows for use of existing packaging technology to produce a flexible package with adhesive capable of resealing an opening in the bag without disturbing food products at a low cost.

[0003] Description of Related Art

[0004] Snack foods and other items are often packaged in bags formed from thin, flexible packaging films. These thin films are formed primarily of plastics, such as polypropylene and polyethylene, but can also contain metalized films, foil, paper, or oriented films. These packaging films can have numerous layers directed to achieving specific needs, but are generally formed at least in part by extrusion of a plastic layer, co-extrusion of multiple layers simultaneously, extrusion coating of another material (such as paper), and the lamination of two layers together via either extrusion lamination or adhesive lamination. The packaging film used in such process is typically a composite polymer material produced by a film converter.

[0005] A typical film 100 ideally suited for use on vertical form and fill machines for the packaging of food products is seen in Figure 1. The outer layer 102 is typically an OPP layer, short for oriented polypropylene, while the inner layer 106 is usually a metalized OPP. The use of a thermoplastic polymer such as OPP or Polyethylene terephthalate (PET) for the outer layer 102 and the inside layer 106

further makes it possible to heat seal any surface of the film to any other surface in forming either the transverse seals or back seal of a package. Sandwiched between the outer layers 102 and inner layer 106 is a middle layer 104, which is typically either an adhesive or polyethylene. The inner, metallic layer 106 can itself be a layered laminate and contains a sealant layer 108 on what will be the inside, or product side, of the package. This sealant layer 108 is typically formed of a terpolymer, composed of ethylene, propylene, and butylenes. Printing for the package is done on the inside of the outer layer and becomes sandwiched between the middle layer 104 and outer layer 102.

[0006] Although Figure 1 depicts the inner layer 102 and outer layer 106 as only two layers, these layers 102, 106 can each include one or more layers. A metallic layer, such as aluminum, between the OPP layer 106 and the adhesive or polyethylene layer 104 can provide a barrier to retain taste and freshness of the product contained therein. Other materials used in these layers are polyester, paper, polyolefin extrusions, adhesive laminates, polyethylene and other such materials, or a layered combination of the above. The package seen in Figure 1 is referred to in the art as a “flexible bag” or “pillow pouch,” and is commonly used for packaging snack foods such as potato chips, tortilla chips, and other various sheeted and extruded products.

[0007] Vertical form, fill, and seal packaging machines are commonly used in the snack food industry for forming, filling, and sealing bags of chips and other like products. Figure 2 shows an exemplary vertical form, fill, and seal machine that can be used to package snack foods, such as chips. This drawing is simplified, and does not show the cabinet and support structures that typically surround such a machine,

but it depicts the workings of the machine well. A continuous web of film 210 is pre-printed with desired graphics such as the product label and nutritional information and includes reference marks known as eye marks. The eye marks are generally a plurality of rectangular ink spots or marks spaced apart and formed along the edge of the film web. The pre-printed packaging film 210 is taken from a roll of film web on the supply spool (also known as the unwind) 212 and passed through tensioners 214 that keep it taut. The film then passes over a former 216, which directs the film as it forms a vertical tube around a product delivery cylinder 218. This product delivery cylinder 218 normally has either a round or a somewhat oval cross-section. A registration mark sensor is used to detect the eye marks and generate a signal, which triggers the cutting process. In other words, the sensor detects the marks and notifies the bag cutting and sealing machine where to cut and seal the bag so the print is aligned properly on the bag. As the tube of packaging material is pulled downward by drive belts 220, the edges of the film are sealed along its length by a vertical sealer 222, forming a back seal 224. The machine then applies a pair of heat-sealing jaws 226 against the tube to form a transverse seal 228. This transverse seal 228 acts as the top seal on the bag 230 below the sealing jaws 226 and the bottom seal on the bag 232 being filled and formed above the jaws 226. After the transverse seal 228 has been formed, a cut is made across the sealed area to separate the finished bag 230 below the seal 228 from the partially completed bag 232 above the seal. The film tube is then pushed downward to draw out another package length. Before the sealing jaws form each transverse seal, the product to be packaged is dropped through the product delivery cylinder 218 and is held within the tube above the transverse seal 228.

[0008] There are a number of desirable features that manufacturers have long strived to include in packages made on a vertical form, fill, and seal machine. One exemplary feature is the ability to re-close a package of a snack food that is only partially eaten, so that the flavor and texture of the product are preserved as long as possible. Ordinarily, not all of a package of snack foods is consumed at one time and thus there is a desire to reseal the package and prevent moisture from causing premature staling and spoilage of the contents. Many of the reclosable packages disclosed in the prior art utilize a mechanical reclosure means such as interlocking mechanical profiles or an adhesive reclosure means whereby at least a portion of the adhesive is adhered to the outside of the package to close the package mouth. Use of interlocking strips, however, such as zippers or sliders is costly, and complicates the manufacture of packaging. It would be desirable to have a low-cost alternative.

[0009] Referring to Figures 3a and 3b, therein is depicted a prior art packaging product having a recloseable seal feature, wherein the film comprises score lines 30, which pass through all the layers of the film. An upper peelable seal 32 comprising an adhesive layer is then affixed over the scored section of the film. As seen in Figure 3a, the upper peelable seal 32 has an area larger than that of the scored section and comprises a tear tab 34, which is free from adhesive so that a consumer can grip the tear tab 34 with ease. Thus, as the consumer grips the tear tab 34 and pulls it back in the direction of the scored section, the film tears along the path of least resistance in the direction provided by the perforated lines 30, creating a large flap on the top side of the package. An opening 38 is created in the bag and the adhesive layer 36 is exposed as depicted in Figure 3b. A consumer can then consume a portion of the contents within the bag through the opening 38 and reseal the opening by

sticking the adhesive layer 36 back onto the outer film layer of the package.

[0010] U.S. Patent Application 2005/0276525 to Hebert et al. discloses a recloseable package that is depicted in Figures 4a and 4b. However, rather than scoring once through the entire film, Hebert et al. performs two scoring operations: 1) through an inner portion of the film with score lines 40 and 2) through an outer portion of the film with score lines 42. This pressure scoring is possible using laser or mechanical scoring or cutting. Laser scoring is a process that utilizes a laser beam to provide a focused spot of energy, which is able to remove material to a specified depth. The technology is well suited to fabricating high accuracy parts at high speeds, especially flexible packaging products. As seen in Figure 4a, the outer perforation line 42 surrounds the inner perforation line 40. When a consumer grabs the tear tab 44, he can peel back the outer (ie, top) portion of the film away from the inner portion, exposing the adhesive layer 46 found between the two layers and separating the outer portion from the inner portion of the film. Products from within the bag are then fully exposed and can then be consumed from the opening 48. When the consumer is ready to store any remaining products within the bag, he can reseal the package by pressing down around the top side of the package to reduce product exposure to the surrounding environment.

[0011] The prior art described above form packages with relatively large openings, allowing a consumer to readily consume food products from within the package with relative ease. In fact, the consumer need not grip the package with both hands to successfully retrieve the product within the bag. However, the prior art top flaps, such as those depicted in Figures 3 and 4, have a number of significant drawbacks. For example, the flap is scored along a substantial portion of the top side

of the bag to form a U-shape, exposing a significant amount of the food products within the bag to its surroundings and making the products more susceptible to damaging conditions. Further, when attempting to reseal the packages, a consumer must push down along all three edges of the adhesive to adequately seal the bag. This places pressure on a significant portion of the products behind the seal of the bag. Placing pressure along the bag could cause the consumer to crush the contents remaining in the bag when it is resealed, resulting in a large amount of unwanted broken pieces or crumbs. In addition, frequent opening of the package causes frequent exposure of the adhesive to the products behind the top seal. Over time, this exposure causes the items such as unwanted crumbs to stick to the adhesive, diminishing its adhesive properties and rendering the seal inoperable. Finally, the horizontal packaging, while easy to pull open by means of the top flap, is made on a horizontal form, fill and seal machine, which are not typically use for loose fill products such as potato chips.

[0012] Consequently, because of the speed and productivity achieved on a vertical form, fill, and seal machine, a need exists for a flexible bag with a recloseable seal created using such technology and a single sheet of packaging film. Further, a need exists for a low cost reseal that offers minimum surface area from which products are exposed to its surroundings and allows a consumer to reseal packages without the need to score an entire side of a resulting package and without causing loss of seal adhesion. Finally, a need exists for a resealable package more akin to the high quality zipper seals often desired without the fear of damaging the products behind the seal and without the high costs associated with zipper seals.

SUMMARY OF THE INVENTION

[0013] The proposed invention involves producing a vertical flexible bag constructed of a single sheet of multi-layered material using a vertical form, fill, and seal machine and having a reclose seal along the top. The flexible bag formed on such a machine comprises an outer film layer, an inner film layer, and an adhesive between the outer and inner film layer. In a preferred embodiment, the outer film layer is scored at a position parallel to and less than two inches from the bottom of the top seal of the bag and to the adhesive middle layer, forming a first horizontal score line. More preferably, the first horizontal score line is less than or equal to approximately 1 inch from the bottom of the top seal, and most preferably equal to approximately 0.25 inches. The inner film layer is scored at a position below and parallel to the first horizontal line to the adhesive middle layer, forming a second horizontal score line that is below the first horizontal line. In one embodiment, the second horizontal score line is positioned from approximately 0.5 to one inch below the first horizontal score line. The area between the first and second horizontal score lines define a single straight resealable opening. In an alternate embodiment, only one horizontal line is scored deep enough to entirely perforate through all the layers of the film. An upper adhesive seal comprising two different bond strengths is then placed over the horizontal score line, covering at least a half inch around the horizontal score line in all directions. Optionally, both embodiments comprise a tamper evident tab that lacks adhesive such that a consumer can pull on the tab to open the package.

[0014] The resulting flexible package may be opened, a part of the contents removed and the package closed (ie, resealed) to prevent premature deterioration of

the quality of the contents because of exposure to moisture in the air. The reseal also prevents damage to the contents within the bag because of any pressure necessarily applied when attempting to reseal the bag. The bag formed as a consequence is a substantial improvement over prior art resealable bags.

[0015] The above as well as additional features and advantages of the present invention will become apparent in the following written detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself, however, as well as a preferred mode of use, further objectives and advantages thereof, will be best understood by reference to the following detailed description of illustrative embodiments when read in conjunction with the accompanying drawings, wherein:

[0017] Fig. 1 depicts a cross-section of a typical packaging film known in the prior art.

[0018] Fig. 2 depicts a vertical form, fill, and seal machine that is known in the prior art.

[0019] Fig. 3a depicts a prior art package incorporating a resealable label.

[0020] Fig. 3b depicts the prior art package seen in Fig. 3a after it has been opened by a consumer.

[0021] Fig. 4a depicts a perspective view of another prior art package incorporating a resealable feature.

[0022] Fig. 4b depicts a perspective view of the prior art package of Fig. 4a after it has been opened by a consumer.

[0023] Fig. 5a depicts a perspective view of one embodiment of a flexible, resealable package of the instant invention.

[0024] Fig. 5b depicts the embodiment of Fig. 5a after a consumer has peeled open the resealable opening.

[0025] Fig. 6a depicts a perspective view of a second embodiment of a flexible, resealable package of the instant invention.

[0026] Fig. 6b depicts the embodiment of Fig. 6a after a consumer has opened the flexible, resealable package of the present invention.

[0027] Where used in the various figures of the drawing, the same numerals designate the same or similar parts. All figures are drawn for ease of explanation of the basic teachings of the present invention only; the extensions of the figures with respect to number, position, relationship, and dimensions of the parts to form the preferred embodiment will be explained or will be within the skill of the art after the following teachings of the present invention have been read and understood. Further, the exact dimensions and dimensional proportions to conform to specific force, weight, strength, and similar requirements will likewise be within the skill of the art after the following teachings of the present invention have been read and understood.

DETAILED DESCRIPTION

[0028] Figures 5 and 6 depict two embodiments of the package of the present invention, which may be closed after being opened (ie, resealed) to preserve moisture sensitive food products, including but not limited to snack chips. The packages are made using a vertical form, fill, and seal machine and a flexible packaging film having at least three layers. In a preferred embodiment, an adhesive layer is pattern applied in between outer and inner film layers, preferably a pressure sensitive adhesive is placed in between an outer and inner score line and forms a bond in between the outer and inner film layers when pressure is applied across the top portion of the resulting package. As described above, and as seen in Figure 2, in a vertical form, fill, and seal machine, a length of plastic film is formed into a vertical tube around a product delivery cylinder. The vertical tube is vertically sealed along its length to form a back seal and is transversely sealed to form top and bottom seals delineating individual packages, which are then cut from the vertical tube.

[0029] As used herein, the term “score lines” encompasses lines, notches or incisions that have been cut into the material or a portion of the material, perforating the film to enable it to be separated easily from adjoining portions of the adjacent material or sections. As used herein, “reclose strip” is synonymous with reseal. Applicants use the terms “peelable” and “releasable” interchangeably to refer to the side of the adhesive comprising a lower bond strength as compared to its opposing side. This provides for release of the peelable side of the adhesive from a first adjacent surface of a layer, while allowing for a more permanent bonding to a second

adjacent surface of another layer when the layers surrounding either side of the adhesive are pulled apart by a consumer.

[0030] Figures 5a and 5b depict a perspective view of a first embodiment of the flexible, resealable package of the instant invention. As seen in Figure 5a, the flexible film of the package has been scored along a horizontal line 50. The flexible film is cut all the way through the film (ie, perforated through each of its layers) at line 50 substantially parallel to the top seal 52 of the package. Preferably, the score line 50 should be as close as possible to the bottom of the top seal, as illustrated in Figure 5a by the distance X. In one embodiment, the score line 50 is less than about 2 inches from the bottom of the top seal and more preferably about one inch from the bottom of the top seal. The score line 50 can be performed by any means known in the art including without limitation die cutting or laser scoring. The ends of the score line 50 contain a slight deviation or curve from the line 50, in either an up or down direction, to provide for a tear stop for decreased propagation, which prevents the package from tearing beyond the length of the score line 50 and from forming inconsistent tear lines beyond the scope of the score line 50.

[0031] Affixed over the score line 50 is a strip or label 54, which is centered over the score line 50 to cover a length of about half an inch in each direction surrounding the score line 50. The label 54, contains a pattern-applied adhesive with at least two different bond strengths. On its inner side facing the outer side of the film of the bag and below the score line 50 (referred to as the lower portion), the affixed label 54 comprises an adhesive with a bond strength higher than that of the portion above the score line 50 (referred to as the upper portion), causing the lower portion to remain affixed to the outer film layer below the score line 50 when the label is pulled

outward from the bag by a consumer. The upper portion of the affixed label 54 contains a pressure-sensitive adhesive 56 with a lower bond strength (typically from about 20 to 1,600 grams per inch width) than the adhesive of the lower portion of the label 54 (typically from about 100 to 4,000 grams per inch width, depending on the strength of the upper portion). Consequently, the upper portion of the label 54 comprises a peelable inner side that releases from the film of the package while the lower portion remains more permanently bonded to the film, forcing the film to tear along the scored line 50 when the label 54 is pulled away from the film by a consumer.

[0032] After the film is scored and the label 54 affixed, the film is then run through a vertical form, fill and seal machine, as previously discussed in relation to Figure 2, to form the bag seen in Figures 5a and 5b. The graphics on the packaging film can be oriented in either the direction of film travel or perpendicular to the direction of the film travel. Figure 5b demonstrates the bag after it has been opened by a consumer. As seen in Figure 5b, the opening 58 of the resulting flexible bag exposes the pressure-sensitive adhesive 56 to the inner side of the bag. The adhesive will then be able to reseal with the portion of the package above the score line 50 when pressure is placed along the seal by a consumer.

[0033] Figures 6a and 6b depict a second and preferred embodiment of the present invention, wherein offsetting cuts are made on the inside and outside layers (ie, sides) of the flexible film. As used herein, "offset" is used to mean non-overlapping such that the cuts made on the two sides of the flexible film form parallel score lines, but do not overlap or meet and do not completely perforate or cut the package completely through each layer along parallel planes of the film layers. By

creating offsetting cuts on the two sides of the flexible film layer, two lines of weakness are formed which define a straight opening in the front side of the bag, as depicted in Figure 6b, when the front and back sides are grabbed by the index finger and thumb and pulled away from one another. Thus, the film layers will comprise offsetting cuts at specific sides of the film and define a straight releasable opening along one side of the bag.

[0034] As described above in relation to Figure 1, the film created for packaging products typically comprises an outer film layer 102 and an inner film layer 106 (which can each include one or more layers of materials) as well as a layer 104 sandwiched in between, which is comprised of either an adhesive or polyethylene. Consequently, as used herein, the terms “outer film layer” and “inner film layer” are meant to include one or more layers of materials on opposite sides of a film. In one embodiment, the sandwiched layer 104 can comprise both an adhesive layer and a polyethylene, which will make the bag stiffer, thicker, and more puncture resistant.

[0035] Figure 6a demonstrates the second and preferred embodiment of the package in its sealed condition. A plurality of lines have been scored through the outer film layer of the flexible film package to the adhesive layer along a score line 60 in a line substantially parallel to, and at a distance X from, the bottom of the top seal 70 and perpendicular to the side edges of the web. The scoring forms an outer score line 60 through the outer film layer 102, which as described above can comprise one or more layers of materials. As depicted in Figure 6a, the optional tear tab forms a curve or semicircle towards the top seal in the center of the score line 60. The tear tab does not comprise any adhesive in between the outer and inner sides of the film in

order to provide a consumer with easy grip and access to opening the package. The cut is made by any means known in the art including without limitation laser or mechanical cutting. Preferably, the outer score line 60 is no more than two inches from the bottom of the top seal 70. Thus, the distance X, as seen in Figures 6a and 6b, should be less than two inches, more preferably less than or equal to about one inch and most preferably equal to about 0.25 inches. A plurality of lines is also scored through the innermost layer 106 to the adhesive layer, forming a second and parallel score line 62 on the inner (opposite) film layer. The score line 62 is a distance Y below the score line 60, where Y ranges from about 0.5 to 1 inch (not including the optional tab in its center). The scoring of the second parallel score line 62 can be performed simultaneously or separately from the scoring of the first horizontal line. Together with score line 60, score line 62 defines a resealable opening. Further, one skilled in the art, armed with this disclosure, will recognize that the score lines 60, 62 can be placed on the packaging film either during or after film formation before it is rolled into the supply spool 212. In one embodiment, the outer and inner score lines both comprise a tear stop at each of its ends for decreased propagation.

[0036] Adhesive layers of different bond strengths are applied throughout the film layers of the bag and in between the outer layer and the inner layer of the film web during film formation. In one embodiment, the adhesive layer comprises at least two different bond strengths. A pressure sensitive adhesive 66 is pattern applied in between the outer score line 60 and the inner score line 62, defined as Y in Figure 6a, within the film that makes up the front side of the bag. This pressure sensitive adhesive 66 comprises a peelable side, which has a lower bond strength than that of

the adhesive layer applied throughout the rest of the film in between the outer and inner layers. In other words, the bond strength of at least one side of the pressure sensitive adhesive applied in between the first horizontal (outer) score line 60 and the second horizontal (inner) score line 62 is less than that of any adhesive between the outer and inner layers throughout the film of the flexible bag. This allows for one side of the adhesive to be releasable from a first adjacent side in between the inner layer and outer layer of the bag. Generally, the bond strength of a releasing pressure-sensitive adhesive is between about 25 to about 1,600 grams per inch width, while the bond strength of the opposing side of the adhesive ranges from between about 100 to 4,000 grams per inch width or higher, so long as the latter bond strength is higher than that of the former to create a more permanent bond which has a more aggressive adhesive. Thus, a first side of the adhesive is peelable from to a first adjacent surface, while the second side of the adhesive is more strongly adhesive to a second adjacent surface. Any adhesive in between the outer and inner layers throughout the rest of the package away from the outer and inner score lines will also comprise a higher bond strength than the peelable side. In one embodiment, the peelable side of the pressure-sensitive adhesive 66 has a bond strength ranging from approximately 25 to 1,600 grams per inch width and is adjacent to an inner film layer, while the opposite side has a stronger adhesive bond strength ranging from 100 to 4,000 grams per inch width and is adjacent to an outer film layer, such that upon separation by a consumer, the peelable adhesive will release from the inner film layer. In another embodiment, the peelable adhesive has a bond strength ranging from approximately 200-800 grams per inch width, while the opposite (more permanently-bonded) side has a bond strength ranging from approximately 800-4000 grams per inch width. Thus, a straight

resealable opening 64, seen in Figure 6b, is formed at the top of the bag between the first outer score line and second inner score line when the front and back sides of the bag are pulled apart or separated by a consumer. The pattern applied pressure-sensitive adhesive 66 remains bonded to the surface with which it more permanently bonded and is exposed on the inner side of the outer film layer. The adhesive 66 can then engage the exposed area 68 of the inner layer to form the reseal under pressure imposed by a user such as pressing along section Y on the outside of the bag towards the exposed area 68. Alternatively, one skilled in the art, armed with this disclosure, will also recognize that the bond strength of the pattern-applied adhesive can also be adjusted such that the adhesive 66 remains on the exposed area 68. Thus, the adhesive layer 66 within the front side of the package wall releasably adheres the inner and outer layers of the film back together once separated by a consumer.

[0037] To form the package shown in Figures 6a and 6b, after formation and scoring of the film, it is then placed on the supply spool 212 of a vertical form, fill and seal machine, as discussed in relation to Figure 2 in the prior art. As discussed previously, a registration mark sensor will detect the eye marks pre-printed on the scored film to align the film properly such that the reseal is at the top of the bag and ensure that the package is sealed and cut at the proper locations. The vertical form and fill machine thus operates as previously described in the prior art, with the vertical seal along its length to form a back seal and a transverse seal along its bottom to form a bottom seal. Product is then introduced through the forming tube 218 into the sealed tube of packaging film, and the upper transverse seal being formed within 2 inches of the reseal, thereby forming a top seal 70 and completing the package. As used herein the top and bottom seals are used to encompass seals made between two

adjacent film layers by applying heat and/or pressure (ie, between sealing jaws) for a given dwell time.

[0038] As shown in Figure 6a, the flexible package formed comprises a width W and a length L. A plurality of score lines formed along the outer film portion 102 and the plurality of score lines formed along inner film portion 106 define an opening 64 having a length L_1 . The length L_1 is approximately 83% to 99% of the width W of the bag, and more preferably, about 91% to about 98% of the width W of the bag. In other words, the ratio of the length of the opening L_1 to the width W ranges from approximately 9:10 to approximately 49:50. In another embodiment, the length L_1 of the opening ranges from approximately 25% to approximately 68% versus the length L of the bag, resulting in a ratio for the opening to length of the bag ranging from between approximately 1:4 to approximately 34:50.

[0039] After opening, the packages of the two embodiments described above can then be reclosed by applying pressure across the top of the package. The package can then be re-opened and re-closed as desired by the consumer. Referring to Figures 5a, 5b, 6a and 6b, while the reseal 50, 60 is functional anyplace on the package, it is desirable that the strip be applied on the upper half of the resulting package and as close as possible to the bottom of the top seal, preferably less than 2 inches from the bottom of the top seal 52, 70 of the resulting package. Placing the reseal 50, 60 on the lower half of the bag could cause the user to crush the contents remaining in the bag when it is resealed.

[0040] The present invention offers an economic method of producing an incorporated reseal function without modification of the vertical form, fill and seal machines used to continuously and effectively produce snack food packages. The

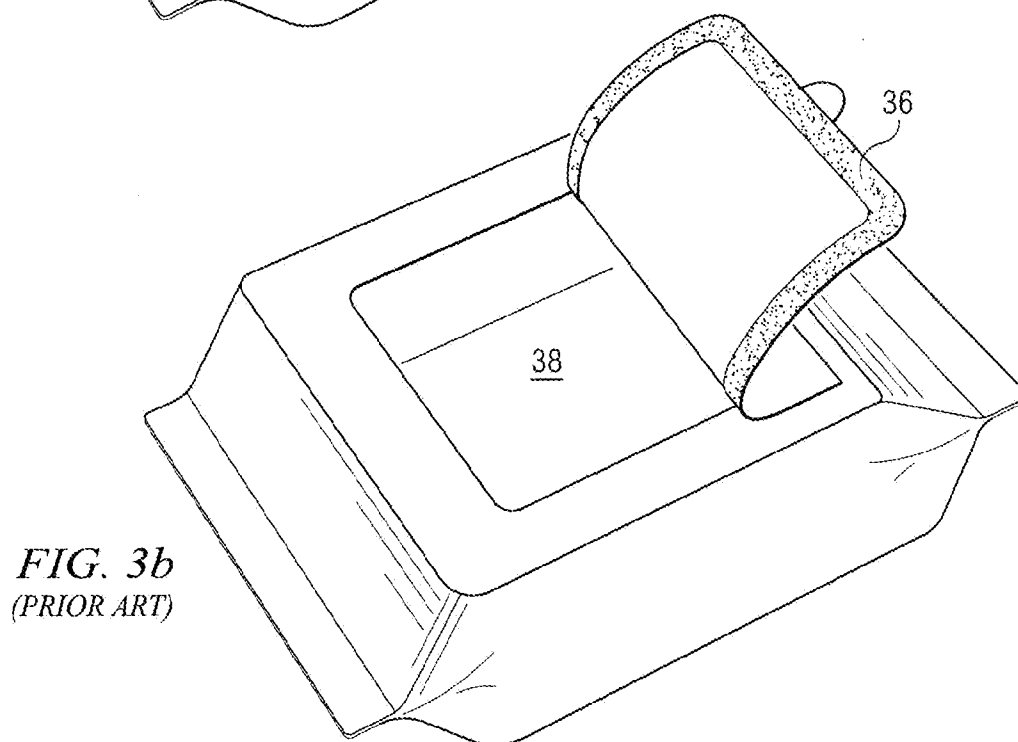
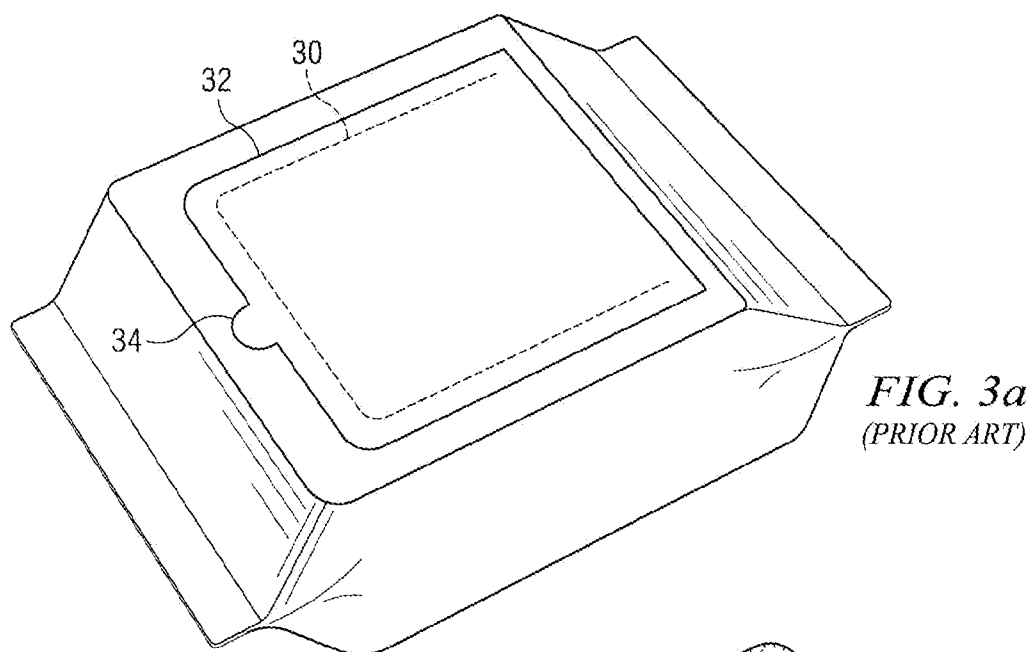
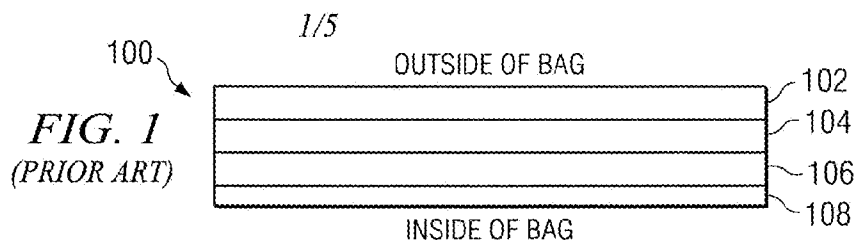
invention is further an improvement over methods for including reseal functions on snack food packages. While the invention has been particularly shown and described with reference to a preferred embodiment, it will be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope of the invention.

CLAIMS:*We claim:*

1. A flexible bag formed on a vertical form, fill and seal machine having a top seal, said bag containing a product and further comprising:
 - an outer film layer;
 - an inner film layer;
 - 5 an adhesive layer between said outer film layer and said inner film layer;
 - a first horizontal score line through said outer film layer to the adhesive layer, wherein said first horizontal score line is parallel to and less than two inches from the bottom of said top seal;
 - 10 a second horizontal score line through said inner film layer to said adhesive layer, wherein said second horizontal score line is below and parallel to said first horizontal score line; and
 - wherein the first and said second score lines define a resealable opening on said bag.
2. The flexible package of claim 1 wherein said first horizontal score line comprises a tear tab.
3. The flexible package of claim 1 wherein said adhesive layer comprises a peelable side.
4. The flexible package of claim 1 wherein said first and second horizontal score lines each comprise a tear stop on both ends.
5. The flexible package of claim 1 wherein the length of said resealable opening is approximately 91% to 98% of the width of said bag.
6. The flexible package of claim 1 wherein the length of said resealable opening is approximately 25% to 68% of the length of said bag.

7. A method for making a flexible reclosable package on a vertical form, fill, and seal machine, wherein the reclosable package is comprised of a flexible packaging film of a continuous web having at an outer film layer, an inner film layer, and an adhesive layer applied in between said outer and inner film layers, said method comprising the steps of:
- 5 a) scoring a plurality of lines through the outer film layer of said continuous web, wherein said lines are perpendicular to the side edges of the web, thereby forming an outer score line;
- 10 b) scoring a plurality of lines through the inner layer within 0.5 to 1 inch from and parallel to the plurality of outer layer score lines, thereby forming a an inner score line;
- c) feeding the web into said vertical form, fill and seal machine; and
- 15 d) forming said flexible reclosable package wherein said outer score line is less than two inches from a top seal of said formed package.
8. The method of Claim 7, wherein step a) further comprises the step of scoring a tear tab into the center of the outer score line.
9. The method of Claim 7, wherein steps a) and b) further comprise the step of forming tear stops at the ends of the outer and inner layer score lines.
10. The method of Claim 7, further comprising the step of applying a pressure sensitive adhesive in between the outer score line and the inner score line, said adhesive having at peelable side.
11. The method of Claim 7, wherein steps a) and b) define an opening formed in between said outer score line and said inner score line, said opening having a length that is 91%-98% of the width of said flexible recloseable package.
12. A vertical flexible reclosable package formed by the method of Claim 7.

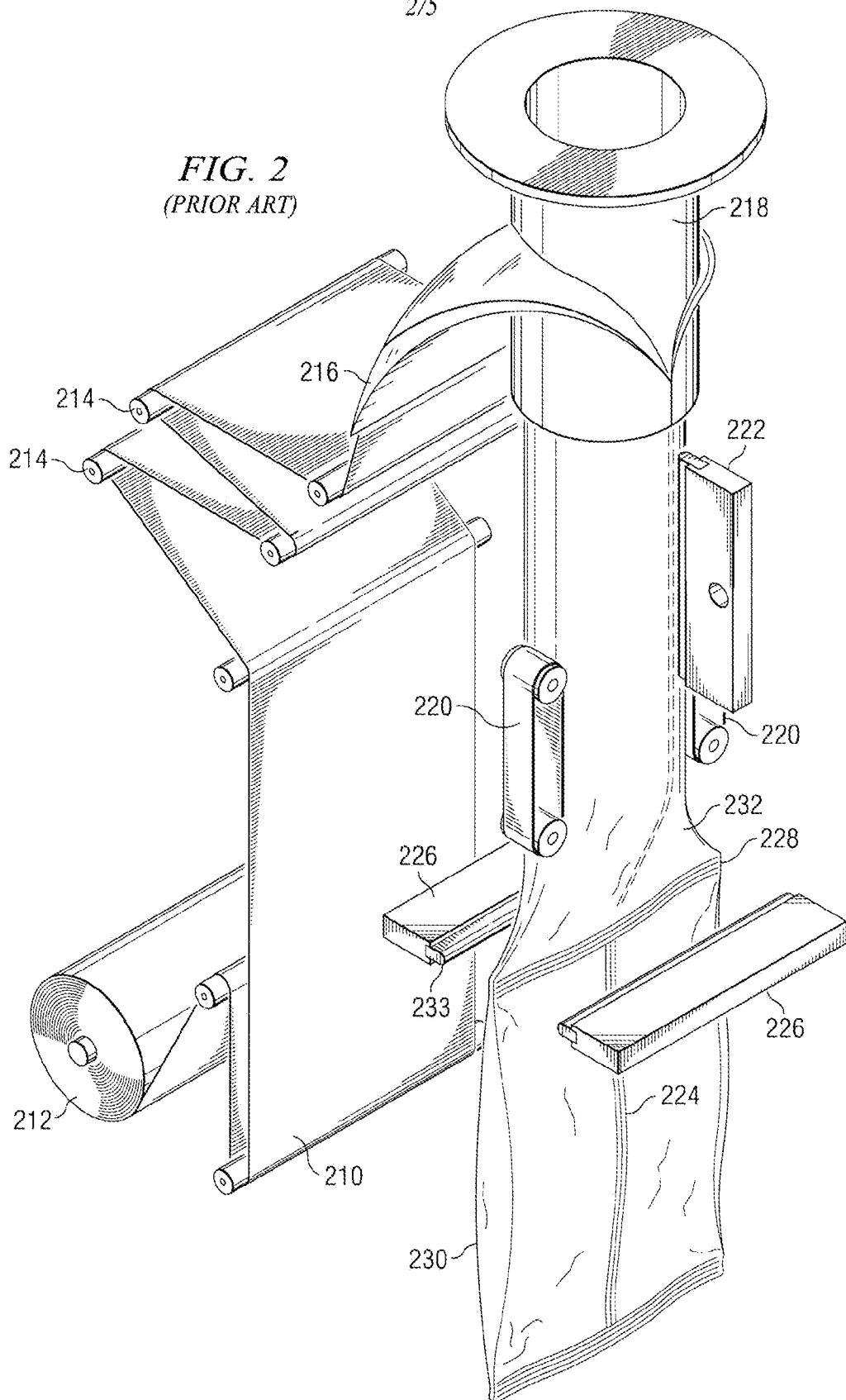
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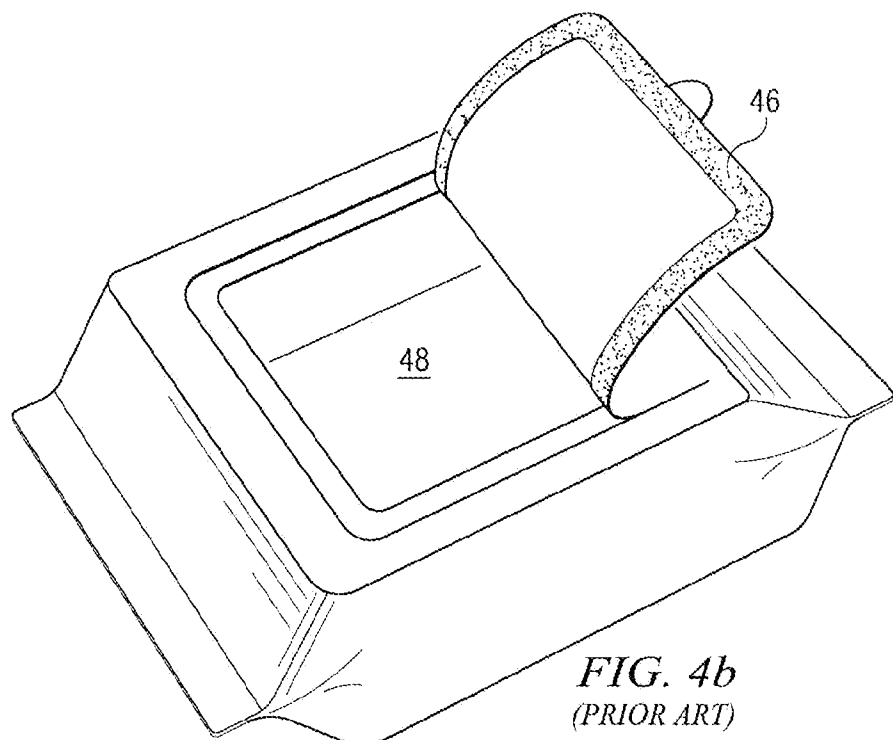
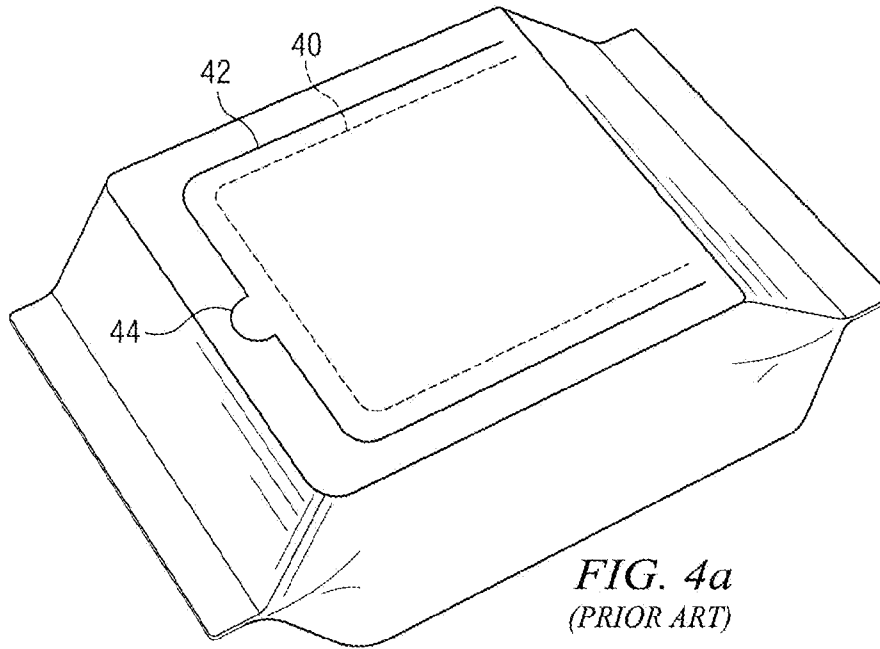
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FIG. 2
(PRIOR ART)



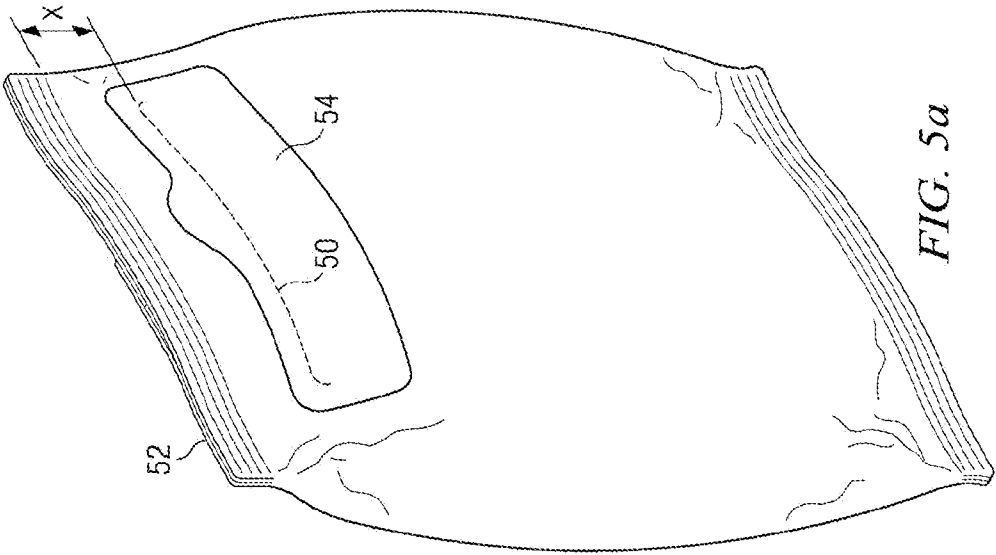
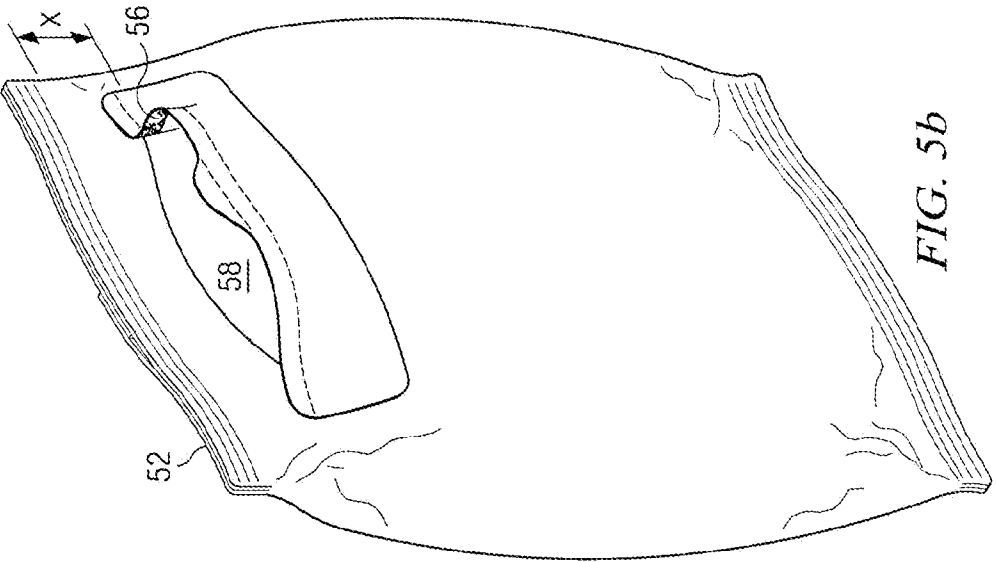
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