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(54) **PACKAGE WITH POCKET AND METHOD FOR MAKING THE SAME**

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(57) **ABSTRACT**

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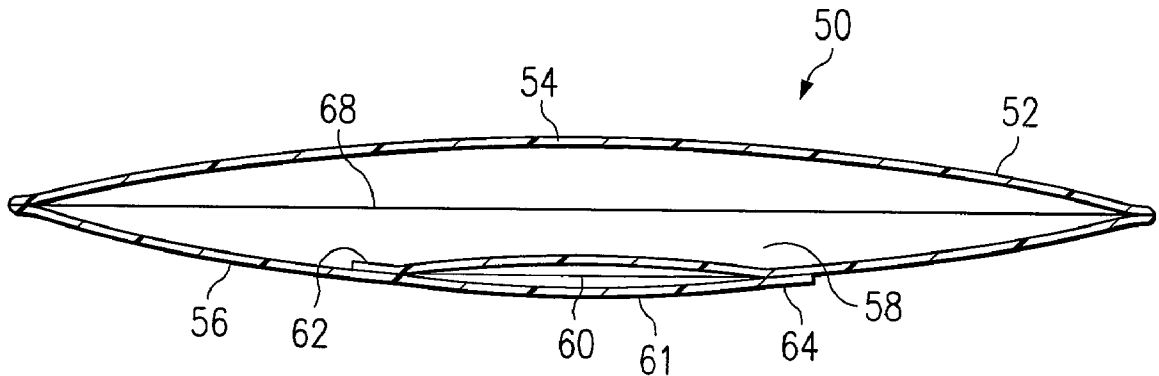
A flexible package and method for making the same provides for a package that has a pocket formed adjacent to a portion of a package. Thereby, the package, such as a snack food package, can be filled with one product in the main compartment of the package and can be filled with a separate product in the pocket. To realize this, the package is formed with an extra length of film extended adjacent to the main portion of the tube of the package. First and second longitudinal seals are provided to form a pocket over a portion of the tube of the package. The package can then be filled with a first product in the main portion of the package and a second product in the separate and distinct pocket.

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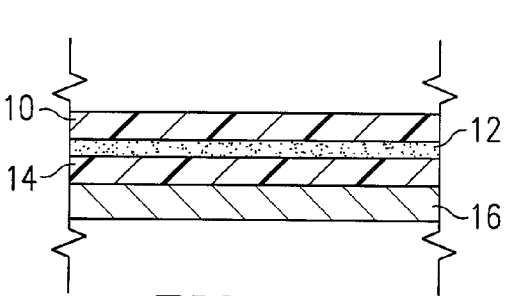


FIG. 1a  
(PRIOR ART)

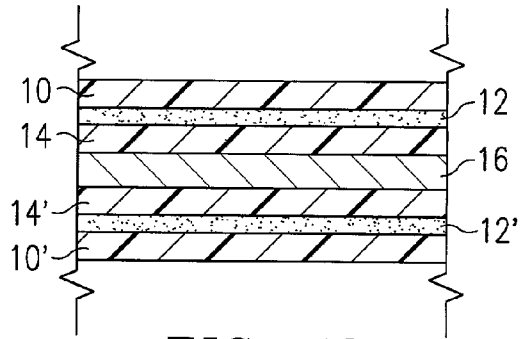


FIG. 1b  
(PRIOR ART)

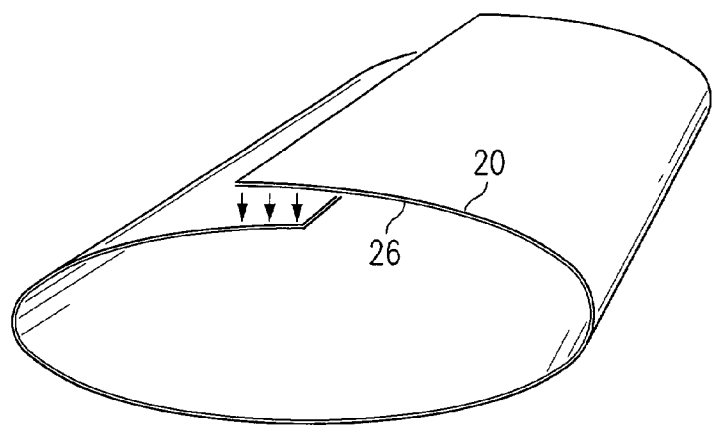


FIG. 2  
(PRIOR ART)

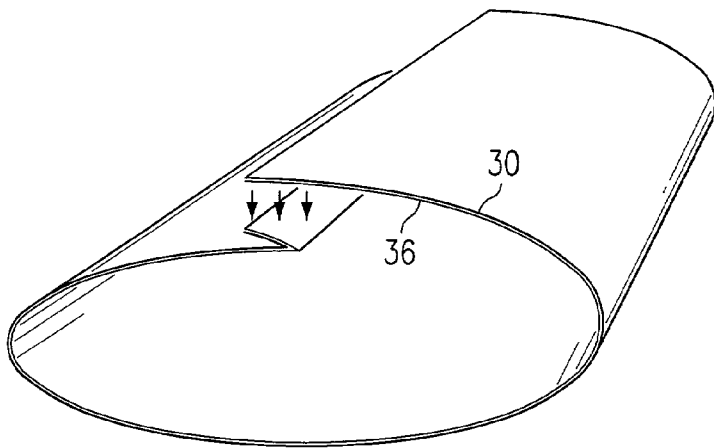


FIG. 3  
(PRIOR ART)

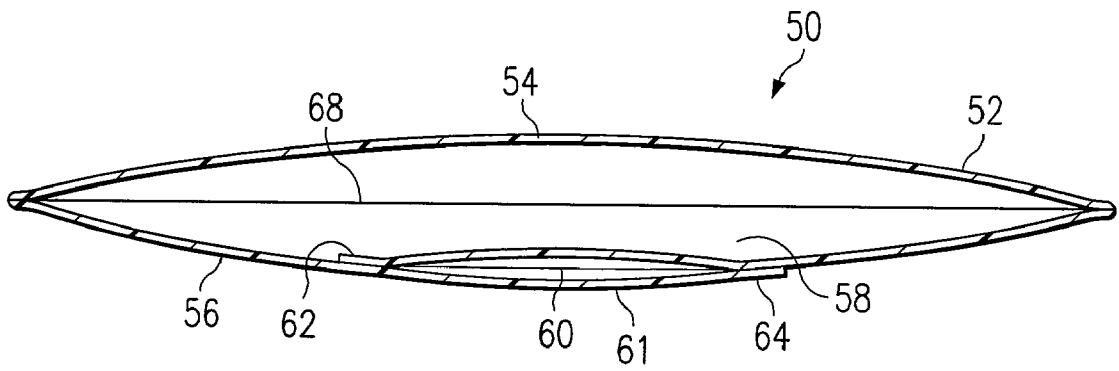


FIG. 4

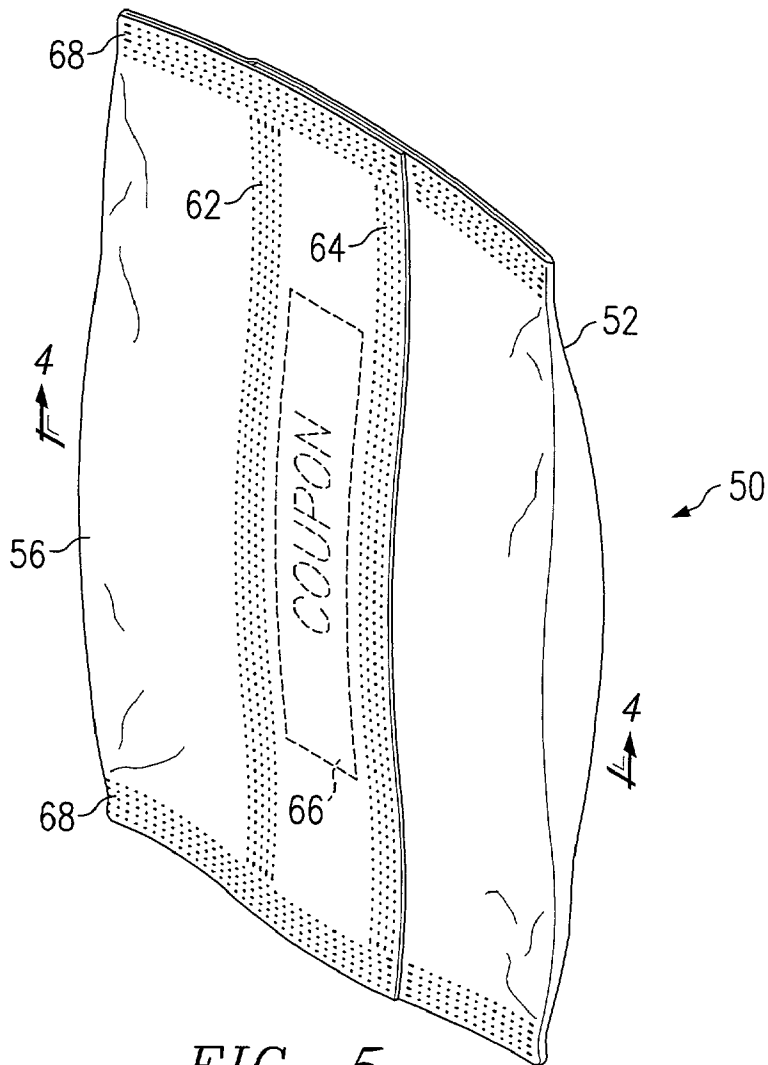


FIG. 5

## PACKAGE WITH POCKET AND METHOD FOR MAKING THE SAME

### BACKGROUND OF THE INVENTION

#### [0001] 1. Technical Field

[0002] The present invention relates to a flexible package, and the method for making same. More particularly, the present invention relates to a flexible package, and the method for making the same that contains a pocket. The invention allows for the production of a flexible package with a pocket that can be filled with material such that the material in the pocket is integral to the package and easily accessible yet separated from a main portion of the package.

#### [0003] 2. Description of Related Art

[0004] 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. Such packaging machines take a packaging film from a sheet roll and forms the film into a vertical tube around a product delivery cylinder. The vertical tube is vertically sealed along its length to form a back seal. The machine applies a pair of heat-sealing jaws or facings against the tube to form a transverse seal. This transverse seal acts as the top seal on the bag below and the bottom seal on the package being filled and formed above. The product to be packaged, such as potato chips, is dropped through the product delivery cylinder and formed tube and is held within the tube above the bottom transverse seal. After the package has been filled, the film tube is pushed downward to draw out another package length. A transverse seal is formed above the product, thus sealing it within the film tube and forming a package of product. The package below said transverse seal is separated from the rest of the film tube by cutting across the sealed area.

[0005] The packaging film used in such process is typically a composite polymer material produced by a film converter. For example, one prior art composite film used for packaging potato chips and like products is illustrated in FIG. 1a, which is a schematic of a cross-section of the film illustrating each individual substantive layer. FIG. 1a shows an inside, or product side, layer 16 which typically comprises metalized oriented polypropylene ("OPP") or metalized polyethylene terephthalate ("PET"). This is followed by a laminate layer 14, typically a polyethylene extrusion, and an ink or graphics layer 12. The ink layer 12 is typically used for the presentation of graphics that can be viewed through a transparent outside layer 10, which layer 10 is typically OPP or PET.

[0006] The prior art film composition shown in FIG. 1a is ideally suited for use on vertical form and fill machines for the packaging of food products. The metalized inside layer 16, which is usually metalized with a thin layer of aluminum, provides excellent barrier properties. The use of OPP or PET for the outside layer 10 and the inside layer 16 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.

[0007] Typical back seals formed using the film composition shown in FIG. 1a are illustrated in FIGS. 2 and 3. FIG. 2 is a schematic of a "lap seal" embodiment of a back

seal being formed on a tube of film. FIG. 3 illustrates a "fin seal" embodiment of a back seal being formed on a tube of film.

[0008] With reference to FIG. 2, a portion of the inside metalized layer 26 is mated with a portion of the outside layer 20 in the area indicated by the arrows to form a lap seal. The seal in this area is accomplished by applying heat and pressure to the film in such area. The lap seal design shown in FIG. 2 insures that the product to be placed inside the formed package will be protected from the ink layer by the metalized inside layer 26.

[0009] The fin seal variation shown in FIG. 3 also provides that the product to be placed in the formed package will be protected from the ink layer by the metalized inside layer 36. Again, the outside layer 30 does not contact any product. In the embodiment shown in FIG. 3, however, the inside layer 36 is folded over and then sealed on itself in the area indicated by the arrows. Again, this seal is accomplished by the application of heat and pressure to the film in the area illustrated.

[0010] As noted, a benefit of both the prior art fin seal and lap seal design is the containment of the product in the package by a barrier layer (the metalized inside layer) that keeps ink and solvent levels in the package to a minimum. Ink and solvent levels in fatty food packages are frequently regulated to insure product safety. It may be desirable, however, to provide a graphics capability inside a package. This would allow for promotional information or coupons to be maintained inside the package and only accessible after the consumer has opened the package. For example, a promotional prize campaign could be offered with the prize announcements being maintained inside the package. Likewise, coupons offering product rebate rewards, promotional prize points, or discounts on products could be maintained within the sealed package.

[0011] One prior art method used to provide a graphics capability inside the package involves the use of a paper insert dropped with the product into the package during filling. When the consumer opens the package, the paper insert can be removed for viewing and use. This method has several drawbacks, however. The reliability of placing a single paper insert in each bag (by dropping the paper with a weighed amount of product) is a major consideration, particularly in small packages. A capacity issue is raised by the need to rent inserters to be used during the filling process. Foreign matter detectors are also frequently set off by the detection of the paper insert within the bag. The insertion of a piece of paper can raise the solvent level in the package beyond acceptable levels. All of the above greatly adds to the expense of each single package.

[0012] Another approach to providing graphics within the bag would involve the application of the graphics directly to the inside metalized layer 16 shown in FIG. 1a. The application of such graphics can be accomplished using an inkjet printer. However, this method likewise raises a capacity issue, since present technology converters produce packaging film at a speed of 1500 to 2000 feet per minute, while the capacity of present inkjet printer heads is approximately 300 feet per minute. Additional modification to converters must be made in order to keep the inkjet printing in register with the graphics formed by the ink layer 12. All of the above considerations again add to the cost of the package. In

addition, the United States Food & Drug Administration does not presently allow for the use of an ink-carrying layer that comes into contact with a fatty food.

[0013] Another prior art approach to this issue is illustrated in **FIG. 1b**, which is again a schematic cross-section of a packaging film. As with the embodiment shown in **FIG. 1a**, the embodiment shown in **FIG. 1b** comprises an outside OPP layer **10** followed by an ink layer **12**, a laminate layer **14**, and a metalized OPP or PET layer **16**. However, an additional laminate layer **14'** is applied to the metalized layer **16** so that an additional ink layer **12'** and OPP or PET layer **10'** can be used as the new inside layer **10'**. The use of the ink layers **12, 12'** as the second to last layer on both the outside and inside of the package allows for a full graphics capability on both the outside and the inside of the film. The additional film, however, adds approximately sixty percent (60%) to the cost of the material when compared with the embodiment shown in **FIG. 1a**. Overall capacity is also cut in half, since the film must be run through a typical converter twice. Further, since the material is 60% thicker, it cannot be run on a vertical form and fill machine at speeds as high as that used to make packages out of the embodiment shown in **FIG. 1a**. This is because longer dwell times must be used to form all the seals involved. As with the inkjet printer solution, the embodiment shown in **FIG. 2a** also requires additional efforts to keep the inside graphics and outside graphics in registration. Importantly, the embodiment shown in **FIG. 1b** again places ink inside a functional barrier layer, the metalized layer **16**, which is not presently permitted for direct contact with many foods by the United States Food & Drug Administration.

[0014] In addition to ink and solvent concerns with package construction, packages, particularly with snack foods, benefit from marketing. With current packaging, inserts or other graphics, such as coupons and game pieces, are separately packaged and deposited into snack food packages or are temporally adhered to the exterior of the packages. With the former, inserts are hidden from consumers hindering the effectiveness of the promotion. With the latter, graphic materials adhered to package exteriors can be dislodged and lost. Consequently, a need exists for a package construction and method that allows for a package to self-contain inserts, graphic materials, and other products separated from the main compartment of the package. Thereby, flexible package constructions would benefit have a separate compartment for placement of materials with graphics so as to avoid or, at least minimize, ink and solvent contact with food in addition to marketing benefits.

#### SUMMARY OF THE INVENTION

[0015] The proposed invention involves producing a package made from flexible film having a film body formed as a discrete package. A pocket for containing materials separate from a main portion of the package is formed on and along a portion of the package. To achieve this, the pocket is formed from a continuous segment of film laid against the main portion of the package. Thereby, the package can be filled with a first product such as snack chips while the pocket is filled with a printed material or other food product for example. Advantageously, the first product is kept separate from the second product placed in the pocket. This avoids any product-to-product contamination.

[0016] One method for forming a package with a pocket comprises forming a sheet of film into a tube with an

overlapped segment of film extending out and over the tube to form the pocket. Thereafter, at least two seals are formed longitudinally along the overlapped segment of film forming the pocket. Sealing both terminal ends of the tube and the pocket finishes the package. Optionally, a multiple pockets can be formed along the exterior of the package by providing more than two longitudinal seals.

[0017] 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

[0018] 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:

[0019] **FIGS. 1a** and **1b** are schematic cross-section views of prior art packaging films;

[0020] **FIG. 2** is a schematic cross-section view of a tube of packaging film illustrating the formation of a prior art lap seal;

[0021] **FIG. 3** is a schematic cross-section of a tube of packaging film illustrating the formation of a prior art fin seal;

[0022] **FIG. 4** is a cross-sectional view of a package having a pocket made in accordance with an embodiment of the invention; and

[0023] **FIG. 5** is a top perspective view of the package in **FIG. 4** showing an article contained within the pocket.

#### DETAILED DESCRIPTION

[0024] **FIG. 4** shows a cross sectional view of a flexible package **50** for containing snack food products. The composition of the package material can be the same as used for prior art packaging as described in relation to **FIG. 1a** or any other prior art film composition used for the product application in the instant invention.

[0025] A film **52** used in the present invention is fed into a vertical or horizontal form, fill, and seal packaging machine capable of manufacturing a package in accordance with the invention. Thereby, package **50** is formed having a front **54** and a back **56**. Since film **52** is a flat film, film **52** is fed into the packaging machine generally to form a cylinder. The leading end of the film is sealed to a trailing end of the same film to form a first back seal **62** rendering the cylinder independent. A second back seal **64** is formed parallel to first back seal **62** with a segment of film **52**. In one embodiment, back seals **62, 64** are simultaneously formed parallel to each other forming pocket **60**, which is separate from a main portion **58** of package **50**. Pocket **60** is formed such that it is separate from inside portion **58** and can retain separate product or contents. Once package **50** is complete, a transverse end seal **68** can be formed at both ends of package **50**.

[0026] Back seals **62, 64** are unlike prior art seals in that it is not merely a thin seal of overlapped film. Here, film **52**

is wrapped to form pocket **60**. More particularly, pocket **60** is formed, for example, by allowing terminal ends from a sheet of film **52** to extend over and above from the formed cylinder. Alternatively, film **52** can be wrapped to extend inward against the formed cylinder to form a pocket (not shown). The portion of film **52** that is laid above back **56** to form pocket **60** is external portion **61**. Back seals **62, 64** can then be optionally formed longitudinally down the length of the tube. Back seals **62, 64** can extend down from one terminal end of package **50** to the other end to form pocket **60**. However, other embodiments are possible such as adding additional transverse seals across the overlapped portion of film **52** to form an abbreviated pocket or multiple pockets.

[0027] Generally, the terminal segments of external portion **61** are sealed to transverse seals **68** of package **50** as shown in **FIG. 5**, which is a top perspective view of package **50**. This forms the top and bottom seals of discreet package **50** wherein product may be stored. The transverse seals of pocket **60** that coincide with transverse seals **68** extend from the position where portion **61** extends forth from first back seal **62** and end at second back seal **64**. Thereby, portion **61** is positioned above back **56**. In another embodiment, one or more additional seals (not shown) can be formed between first and second back seals **62, 64**. Thereby, pocket **60** can be separated into two or more distinct pockets. This would be advantageous if additional items need to be packaged separate from each other and from the products in main portion **58**.

[0028] As package **50** is comprised of a flexible material, portion **61** will generally lie flush against back **56** unless pocket **60** is filled with product. As pocket **60** is filled with product, portion **61** will extend out and away from back **56**. Even with product held in pocket **60**, portion **61** appears to be substantially flush or flat when compared to the remaining exterior of package **50**.

[0029] Shown in **FIG. 5** is a printed material **66**. Material **66** can comprise items such as coupons, contest materials, or pamphlets. With food products contained in the portion **58**, having pocket **60** is advantageous, as the printed materials would not come into with it thereby avoiding any ink to food contact. This allows quick access to any materials placed within pocket **60** without disturbing the product within portion **58**. An alternative advantage of pocket **60** is that other food products can be kept separate from the main contents of package **50** in portion **58**. This allows separate food samples, dips, or salsas to be stored in pocket **60** and accessed separately when the consumer desires. Another alternative use for pocket **60** is to fill it with air so that pocket **60** can form an air-pillow. With an air-pillow, multiple packages can be placed on top of each other such that the air-pillow separates each package **50**. This deters any product breakage because of the cushioning effect.

[0030] 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.

What is claimed is:

1. A flexible package, comprising:

a film body formed as a discrete package for containing a first product; and

a pocket for containing a second product from a main body of the package containing the first product wherein the film body and the pocket are produced from a continuous segment of film.

2. The flexible package of claim 1 wherein the package is formed from a loop of the continuous segment of film having the first and second products placed within the package prior to sealing both terminal ends of the loop.

3. The flexible package of claim 1 wherein a back seal is formed axially along the package to form the main body.

4. The flexible package of claim 3 wherein the pocket is formed from overlapped film body positioned adjacent to a portion of the main body.

5. The flexible package of claim 4 wherein the pocket begins at a first back seal and extends axially to at least a second back seal.

6. The flexible package of claim 5 wherein terminal ends of the pocket are sealed to portions of terminal ends of the package.

7. The flexible package of claim 5 wherein one or more additional back seals are provided to form one or more additional pockets.

8. The flexible package of claim 1 wherein the second product is a printed graphic or food product.

9. The flexible package of claim 1 wherein the second product is air.

10. A method for forming a package with a pocket, comprising:

forming a sheet of film into a tube with an overlapped segment of film extending adjacent to the tube to form a the pocket;

providing at least two seals longitudinally along the pocket; and

sealing transversely both terminal ends of the tube and the pocket to form a flexible package with pocket.

11. The method for forming the package of claim 10 further comprising placing product within the package prior to sealing the package at both terminal ends of the tube.

12. The method for forming the package of claim 10 wherein the pocket is formed by extending the film outwardly and over the main body of the tube to a predetermined length.

13. The method for forming the package of claim 10 wherein the pocket is formed along a back portion of the tube.

14. The method for forming the flexible package of claim 10 further comprising positioning a printed graphic or food product within the pocket prior to forming the transverse seals at the terminal ends.

15. The method for forming the flexible package of claim 10 wherein at least one additional seal is formed longitudinally between the at least two longitudinal seals to form at least two pockets over the main body of the tube.