



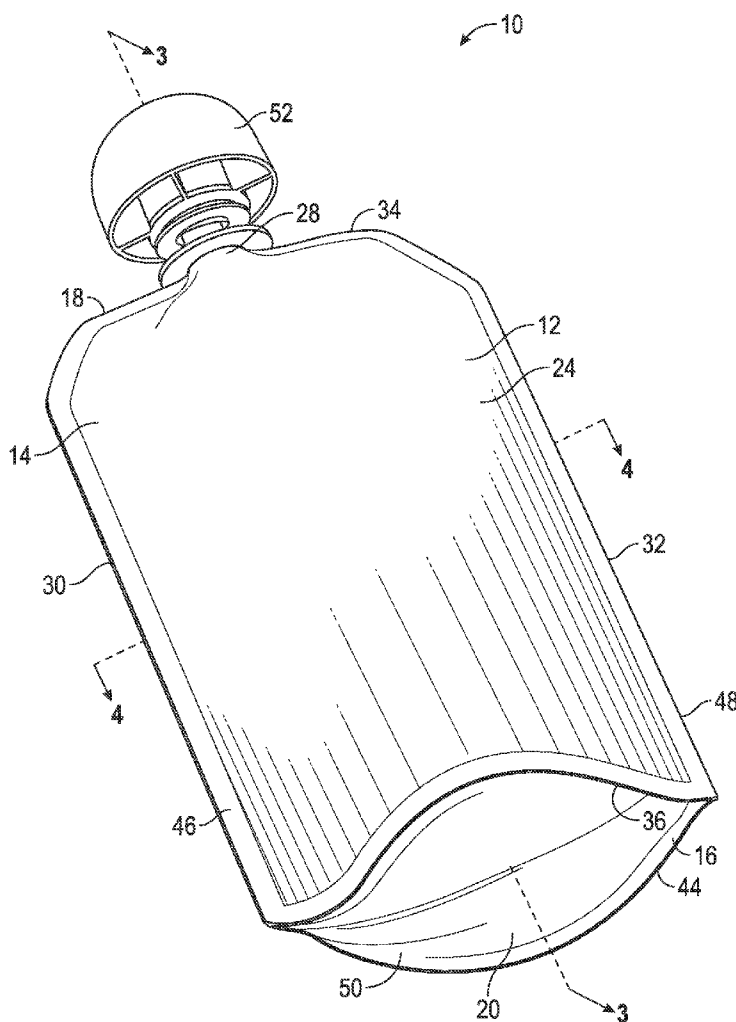
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(19) **United States**(12) **Patent Application Publication**
JAMES(10) **Pub. No.: US 2016/0059995 A1**(43) **Pub. Date: Mar. 3, 2016**(54) **FLEXIBLE POUCH WITH MEMORY
SUPPORT STRIPS AND METHODS OF
PRODUCING AND USING SAME****Publication Classification**

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(71) Applicant: **Nestec S.A., Vevey (CH)**(72) Inventor: **Thomas Joseph JAMES, Franklin
Lakes, NJ (US)**(21) Appl. No.: **14/838,296**(22) Filed: **Aug. 27, 2015****Related U.S. Application Data**(60) Provisional application No. 62/042,435, filed on Aug.
27, 2014.**ABSTRACT**

A flexible pouch has support strips of material attached to at least a portion of a sidewall thereof; the support strips of material possess memory so as to assist the pouch in substantially retaining an original shape thereof after handling. Flexible pouches having a product disposed therein are also disclosed, along with kits containing same. In addition, methods of producing the flexible pouches and packaged products are also disclosed.



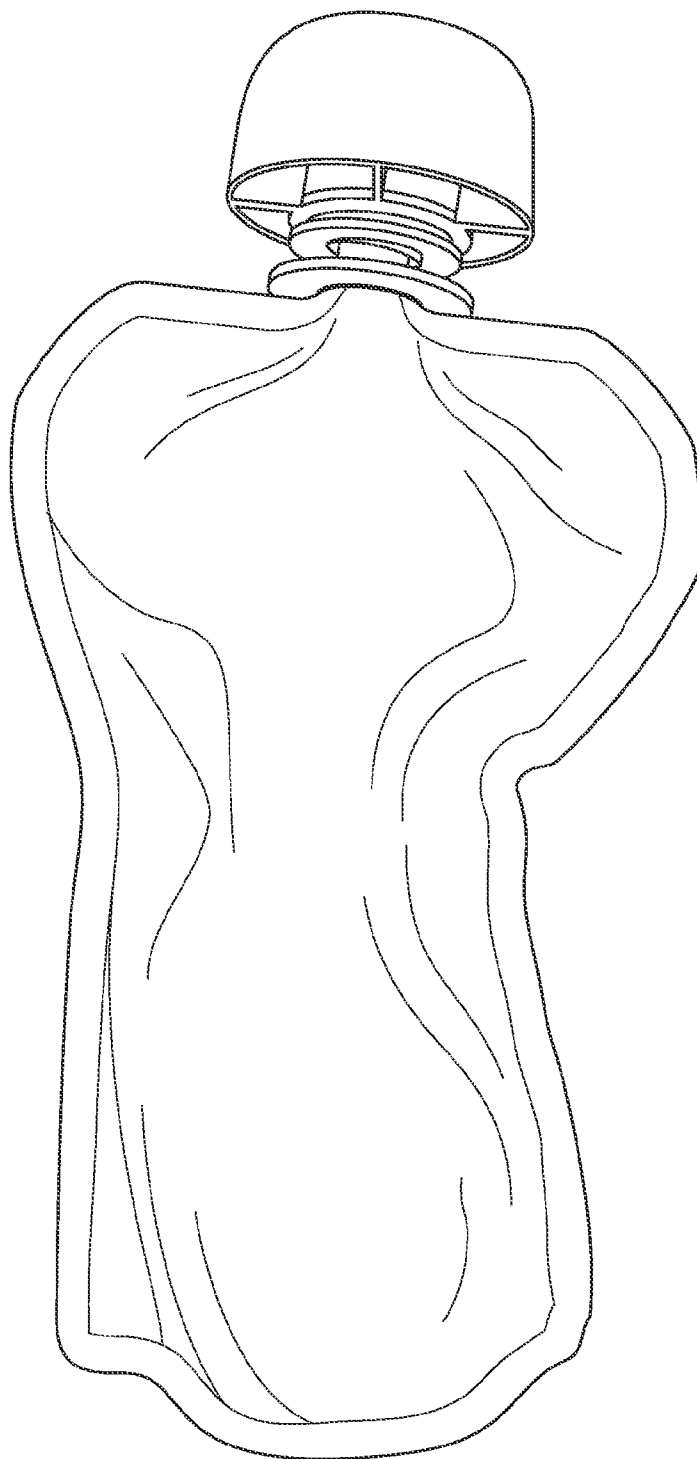
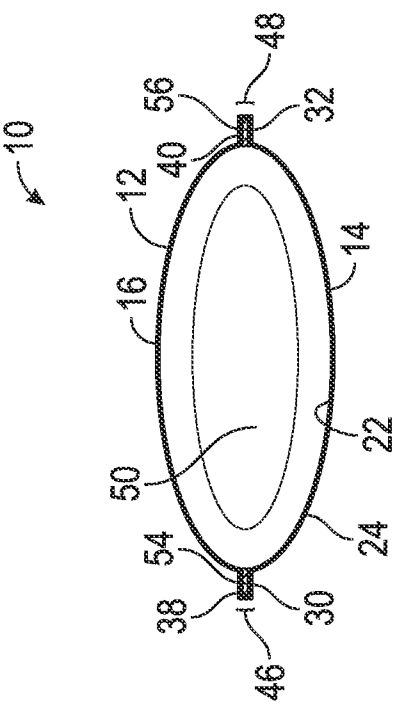
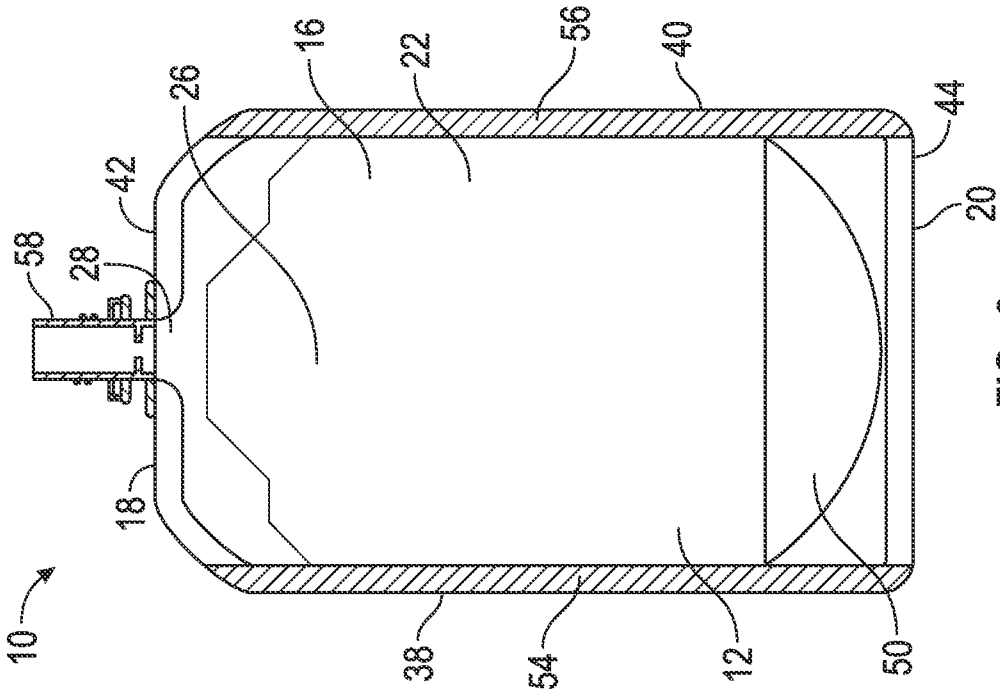
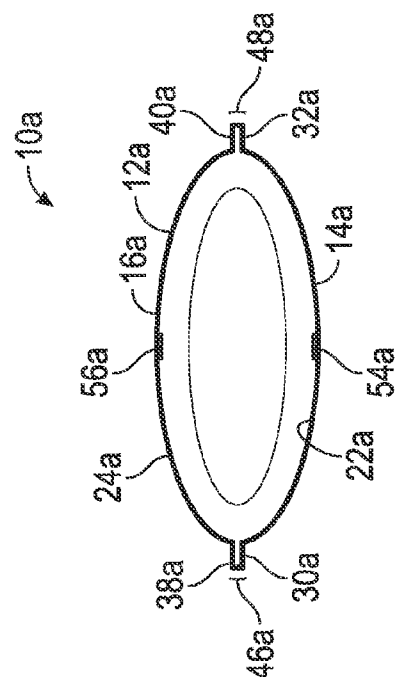
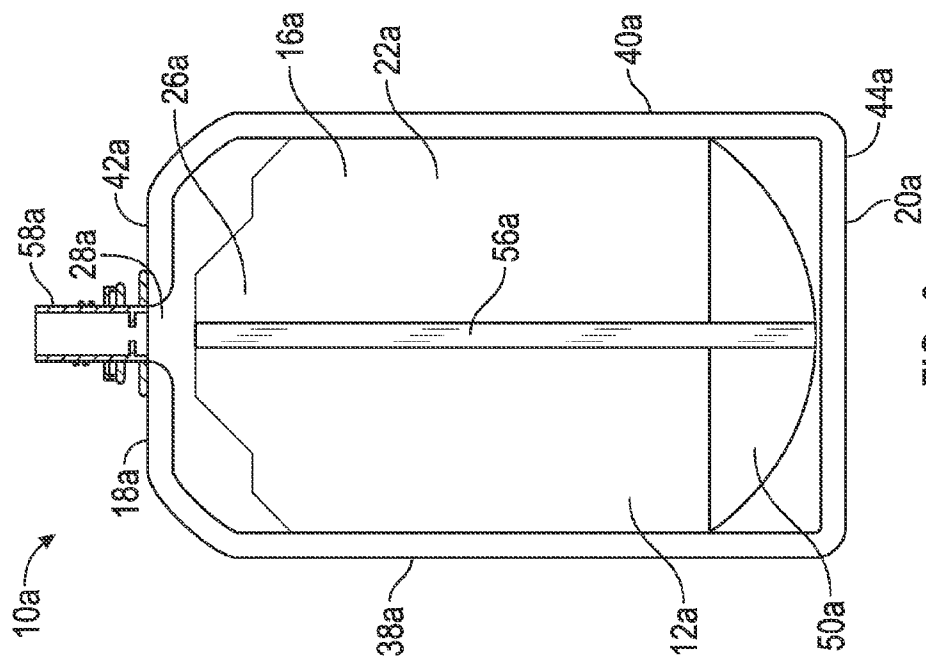


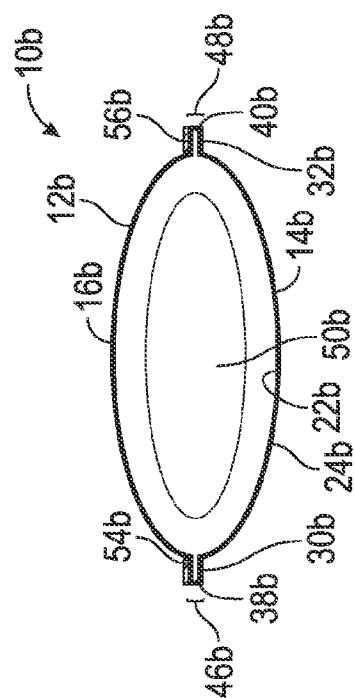
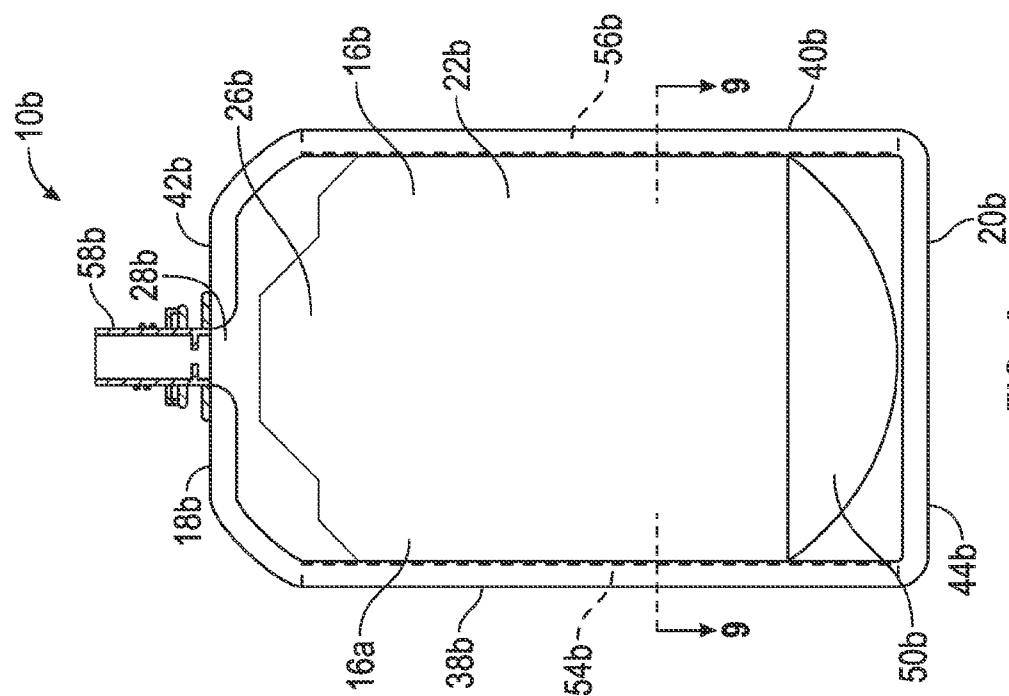
FIG. 1
(Prior Art)

FIG. 2









FLEXIBLE POUCH WITH MEMORY SUPPORT STRIPS AND METHODS OF PRODUCING AND USING SAME

CROSS REFERENCE TO RELATED APPLICATIONS/INCORPORATION BY REFERENCE STATEMENT

[0001] The subject application claims benefit under 35 USC 119(e) of U.S. provisional application Ser. No. 62/042,435, filed Aug. 27, 2014; the entire contents of which are expressly incorporated herein by reference.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND DEVELOPMENT

[0002] Not Applicable.

BACKGROUND

[0003] Various types of packaging for products (such as, but not limited to, food items) are well known in the art. In particular, flexible pouches are currently used in the packaging of a wide variety of products, from food and beverage products to cleaning supplies and other household items. Although flexible pouches are in wide usage, there are some drawbacks to their display. First, packaged products produced using these flexible pouches are not as stable as other types of product packaging (such as, but not limited to, boxes and other substantially shape-sustaining containers), and thus require additional shelf manipulation to be displayed and maintained in the desired upright position. In addition, when products packaged in flexible pouches are handled, they generally lose their original shape and can even have the appearance of being crushed. As consumers consider certain products packaged in flexible pouches, they may return the packaged products to the shelf/display unit in a crumbled state. Therefore, to achieve a desired visual appearance of in-store shelf displays (or other in-store display units), continual monitoring and multiple shelf manipulations are required, thereby resulting in increased manual labor costs; however, even the actual shelf manipulation process can further hamper the undesirable, crushed appearance of the packaged products produced using flexible pouches.

[0004] Therefore, there is a need in the art for new and improved flexible pouches that can be substantially retained in their original, upright shape upon handling. It is to such pouches, packaged products and kits formed therefrom, as well as methods of producing and using same, that the presently disclosed inventive concept(s) is directed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 is a perspective view of a flexible pouch of the prior art.

[0006] FIG. 2 is a perspective view of one embodiment of a flexible pouch constructed in accordance with the presently disclosed inventive concept(s).

[0007] FIG. 3 is a cross-sectional view of the flexible pouch of FIG. 2 taken along line 3-3, wherein the flexible pouch is in a substantially flattened condition.

[0008] FIG. 4 is another cross-sectional view of the flexible pouch of FIG. 2 taken along line 4-4, wherein the flexible pouch is in a substantially opened condition.

[0009] FIG. 5 is a perspective view of another embodiment of a flexible pouch constructed in accordance with the presently disclosed inventive concept(s).

[0010] FIG. 6 is a cross-sectional view of the flexible pouch of FIG. 5 taken along line 6-6, wherein the flexible pouch is in a substantially flattened condition.

[0011] FIG. 7 is another cross-sectional view of the flexible pouch of FIG. 5 taken along line 7-7, wherein the flexible pouch is in a substantially opened condition.

[0012] FIG. 8 is a cross-sectional view of another embodiment of a flexible pouch constructed in accordance with the presently disclosed inventive concept(s).

[0013] FIG. 9 is another cross-sectional view of the flexible pouch of FIG. 8.

DETAILED DESCRIPTION

[0014] Before explaining at least one embodiment of the presently disclosed inventive concept(s) in detail, it is to be understood that the presently disclosed inventive concept(s) is not limited in its application to the details of construction and the arrangement of the components or steps or methodologies set forth in the following description or illustrated in the drawings. The presently disclosed inventive concept(s) is capable of other embodiments or of being practiced or carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein is for the purpose of description and should not be regarded as limiting.

[0015] Unless otherwise defined herein, technical terms used in connection with the presently disclosed inventive concept(s) shall have the meanings that are commonly understood by those of ordinary skill in the art. Further, unless otherwise required by context, singular terms shall include pluralities and plural terms shall include the singular.

[0016] All patents, published patent applications, and non-patent publications mentioned in the specification are indicative of the level of skill of those skilled in the art to which this presently disclosed inventive concept(s) pertains. All patents, published patent applications, and non-patent publications referenced in any portion of this application are herein expressly incorporated by reference in their entirety to the same extent as if each individual patent or publication was specifically and individually indicated to be incorporated by reference.

[0017] All of the articles and/or methods disclosed herein can be made and executed without undue experimentation in light of the present disclosure. While the articles and methods of the presently disclosed inventive concept(s) have been described in terms of preferred embodiments, it will be apparent to those of skill in the art that variations may be applied to the articles and/or methods and in the steps or in the sequence of steps of the method described herein without departing from the concept, spirit, and scope of the presently disclosed inventive concept(s). All such similar substitutes and modifications apparent to those skilled in the art are deemed to be within the spirit, scope, and concept of the presently disclosed inventive concept(s).

[0018] As utilized in accordance with the present disclosure, the following terms, unless otherwise indicated, shall be understood to have the following meanings:

[0019] The use of the word "a" or "an" when used in conjunction with the term "comprising" in the claims and/or the specification may mean "one", but it is also consistent with the meaning of "one or more," "at least one," and "one or more than one." The use of the term "or" in the claims is used to mean "and/or" unless explicitly indicated to refer to alternatives only or that the alternatives are mutually exclusive, although the disclosure supports a definition that refers to

only alternatives and “and/or.” Throughout this application, the term “about” is used to indicate that a value includes the inherent variation of error for the device, the method being employed to determine the value, or the variation that exists among the study subjects. For example, but not by way of limitation, when the term “about” is utilized, the designated value may vary by plus or minus twelve percent, or eleven percent, or ten percent, or nine percent, or eight percent, or seven percent, or six percent, or five percent, or four percent, or three percent, or two percent, or one percent. The use of the term “at least one” will be understood to include one as well as any quantity more than one, including but not limited to, 2, 3, 4, 5, 10, 15, 20, 30, 40, 50, 100, etc. The term “at least one” may extend up to 100 or 1000 or more, depending on the term to which it is attached; in addition, the quantities of 100/1000 are not to be considered limiting, as higher limits may also produce satisfactory results. In addition, the use of the term “at least one of X, Y, and Z” will be understood to include X alone, Y alone, and Z alone, as well as any combination of X, Y, and Z. The use of ordinal number terminology (i.e., “first,” “second,” “third,” “fourth,” etc.) is solely for the purpose of differentiating between two or more items and is not meant to imply any sequence or order or importance to one item over another or any order of addition, for example.

[0020] As used in this specification and claim(s), the words “comprising” (and any form of comprising, such as “comprise” and “comprises”), “having” (and any form of having, such as “have” and “has”), “including” (and any form of including, such as “includes” and “include”) or “containing” (and any form of containing, such as “contains” and “contain”) are inclusive or open-ended and do not exclude additional, unrecited elements or method steps.

[0021] The term “or combinations thereof” as used herein refers to all permutations and combinations of the listed items preceding the term. For example, “A, B, C, or combinations thereof” is intended to include at least one of: A, B, C, AB, AC, BC, or ABC, and if order is important in a particular context, also BA, CA, CB, CBA, BCA, ACB, BAC, or CAB. Continuing with this example, expressly included are combinations that contain repeats of one or more item or term, such as BB, AAA, AAB, BBC, AAABCCCC, CBBAAA, CABABB, and so forth. The skilled artisan will understand that typically there is no limit on the number of items or terms in any combination, unless otherwise apparent from the context.

[0022] As used herein, the term “substantially” means that the subsequently described event or circumstance completely occurs or that the subsequently described event or circumstance occurs to a great extent or degree. For example, when associated with a particular event or circumstance, the term “substantially” means that the subsequently described event or circumstance occurs at least 80% of the time, or at least 85% of the time, or at least 90% of the time, or at least 95% of the time. The term “substantially adjacent” may mean that two items are 100% adjacent to one another, or that the two items are within close proximity to one another but not 100% adjacent to one another, or that a portion of one of the two items is not 100% adjacent to the other item but is within close proximity to the other item.

[0023] The term “associate” as used herein will be understood to refer to the direct or indirect connection of two or more items.

[0024] The term “shelf-stable” as used herein refers to the ability of a food product to be safely stored and sold in a

sealed container at room temperature while still having a useful shelf life in which the taste and nutritional aspects (i.e., nutritional integrity, nutritional potency, etc.) of the product is retained. Examples of periods considered to be a “useful shelf life” include, but are not limited to, at least about two months, at least about three months, at least about four months, at least about five months, at least about six months, and longer.

[0025] The term “complete meal” as used herein refers to a meal that is designed to provide one nutritionally-balanced serving; that is, it is not necessary to combine the complete meal with another food product to provide a meal. The term “incomplete meal” thus refers to a meal not satisfying the requirements of a complete meal, but forming a portion thereof; that is, a complete meal is formed upon combining two or more incomplete meals.

[0026] Turning now to the presently disclosed inventive concept(s), certain embodiments thereof are directed to a flexible pouch containing one or more memory support strips that are disposed along at least a portion of a vertical side thereof. Certain other embodiments of the presently disclosed inventive concept(s) are directed to packaged products produced using such flexible pouches and kits and assemblies containing such flexible pouches, while other additional embodiments are directed to methods of production and use of the above flexible pouches, packaged products, kits, and/or assemblies. The presently disclosed inventive concept(s) possesses many benefits over the prior art. First, the flexible pouches disclosed or otherwise contemplated herein have greater stability than the pouches of the prior art. In addition, the flexible pouches disclosed or otherwise contemplated herein require less monitoring and shelf manipulation for display and maintenance in the desired upright position. In addition, the flexible pouches disclosed or otherwise contemplated herein will substantially retain their original shape upon handling and will not have the appearance of being crumbled or crushed. Therefore, the flexible pouches disclosed or otherwise contemplated herein provide a more desirable visual appearance of in-store shelf displays while decreasing the need for continual monitoring and shelf manipulations, thereby decreasing manual labor costs.

[0027] Turning now to the Drawings, a squeezable flexible pouch of the prior art is shown in FIG. 1. As can be seen, handling of the squeezable flexible pouch has resulted in distortions in a sidewall of the flexible pouch that provide a sort of “crushed” appearance thereto. Because of these distortions, the flexible pouch may not be stable in an upright position and may require a certain amount of manipulation to increase the stability thereof when display on a shelf (or other display unit) is desired. In addition, the flexible pouch may have to be manipulated again if handled by a consumer and returned to the display. The required manipulation results in increased manual labor costs associated with the visual appearance of the display; in addition, the stabilities of the flexible pouches, as well as the configuration in which a plurality of pouches are disposed on a shelf (or other display unit), affect the number of flexible pouches that may be displayed on a shelf (or other display unit).

[0028] In contrast, the presently disclosed inventive concept(s) overcomes these disadvantages and defects of the prior art by providing a structure to the flexible pouches that better retains the original shape of the flexible pouches and thus provides greater stability to the flexible pouches when they are disposed in an upright, displayed condition. Certain

embodiments of the presently disclosed inventive concept(s) will be described herein below with reference to the Drawings.

[0029] Shown in FIGS. 2-4 is one embodiment of a flexible pouch constructed in accordance with the presently disclosed inventive concept(s). The flexible pouch is indicated by the general reference numeral 10. The flexible pouch 10 includes a sidewall 12 that is formed from a first panel 14 (FIGS. 2 and 4) and a second panel 16 (FIGS. 3 and 4). The flexible pouch 10 further includes an upper end 18 and a lower end 20, while the sidewall 12 has an inner surface 22 and an outer surface 24; in addition, the inner surface 22 of the sidewall 12 defines a receiving space 26 that may extend substantially between the upper end 18 and the lower end 20 of the flexible pouch 10. The upper end 18 has an opening 28 extending therethrough that provides access to the receiving space 26.

[0030] The first panel 14 has a first side edge 30, a second side edge 32, an upper edge 34, and a lower edge 36, while the second panel 16 has a first side edge 38, a second side edge 40, an upper edge 42, and a lower edge 44. The first side edge 30 of the first panel 14 and the first side edge 38 of the second panel 16 are connected to one another and peripherally sealed substantially along the lengths thereof to form a first vertical side fin seal 46 of the flexible pouch 10. Likewise, the second side edge 32 of the first panel 14 and the second side edge 40 of the second panel 16 are connected to one another and peripherally sealed substantially along the lengths thereof to form a second vertical side fin seal 48 of the flexible pouch 10. FIG. 3 illustrates the flexible pouch 10 in a substantially flattened condition, while FIGS. 2 and 4 illustrate the flexible pouch 10 in a substantially open condition.

[0031] While the flexible pouch 10 is shown in FIGS. 2-4 as being formed from first and second panels 14 and 16 and with first and second vertical side fin seals 46 and 48 formed therein, it will be understood that other methods of forming a flexible pouch that has seal(s) formed at different locations and/or has different type(s) of seal(s) formed therein are well known to a person of ordinary skill in the art. Therefore, it will be understood that the flexible pouches of the presently disclosed inventive concept(s) are not limited to the particular seal structures shown herein; rather, flexible pouches produced by different methods that result in different seal location(s) and/or type(s) of seal(s) also fall within the scope of the presently disclosed inventive concept(s), so long as the flexible pouches so produced are capable of functioning in accordance with the presently disclosed inventive concept(s) (i.e., are capable of substantially retaining an upright, vertical position upon display and/or handling).

[0032] The lower end 20 of the flexible pouch 10 has a gusset 50 formed therein. The lower edges 36 and 44 of the first and second panels 14 and 16, respectively, are connected to the gusset 50 in the lower end 20 of the flexible pouch, substantially along the widths thereof. Alternatively or in addition thereto, the first and second panels 14 and 16 may be connected to the gusset 50 at one or more points above the lower edges 36 and 44, respectively, thereof. While FIG. 3 illustrates the gusset 50 as being inwardly folded when the flexible pouch 10 is in a substantially flattened condition, it will be understood that the gusset 50 may be provided with any configuration that allows the lower end 20 to function in accordance with the presently disclosed inventive concept(s); that is, the gusset 50 may be provided in any configuration that allows the flexible pouch 10 to substantially remain in an

upright position. Therefore, the inwardly folded gusset 50 of FIG. 3 should not be regarded as limiting.

[0033] In one particular, non-limiting example, the flexible pouch 10 is an upstanding flexible pouch that is capable of being disposed in an upright, vertical orientation and remaining so oriented by virtue of the structure of the flexible pouch 10 (and/or any product disposed thereon) when a gusseted lower end 20 of the flexible pouch 10 is in an expanded condition; however, in alternative embodiments, a flexible pouch may assume other configurations, as will be evident to a person of ordinary skill in the art, given the disclosure provided herein as well as knowledge available in the art. Thus, these alternative embodiments also fall within the scope of the presently disclosed inventive concept(s), so long as the flexible pouch is capable of functioning as described or otherwise contemplated herein. In another particular, non-limiting example, the flexible pouch is an upstanding, squeezable flexible pouch.

[0034] The flexible pouch 10 may be formed in any manner known in the art or otherwise contemplated by a person having ordinary skill in the art, so long as the flexible pouch 10 can function in accordance with the presently disclosed inventive concept(s). Methods of forming flexible pouches are well known in the art and are well within the knowledge of a person having ordinary skill in the art. Therefore, no further description on the production methods that may be employed is deemed necessary.

[0035] In a similar manner, any materials known in the art or otherwise contemplated by a person having ordinary skill in the art may be utilized in the construction of the flexible pouch 10, so long as the flexible pouch 10 is capable of functioning in accordance with the presently disclosed inventive concept(s). In addition, the first and second panels 14 and 16 and the gusset 50 of the flexible pouch 10 may each be formed of the same or separate materials. Each of these materials may include a single layer of material or a plurality of the same or different layers of material; when multiple layers are present, they may be laminated or co-extruded or otherwise combined. For example, but not by way of limitation, at least a portion of the inner surface 22 of the sidewall 12 may be formed of a first material, while at least a portion of the outer surface 24 of the sidewall 12 may be formed of a second material (which may be the same or different from the first material); in addition, at least a portion of the gusset 50 in the lower end 20 of the flexible pouch 10 may be formed of a third material, wherein the third material may be the same or different from the first and/or second materials. Examples of materials that may be utilized in accordance with the presently disclosed inventive concept(s) include, but are not limited to, nylon; foil; a polyester (including, but not limited to, an oriented polyester, such as oriented or biaxially oriented polyethylene terephthalate (PET)); a polyolefin, such as but not limited to, polypropylene (PP) or polyethylene (PE) (including, but not limited to, low density polyethylene (LDPE) and linear low density polyethylene (LLDPE)); ethyl vinyl alcohol (EVOH) and EVOH copolymers; combinations, laminates, and/or extrusions of any of the above; and the like. However, other materials that may be used in the construction of flexible pouches are well known in the art and can easily be contemplated by a person having ordinary skill in the art, and therefore these materials also fall within the scope of the presently disclosed inventive concept(s).

[0036] In particular non-limiting examples, the flexible pouch 10 may be formed of a polymeric material, such as but

not limited to, a polymeric material that is Bisphenol A (BPA)—free and/or a polymeric material that is recyclable and/or renewable. In addition, the material(s) from which the flexible pouch 10 is constructed may be gas permeable and/or gas impervious, depending on the product(s) to be packaged in the flexible pouch 10. Further, the materials from which the flexible pouch 10 is constructed may also have one or more coatings/lacquers applied thereto, based on the type of product(s) to be packaged in the flexible pouch 10. For example, but not by way of limitation, the materials may be provided with a liquid-resistant/liquid-proof coating, a gas impervious coating, an insulated coating, and/or other type of coating that increases the shelf-life of the product packaged within the flexible pouch 10.

[0037] In one particular embodiment, as shown in FIGS. 2-4, the upper edge 34 of the first panel 14 and the upper edge 42 of the second panel 16 are connected to one another along a portion of the widths thereof to form the upper end 18 of the flexible pouch 10. A portion of the upper edges 34 and 42 are left unconnected to one another so as to form the opening 28 in the upper end 18 of the flexible pouch 10 through which contents disposed therein can be dispensed. In addition, the flexible pouch 10 may further include a cap 52 (or other type of closure/sealing and/or opening device) that is releasably attached to the opening 28 in the upper end 18 of the flexible pouch 10. However, the illustration of the cap 52 is for purposes of illustration only and should not be considered limiting to the presently disclosed inventive concept(s). For example, but not by way of limitation, the flexible pouch 10 may be provided with another type of closure device, such as but not limited to, a press-to-close/zipper-type or slider device, that allows for control of the release of substances through the opening 28 in the upper end 18 of the flexible pouch 10 and/or allows for closure/resealing of the opening 28 in the upper end 18 of the flexible pouch 10. In yet another alternative (and/or in addition to a cap and/or any type of closure devices), a dispensing device 58 (such as, but not limited to, a straw, spout, valve, combinations thereof, and the like) may be attached to the opening 28 to provide a level of control to the release of substances from the flexible pouch 10.

[0038] While the first and second panels 14 and 16 are described herein above as being connected to one another along a portion of the upper edges 34 and 42, respectively, thereof, and an opening formed through a point of non-connection between the two upper edges 34 and 42, it will be understood that, in an alternative embodiment, the first and second panels 14 and 16 may be connected to one another at a point below the upper edges 34 and 42, respectively, thereof in the formation of the upper end 18 of the flexible pouch 10. Alternatively, another structure may be attached in between the first and second panels 14 and 16 and in an area adjacent to or in relative proximity to the upper edges 34 and 42, respectively, thereof, wherein the structure may form the upper end 18 of the flexible pouch 10 (either alone or in combination with the upper edges 34 and 42 of the first and second panels 14 and 16, respectively). This additional structure may be similar to the gusset 50 in the lower end 20 of the flexible pouch 10, and may assist in the attachment of one or more closure, opening, resealing, and/or dispensing devices to the flexible pouch 10.

[0039] In addition, while the opening 28 is described as being formed in the upper end 18, it will be understood that an alternative placement of the opening 28 (such, as but not

limited to, within the first panel 14, the second panel 16, the lower end 20, the first vertical side fin seal 46, the second vertical side fin seal 48, and/or the gusset 50) may be desired. Therefore, placement of the opening 28 in one of these alternative locations also falls within the scope of the presently disclosed inventive concept(s), so long as such placement does not affect the function of the flexible pouch 10 of the presently disclosed inventive concept(s) (for example, but not limited to, the ability of the flexible pouch 10 to maintain an upright orientation upon display and/or handling).

[0040] The flexible pouch further comprises a first support strip of material 54 and a second support strip of material 56. Each of the support strips 54 and 56 is attached to at least a portion of the sidewall 12 and extends in a substantially vertical direction thereon. The support strips of material 54 and 56 are formed of a pliable but substantially non-malleable material; in this manner, each of the support strips 54 and 56 possesses a memory feature that allows the support strips 54 and 56 to be slightly moveable when pressure is applied to the flexible pouch 10 during handling and/or use thereof; however, the support strips 54 and 56 assume their original shape upon removal of pressure therefrom and without any substantial indentations formed thereon. Therefore, the support strips 54 and 56 allow the sidewall 12 of the flexible pouch 10 to substantially retain its original shape after being handled and/or after use thereof.

[0041] The support strips 54 and 56 may be formed of any material that is of sufficient rigidity to be pliable but substantially non-malleable; that is, the material must be capable of substantially retaining its original shape while having a certain amount of movement/bendability in response to pressure applied thereto, but wherein the material returns to its original shape, with substantially no indentations or folds formed therein, upon release of the pressure. In particular, non-limiting embodiments, the material from which the support strips 54 and 56 are formed may be rigid. In other, non-limiting embodiments, the material may be a smart material.

[0042] The support strips 54 and 56 may be attached or otherwise associated with at least a portion of the sidewall 12 of the flexible pouch 10. The support strips 54 and 56 may be attached to or otherwise associated with the inner surface 22 and/or the outer surface 24 of the sidewall 12. The support strips 54 and 56 may both be attached to one of the first and second panels 14 and 16, or one of the support strips 54/56 may be attached to one of the panels 14/16, while the other support strip 54/56 is attached to the other panel 14/16. In addition, at least a portion of one or both of the support strips 54/56 may be attached to both panels 14 and 16. In certain embodiments, the support strips 54 and 56 may be disposed opposite to one another.

[0043] The support strips 54/56 may be attached or otherwise associated with the sidewall 12 by any methods known in the art or otherwise contemplated by a person having ordinary skill in the art. For example, but not by way of limitation, the support strips 54 and 56 may be attached to one or both of the panels 14 and 16 via a bonding material. In addition, any of the other seals and/or other attachments disclosed or otherwise contemplated herein may be formed via the use of a bonding material.

[0044] The term “bonding material” as used herein will be understood to refer to any material that is sufficient to connect two elements to one another; in particular, the term “bonding material” will be understood to refer to any material that is sufficient to connect one of the support strips of material as

disclosed or otherwise contemplated herein to a sidewall of a flexible pouch. Examples of bonding materials include, but are not limited to, adhesives (including, but not limited to, pressure-sensitive adhesives and cold seal adhesives), cohesives, adhesive/cohesive combinations, heat sealable materials (such as, but not limited to, heat sealing lacquers or hot melt materials), sonically sealable materials (including, but not limited to, ultrasonically sealable materials), vibratory sealable materials, combinations thereof, and the like.

[0045] The support strip 54 may extend in a vertical direction and substantially the entire length of the sidewall 12 from the upper end 18 to the lower end 20 thereof (for example, but not by way of limitation, the support strip 54 may be attached to the first panel 14 and extend substantially from the upper edge 34 to the lower edge 36 thereof). Likewise, the support strip 56 may extend in a vertical direction and substantially the entire length of the sidewall 12 from the upper end 18 to the lower end 20 thereof (for example, but not by way of limitation, the support strip 56 may be attached to the second panel 16 and extend substantially from the upper edge 42 to the lower edge 44 thereof). Alternatively, the support strips 54 and 56 may extend in a vertical direction over only a portion of the length of the sidewall 12. In yet another embodiment, one of the support strips 54/56 may extend in a vertical direction and substantially the entire length of the sidewall 12 from the upper end 18 to the lower end 20, while the other support strip 54/56 may extend in a vertical direction over only a portion of the length of the sidewall 12. In addition, each of the support strips 54 and 56 may be associated with a different panel 14 or 16, or both of the support strips may be attached to a single panel 14/16. Therefore, any association described herein of a particular support strip 54/56 with a particular panel 14/16 is arbitrary and strictly for the purposes of example only; it should not be considered limiting of the presently disclosed inventive concept(s).

[0046] In a particular non-limiting embodiment (and as shown in particular in FIG. 4), at least a portion of the support strip 54 may be disposed between the first side edge 30 of the first panel 14 and the first side edge 38 of the second panel 16 prior to and/or during the connection thereof, such that at least a portion of the support strip 54 is disposed within the first vertical side fin seal 46 during formation thereof. In addition, at least a portion of the support strip 56 may be disposed between the second side edge 32 of the first panel 14 and the second side edge 40 of the second panel 16 prior to and/or during the connection thereof, such that at least a portion of the support strip 56 is disposed within the second vertical side fin seal 48 during formation thereof. In this manner, the first and second vertical side fin seals 46 and 48 of the flexible pouch 10 assume their original shape and disposition upon removal of pressure therefrom and thereby allow the flexible pouch 10 to substantially retain its original shape after being handled. In this embodiment, one or both of the support strips 54 and 56 may extend substantially the entire length of the respective vertical side fin seal 46/48, or one or both of the support strips 54 and 56 may only extend a portion of the length of the respective vertical side fin seal 46/48.

[0047] The flexible pouch 10 may further include one or more colors, designs, and/or patterns disposed on at least a portion thereof. The color(s), design(s), and/or pattern(s) may include, for example but not by way of limitation, packaging and/or labeling information (including, but not limited to, "use by" dates and/or batch codes), instructions for use, promotional material, company information, logos/trademarks,

combinations thereof, and the like. The color(s), design(s) and/or pattern(s) may be disposed on the flexible pouch 10 (and/or the material from which the flexible pouch 10 is formed) by any method known in the art, including but not limited to, printing, etching, embossing, texturing, coating, lacquering, application during extrusion, and the like. The color(s), design(s) and/or pattern(s) may be applied separately or simultaneously and/or may be characterized totally or partially by pearlescent, translucent, transparent, iridescent, or other similar qualities. Each of the above-named characteristics may occur alone or in combination and may be applied to a portion of the flexible pouch 10 and/or the material from which the flexible pouch 10 is formed. Moreover, when the flexible pouch 10 comprises two or more layers of material, each of the layers of material may vary in the combination of such characteristics.

[0048] While FIGS. 2-4 depict the support strips 54 and 56 as being disposed within the vertical side fin seals 46 and 48, respectively, it will be understood that the support strips 54 and 56 may be disposed at any position on the first and/or second panels 14 and 16. For example, but not by way of limitation, shown in FIGS. 5-7 is another embodiment of a flexible pouch constructed in accordance with the presently disclosed inventive concept(s). The flexible pouch is referenced the reference numeral 10a and is similar to the flexible pouch 10, except that a first support strip of material 54a and a second support strip of material 56a are disposed in different locations when compared to the support strips 54/56 of FIGS. 2-4. At least a portion of the first support strip of material 54a is attached or otherwise associated with a first panel 14a in a location other than the portions that are included in a first vertical side fin seal 46a and a second vertical side fin seal 48a. Similarly, at least a portion of the second support strip of material 56a is attached or otherwise associated with a second panel 16a in a location other than the portions that are included in a first vertical side fin seal 46a and a second vertical side fin seal 48a. In FIGS. 6 and 7, the first and second support strips 54a and 56a are depicted as being disposed substantially along a mid-line of the respective panel 14a/16a; however, this depiction is for purposes of illustration only, and it should be understood that any placement of the first support strip 54a on the first panel 14a, as well as any placement of the second support strip 56a on the second panel 16a, is encompassed within the scope of the presently disclosed inventive concept(s).

[0049] In addition, it will be understood that the support strips of material 54/54a and 56/56a need not be attached or otherwise associated with the inner surface 22/22a of the sidewall 12/12a of the flexible pouch 10/10a (and thus disposed within the receiving space 26/26a of the flexible pouch 10/10a). Rather, certain embodiments of the presently disclosed inventive concept(s) include flexible pouches that have at least one support strip of material disposed on an outer surface thereof. For example, FIGS. 8-9 depict another embodiment of a flexible pouch represented by reference numeral 10b. The flexible pouch 10b is similar to the flexible pouch 10 of FIGS. 2-4, except as described herein below. A first support strip of material 54b and a second support strip of material 56b are both attached to a second panel 16b in a manner whereby the support strips of material 54b and 56b are exposed on an outer surface 24b of the sidewall 12b of the flexible pouch 10b. The flexible pouch 10b has a first vertical side fin seal 46b and a second vertical side fin seal 48b. While in FIGS. 2-4, the support strips 54/56 are shown as being

disposed within the respective vertical side fin seal **46/48**, in FIGS. **8-9**, the first support strip of material **54b** is disposed on the outer surface **24b** of the sidewall **12b** and adjacent the first vertical side fin seal **46b**, while the second support strip of material **56b** is disposed on the outer surface **24b** of the sidewall **12b** and adjacent the second vertical side fin seal **48b**.

[0050] It will be understood that the support strips of material **54b/56b** may be attached or otherwise associated with any portion of the outer surface **24b** of the sidewall **12b**, and therefore the attachment/association with the second panel **16b**, as shown in FIGS. **8-9**, is for purposes of illustration only. While the support strips of material **54b** and **56b** are depicted in FIGS. **8-9** as being attached to a back-side of the flexible pouch **10a**, the support strips of material **54b** and **56b** may both be attached to an outer surface of the first panel **14b** in a manner whereby the support strips of material **54b** and **56b** are exposed on a front-side of the flexible pouch **10b**. Alternatively, one of the support strips of material **54b/56b** may be disposed on the outer surface of the first panel **14a**, while the other support strip **54b/56b** may be disposed on the outer surface of the second panel **16a**. Yet further, one of the support strips of material **54b/56b** may be attached or otherwise associated with the inner surface **22b** of the sidewall **12b**, while the other support strip **54b/56b** may be attached or otherwise associated with the outer surface **24b** of the sidewall **12b**.

[0051] Certain embodiments of the presently disclosed inventive concept(s) are directed to methods of producing any of the flexible pouches disclosed or otherwise contemplated herein. In one particular, non-limiting embodiment of the method, the first and second panels are sealed to one another to form the sidewall of the flexible pouch as well as the first and second vertical side fin seals thereof (as described in detail herein above). A gusseted lower end is attached to the first and second panels substantially along the widths thereof. In addition, at least a portion of the first and second support strips of material are attached to the inner surface and/or outer surface of the sidewall and extend in a substantially vertical position thereon.

[0052] The method may further include the step of disposing a predetermined quantity of a product within the flexible pouch and releasably sealing the product therewithin. Any type of product(s) may be disposed within the flexible pouch, so long as the pouch is capable of functioning as disclosed and/or otherwise contemplated herein. The product(s) may be shelf-stable, or the product(s) may be perishable and thus require refrigerated and/or frozen storage conditions. In addition, the product may be in a solid, semi-solid, semi-liquid, liquid, and/or gaseous form. For example, but not by way of limitation, the product may be selected from the group consisting of baby food, juice, fruit and/or vegetable purees, beverages (milk, coffee, flavored drinks, etc.), beverage concentrate and/or drink mix, other liquid products (i.e., oils, salad dressings, sauces, marinades, vinegar, etc.), condiments (i.e., ketchup, mustard, relish, honey, butter, etc.), granulated products (spices, seeds, grains, etc.), processed meat and/or poultry, pet food, pet treats, pet supplies, refrigerated/frozen foods, dairy products, candy and confectionary items, baking supplies, puddings, creams, vegetables, fruit, vegetable and/or fruit-based products (i.e., applesauce), health food products, baked goods, dried fruits and/or nuts, snack foods, breakfast foods (cereal, oatmeal, granola, etc.), cleaning and other household supplies, health and beauty products (i.e.,

cosmetics, creams, lotions, shampoo/conditioner, soaps and washes, oils, mouthwashes, etc.), pharmaceutical products, and combinations thereof.

[0053] The method may further include one or more of the following steps: releasably attaching a cap to the opening in the upper end of the flexible pouch; attaching a device that allows the opening in the upper end of the flexible pouch to be resealed; and/or attaching at least one dispensing device to the opening in the upper end of the flexible pouch.

[0054] In addition, other methods of producing flexible pouches of the prior art (i.e., without support strips attached thereto) are well known in the art. In addition, methods of attaching strips of material similar to the support strips of material (as disclosed or otherwise contemplated herein) to a material are also well known in the art. Therefore, any method of producing a flexible pouch (as disclosed or otherwise contemplated herein) that is within the skill of a person of ordinary skill in the art also falls within the scope of the presently disclosed inventive concept(s).

[0055] Certain embodiments of the presently disclosed inventive concept(s) are directed to a packaged product that includes any of the flexible pouches described or otherwise contemplated herein, along with a product disposed within the receiving space of the flexible pouch. In particular embodiments, a predetermined quantity of a product may be disposed within the receiving space and sealed within the flexible pouch.

[0056] Another embodiment of the presently disclosed inventive concept(s) is directed to a method of producing a packaged product as described herein above. In the method, a premeasured quantity of a product is disposed within the receiving space of any of the flexible pouches described or otherwise contemplated herein and sealed therewithin.

[0057] Another embodiment of the presently disclosed inventive concept(s) is directed to a kit containing at least one of the packaged products described herein above (i.e., a flexible pouch containing at least one product disposed therein). A kit may include one or more packaged products, such as but not limited to, two or more packaged products, three or more packaged products, four or more packaged products, five or more packaged products, six or more packaged products, seven or more packaged products, eight or more packaged products, nine or more packaged products, ten or more packaged products, eleven or more packaged products, twelve or more packaged products, thirteen or more packaged products, fourteen or more packaged products, fifteen or more packaged products, sixteen or more packaged products, seventeen or more packaged products, eighteen or more packaged products, nineteen or more packaged products, twenty or more packaged products, and the like. Each flexible pouch present in the kit may be the same, or the kit may contain two or more different types/sizes of flexible pouches. In addition, each product packaged in the flexible pouches may be the same, or the kit may contain two or more different products.

[0058] The kits of the presently disclosed inventive concept(s) may further include a display unit on which at least a portion of the packaged product(s)/kit(s) may be disposed and thereby displayed. Display units are well known in the art, and therefore no further discussion thereof is deemed necessary.

[0059] The kits of the presently disclosed inventive concept(s) may further include one or more sets of instructions. The instructions may explain how to use the kit(s) for display of the packaged product(s) present therein and/or how to pro-

duce a display assembly that includes one or more packaged product(s) of the kit(s) disposed on a display unit. Any type of format capable of conveying the desired information (and/or directing a user's attention to a location where said information can be found) may be utilized as the instructions described or otherwise contemplated herein. Non-limiting examples of formats in which the instructions may be provided include written wording and/or pictorial drawings, hardware, software, a website address, a bar code (such as but not limited to, a QR code) that is readable by an imaging device/code reader, combinations thereof, and the like. The instructions may contain static information, or the instructions may be in an interactive form.

[0060] Another embodiment of the presently disclosed inventive concept(s) is directed to an assembly. The assembly includes one or more of any of the packaged products disclosed or otherwise contemplated herein (and/or one or more of the kits containing same) and a display unit on which at least a portion of the packaged product(s)/kit(s) is disposed and thereby displayed.

[0061] In particular embodiments of the kits and assemblies of the presently disclosed inventive concept(s), the plurality of packaged product(s) are further defined as a range of food and/or beverage products, each being disposed in a flexible pouch constructed in accordance with the presently disclosed inventive concept(s). The range includes a plurality of different products disposed in flexible pouches that are produced as described herein above. The range may include a plurality of individual products and/or a plurality of kits containing the individual products. The plurality of products may differ in the types of food disposed therein. Alternatively and/or in addition thereto, the plurality of products may differ in the age range/stage to which they are directed. For example, but not by way of limitation, US Published Application No. US2010/0255114, the entire contents of which are incorporated herein by reference, discloses a range of shelf-stable baby food products for meeting the nutritional needs of an infant/child at a specific stage of infant development; these stages include Stage 1 (from about 4 months to about 6 months), Stage 2 (from about 6 months to about 8 months), Stage 3 (from about 8 months to about 12 months), and Stage 4 (from about 12 months to about 36 months). Thus, the plurality of products in the range may include a combination of foods directed to two or more of Stages 1-4 listed above.

[0062] Yet another further embodiment of the presently disclosed inventive concept(s) is directed to a method of providing a range of food and/or beverage products, each being disposed in a flexible pouch constructed in accordance with the presently disclosed inventive concept(s). The range may include a plurality of individual packaged products and/or a plurality of kits containing the individual packaged products. In the method, a range that includes a plurality of different food and/or beverage products, each being disposed in a flexible pouch and produced as described in detail herein above, are provided. At least two of the products present in the plurality of different products differ from one another in the types of food and/or beverage products provided and/or the age range/stage to which the products are directed. The range of food and/or beverage products in the flexible pouches constructed in accordance with the presently disclosed inventive concept(s) is displayed for perusal by consumers, so that a consumer can select one or more products from the range. The range of products is displayed with a desired visual

appearance based upon the structures of the flexible pouches, which provide greater stability when in the upright position.

[0063] The combinations of any of the method steps described herein above may be performed simultaneously or wholly or partially sequentially. In addition, the exemplary sequences of method steps provided herein above are for the purposes of illustration only; it will be understood that the individual steps, as well as the particular order of steps, may vary, and the sequence of steps may be performed in any order, so long as the materials and packages described herein are capable of functioning in accordance with the presently disclosed inventive concept(s).

[0064] Thus, in accordance with the presently disclosed inventive concept(s), there has been provided flexible pouches, packaged products and kits formed therefrom, as well as methods of producing and using same, that fully satisfy the objectives and advantages set forth herein above. Although the presently disclosed inventive concept(s) has been described in conjunction with the specific language set forth herein above, it is evident that many alternatives, modifications, and variations will be apparent to those skilled in the art. Accordingly, it is intended to embrace all such alternatives, modifications, and variations that fall within the spirit and broad scope of the presently disclosed inventive concept (s). Changes may be made in the construction and the operation of the various components, elements, and assemblies described herein, as well as in the steps or the sequence of steps of the methods described herein, without departing from the spirit and scope of the presently disclosed inventive concept(s).

1. A flexible pouch in which a product may be packaged, the flexible comprising:

a sidewall formed from a first panel and a second panel, the first panel having a first side edge, a second side edge, an upper edge, and a lower edge, and the second panel having a first side edge, a second side edge, an upper edge, and a lower edge, wherein the first side edges of the first and second panels are connected to one another and peripherally sealed substantially along the lengths thereof to form a first vertical side fin seal of the flexible pouch, and wherein the second side edges of the first and second panels are connected to one another and peripherally sealed substantially along the lengths thereof to form a second vertical side fin seal of the flexible pouch;

a gusseted lower end, wherein the first panel and second panel are connected to the gusseted lower end substantially along the widths thereof; and

two support strips of material, each attached to at least a portion of the sidewall and extending in a substantially vertical direction, wherein the two support strips of material are formed of a pliable but substantially non-malleable material such that each support strip possesses a memory feature whereby the support strips are moveable when pressure is applied to the flexible pouch during handling but that assume their original shape upon removal of the pressure therefrom, thereby allowing the flexible pouch to substantially retain its original shape after being handled.

2. The flexible pouch of claim 1, wherein the first and second support strips of material are each attached to at least a portion of the inner surface of the sidewall.

3. The flexible pouch of claim 1, wherein the first and second support strips of material are each attached to at least a portion of the outer surface of the sidewall.

4. The flexible pouch of claim 1, wherein one of the first and second support strips of material is attached to at least a portion of the inner surface of the sidewall, and the other support strip of material is attached to at least a portion of the outer surface of the sidewall.

5. The flexible pouch of claim 1, wherein the upper edges of the first panel and second panel are connected to one another along a portion of the widths thereof to form an upper end of the flexible pouch, and wherein a portion of the upper edges are left unconnected and thereby provide an opening in the upper end of the flexible pouch through which contents can be disposed therein and/or dispensed therethrough.

6. The flexible pouch of claim 6, further comprising at least one of:

- A) at least one cap releasably attached to the opening in the upper end of the flexible pouch;
- B) at least one dispensing device;
- C) at least one device that allows the flexible pouch to be resealed; or
- D) combinations thereof.

7. The flexible pouch of claim 1, wherein the two support strips of material are disposed opposite to one another and extend substantially the entire length of the first and/or second panel, substantially from the upper edge thereof to substantially the lower edge thereof.

8. The flexible pouch of claim 1, wherein the two support strips of material are further defined as a first support strip of material disposed within at least a portion of the first vertical side fin seal during formation thereof and a second support strip of material disposed within at least a portion of the second vertical side fin seal during formation thereof, whereby the first and second vertical side fin seals of the flexible pouch assume their original shape and disposition upon removal of pressure therefrom and thereby allow the flexible pouch to substantially retain its original shape after being handled.

9. The flexible pouch of claim 8, wherein the first support strip of material extends substantially the entire length of the first vertical side fin seal, and wherein the second support strip of material extends substantially the entire length of the second vertical side fin seal.

10. The flexible pouch of claim 1, wherein the first and second support strips of material are each formed from a rigid plastic material.

11. A method of producing a flexible pouch, the flexible pouch having an upper end, a lower end, and a sidewall having an inner surface and an outer surface, wherein the inner surface of the sidewall defines a receiving space that extends substantially between the upper end and the lower end of the flexible pouch, and wherein the upper end has an opening extending therethrough that provides access to the receiving space, the method comprising the steps of:

peripherally sealing a portion of a first panel and a portion of a second panel to one another to form the sidewall of the flexible pouch, wherein a first vertical side fin seal, a second vertical side fin seal, and the receiving space are formed therein;

attaching a gusseted lower end to the first panel and second panel substantially along the widths thereof; and

attaching at least a portion of a first support strip of material to the sidewall such that the first support strip extends in a substantially vertical position thereon;

attaching at least a portion of a second support strip of material to the sidewall such that the second support strip extends in a substantially vertical position thereon; wherein the two support strips of material are formed of a pliable but substantially non-malleable material such that each support strip possesses a memory feature whereby the support strips are moveable when pressure is applied to the flexible pouch during handling but that assume their original shape upon removal of the pressure therefrom, thereby allowing the flexible pouch to substantially retain its original shape after being handled.

12. The method of claim 11, wherein the flexible pouch is selected from the group consisting of those claimed in claim 1-claim 10.

13. The method of claim 11, wherein the step of sealing the first and second panels to one another further comprises the steps of connecting an upper edge of the first panel to an upper edge of the second panel along a portion of the widths thereof to form an upper end of the flexible pouch, wherein a portion of the upper edges are left unconnected and thereby provide an opening in the upper end of the flexible pouch through which contents can be disposed therein and/or dispensed therethrough.

14. The method of claim 13, further comprising the step of disposing a predetermined quantity of a product within the flexible pouch and releasably sealing the product therewithin.

15. The method of claim 14, wherein the product is selected from the group consisting of baby food, juice, fruit and/or vegetable purees, beverages, beverage concentrate and/or drink mixes, other liquid products, condiments, granulated products, processed meat and/or poultry, pet food, pet treats, pet supplies, refrigerated/frozen foods, dairy products, dairy products, candy and confectionary items, baking supplies, puddings, creams, vegetables, fruit, vegetable and/or fruit-based products, health food products, baked goods, dried fruits and/or nuts, snack foods, breakfast foods, cleaning and other household supplies, health and beauty products, pharmaceutical products, and combinations thereof.

16. The method of claim 14, further comprising the step of releasably attaching a cap to the opening in the upper end of the flexible pouch.

17. The method of claim 14, further comprising the step of attaching a device that allows the opening in the upper end of the flexible pouch to be resealed.

18. The method of claim 14, further comprising the step of attaching at least one dispensing device to the opening in the upper end of the flexible pouch.

19. The method of claim 11, wherein the first and second support strips of material are disposed opposite one another and extend substantially the entire length of the first and/or second panel, substantially from the upper edge thereof to substantially the lower edge thereof.

20. The method of claim 11, wherein the step of attaching the first support strip of material to the sidewall is further defined as disposing at least a portion of the first support strip of material within at least a portion of the first vertical side fin seal during formation thereof, and wherein the step of attaching the second support strip of material to the sidewall is further defined as disposing at least a portion of the second support strip of material within at least a portion of the second vertical side fin seal during formation thereof.