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(54) **PACKAGE SYSTEM**

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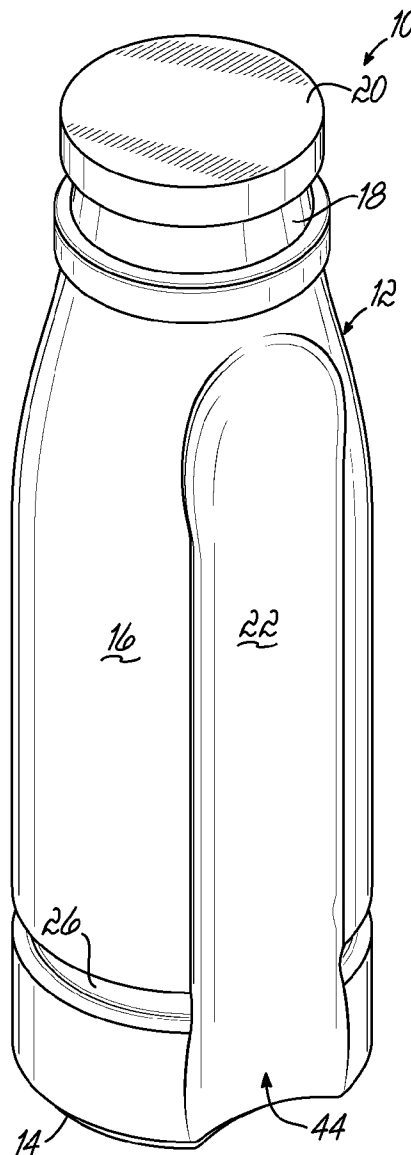
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27, 2007.

(57) **ABSTRACT**

A package system is provided for combining an article and a container in an integrated package with the article in nested relationship within an elongated, vertically oriented recess formed in the wall of the container. The container includes one or more reliefs in communication with, or located proximate to, the recess to facilitate supporting the article in the recess with a covering material.



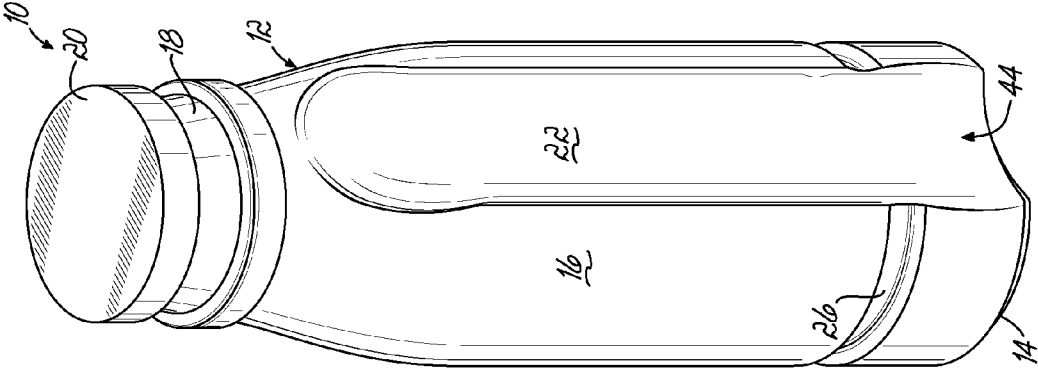


FIG. 1

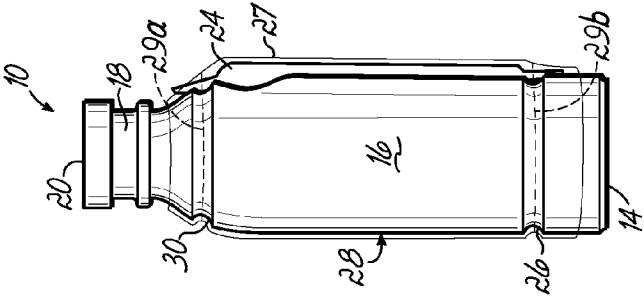


FIG. 2

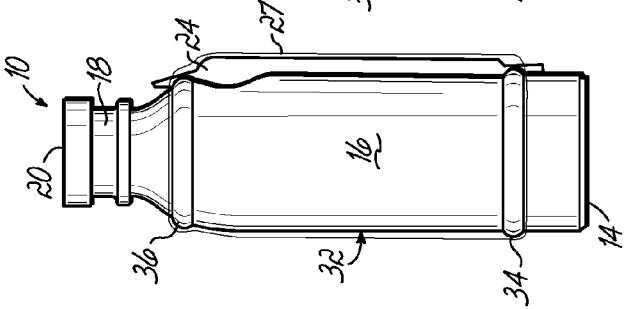


FIG. 3

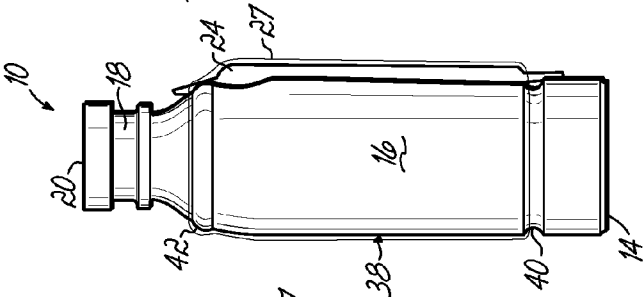


FIG. 4

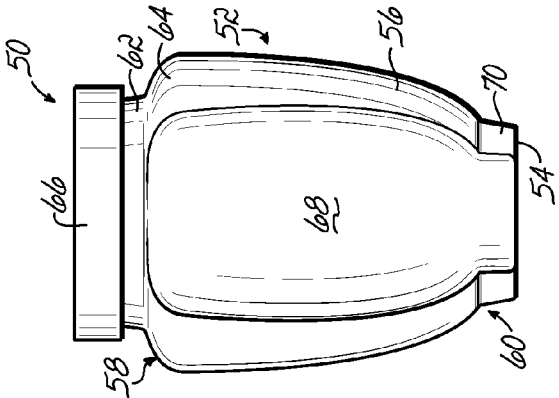


FIG. 5

## PACKAGE SYSTEM

[0001] The present application claims the filing benefit of U.S. Provisional Application Ser. No. 60/990,374, filed Nov. 27, 2007, the disclosure of which is hereby incorporated herein by reference in its entirety.

## FIELD OF THE INVENTION

[0002] The present invention relates generally to package systems and, more particularly, to a package system which combines an article and a container in an integrated package with the article secured in nested relationship within a recess of the container.

## BACKGROUND OF THE INVENTION

[0003] Consumers are showing preference and demand for new ways to eat and drink their meals. In response to this demand, suppliers of beverages and snack foods, for example, have developed new ways of packaging and marketing these items together in a “bundled” package as a convenient meal option for consumers. This allows consumers the convenience of purchasing and handling an integrated package including both a snack item and beverage and provides consumers with convenient “grab and go” portability of their meals. This packaging arrangement also provides significant advantages to the beverage and snack food suppliers as well since it permits them to market newer or less-preferred brands to consumers in a “bundled” package with the supplier’s stronger brands. In this way, the beverage and snack food suppliers are able to introduce newer products to the market with less risk and also increase sales of weaker brands by relying on the market strength and consumer desirability of the supplier’s stronger brands.

[0004] In the past, suppliers have “bundled” snack food and beverage items together by shrink-wrapping, taping or otherwise attaching or packaging the snack food item to the outside of the beverage container. However, this method of packaging presents a significant drawback as it oftentimes leaves fragile snack items susceptible to damage during packaging, transport and distribution of the “bundled” package from the supplier to consumer. Many snacks, such as snack bars, are conventionally packaged inside of a flexible wrapper for such things as protection from environmental factors. This wrapper, however, offers little to no protection in subsequent packaging, transport and distribution of the “bundled” package, and therefore requires a secondary package made of paperboard, corrugated or other packaging processes and materials to protect it. This requires additional equipment, materials and labor which add cost to the product and make the packaging process inefficient.

[0005] In the past, other types of “bundled” packages have been offered to consumers as well. For example, suppliers have offered market premiums and various other articles in nested relationship within a recess formed in a wall of a container. In these instances, the container recess is defined by recess walls and the article may be glued or loosely placed within the recess and covered with a transparent film so as to secure and/or protect the item within the recess. However, known configurations of recesses which completely enclose the item and/or the use of a covering film over the item present a significant drawback as the item is typically obscured by shadows within the recess, or condensation or glare which

occurs on the film, and so cannot be easily seen by the consumer. Also, such recesses and covering films complicate access and dislodgement of the article by the consumer and typically require hand assembly of the “bundled” package which adds to the cost of the assembled package.

[0006] Accordingly, there is a need for an improved package system for combining an article and a container in an integrated package with the article secured in nested relationship within a recess of the container.

## SUMMARY OF THE INVENTION

[0007] The present invention overcomes the foregoing and other shortcomings and drawbacks of package systems and methods of packaging heretofore known. While the invention will be described in connection with certain embodiments, it will be understood that the invention is not limited to these embodiments. On the contrary, the invention includes all alternatives, modifications and equivalents as may be included within the spirit and scope of the present invention.

[0008] In accordance with the principles of the present invention, a package system is provided for combining an article and a container in an integrated package with the article secured in nested relationship within an elongated, vertically oriented recess formed in a wall of the container.

[0009] In accordance with one aspect of the present invention, the recess is configured to receive an article within the recess so that the article is supported or contained in nested relationship within the recess. In this way, the article may be protected against damage during packaging, shipping, display and transport of the package system until its use by a consumer. The container may be formed to be vendable from a vending machine or other automatic merchandising system so as to meet the strict size and shape requirements for vendable products.

[0010] In one embodiment of the present invention, the elongated recess opens vertically at its opposite ends and may be sized and shaped to compliment the shape of the article nested within the recess. The open-ended recess improves visibility of the article within the recess so that light is able to enter the recess through the open ends. The open-ended recess also simplifies the insertion and removal of the article relative to the recess which is particularly advantageous for fragile articles such as snack foods.

[0011] According to one aspect of the present invention, the container may include one or more reliefs in communication with, or located proximate to, the recess to facilitate supporting the article in the recess with a covering material. The relief may be concave, such as a groove, or convex, such as a ridge. The groove and/or ridge allows the covering material, such as a shrink film, to conform to and better accommodate the shape of the article nested in the recess. As the covering material engages the groove and/or ridge it effectively captures the necessary parts of the article nested in the recess, while allowing a sealed portion of the wrapper of the article, which is thinner and less necessary to containment of the article in the recess, to lay more freely for improved shelf appearance.

[0012] In several embodiments, the covering material may extend only to the relief portions. In other embodiments, the covering material may extend past the relief portions. The covering material may also include one or more tear strips to provide selective removal of portions of the covering material to thereby allow the article to be removed from the recess.

[0013] The above and other objects and advantages of the present invention shall be made apparent from the accompanying drawings and the description thereof.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0014] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with a general description of the invention given above, and the detailed description given below, serve to explain the principles of the invention.

[0015] FIG. 1 is a perspective view of a package system in accordance with one embodiment of the present invention.

[0016] FIG. 2 is a side view of an alternate embodiment of the package system of FIG. 1.

[0017] FIG. 3 is a side view of another alternate embodiment of the package system of FIG. 1.

[0018] FIG. 4 is a side view of still another alternate embodiment of the package system of FIG. 1.

[0019] FIG. 5 is a front view of a package system in accordance with an alternate embodiment of the invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0020] Referring now to the Figures, and to FIG. 1 in particular, a package system 10 is shown in accordance with one embodiment of the present invention. The package system 10 includes a sealed container 12 having a bottom wall 14 (also seen in the embodiments in FIGS. 2-4) and an arcuate side wall 16 which, in one embodiment, converges at an upper end of the container to define a container neck 18. In one embodiment, the neck 18 of the container 12 provides an opening (not shown) into the body of the container 12 and is sealed in a conventional manner by an internally threaded cap 20 mating with external threads (not shown) provided on the container neck 18.

[0021] The container 12 may comprise a generally rigid glass or molded plastic bottle, jar, metal can or carton by way of example. Alternatively, the container 12 may comprise a flexible package such as a bag, stand-up pouch, aseptic package or squeeze tube, or any other suitable type of rigid or flexible container known by those of ordinary skill in the art having an internal cavity (not shown) which is adapted to safely store the contents of the container 12 for an extended period of time until use of the package system 10 by a consumer. In the case of generally rigid cartons and flexible containers, it will be appreciated that the container may not have a neck as described above. Instead, the container may have converging side walls that are glued or otherwise sealed or joined together at the top of the container, or the container may be folded into a box-like shape having a flat top, so that the top of the container can be peeled or cut open, opened through a conventional recloseable seal, or pierced with a straw by way of example.

[0022] The container 12 may be filled with a variety of different liquids such as fruit juice, milk, isotonic, water, beer, a soft drink, petroleum products or other liquid chemical products, by way of example. Alternatively, as will be described in detail below, the container 12 may be filled with a variety of different loose solids such as salty snacks, sweet snacks, cereal, nuts, granola and dried fruit, toys, trinkets or various chemical products by way of example.

[0023] In accordance with one aspect of the present invention, the package system 10 includes at least one elongated, vertically oriented recess 22 (one shown) which is formed in the arcuate side wall 16 of the container 12 and is configured to receive an article 24 (shown in FIGS. 2-4) within the recess 22 so that the article 24 is supported or contained in nested relationship within the recess 22. The article 24 may comprise a variety of different packaged or wrapped solids or loose solids, such as described above, or an energy bar, snack bar, granola bar, a market premium or some other type of suitable edible or non-edible article.

[0024] The recess 22 may be sized and shaped to complement the shape of the article 24 nested within the recess 22 so that the recess 22 is generally congruent with an inner surface of the article 24. In this way, the container 12 and article 24 may sufficiently contact each other to allow them to be joined together through an intermediate adhesive or other fixative as will be described below. In several embodiments, the recess 22 extends upwardly into a shoulder portion of the container 12 near the container neck 18 and is open vertically at opposite ends. The open-ended recess 22 provides several distinct advantages, including improved visibility of the article 24 within the recess 22 since light is able to enter the recess 22 through the open ends. The open-ended recess 22 also simplifies insertion and removal of the article 24 relative to the recess.

[0025] In one embodiment, one or both of the open ends of the recess 22 may widen at that point to allow the wrapper of the article 24 to "flare out." This improves shelf appearance of the package system 10 as the wrapper may otherwise distort or lose integrity as it is held against the container 12 by a covering material as described in detail below.

[0026] The container may also include a relief 26 in communication with, or located proximate to, the recess to further facilitate supporting the article 24 with a covering material 27. The relief 26 may be concave, such as a groove, or convex, such as a ridge. The relief 26 may be formed in the arcuate side wall 16 near the bottom wall 14 as shown in the embodiment of FIG. 1. With continued reference to the embodiment in FIG. 1, the relief 26 is in the form of a concave groove which facilitates the capture of the bulk of the article 24 with the covering material 27 while allowing any packing material of the article 24, such as a wrapper to flare out. The groove 26 allows the covering material 27, such as a shrink film, to conform to and better accommodate the shape of the article 24 nested in the recess 22. As the covering material 27 engages the open recess it effectively captures the necessary parts of the article 24 nested in the recess 22, while allowing a sealed portion of the wrapper of the article 24, which is thinner and less necessary to containment of the article 24 in the recess 22, to lay more freely for improved shelf appearance. For example, if the article 24 is shrink wrapped to a surface that does not appreciate its shape, density, etc., the wrapper of the article 24 may be crushed against the surface resulting in a loss of shelf appeal. It should be understood that the relief 26 may be formed near the bottom wall 14 as shown in FIG. 1 or near the container neck 18 or any other point in between to facilitate the proper degree of pressure required to hold the article 24 in the recess 22.

[0027] In several embodiments, such as the embodiments in FIGS. 3 and 4, the covering material 27 may extend only to the relief portions. In other embodiments, such as the embodiment in FIG. 2, the covering material 27 may extend past the relief portions. In this embodiment, the covering material 27

may optionally include tear strips **29a**, **29b**. The optional tear strips **29a** may be located near the upper relief portion **30** or the optional tear strips **29b** may be located near the lower relief portion **26**. Some embodiments, such as the one shown in FIG. 2, may include tear strips **29a**, **29b** at one or both the upper and lower relief portions **30**, **26**. When a portion of the covering material **27** is removed at the tear strip **29a** or **29b**, a pocket is formed with the remaining covering material **27** and the recess **22**. This allows the article **24** to be removed from the package system **10**. If the article **24** or any portion thereof is returned to the package system, the pocket frictionally engages the article **24**, holding it place. The article **24** may then be removed again at a later time.

[0028] In several embodiments of the package system **10**, and as seen in FIGS. 2-4, a second relief may be utilized. In FIG. 2, container **28** contains a groove **26** in the arcuate side wall **16**, near the bottom **14**, similar to the embodiment in FIG. 1. Container **28** additionally includes a second relief **30** in communication with the recess **22** near the container neck **18**. It should be understood that the placement of the reliefs **26** and **30** may exist along any point of the arcuate side wall **16** and that their positions may be driven by the size and shape of the article **24**. In the embodiment of FIG. 2, the second relief **30** is also concave in the form of a groove.

[0029] As described above and as seen in the embodiment of the package system **10** in FIG. 3, the reliefs **34** and **36** may also be convex in shape. In this embodiment, the container **32** includes two reliefs **34** and **36**, each in the form of a convex ridge that are located in communication with, or proximate to, the recess **22**. The convex ridges **34**, **36**, when engaged by the covering material **27**, such as shrink wrap, may hold the article **24** underneath and on the top. The reliefs may also be a combination of concave and convex shapes. For example, in the embodiment in FIG. 4, the container **38** contains two reliefs **40**, **42** positioned similar to the embodiments in FIGS. 2 and 3. The relief **40** is a concave groove, while the relief **42** is a convex ridge. In other embodiments the reliefs **40** and **42** may be convex and concave in nature respectively. Similar to the previous embodiments, the location of the reliefs along the arcuate side wall **16** between the container neck **18** and the bottom wall **14** may be dependent on the size, shape, and density of the article **24** to be contained in the recess **22**. In some embodiments of the package system **10**, the recess **22** may additionally flare near an end of the recess **44** as seen generally in FIG. 1. The flare at the end of the recess **44** may work in conjunction with a ridge relief, such as the relief **34** in FIG. 3, to position and stabilize the article **24** in the recess **22** by allowing it to rest on the ridge and/or by inducing friction upon the nested article **24** when it is covered by a covering material. The flared end may accommodate the thinner end of the packing material of the article **24** as well as facilitate removal and replacement of the article **24** in the recess.

[0030] In an alternate package system **50** as shown in FIG. 5, the package may include a sealed container **52** having a bottom wall **54** and an arcuate side wall **56**. A radius of the arcuate side wall **56** tapers from a first end of the wall **58** to a second end of the wall **60**. The arcuate side wall **56** at the first end of the wall **58** at an upper end of the container **52** converges to define a container neck **62**, forming a shoulder **64**. In one embodiment, the neck **62** of the container **52** may provide an opening (not shown) in the body of the container **52** which is sealed in a conventional manner by an internally threaded cap **66** mating with external threads (not shown) provided on the container neck **62**.

[0031] The container **52** in this embodiment, includes at least one elongated, vertically oriented recess **68** which is formed in the arcuate side wall **56** of the container **52** and is configured to receive an article (not shown) similar to the article **24** in the embodiments in FIGS. 1-4 within the recess **68** so that the article is supported or contained in a nested relationship with the recess **68**. In this embodiment, the container **52** may also include a relief **70** formed in the arcuate side wall **56** and in communication with the recess **68**. The relief **70** may be positioned so that it is also in communication with the bottom wall **54**, although the relief may be positioned at different locations along the arcuate side wall **56** to accommodate different articles. The shoulder **64** in the embodiment may act similar to a second relief in supporting the article when packaged with the covering material **27**. When covered by the covering material **27**, the relief **70** may support the article from underneath with the covering material **27** while the covering material **27** on the shoulder **64** of the arcuate side wall **56** may hold the top of the article nested in the recess **68**.

[0032] While all of the present invention has been illustrated by a description of various embodiments and while these embodiments have been described in considerable detail, it is not the intention of the applicants to restrict or in anyway limit the scope of the appended claims to such detail. Additional advantages and modifications will readily appear to those skilled in the art. The invention in its broader aspects is therefore not limited to the specific details, representative apparatus and method, and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of the applicant's general inventive concept.

What is claimed is:

1. A package system, comprising:

- a container having an elongated, vertically oriented recess configured to receive an article in nested relationship within the recess, a first relief portion communicating with the elongated recess and being configured to facilitate supporting the article received in the recess; and
- a covering material covering at least a portion of the container and engaging the first relief portion, the covering material being adapted to secure the article within the recess when the article is placed in nested relationship with the recess.

2. The package system of claim 1 wherein the covering material covers the first relief portion.

3. The package system of claim 1 wherein the first relief portion is a convex ridge.

4. The package system of claim 1 wherein the first relief portion is a concave groove.

5. The package system of claim 1 further comprising a second relief portion communicating with the elongated recess and being configured to facilitate supporting the article received in the recess.

6. The package system of claim 5, wherein the covering material covers at least a portion of the container and engages the second relief portion.

7. The package system of claim 6 wherein the covering material covers the second relief portion.

8. The package system of claim 5 wherein the second relief portion is a convex ridge.

9. The package system of claim 5 wherein the second relief portion is a concave groove.

- 10.** A package system, comprising:  
a container having an elongated, vertically oriented recess configured to receive an article in nested relationship within the recess,  
a first relief portion located proximate to the elongated recess and being configured to facilitate supporting the article received in the recess; and  
a covering material covering at least a portion of the container and engaging the first relief portion, the covering material being adapted to secure the article within the recess when the article is placed in nested relationship with the recess.
- 11.** The package system of claim **10** wherein the covering material covers the first relief portion.
- 12.** The package system of claim **10** wherein the first relief portion is a convex ridge.
- 13.** The package system of claim **10** wherein the first relief portion is a concave groove.
- 14.** The package system of claim **10** further comprising a second relief portion located proximate to the elongated recess and being configured to facilitate supporting the article received in the recess.

**15.** The package system of claim **14**, wherein the covering material covers at least a portion of the container and engages the second relief portion.

**16.** The package system of claim **15** wherein the covering material covers the second relief portion.

**17.** The package system of claim **14** wherein the second relief portion is a convex ridge.

**18.** The package system of claim **14** wherein the second relief portion is a concave groove.

**19.** A package system, comprising:  
a container having an elongated, vertically oriented recess having an open first end and being configured to receive an article in nested relationship within the recess; and  
a first flare provided at the open first end of the recess.

**20.** The package system of claim **19** wherein the recess has an open second end opposite the open first end.

**21.** The package system of claim **20** further comprising a second flare provided at the second opposite end.

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