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Title: CARTON HAVING APPENDAGES FOR SHELF STABILITY

Abstract: The present invention relates to an upright, free-standing carton having appendages for stability. The carton comprises a body portion that extends upwardly from a base portion and bulges out beyond the base portion. In order to stabilize the bulging carton, provided are appendages extending from the body portion and contacting the surface on which the base portion of the carton rests.
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CARTON HAVING APPENDAGES FOR SHELF STABILITY

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of U.S. Non-Provisional application number 12/001,337 filed December 11, 2007, which is incorporated by reference herein in its entirety.

TECHNOLOGY FIELD

[0002] The present invention relates to a packaging carton having appendages for shelf stability and a carton blank for forming the packaging carton.

BACKGROUND

[0003] Competition among brand manufacturers of consumer products has intensified in recent years. As a result, store shelves have become increasingly crowded with a multitude of consumer products. Brand owners recognize that packaging has a significant impact on product marketing. Thus, brand owners are looking to differentiate their products on store shelves through packaging. In particular, the shape and structure of a package can have a significant impact on product differentiation and consumer appeal.

[0004] An innovative structural design can help attract a consumer to a product on a crowded store shelf. Tests that track eye movement have shown that when looking at a solid block of products, a consumer's eye moves continually along them. When there are gaps between products, however, the eye stops. Thus, if a package is designed to create space between itself and other packages, a consumer is more likely to single it out on a store shelf. As
a result, a growing number of packages are employing chamfered or rounded corners, which create enough of a gap to stop the consumer's eye and allow brand recognition.

Some package shapes that are designed to create space between adjacent packages, however, have a tendency to be unstable. For example, some packages may bulge and extend beyond the base on which they are supported, which makes them susceptible to tipping. Further, some packages contain flexible film pouches or bags filled with granular or pellet material that distribute the weight of the contents unevenly throughout the package and affect the center of gravity of the package so that it is even more susceptible to tipping. In order for these packages to be functional and effective, they must be upright and free-standing on a store shelf. Therefore, there is a need for a package structure that creates space between adjacent packages and is still stable.

SUMMARY

This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description of Illustrative Embodiments. This Summary is not intended to identify key features or essential features of the invention, nor is it intended to be used to limit the scope of the invention.

The present invention is directed to an upright, free-standing carton that includes appendages for shelf stability. In one embodiment, the carton comprises a base portion and a body portion that extends upwardly from the base surface and bulges out beyond the base portion. Additionally, the carton may include appendages such as fins and/or tabs extending from the body portion to stabilize the carton in the directions that the body portions bulge out beyond the base portion.

Additional features and advantages will be made apparent from the following detailed description of illustrative embodiments that proceeds with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description, is better understood when read in conjunction with the appended drawings. For the purpose of illustrating the present invention, there is shown in the drawings exemplary embodiments; however, the present invention is not limited to the specific embodiments disclosed.

Figure 1 shows a perspective view of an exemplary carton.

Figure 2A shows a front view of the carton shown in Figure 1.

Figure 2B shows a rear view of the carton shown in Figure 1.
Figure 2C shows a side view of the carton shown in Figure 1.

Figure 3A shows a front view of a series of exemplary cartons.

Figure 3B shows a side view of a series of exemplary cartons.

Figure 4 shows an exemplary embodiment of a carton blank.

Like reference numerals refer to corresponding parts throughout the several embodiments of the drawings.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

Figure 1 shows a perspective view of a packaging carton 10 according to an embodiment of the invention. As shown, a packaging carton 10 includes base portion 20, a body portion 30, a top portion 40, at least one fin 50, and at least one tab 60 that are preferably integrally formed. According to one embodiment, the sides of the body portion 30 may be inwardly depressed to create a tapered waist region and give the front and back of the body portion 30 an hour-glass shape. Thus, as shown in Figure 3A, when two cartons 10 are positioned side by side, there are gaps between the body portions 30 of adjacent cartons 10 that make the individual cartons 10 more distinguishable. The depressions on the body portion 30 of the carton 10, however, decrease the volume of the carton 10. As a result, as shown in the embodiment of Figure 1, the front and back of the body portion 30 may be designed to bulge out beyond the base portion 20 and increase the volume of the carton 10. Further, in order to stabilize the carton 10 in the directions that the body portion 30 bulges out beyond the base portion 20, appendages such as fins 50 and tabs 60 may be provided as shown.

The carton 10 is preferably made of paperboard material or other suitable material, for example, plastic sheet stock. Although there may be various uses for the carton 10 of the present invention, the carton 10 is particularly well suited for packaging flexible film pouches or bags filled with granular or pellet material, such as confections. Cartons having pouches or bags filled with granular or pellet material do not generally have an even weight distribution inside the carton and may have a shifting center of gravity, which may make them more susceptible to tipping. Thus, the carton 10 of the present invention is designed for improved stability.

The base portion 20 preferably has an elongate shape that defines a major axis 28 and a minor axis 29 that are transverse to each other. Preferably, the major axis 28 extends longitudinally through the center of the elongate base portion 20 and the minor axis 29 transversely bisects the major axis 28. As shown in the embodiment of Figure 1, the base portion 20 may have a rectangular shape that defines a front edge 22, a rear edge 24, and opposite side edges 26a, 26b. In the embodiment shown in Figure 1, the major axis 28 extends...
between side edge 26a and side edge 26b, and the minor axis 29 extends between front edge 22 and rear edge 24. Although, the shape of the elongate base portion 20 is shown as a rectangle, the elongate base portion 20 may have any other suitable shape, for example, a parallelogram or isosceles trapezoid. Preferably, the base portion 20 is planar and adapted to rest on a flat surface and support the carton 10 in an upright position.

[0021] The body portion 30 extends upwardly from the base portion 20 to a top portion 40. Preferably, the body portion 30 has a height that is greater than any dimension of the base portion 20 so that the carton 10 has a tall and slender structure. As shown in Figures 1-3B, the body portion 30 may bulge outwardly in opposite directions of the minor axis 29 of the base portion 20 and taper inwardly in opposite directions of the major axis 28 of the base portion 20. The body portion 30 comprises a front panel 32, a rear panel 34, and side panels 36a, 36b that are preferably integrally formed. The front panel 32, rear panel 34, and side panels 36a, 36b of the body portion 30 are connected to the front edge 22, rear edge 24, and side edges 26a, 26b of the base portion 20, respectively, and extend upwardly from the elongate base portion 20 to a top portion 40. Further, the front panel 32 and the rear panel 34 are disposed opposite each other and are connected to each other along their lateral edges by the side panels 36a, 36b.

[0022] As shown in Figures 1-2A, the front panel 32 may define lateral edges 320a, 320b, a bottom edge 322, and a top edge 324. The bottom edge 322 is connected to the front edge 22 of the base portion 20 and the top edge 324 is connected to the top portion 40. As shown in Figures 1-2A, the lateral edges 320a, 320b of the front panel 32 may curve inwardly to create a tapered waist and give the front panel 32 an hour-glass shape. Additionally, the front panel 32 is preferably convex such that it bulges out beyond the base portion 20 in a forward direction of the minor axis 29. Because the front panel 32 may have a convex shape at the junction between the front edge 22 of base portion 20 and the bottom edge 322 of front panel 32, the bulge of the carton may tip the carton in a forward direction of the minor axis 29. Thus, a tab 60 may be provided to prevent the carton 10 from tipping forward over the junction of the front edge 22 and bottom edge 322. As shown in Figures 1-2A, there may be at least one tab 60 integrally formed with the front panel 32 that is disposed along the bottom edge 322 of the front panel 32 such that it extends below the plane of the base portion 20. Further, as shown, the front panel 32 may optionally include a cutout defining a viewing window. The viewing window may comprise a clear plastic film to prevent the contents of the carton 10 from spilling out.

[0023] The rear panel 34 is disposed opposite the front panel 32 and preferably mirrors the shape and structure of the front panel 32. As shown in Figures 1 and 2B, the rear panel 34 may define lateral edges 340a, 340b, a bottom edge 342, and a top edge 344. The
bottom edge 342 is connected to the rear edge 24 of the base portion 20 and the top edge 344 is connected to the top portion 40. In one embodiment, the lateral edges 340a, 340b of the rear panel 34 may curve inwardly to create a tapered waist and give the rear panel 34 an hour-glass shape. Additionally, the rear panel 34 is preferably convex such that it bulges out beyond the base portion 20 in a rearward direction of the minor axis 29.

[0024] The side panels 36a, 36b extend upwardly from the side edges 26a, 26b of the base portion 20 and connect the front panel 32 and rear panel 34 to each other. As shown in Figures 1 and 2C, each of the side panels 36a, 36b may define a forward lateral edge 360a, 360b, a rearward lateral edge 362a, 362b, a bottom edge 364a, 364b, and a top edge 366a, 366b. As shown, the lateral edges 320a, 320b of the front panel 32 coextend with the forward lateral edges 360a, 360b of the side panels 36a, 36b, and the lateral edges 340a, 340b of the rear panel 34 coextend with the rearward lateral edges 362a, 362b of the side panels 36a, 36b, such that the front panel 32 and rear panel 34 are connected to each other by the side panels 36a, 36b. Further, as shown in Figures 1 and 2C, the forward lateral edges 360a, 360b and rearward lateral edges 362a, 362b of the side panels 36a, 36b may curve outwardly to complement the inward curvature of the lateral edges 320a, 320b of the front panel 32 and the lateral edges 340a, 340b of the rear panel 34. The side panels 36a, 36b are preferably concave such that they are inwardly depressed in opposite directions of the major axis 28.

[0025] The side panels 36a, 36b define a major axis (not shown) extending longitudinally through the center of the side panels 36a, 36b and a minor axis (not shown) transversely bisecting the major axis. As shown in Figure 2C, the configuration of the forward lateral edges 360a, 360b, rearward lateral edges 362a, 362b, bottom edges 364a, 364b, and top edges 366a, 366b may give the side panels 36a, 36b a truncated-ellipse shape. In the embodiment shown in Figure 2C, the major axis extends between the bottom edges 364a, 364b and top edges 366a, 366b, and the minor axis extends between the forward lateral edges 360a, 360b and rearward lateral edges 362a, 362b. As shown in Figure 1, the minor axis of the side panels 36a, 36b is longer than the minor axis of the base portion 20, and the major axis of the side panels 36a, 36b is longer than the major axis of the base portion 20.

[0026] Thus, the carton 10 has a bulge that extends beyond the base portion 20 in a rearward direction of the minor axis 29 that makes the carton 10 susceptible to tipping. Appendages, such as fins 50, may be disposed on each of the side panels 36a, 36b to help prevent the carton 10 from tipping in a rearward direction of the minor axis 29. In the embodiment shown in Figures 1 and 2C, a fin 50 is preferably integrally formed with each of the side panels 36a, 36b such that the fins 50 extend from the rearward lateral edges 362a, 362b and
bottom edges 364a, 364b of the side panels 36a, 36b in a direction generally parallel to the rearward direction of the minor axis 29. The fins 50 are adapted to contact a surface on which the base portion 20 of the carton 10 rests and stabilize the carton 10. Additionally, as shown in Figures 2C and 3B, the fins 50 preferably do not extend beyond the bulge in the rear panel 34 of the carton 10, which allows two cartons 10 to be adjacently positioned back to front without the fins 50 interfering. Further, the fin 50 is shown having a triangular shape, but it may have any other suitable shape for helping prevent the carton 10 from tipping. The triangular shape of the fin 50, however, has been found to be a particularly robust design for handling that prevents bending, breaking, or other types of damage to the fin 50 that would limit its anti-tipping function.

[0027] According to another aspect of the invention provided is a carton blank 100 for forming a carton 10 in accordance with the above description. As shown in the embodiment of Figure 4, the carton blank 100 may comprise a front panel 32', outside major flaps 36'a, 36'b, a top panel 40', top minor flaps 42'a, 42'b, a cover flap 44', a base panel 20', bottom minor flaps 21'a, 21'b, a rear panel 34', and inside major flaps 37'a, 37'b that are integrally formed.

[0028] As shown in Figure 4, the front panel 32' may define lateral edges 320'a, 320'b, a bottom edge 322', and a top edge 324'. As shown, the lateral edges 320'a, 320'b of the front panel 32' may curve inwardly to create a tapered waist and give the front panel 32' an hour-glass shape. Further, as shown, the front panel 32' may optionally include a cutout defining a viewing window. The viewing window may comprise a clear plastic film to prevent the contents of the carton 10 from spilling out. Hingeably connected to the top edge 324'of the front panel 32' may be a top panel 40'. Additionally, as shown, top minor flaps 42'a, 42'b and a cover flap 44' may be hingeably connected to the top panel 40'.

[0029] As shown, the outside major flaps 36'a, 36'b may be hingeably connected to the lateral edges 320'a, 320'b of the front panel 32'. Each of the outside major flaps 36'a, 36'b may define a forward lateral edge 360'a, 360'b, a rearward lateral edge 362'a, 362'b, a bottom edge 364'a, 364'b, and a top edge 366'a, 366'b. The lateral edges 320'a, 320'b of the front panel 32' preferably coextend with the forward lateral edges 360'a, 360'b of the outside major flaps 36'a, 36'b such that the front panel 32' is connected to the outside major flaps 36'a, 36'b. As shown, the forward lateral edges 360'a, 360'b of the outside major flaps 36'a, 36'b preferably curve outwardly to complement the inward curvature of the lateral edges 320'a, 320'b of the front panel 32'. Additionally, appendages, such as fins 50', that extend from the rearward lateral edges 362'a, 362'b and bottom edges 364'a, 364'b of the outside major flaps 36'a, 36'b may be integrally formed with the outside major flaps 36'a, 36'b.
The outside major flaps 36'a, 36'b may define a major axis (not shown) extending longitudinally through the center of the outside major flaps 36'a, 36'b and a minor axis (not shown) transversely bisecting the major axis. As shown in Figure 4, the configuration of the forward lateral edges 360'a, 360'b, rearward lateral edges 362'a, 362'b, bottom edges 364'a, 364'b, and top edges 366'a, 366'b may give outside major flaps 36'a, 36'b a truncated-ellipse shape. In the embodiment shown in Figure 4, the major axis extends between the bottom edges 364'a, 364'b and top edges 366'a, 366'b, and the minor axis extends between the forward lateral edges 360'a, 360'b and rearward lateral edges 362'a, 362'b.

The base panel 20' preferably has an elongate shape. As shown, the base panel 20' may have a rectangular shape that defines a front edge 22', a rear edge 24', and opposite side edges 26'a, 26'b. The front edge 22' of the base panel 20' is hingeably connected to the bottom edge 322' of the front panel 32'. Although, the shape of the elongate base panel 20' is shown as a rectangle, the elongate base panel 20' may have any other suitable shape, for example, a parallelogram or isosceles trapezoid. Also, as shown, bottom minor flaps 21'a, 21'b may be hingeably connected to the side edges 26'a, 26'b of the base panel 20'. Additionally, there is preferably at least one tab 60' defined by a cut on a portion of the base panel 20' adjacent the bottom edge 322' of the front panel 32' such that the tab 60' is connected to and extends from the front panel 32'.

The base panel 20' preferably has an elongate shape that defines a major axis (not shown) and a minor axis (not shown) that are transverse to each other. Preferably, the major axis extends longitudinally through the center of the elongate base panel 20' and the minor axis transversely bisects the major axis. As shown in the embodiment of Figure 4, the base panel 20' may have a rectangular shape that defines a front edge 22', a rear edge 24', and opposite side edges 26'a, 26'b. In the embodiment shown in Figure 4, the major axis extends between side edge 26'a and side edge 26'b, and the minor axis extends between front edge 22' and rear edge 24'. As shown in Figure 4, the minor axis of the outside major flaps 36'a, 36'b may be longer than the minor axis of the base panel 20', and the major axis of the outside major flaps 36'a, 36'b may be longer than the major axis of the base panel 20'.

As shown, the rear panel 34' may define lateral edges 340'a, 340'b, a bottom edge 342', and a top edge 344'. The bottom edge 342' of the rear panel 34' may be hingeably connected to the rear edge 24' of the base panel 20'. In one embodiment, the lateral edges 340'a, 340'b may curve inwardly to create a tapered waist and give the rear panel 34' an hour-glass shape.
The inside major flaps 37'a, 37'b are hingeably connected to the lateral edges 340'a, 340'b of the rear panel 34'. As shown, each of the inside major flaps 37'a, 37'b may define a forward lateral edge 370'a, 370'b, a rearward lateral edge 372'a, 372'b, a bottom edge 374'a, 374'b, and a top edge 376'a, 376'b. The lateral edges 340'a, 340'b of the rear panel 34' coextend with the rearward lateral edges 372'a, 372'b of the inside major flaps 37'a, 37'b such that the rear panel 34' is connected to the inside major flaps 37'a, 37'b. Thus, as shown, the rearward lateral edges 372'a, 372'b of the inside major flaps 37'a, 37'b curve outwardly to complement the inward curvature of the lateral edges 340'a, 340'b of the rear panel 34'.

The inside major flaps 37'a, 37'b define a major axis (not shown) extending longitudinally through the center of the inside major flaps 37'a, 37'b and a minor axis (not shown) transversely bisecting the major axis. As shown in Figure 4, the configuration of the forward lateral edges 370'a, 370'b, rearward lateral edges 372'a, 372'b, bottom edges 374'a, 374'b, and top edges 376'a, 376'b may give the inside major flaps 37'a, 37'b a truncated-ellipse shape. In the embodiment shown in Figure 4, the major axis extends between the bottom edges 374'a, 374'b and top edges 376'a, 376'b, and the minor axis extends between the forward lateral edges 370'a, 370'b and rearward lateral edges 372'a, 372'b. As shown in Figure 4, the minor axis of the inside major flaps 37'a, 37'b may be longer than the minor axis of the base panel 20', and the major axis of the inside major flaps 37'a, 37'b may be longer than the major axis of the base panel 20'.

The panels and flaps of the carton blank 100 are hingeably connected to one another and adapted to be bent with respect to one another to form a carton 10 in accordance with the above description. For example, to form the body portion 30 of the carton 10: the front panel 32' and the rear panel 34' may be folded upwardly from the base panel 20'; the bottom minor flaps 21'a, 21'b may be folded upwardly from the base panel 20'; the inside major flaps 37'a, 37'b may be folded inwardly from the rear panel 34'; and the outside major flaps 36'a, 36'b may be folded inwardly from the front panel 32' and cover the inside major flaps 37'a, 37'b. In order to enclose the body portion 30 of the carton 10, the top panel 40' may be folded downwardly from the front panel 32', the top minor flaps 42'a, 42'b may be bent downwardly from the top panel 40' and inwardly of the inside major flaps 37'a, 37'b, and the cover flap 44' may be folded over the rear panel 34'.
What is Claimed:

1. An upright, free-standing carton comprising:
   - an elongate base portion on which the carton rests;
   - a body portion extending upwardly from the base portion, the body portion having a bulge that overhangs the base portion; and
   - at least two appendages extending outwardly relative to the base portion and capable of contacting a surface on which the carton rests for enhancing stability of the carton when it is in its upright, free-standing position.

2. The carton of claim 1 further comprising at least one tab extending downwardly from the body portion beyond a plane defined by the base portion.

3. The carton of claim 1 wherein the elongate base portion is a rectangle.

4. The carton of claim 1 wherein the elongate base portion is planar.

5. The carton of claim 1 wherein a height of the body portion is greater than a dimension of the base portion.

6. The carton of claim 1 wherein the bulge overhangs the base portion in a direction that is not parallel to a longitudinal axis of the base portion.

7. The carton of claim 6 wherein the bulge overhangs the base portion in a direction approximately perpendicular to the longitudinal axis of the base portion.

8. The carton of claim 1 wherein the at least two appendages extend from the body portion.

9. The carton of claim 1 wherein the body portion comprises inside major flaps and outside major flaps.

10. The carton of claim 1 wherein the carton is formed from a single planar blank that is configured to be folded to form the carton.

11. The carton of claim 1 wherein the carton is made of paperboard.
12. A blank for forming a carton comprising:
   an elongate base panel;
   a front panel hingeably connected to the base panel;
   a rear panel hingeably connected to the base panel;
   two outside major flaps hingeably connected to the front panel;
   two inside major flaps hingeably connected to the rear panel; and
   at least two appendages, each appendage extending from one of the two outside major flaps.

13. The blank from claim 12 further comprising a cut on a portion of the base panel adjoining the front panel that defines a tab that is connected to and extends from the front panel.

14. The blank from claim 12 further comprising two minor flaps hingeably connected to the base panel.

15. The blank from claim 12 further comprising a top panel hingeably connected to the front panel.

16. The blank from claim 15 further comprising two minor flaps hingeably connected to the top panel.

17. The blank from claim 15 further comprising a cover flap hingeably connected to the top panel.

18. The blank of claim 12 wherein the elongate base panel has a rectangular shape and defines two long sides and two short sides.

19. The blank of claim 18 wherein the front panel and the rear panel each have an hour-glass shape and are each connected to a long side of the rectangular base panel.

20. The blank of claim 19 wherein the two outside major flaps each have a truncated-ellipse shape having a major axis and a minor axis.

21. The blank of claim 20 wherein the minor axis of the truncated-ellipse shape of each of the two outside major flaps is longer than a short side of the rectangular base panel.
22. The blank of claim 21 wherein the at least two appendages do not extend further than the minor axis of the two outside major flaps.