



US 20060226206A1

(19) **United States**

(12) **Patent Application Publication**
Reap

(10) **Pub. No.: US 2006/0226206 A1**

(43) **Pub. Date: Oct. 12, 2006**

(54) **ONE-PIECE CARTON HAVING A PLATE WITH A FOOD RETAINING LIP**

Publication Classification

(76) Inventor: **Michael Reap**, Hamburg, NY (US)

(51) **Int. Cl.**
B65D 5/00 (2006.01)

(52) **U.S. Cl.** **229/103; 229/906**

Correspondence Address:
HODGSON RUSS LLP
ONE M & T PLAZA
SUITE 2000
BUFFALO, NY 14203-2391 (US)

(57) **ABSTRACT**

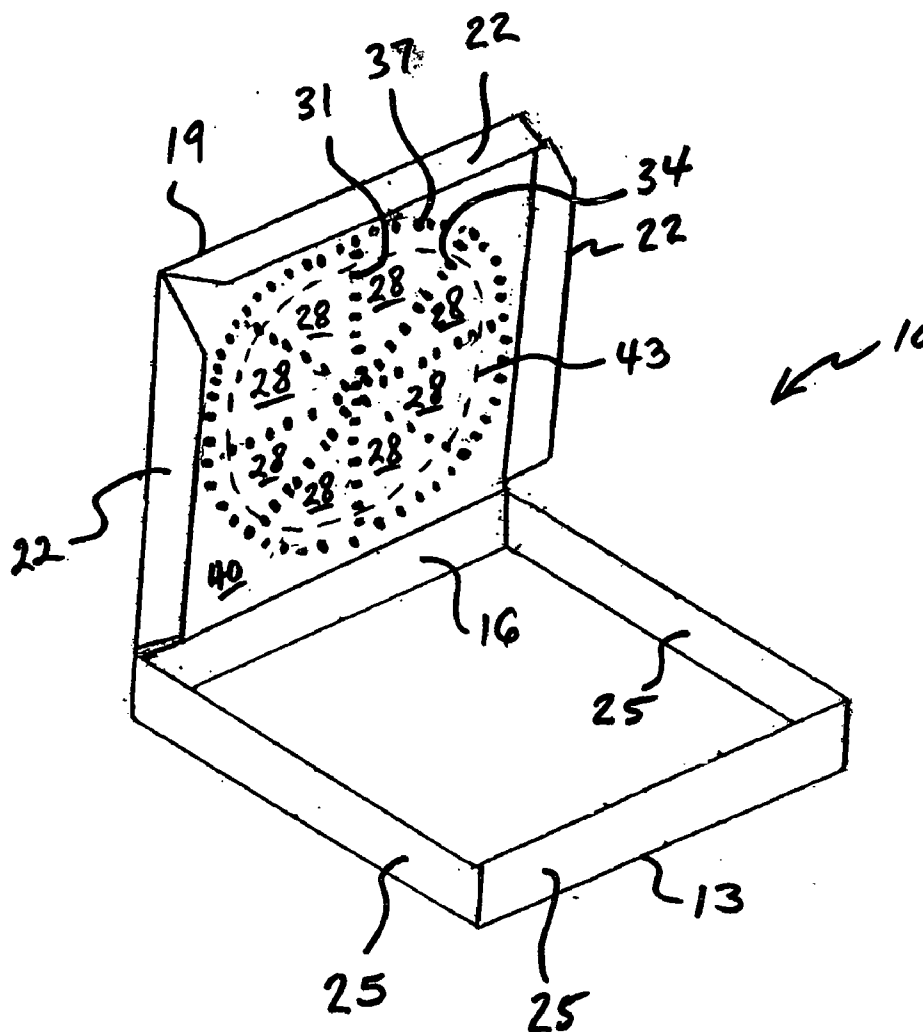
A carton is disclosed. One such carton includes a base portion, a connecting panel attached to the base portion, and a lid portion attached to the connecting panel. The lid portion may be attached to the base portion so that at least part of the lid portion may be lifted from the base portion in order to expose contents supported by the base portion. The lid portion may include a plurality of separable sections. At least one of the sections may be delimited, at least in part, by a first separation perforation and a second separation perforation. Such a separable section may have a weakened linear area extending between the first separation perforation and the second separation perforation. The invention may be embodied as a one-piece blank that can be used to form such a carton.

(21) Appl. No.: **11/374,846**

(22) Filed: **Mar. 14, 2006**

Related U.S. Application Data

(60) Provisional application No. 60/670,135, filed on Apr. 11, 2005.



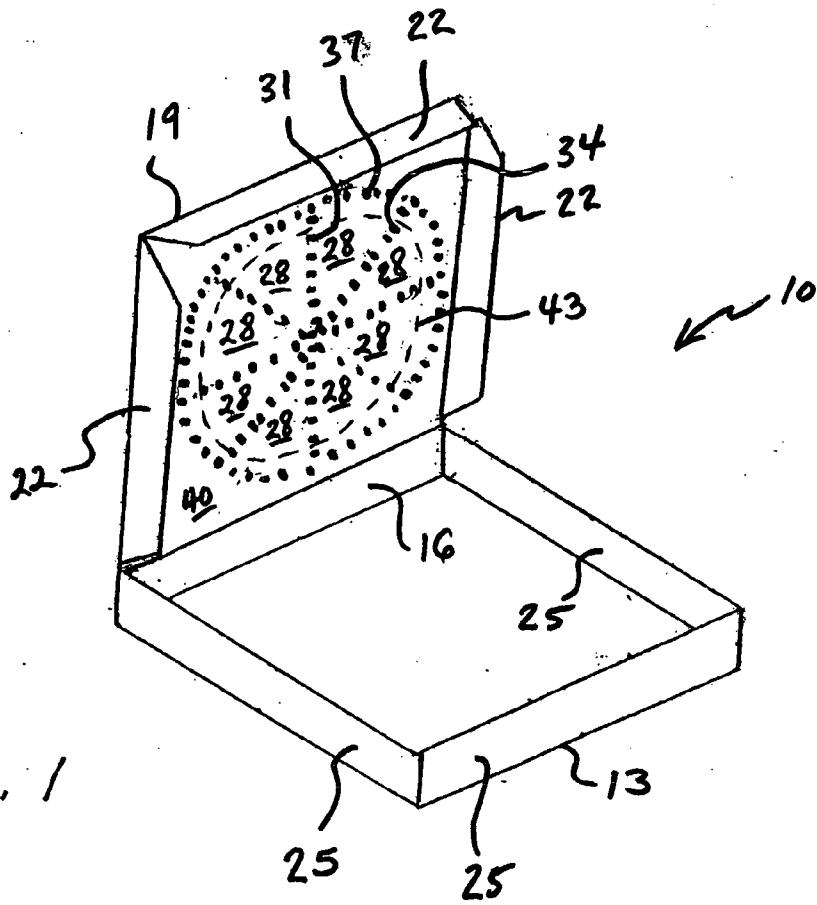


FIG. 1

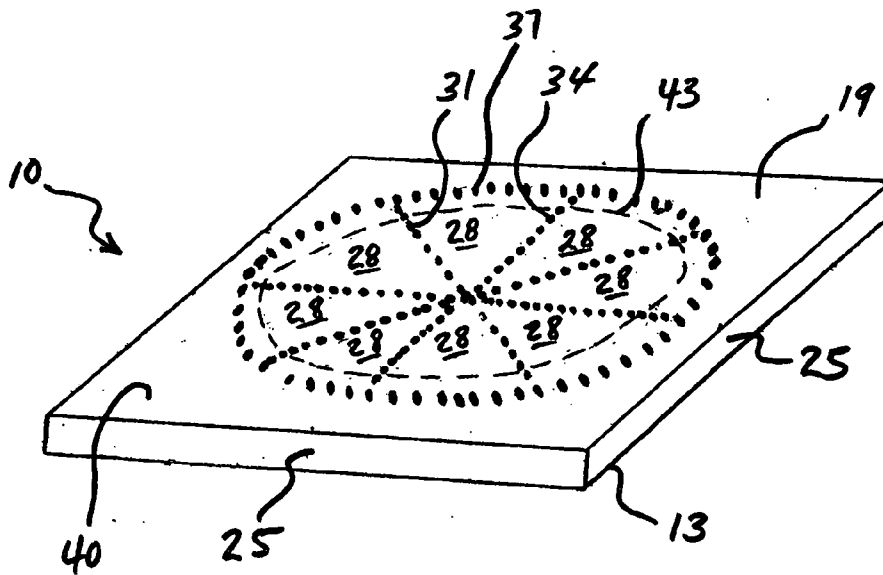


FIG. 2

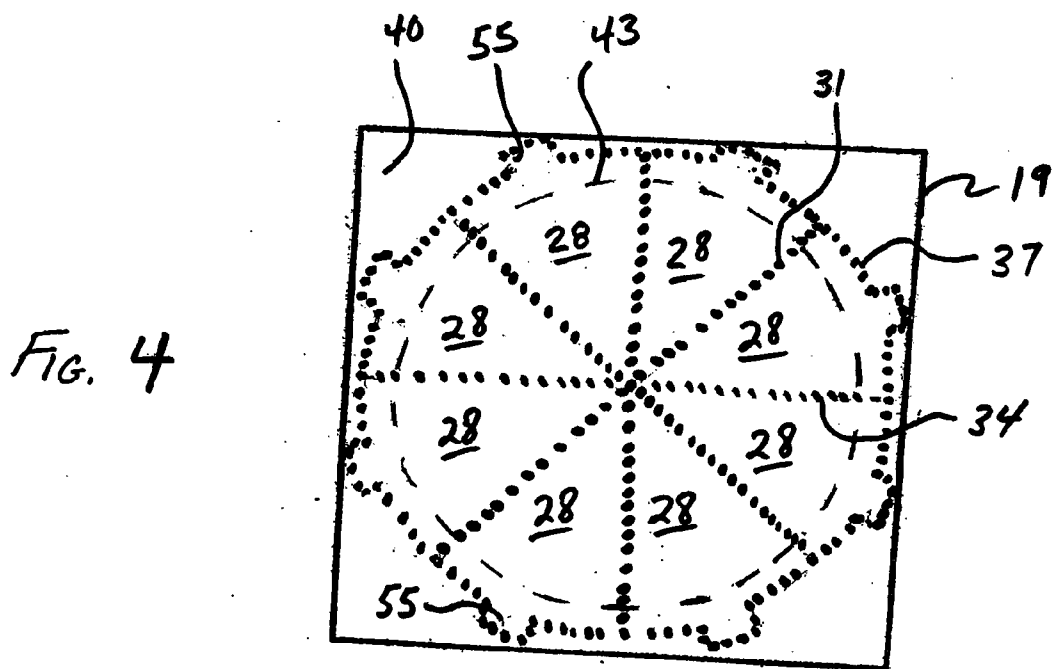
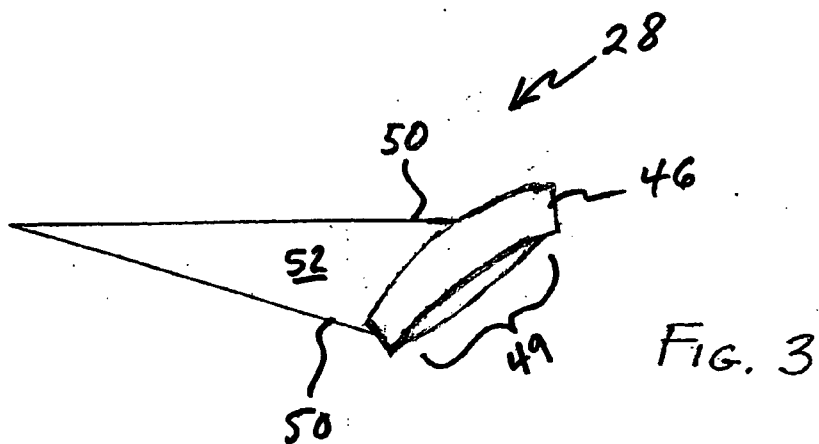


FIG. 5

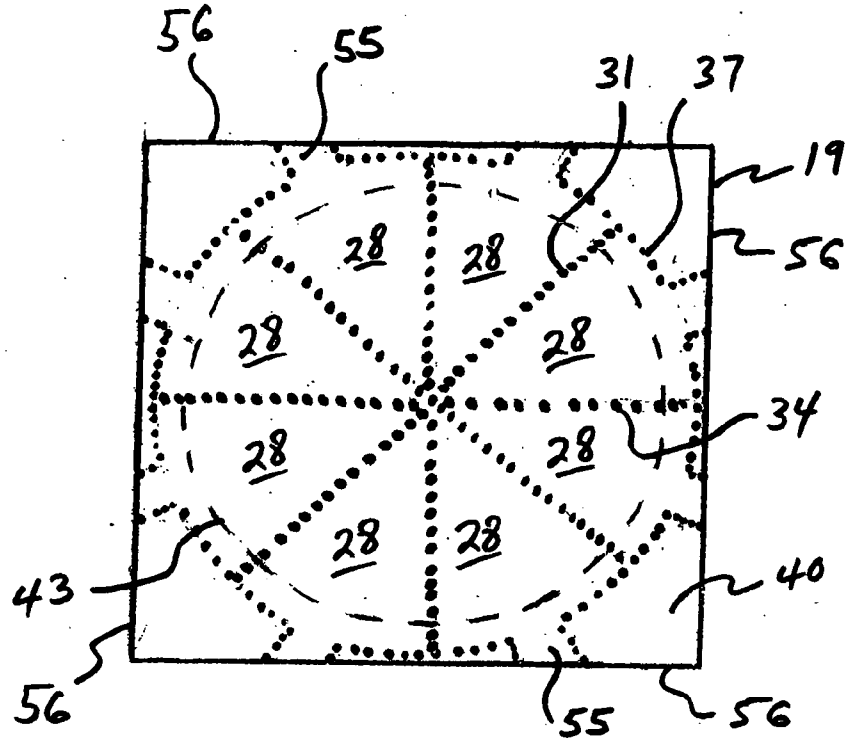


FIG. 6

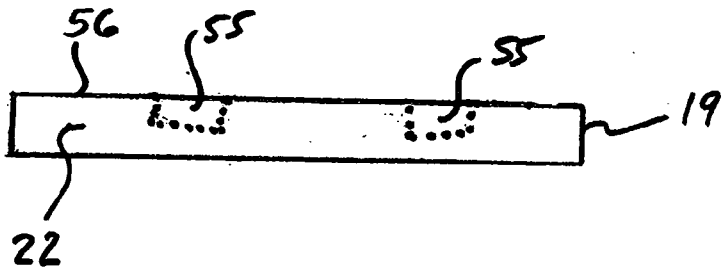
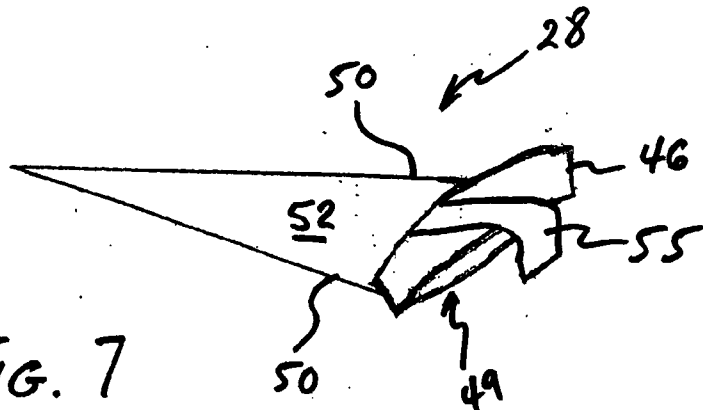
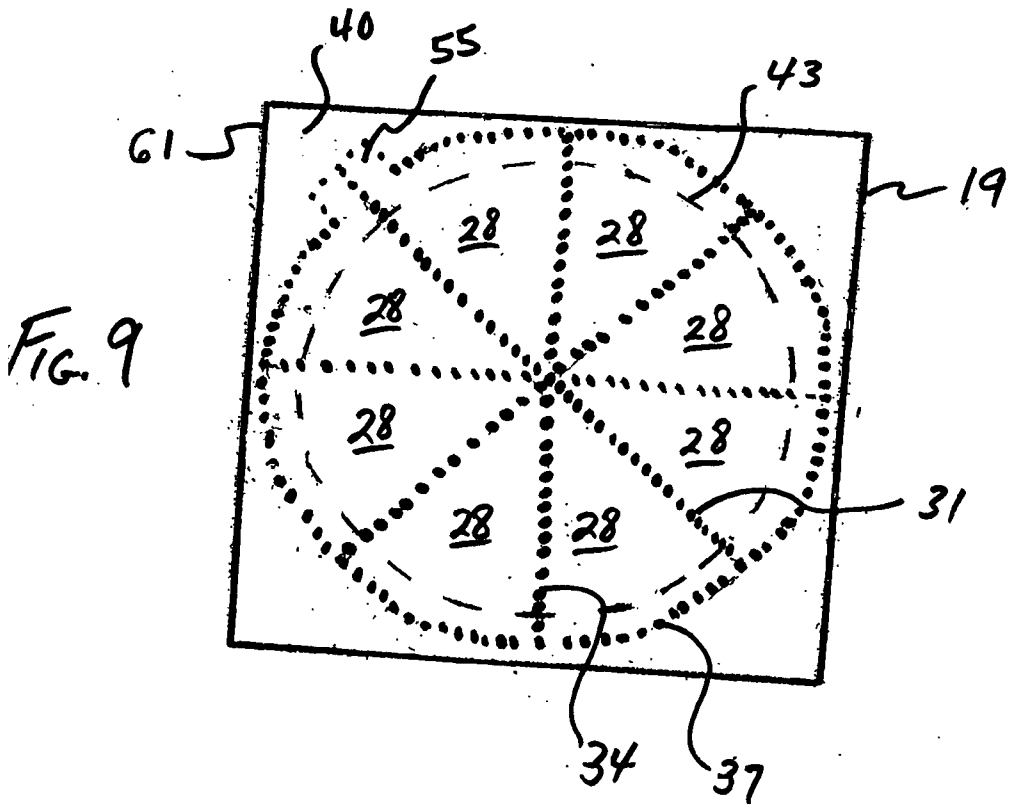
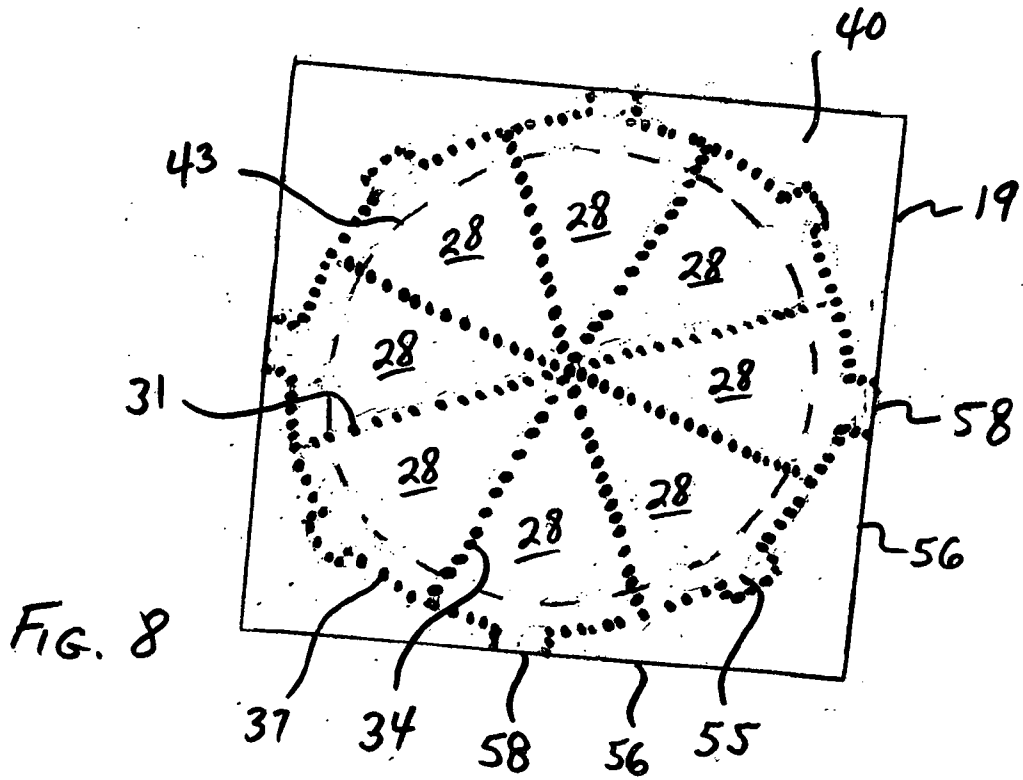
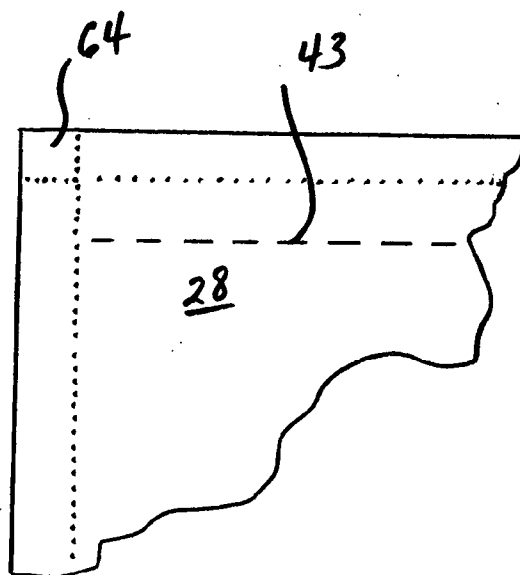
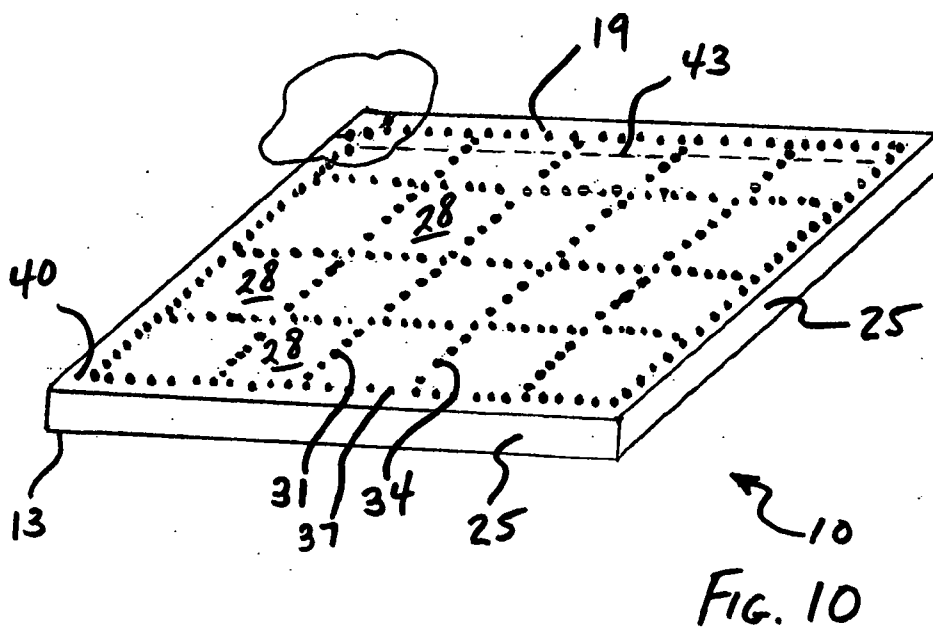


FIG. 7







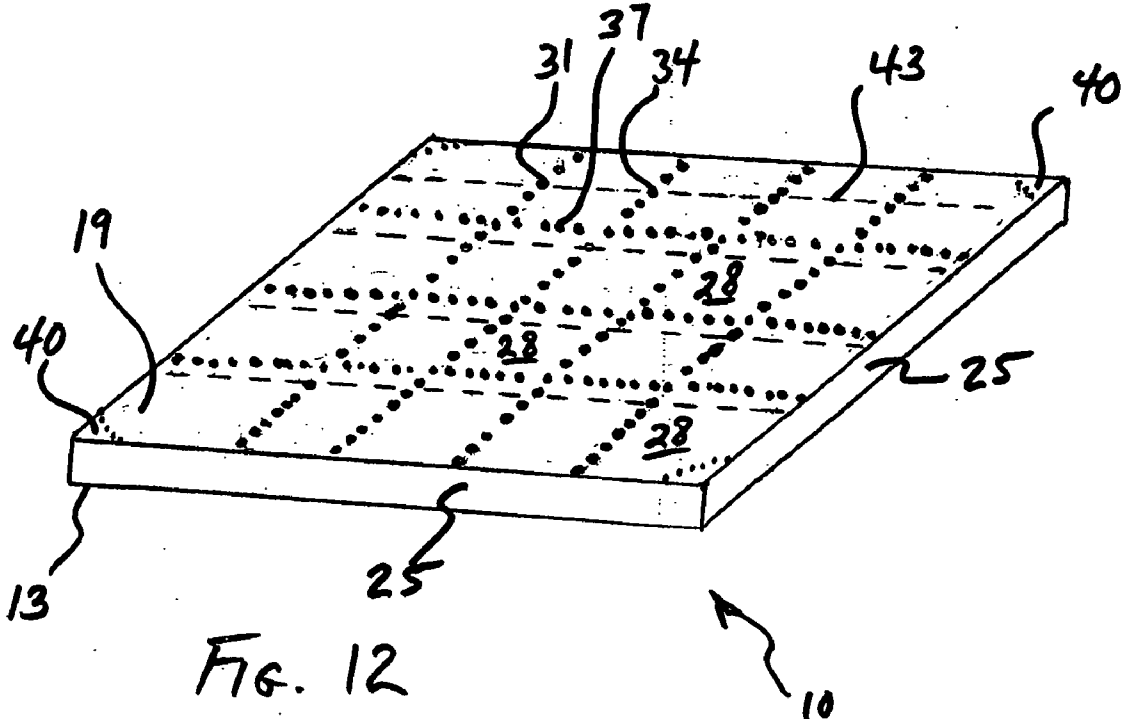
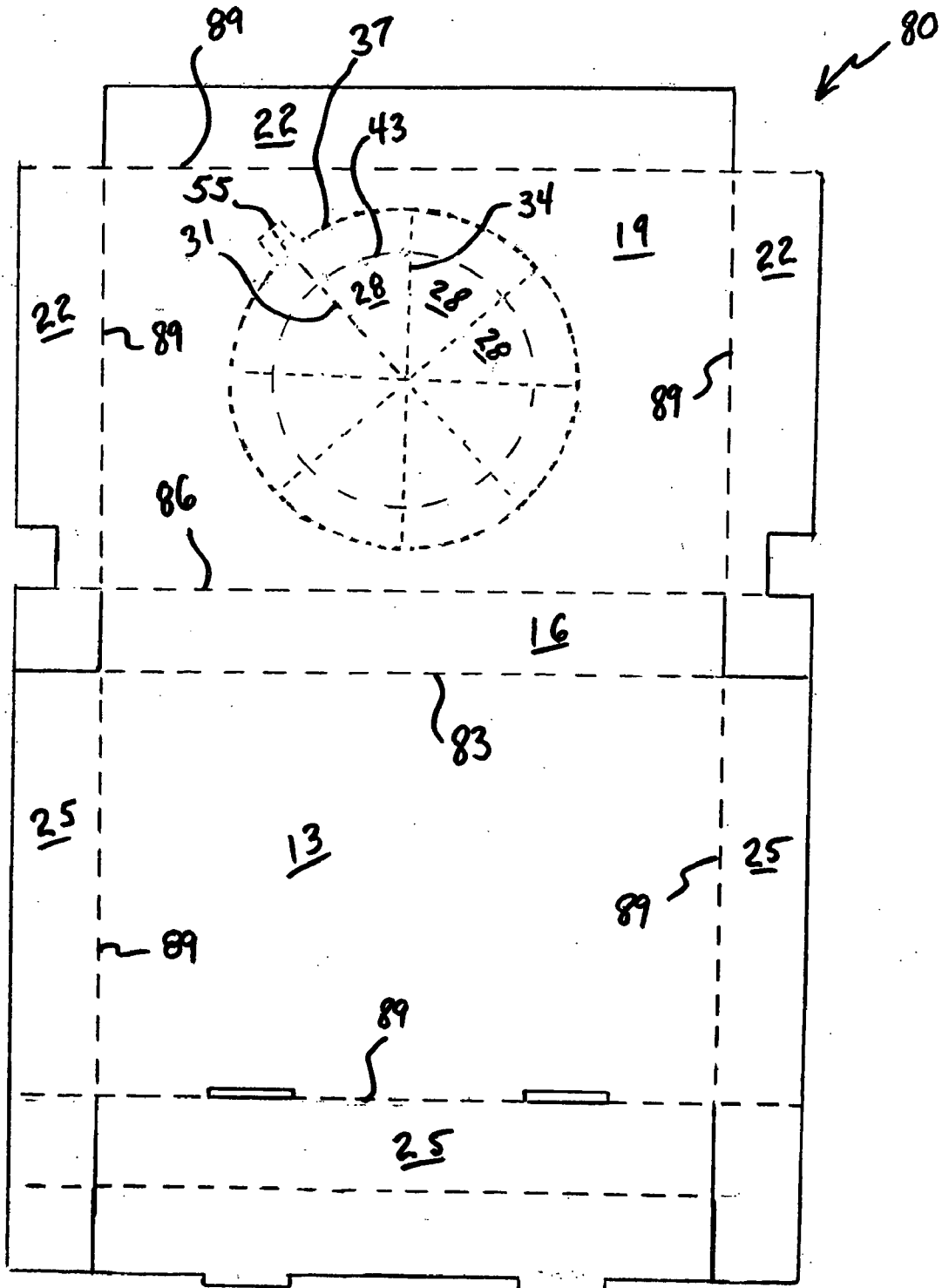


FIG. 12

FIG. 13



ONE-PIECE CARTON HAVING A PLATE WITH A FOOD RETAINING LIP

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of priority to U.S. provisional patent application Ser. No. 60/670,135, filed on Apr. 11, 2005.

FIELD OF THE INVENTION

[0002] The present invention relates to cartons, such as boxes used to deliver pizza.

BACKGROUND OF THE INVENTION

[0003] Cartons, such as boxes used to deliver pizza, typically have a base and a lid. In order to obtain the food that is inside the carton, the lid is lifted away from the base, and the food is removed from the base. Once removed, the food may be held in the person's hands, or a plate may be provided.

[0004] If the food is held in the person's hands, the person's hands are not available to do other things. If a plate is provided, the person's hands may be free to do other things, but then either the plate must be cleaned or thrown away after the person is finished eating. Cleaning plates is time consuming, and throwing plates away creates garbage that must be disposed of.

[0005] There are prior art cartons that allow parts of the carton to be used as a plate. For example, U.S. Pat. No. 3,335,846 shows a two-piece carton in which the lid may be divided to provide plates. Two-piece cartons are expensive to manufacture, primarily because they require two different forming processes, one for the lid and another for the base. The carton depicted in U.S. Pat. No. 3,335,846 would be particularly expensive to manufacture because the edges of the carton would require one mold and a compression process in order to obtain the shape of the lid and another mold and compression process in order to obtain the shape of the base.

[0006] Two-piece cartons are also difficult to use because they require two storage areas, one for the base and one for the lid. In a busy and confined area, like a commercial pizza kitchen, the need for two storage locations is a burden for the kitchen operator. Furthermore, such two-piece cartons require having an equal number of bases and lids in order to form a complete carton.

[0007] For these reasons, commercial food providers prefer one-piece cartons. Usually, such cartons are made of a single cardboard piece which can be folded to form a carton. One-piece cartons that provide plates are part of the prior art. For example, U.S. Pat. No. 5,110,038 shows a carton in which circular and square shaped plates are provided by the carton. Perforations in the carton lid allow the lid to be divided into plates. U.S. Pat. No. 5,476,214 shows a lid that may be divided into plates having different shapes. Although the plates provided by U.S. Pat. No. 5,110,038 and U.S. Pat. No. 5,476,214 are handy, they are substantially planar. As such food supported on those plates may easily slide off the plates. U.S. Pat. No. 3,335,846 provides plates having lips that prevent food from sliding in one direction, but the

complexity of the forming process (described above) offsets any advantages of providing a plate with a food-retaining lip.

[0008] The prior art provides one-piece cartons from which plates having a food-retaining lip may be provided. Examples of these prior art cartons are shown in U.S. Pat. No. 5,014,853. U.S. patent application Ser. No. 10/435,460 also shows a one-piece carton from which plates having a food-retaining lip may be provided. In order to separate the plates from the rest of the carton, the lid is normally raised, and the lid is torn along the perforations until a portion of the lid separates from the rest of the carton. Once the lid is divided into plates, a side of the carton is no longer connected to the base. Without that side, there is a risk of spilling the contents of the carton. For example, if the base is passed from one person to another, a pizza may slide off the base and onto the floor. As such, there is a need for a one-piece carton having a lid that can be used to provide plates having food retaining lips, in which the base prevents the contents of the carton from sliding off the base.

SUMMARY OF THE INVENTION

[0009] The invention may be embodied as a carton. One such carton includes a base portion, a connecting panel attached to the base portion, and a lid portion attached to the connecting panel. The lid portion may be attached to the base portion so that at least part of the lid portion may be lifted from the base portion in order to expose contents supported by the base portion. The lid portion may include a plurality of separable sections. At least one of the sections may be delimited, at least in part, by a first separation perforation and a second separation perforation. Such a separable section may have a weakened linear area extending between the first separation perforation and the second separation perforation. The invention may be embodied as a one-piece blank that can be used to form such a carton.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] For a fuller understanding of the nature and objects of the invention, reference should be made to the accompanying drawings and the subsequent description. Briefly, the drawings are:

[0011] **FIG. 1**, which is a perspective view of a carton according to the invention with the lid in the open position;

[0012] **FIG. 2**, which is a perspective view of the carton shown in **FIG. 1**, except that the lid is in the closed position;

[0013] **FIG. 3**, which is a perspective view of a separable section that has been removed from the carton shown in **FIG. 1**;

[0014] **FIG. 4**, which is a plan view of another carton according to the invention;

[0015] **FIG. 5**, which is a plan view of another carton according to the invention;

[0016] **FIG. 6**, which is a side view of the lid shown in **FIG. 5**;

[0017] **FIG. 7**, which is a perspective view of a separable section that has been removed from the carton shown in **FIG. 5**;

[0018] **FIG. 8**, which is a plan view of another carton according to the invention;

[0019] **FIG. 9**, which is a plan view of another carton according to the invention;

[0020] **FIG. 10**, which is a perspective view of another carton according to the invention;

[0021] **FIG. 11**, which is a plan view of the circled portion of the carton shown in **FIG. 10**;

[0022] **FIG. 12**, which is a perspective view of another carton according to the invention; and

[0023] **FIG. 13**, which is a plan view of a blank according to the invention.

FURTHER DESCRIPTION OF THE INVENTION

[0024] **FIGS. 1 and 2** depict an example of a carton **10** according to the invention. Such a carton **10** may be formed from a single piece of cardboard to include a base portion **13**, a connecting panel **16** and a lid portion **19**. The lid portion **19** and the base portion **13** may be attached to the connecting panel **16** so that at least part of the lid portion **19** may be lifted away from the base portion **13** in order to expose contents supported by the base portion **13**. **FIG. 1** shows one such carton **10** with the lid **19** in the open position, and **FIG. 2** shows the carton **10** with the lid **19** in the closed position.

[0025] The lid portion **19** may be substantially flat, and may be integrally connected to one or more lid-side portions **19**. The base portion **13** may be substantially flat, and may be integrally connected to one or more base-side portions **25**. When the lid **19** is in a closed position (see **FIG. 2**), the lid-side portions **22** may be placed adjacent to the base-side portions **25**. When the lid-side portions **22** are adjacent to the base-side portions **25**, friction between the side portions **22**, **25** may hold the lid portion **19** in the closed position, and the connecting panel **16** (see **FIG. 1**) may be held proximate to two of the base-side portions **25**.

[0026] The lid portion **19** may include a plurality of separable sections **28**. At least one of the sections **28** may be delimited, at least in part, by a first separation perforation **31** and a second separation perforation **34**. In **FIGS. 1 and 2**, the first and second separation perforations **31**, **34** serve to allow separation of one separable section from another. The embodiment of **FIGS. 1 and 2** has separation perforations **31**, **34** that meet in a central region of the lid **19**, and are substantially straight.

[0027] A third separation perforation **37** is shown in **FIGS. 1 and 2** extending between the first separation perforation **31** and the second separation perforation **34**. Although the third separation perforation **37** is shown curved, it need not be curved. A plurality of the third separation perforations **37** may form a pattern that defines a closed curve, such as a circle. When separated from the lid **19**, each separable section **28** may be used as a plate to support contents of the carton **10**, such as food delivered in the carton **10**.

[0028] It should be noted that in **FIGS. 1 and 2**, a portion **40** of the lid **19** is not part of any separable section **28**. Once all the separable sections **28** are removed, the lid-side portions **22** may be placed adjacent to the base-side portions **25** in order to keep the connecting panel **16** proximate to the

base-side portions **25**. In this manner, food that is supported by the base portion **13** may be prevented from sliding off the base portion **13**. As such, the base portion **13** may be moved without risking having the carton's contents slide off the base **13**. For example, if a pizza is supported by the base portion **13**, the base portion **13** may be passed from one person to another without risking having the pizza slide off the base portion **13** to the floor.

[0029] One or more of the separable sections **28** may have a weakened linear area **43**. The weakened linear area **43** may extend between the first separation perforation **31** and the second separation perforation **34**. It should be noted that the weakened linear area **43** need not be straight. The weakened linear area **43** may be formed by scoring or crushing the lid **19** in the area where the weakened linear area **43** is desired and to an extent so that the separable section **28** is not easily divided along the weakened linear area **43**, but so that the separable section **28** may be more easily bent along the weakened linear area **43**. In this manner, the separable section **28** may provide a lip **46** that may prevent food from sliding off the separable section **28**.

[0030] **FIG. 3** depicts one of the separable sections **28** shown in **FIGS. 1 and 2**. In this embodiment of the invention, the weakened linear area **43** is provided by scoring the separable section **28** in a central region **49** of the separable section **28** and not scoring the separable section **28** near the edges **50** of the separable section **28**. The portion of the weakened linear area **43** that is not scored may be crushed to provide easy bending of the separable section **28**. However, if the cardboard is easily pliable, no crushing is necessary near the edges **50** of the separable section **28** in order to allow the lip portion **46** to be formed. The lip portion **46** may be used to prevent food from sliding off the supporting area **52** of the separable section **28**.

[0031] The supporting area **52** and/or the lip area **46** may be used to provide advertising to a person using the section **28**. In this manner, the advertising may be visible by the person while the person is eating food that was once contained in the carton **10**.

[0032] **FIGS. 5-7** depict an embodiment of the invention in which one of the separation perforations **31**, **34** is shaped to include a tab portion **55**. A tab portion **55** may be used to assist in removing a separable section **28** from the lid **19**. By pressing a tab portion **55** hard enough, a finger may be inserted where the tab portion **55** once was, and then the separable section **28** may be grabbed and lifted, thereby detaching the section **28** from the carton **10**.

[0033] **FIGS. 6 and 7** depict an embodiment in which at least part of a tab portion **55** extends beyond an edge **56** of the lid **19**. For example, the tab portion **55** may extend to a side of the carton **10**, such as the connecting panel **16**, lid-side portion **22** or base-side portion **25** of the carton **10**. In this embodiment of the invention, the tab portion **55** may be pressed into the carton without pushing the tab portion **55** into the contents of the carton **10**. If the carton **10** contains food, the tab portion **55** may be pressed into the carton **10** without getting food on the tab **55** and without defacing the food. **FIG. 7** depicts one of the separable sections **28** of **FIG. 5** removed from the carton **10**.

[0034] One or more of the tab portions **55** may have a side **58** that substantially coincides with an edge **56** of the lid **19**.

See FIG. 8. Since the edge 56 of the lid 19 is weak, the side of the tab 55 that coincides with the lid edge 56 may be more easily separated from the rest of the carton 10, but the edge 56 may be perforated to allow easier separation of the tab 55.

[0035] FIG. 9 shows a presently preferred embodiment of the invention. In FIG. 9 there is shown a carton 10 having two tab portions 55. The tab portions 55 are positioned near a corner 61 of the carton 10, and one of the separation perforations 31, 34 extends through the tab 55. As such, the tab 55 may be pressed into the carton 10 in an area where contents of the carton 10 are not likely to be located. Further, the tab 55 may be used to separate two of the separable sections 28 from the rest of the lid 19. Having removed a separable section 28, the other separable sections 28 may be removed without use of a tab 55. This embodiment requires fewer tabs 55, and therefore may be less expensive to manufacture because fewer perforations are required.

[0036] In FIG. 10 there is shown a carton 10 according to the invention in which some of the separation perforations 31, 34 are substantially parallel. Other separation perforations 37 extend between the parallel separation perforations 31, 34. In this embodiment, all of the separation perforations 31,34,37 are substantially straight, but the invention is not limited to straight separation perforations 31, 34.

[0037] FIG. 11 is an enlarged portion of part of the carton 10 shown in FIG. 10. In FIG. 11, there is shown a knockout portion 64 that may be used to separate one of the separable sections 28 from the lid 19. The knockout portion 64 may be pressed into the carton 10 in order to leave a hole in the lid 19. A person's finger may then be inserted under one of the separable sections 28 in order to assist with grasping and lifting that separable section 28 in order to remove it from the rest of the lid 19.

[0038] FIG. 12 shows a variation of the embodiment depicted in FIG. 11. In FIG. 12, the carton 10 has separable sections 28 that are delimited in part by an edge 56 of the lid 19. This embodiment, illustrates that the separable sections 28 need not be entirely delimited by perforations. In this embodiment, those separable sections 28 that are delimited by an edge 56 of the lid 19 may be more difficult to separate from the lid 19, but fewer perforations are required, which may make the carton 10 stronger and/or less expensive to manufacture.

[0039] FIG. 13, shows a blank 80 that may be used to form a carton 10 according to the invention. The blank 80 of FIG. 13 includes a base portion 13, a connecting panel 16 and a lid portion 19. The connecting panel 16 may be adjacent to the base portion 13 and connected to the base portion 13 along a first fold line 83. The lid portion 19 may be adjacent to the connecting panel 16 and connected to the connecting panel 16 along a second fold line 86. The lid portion 19 may include a plurality of separable sections 28, at least one of the sections 28 being delimited, at least in part, by a first separation perforation 31 and a second separation perforation 34. One or more of the separable sections 28 may have a weakened linear area 43. The weakened linear area 43 may extend between the first separation perforation 31 and the second separation perforation 34. The weakened linear area 43 may allow at least one of the separable sections 28 to be easily bent along the weakened linear area 43, but not easily divided along the weakened linear area 43.

[0040] The blank 80 depicted in FIG. 13 includes base-side portions 25 adjacent to the base portion 13. The base-side portions 25 may be connected to the base portion 13 along fold lines 89. Also depicted in FIG. 13 are lid-side portions 22 adjacent to the lid portion 19. The lid-side portions 22 may be connected to the lid portion 19 along fold lines 89.

[0041] The blank 80 may include in the lid portion 19 a third separation perforation 37 extending between the first and second separation perforations 31, 34. The third separation perforation 37 may be a straight line or a curved line. Further the third separation perforation 37 may be shaped to include a tab portion 55.

[0042] U.S. provisional patent application No. 60/670,135 discloses additional details about the invention and additional embodiments of the invention. The disclosure of that patent application is incorporated by this reference.

[0043] Although the present invention has been described with respect to one or more particular embodiments, it will be understood that other embodiments of the present invention may be made without departing from the spirit and scope of the present invention. Hence, the present invention is deemed limited only by the appended claims and the reasonable interpretation thereof.

What is claimed is:

1. A carton, comprising:
 - a base portion;
 - a connecting panel attached to the base portion; and
 - a lid portion attached to the connecting panel, the lid portion being attached to the base portion so that at least part of the lid portion may be lifted from the base portion in order to expose contents supported by the base portion, wherein the lid portion includes a plurality of separable sections, at least one of the sections being delimited at least in part by a first separation perforation and a second separation perforation, the at least one of the sections having a weakened linear area, the weakened linear area extending between the first separation perforation and the second separation perforation.
2. The carton of claim 1, wherein the first separation perforation and the second separation perforation meet in a central region of the lid.
3. The carton of claim 1, wherein the first separation perforation and the second separation perforation are substantially parallel.
4. The carton of claim 1, further comprising a third separation perforation extending between the first and second separation perforations.
5. The carton of claim 4, wherein the third separation perforation is curved.
6. The carton of claim 4, wherein the third separation perforation is substantially straight.
7. The carton of claim 6, wherein the third separation perforation substantially coincides with an edge of the lid.
7. The carton of claim 4, wherein the third separation perforation is shaped to include a tab portion.
8. The carton of claim 7, wherein a side of the tab portion substantially coincides with an edge of the lid.
9. The carton of claim 7, wherein the tab portion extends beyond an edge of the lid.

10. The carton of claim 9, wherein the tab portion extends to an edge flap attached to the lid.

11. The carton of claim 9, wherein the tab portion extends to the connecting panel.

12. The carton of claim 1, wherein the first and second separation perforations are straight.

13. The carton of claim 1, wherein the weakened linear area allows at least one of the sections to be easily bent along the weakened linear area, but not easily divided along the weakened linear area.

14. The carton of claim 1, wherein the weakened linear area substantially coincides with an edge of the lid.

15. The carton of claim 1, further comprising a knock-out portion adjacent to one of the sections.

16. A one-piece blank for producing a carton, comprising:

a base portion;

a connecting panel adjacent to the base portion and being connected to the base portion along a first fold line;

a lid portion adjacent to the connecting panel and being connected to the connecting panel along a second fold line, wherein the lid portion includes a plurality of separable sections, at least one of the sections being

delimited at least in part by a first separation perforation and a second separation perforation, the at least one of the sections having a weakened linear area, the weakened linear area extending between the first separation perforation and the second separation perforation.

17. The blank of claim 16, further comprising base-side portions adjacent to the base portion, the base-side portions being connected to the base portion along third fold lines;

18. The blank of claim 16, further comprising lid-side portions adjacent to the lid portion, the lid-side portions being connected to the lid portion along third fold lines.

19. The blank of claim 16, wherein the lid portion includes a third separation perforation extending between the first and second separation perforations.

20. The blank of claim 19, wherein the third separation perforation is shaped to include a tab portion.

21. The blank of claim 16, wherein the weakened linear area allows at least one of the sections to be easily bent along the weakened linear area, but not easily divided along the weakened linear area.

* * * * *