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(54) Two piece carton

(57) A carton (100), comprising: a tray (110) including an end panel (170), a first reinforcing panel (290), and a second reinforcing panel (290). The end panel (170) comprises a first handle aperture (220) and the first reinforcing panel (290) comprises a first handle cutout (320). The second reinforcing panel (290) comprises a second handle cutout (320), and the first and second reinforcing panels (290) are disposed along one of opposite surfaces of the end panels (170), such that said first and second handle cutouts (320) are aligned with each other to form a second handle aperture (320). The second handle aperture (320), in turn, is aligned with said first handle aperture (220). The carton also comprises a lid (120) including a lid end panel (370) with a third handle aperture (420). The lid (120) is attached to said tray (110) such that said lid end panel (370) is disposed on one of opposite surfaces of said end panel (170) of said tray (110) such that said third handle aperture (420) is aligned with said first and said second handle apertures (220, 320).

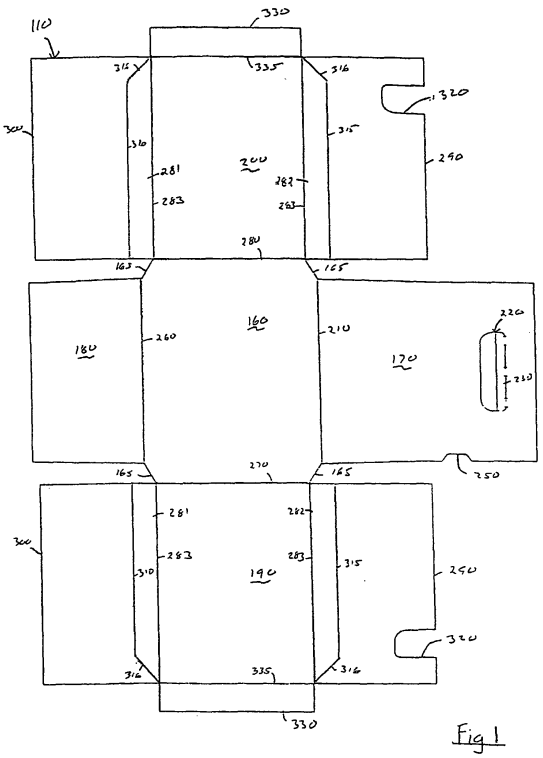

Fig 1

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Description

TECHNICAL FIELD

[0001] The present invention relates generally to a carton for articles and more particularly relates to a two (2)-piece carton with at least one (1) reinforced handle.

BACKGROUND OF THE INVENTION

[0002] Cartons for articles such as beverage containers and the like generally may be made out of cardboard, paperboard, corrugated board, or similar types of materials. The material generally is cut, folded, and then glued into the appropriate shape. The design of a carton thus may focus on minimizing the amount of material and adhesive used while maximizing the strength of the carton as a whole. Likewise, the carton preferably should be easy to assemble, load, and unload.

SUMMARY OF THE INVENTION

[0003] According to a first aspect, the invention provides a carton comprising a tray including an end panel, a first reinforcing panel, and a second reinforcing panel; said end panel comprises a first handle aperture; said first reinforcing panel comprises a first handle cutout and said second reinforcing panel comprises a second handle cutout, said first and said second reinforcing panels are disposed along one of opposite surfaces of said end panel such that said first and second handle cutouts are Aligned with each other to form a second handle aperture that in turn is aligned with said first handle aperture; and a lid including a lid end panel with a third handle aperture, wherein said lid is attached to said tray such that said lid end panel is disposed on one of opposite surfaces of said end panel of said tray, and wherein said third handle aperture is aligned with said first and said second handle apertures.

[0004] Preferably, said lid end panel comprises a zipper cutout. Preferably, said tray further comprises a pair of tray side panels, wherein each of said tray side panels comprises a flap connected thereto.

[0005] Preferably, said lid further comprises a pair of lid side panels such that when said lid is positioned on said tray, said side panel flaps are positioned adjacent to but not attached to said lid side panels. Preferably, said lid end panel comprises a zipper thereon. Preferably, said lid end panel is fixedly attached to said tray about said zipper.

[0006] According to a second aspect, the invention provides a carton comprising a first part, and a removable second part, said first part comprises a first panel with a first handle aperture and a reinforcing panel with a first handle cutout, said second part comprises a second panel with a second handle aperture such that when said second part is attached to said first part, and said second handle aperture is aligned with said first handle aperture and said first handle cutout.

[0007] Preferably, said second panel of said second part comprises a zipper thereon and wherein said second part is attached to said first part about said zipper.

[0008] According to a third aspect, the invention provides a method of constructing a carton with a tray and a lid, comprising: folding a tray blank such that a first panel with a first handle aperture is positioned adjacent to a pair of reinforcing panels with a handle cutout, fixedly attaching the first panel to the reinforcing panel to form the tray; folding a lid blank with a first lid panel with a second handle aperture and a zipper to form the lid; positioning the lid on the tray such that the second handle aperture aligns with the first handle aperture and the handle cutouts; and fixedly attaching the lid to the tray about the zipper.

[0009] The present invention may provide in one aspect a carton, including a tray with a pair of tray end panels and a pair of tray side panels and a lid with a pair of lid end panels and a pair of lid end panels. The tray end panels include an adhesive thereon such that the lid end panels are affixed to the tray end panels while the lid side panels are adjacent to but not attached to the tray side panels.

[0010] Preferably, a first one of the first tray end panels may include a tray handle aperture while a first one of the lid end panels may include a lid handle aperture. The tray may include a tray base panel and the lid may include a lid top panel. The tray base panel may be octagonal in shape. The lid top panel may be rectangular in shape. Each tray side panel may be connected to a pair of beveled corner panels while each lid end panel may include a pair of beveled edges. At least one of the lid end panels may include a zipper thereon. Each tray side panel may be connected, either directly or indirectly, to a pair of reinforcing panels. The tray side panels may include a pair of tray flap thereon such that when the lid is placed on the tray, the tray flaps are positioned adjacent to the second tray side panels but not attached thereto.

[0011] The lid top panel may include a lid handle aperture therein. The lid handle aperture may define a handle cover panel. The lid also may include a handle panel. The lid handle panel . may extend from one of the lid end panels to the other.

[0012] A further embodiment as described herein may provide a carton. The carton may include a tray with an end panel and a pair of first and second reinforcing panels. The end panel may include a first handle aperture. The first reinforcing panel may include a first handle cutout and the second reinforcing panel may include a second handle cutout. The first and the second reinforcing panels are disposed along one of the opposite surfaces of the end panel while the first and second handle cutouts may align with each other to form a second handle aperture. The carton also may include a lid. The lid may include a lid end panel with a third handle aperture. The lid is attached to the tray such that the lid end panel is disposed along one of the opposite surfaces of the end

panel of the tray wherein the third handle aperture is aligned with the first and the second handle apertures.

[0013] The lid end panel may include a zipper cutout. The tray may include a pair of tray side panels with side panel flaps thereon. The lid may include a pair of lid side panels such that when the lid is positioned on the tray, the side panel flaps are positioned adjacent to but not attached to the lid side panels. The lid end panel may include a zipper thereon. The lid end panel may be fixedly attached to the tray about the zipper.

[0014] A further embodiment of the carton may include a first part and a removable second part. The first part may include a first panel with a first handle aperture and a reinforcing panel with a handle cutout. The second part may include a second panel with a second handle aperture. The second part is attached to the first part such that the second handle aperture is aligned with the first handle aperture and the handle cutout. The second panel of the second part may include a zipper thereon. The second part may be attached to the first part about the zipper.

[0015] A further embodiment of the carton may include a first part with a pair of first side panels and a pair of first end panels. The carton further includes a second part with a pair of second side panels, a pair of second end panels, and a handle cutout. The first end panels may include adhesive thereon so as to be secured to the second end panels while the first side panels are positioned adjacent to but not attached to the second side panels. The second part may include a handle panel fixedly attached to the first part by the adhesive.

[0016] A method described herein may provide for constructing a carton with a tray and a lid. The method may include the steps of folding a tray blank such that a first panel with a first handle cutout is positioned adjacent to a pair of reinforcing panels with a second handle cutout, fixedly attaching the first panel to the reinforcing panel to form the tray, folding a lid blank with a first lid panel with a third handle cutout and a zipper to form the lid, positioning the lid on the tray such that the third handle cutout aligns with the first and second handle cutouts, and fixedly attaching the lid to the tray about the zipper.

[0017] According to a further aspect, the invention provides a carton formed of two parts comprising a tray and a removable lid, the tray comprising a pair of tray side panels, a pair of tray end panels and a handle aperture formed in a first of said tray end panels, the removable lid comprising a pair of lid side panels, a pair of lid end panels and a handle aperture formed in a first of said lid end panels, said tray end panels comprising adhesive thereon such that said lid end panels are attached to said tray end panels while said lid slide panels are disposed adjacent to but remain unsecured to said tray side panels.

[0018] Preferably, said tray comprises a tray base panel and said lid comprises a lid top panel. Preferably, said lid top panel comprises at least one lid handle aperture defined therein. Preferably said lid top panel comprises a saddle handle cover panel.

[0019] Preferably, each of said lid end panels comprises a pair of beveled edges. Preferably, said tray comprises a pair of reinforcing panels connected to said tray side panels. Preferably, the tray comprises a pair of tray flaps connected to said tray side panels.

[0020] Optionally, when said lid is placed on said tray, said tray flaps are positioned adjacent to and in face contacting relationship with said lid side panels but said tray flaps are not attached to said lid side panels. Preferably, said lid comprises a handle panel.

[0021] According to a yet another aspect, the invention provides a carton formed of two parts comprising a tray and removable lid, the tray comprising a pair of tray side panels, a pair of tray end panels and a tray flap hinged to an upper edge of each tray side panel, the removable lid comprising a pair of lid side panels and a pair of lid end panels, said tray end panels comprise adhesive and are secured to the lid end panels such that the removable lid is secured to the tray while said lid side panels are positioned internally of the carton and in face contacting relationship with said tray flaps but not attached to said tray.

[0022] Preferably, said removable lid comprises a handle aperture, formed in a top panel of the removable lid. Preferably a handle aperture is formed in each lid end panel. Preferably, a tray flap and its associated lid side panel form a reinforcing beam extending along an upper side edge of the carton. Preferably, the lid end panels are each associated with a panel for forming strap handle.

[0023] Preferably, the removeable lid comprises a series of integral strap handle panels extending between said lid end panels and hinged to said lid end panels and a lid side panel.

[0024] These and other features of the present invention will become apparent upon review of the following detailed description when taken in conjunction with the drawings and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025]

Fig. 1 is a plan view of a blank for assembling a tray or lower part of the carton of the invention.

Fig. 2 is a plan view of a blank for assembling a lid or upper part of the carton of the invention.

Fig. 3 is a perspective view of the carton formed from the blanks of Figs. 1 and 2.

Fig. 4A is a perspective view of the carton of Fig. 3 in an opened condition.

Fig. 4B is a perspective view of the removed lid of the carton of Fig. 3.

Fig. 5 is a plan view of a blank for assembling a tray

or lower part of the second embodiment of the carton of the invention.

Fig. 6 is a plan view of a blank used to assemble a lid or upper part of the second embodiment of the carton of the invention.

Fig. 7 is a perspective view of an assembled carton formed from the blanks of Figs. 5 and 6.

DETAILED DESCRIPTION

[0026] Referring now to the drawings, in which like numerals refer to like elements throughout the several view, Figs. 1- 4B show an embodiment of a carton **100** according to the present invention. The carton **100** may be a two (2)-piece container with a first or lower part **110** and a second or upper part **120.** The first part **110** may be a tray or a similar type of open basket structure and the second part **120** may a lid or a similar type of covering structure and/or support structure.

[0027] The first part **110** and the second part **120** may be made out of cardboard, paperboard, corrugated board, plastic, or similar types of foldable sheet materials. Specifically, the first part **110** and the second part **120** may be made out of coated unbleached paperboard. The thickness of the material for the first part **110** and the second part **120** may be varied.

[0028] Fig. 1 shows a blank that may be used to assemble the first part **110**, the tray. The blank may be cut in a die cutting process, a laser cutting process, or any other type of cutting method from a continuous sheet of foldable material.

[0029] The blank may have a number of fold lines and tear lines formed therein. The term fold line refers to a weakened line that facilitates folding of the material along the length of the weakened line. The fold line may include, but is not limited to, a score line, a perforation, a line of short slits, a line of half cuts, a combination of slits and score lines, and similar arrangements. Any reference to a fold line or any hinged connection should not be construed as being limited to a single fold line only. Any such fold line or hinged connection may be formed from one or more fold lines. The term tear line may refer to a line of severance or any other weakened line that facilitates separation along the length of the weakened line. The tear line may include, but is not limited to, a perforation, a line of short slits, a line of half cuts, a combination of slits and score lines, and similar arrangements.

[0030] The fold lines may define a number of panels. Specifically, a base panel **160**, a first end panel **170,** a second end panel **180,** a first side panel **190,** a second side panel **200,** as well as number of corner panels and reinforcing panels as will be described in more detail below. The number of panels may be varied. Each of the panels may be largely rectangular in shape. Any desired shape or size, however, may be used. It will be recognized that ordering references, such as first and second, and directional references, such as top, base, bottom, side, upper, lower, etc., do not limit the structure described herein to such orientation, but merely serve to distinguish relative structure from one another.

[0031] The base panel **160** may have one or more beveled edges **165** such that the base panel **160** as a whole may have a pentagonal, hexagonal or other polygonal shape. In the embodiment of Figs 1-4B, the base panel **160** has four beveled edges **165** to be octagonal in shape. The beveled edge or edges **165** may accommodate the size and shape of the beverage containers, such as bottles, and as such provide a stable and tight carton **100** as a whole when loaded.

[0032] The first end panel **170** may be connected to the base panel **160** via a first base panel fold line 210. The first end panel **170** may have a handle aperture **220** positioned therein. The handle aperture **220** may have an extended oval shape. The handle aperture **220** may form a handle flap **230** that may be hingedly connected to the first end panel **170** to be folded inward for reinforcement. The first end panel **170** may also have a zipper cutout **250** positioned therein. The zipper cutout **250** may be an indention or notch on a side edge of the first end panel **170** to provide easy access to a zipper as will be described in more detail below.

[0033] The second end panel **180** may be hingedly connected to the base panel **160** via a second base panel fold line **260.** When folded along the fold lines 210, 260, the first end panel **170** and the second end panel **180** may take respective positions where they are largely parallel to each other. Although the second end panel **180** is shown as being somewhat less in vertical length than the first end panel **170,** any desired length may be used. Further, another handle aperture similar to the aperture **220** may be positioned within the second end panel **180** if desired.

[0034] The first side panel **190** may be hingedly connected to the base panel **160** via a third base panel fold line **270** and the second side panel **200** may be hingedly connected to the base panel **160** via a fourth base panel fold line **280.** The first and second side panels **190, 200** may be largely identical to each other. When folded along the fold lines **270, 280,** the first ' and second side panels **190, 200** also may take respective positions where they are largely parallel to each other and largely perpendicular to the first and the second end panels **170, 180.**

[0035] The first and second side panels **190, 200** each also may be hingedly connected to a pair of corner panels. A first corner panel **281** and a second corner panel **282** are hingedly connected to each of the first and second side panels **190, 200.** The corner panels **281, 282** may be bounded by, and connected to, the respective side panel along corner panel fold lines **283.** The fold lines **283** may run the length of the corner panels **281, 282.** The corner panels **281, 282** may be largely trapezoidal in shape. The corner panels **281, 282** may accommodate the beveled edges **165** of the base panel **160.**

[0036] In turn, the corner panels **281, 282** also may be

connected to reinforcing panels respectively. A first reinforcing panel **290** and a second reinforcing panel **300** are hingedly connected to the corner panels **282, 281** respectively. The reinforcing panel **290** may be connected to the corner panel **282** along fold lines **315, 316** while the reinforcing panel **300** may be connected to the corner panel **281** along fold lines **310, 316**. The reinforcing panel fold lines **316, 316** are beveled to form the trapezoid shape of the corner panels **281, 282**. When folded about the fold lines **310, 315, 316,** the reinforcing panels **290, 300** may be positioned alongside either the inside or outside surfaces of the first and the second end panels **170, 180 respectively.** The first reinforcing panels **290** each may have a cutout **320** that has a size about one-half of the handle aperture **220.** The size of the handle cutout **320** on either reinforcing panel **290**, as well as the relative width of each reinforcing panel **290,** may be varied. When the reinforcing panels **290, 300** are folded, the handle cutouts **320** may in cooperation form a full aperture that is positioned to be aligned with the handle aperture **220** of the first end panel **170.**

[0037] The first and second side panels **190, 200** each may have a reinforcing flap **330** hingedly connected thereto. Each flap **330** may extend entirely along the upper edge of the respective side panel. The flaps **330** may be hingedly connected to the first and the second side panels **190, 200** via tab fold lines **335** respectively.

[0038] To form the first or lower part **110,** the side and end panels **170, 180, 190, 200** may be folded along the four (4) base panel fold lines **210, 260, 270, 280 to take respective positions where they are generally perpendicular to the base panel 160.** The corner panels **281, 282** and the reinforcing panels **290, 300** may be folded along the corner panel fold lines **283** and the reinforcing flap fold lines **310, 315, 316** such that the reinforcing panels **290, 300** are disposed largely perpendicular to the side panels **190, 200** and are positioned behind or in front of the first and second panels **170**, **180.** The reinforcing panels **290**, **300** may be attached to the first and second end panels **170, 180** by a conventional adhesive or otherwise.

[0039] Fig. 2 shows a blank for the second (or upper) part **120** or the lid. As above, the blank **350** may have a number of fold lines and tear lines formed therein. The fold lines may define a number of panels. In this example, a top panel **360,** a first end panel **370,** a second end panel 380, a first side panel **390** and a second side panel **400.** The number of panels may be varied. Each of the panels may be largely rectangular in shape. Any desired size or shape, however, may be used.

[0040] The first end panel **370** may be hingedly connected to the top panel **360** by a first top panel fold line **410.** The first end panel **370** may have a handle aperture **420** formed therein. The handle aperture **420** may have a largely extended oval shape. The handle aperture **420** may define a handle flap **430.** The handle flap **430** may be hingedly connected to the end panel **370** to be folded inward into the carton. The first end panel **370** may have a zipper **440** formed therein. The term "zipper" as used herein refers to a number of tear lines positioned to define a removable portion such that by removing the removable portion, the first end panel **370** may be bisected. The zipper **440** as a whole or the individual tear lines may be in the form of a number of slits or in any desired form or shape.

[0041] The first end panel **370** may have a pair of beveled edges **445** formed therein. The beveled edges **445** may accommodate the corner panels **281, 282** of the first part **110** and are designed to be disposed in general alignment with the respective beveled edges **316** of the corner panels 281, 282. As a result, the top panel **360** of the second part **120** thus may be largely rectangular in shape while the base panel **160** of the first part **110** may have a largely octagonal shape given the beveled edges **165.**

[0042] The second end panel **380** may be hingedly connected to the top panel **360** via a second top panel fold line **460.** The second end panel **380,** when folded along the fold line **460,** may take a position where it is largely parallel to the first end panel **370.** The second end panel 380 may be largely identical to the first end panel **370** in shape. The second end panel **380** also may include a zipper **440** positioned therein and a pair of beveled edges **445.**

[0043] The first and second side panels **390, 400** may be largely identical to each other. The first side panel **390** may be connected to the top panel **360** via a third top panel fold line **470** while the second side panel **400** may be connected to the top panel **360** via a fourth top panel fold line **480.** Folding the four (4) panels **370, 380, 390, 400** about the four (4) top panel fold lines **410**, **460**, **470**, **480,** may form the second part or lid **120.** The second part or lid **120** then may be attached to the first part or tray **110.**

[0044] In use, the first part **110** may be erected by folding the side panels **190, 200** about the third and fourth base panel fold lines **270, 280.** The first part **110** then may be filled with one or more articles, in this case a number of beverage containers **500** in the form of bottles. Any type of article, however, may be used. The flaps **330** on the side panels **190, 200** may be folded inward along the fold lines **335.** The corner panels **282, 281** and the reinforcing panels **290, 300** then may be folded about the fold lines **283, 315, 310, 316**. An adhesive then may be applied to the reinforcing panels **290, 300** and/or to the end panels **170, 180.** The end panel **170, 180** then may be folded about the first and second base panel fold lines **210, 260** and attached to the reinforcing panels **290, 300** by means of the adhesive.

[0045] The second part or lid **120** then may be attached to the first part or tray **110.** Specifically, the side panels **390, 400** may be folded inward before the attachment. The second part **120** may be placed on top of the first part **110** such that the side panels **390, 400** are brought into face-contacting relationship with the flaps **330** of the first part **110** respectively. An adhesive may then be ap-

plied to the end panels **170, 180** of the first part **110.** Preferably, the adhesive will be applied below the handle aperture **220** such that the end panels **170, 180** may be attached to the end panels **370, 380** at the portions below the zippers **440.** The end panels **370, 380** of the second part **120** then may be folded downward along the fold lines **410, 460** and attached to the end panels **170, 180** of the first part **110.** An end of the zipper **440** preferably aligns with the zipper cutout **250.** Likewise, the handle apertures and cutouts **220, 320, 420** preferably align one another and form a single slot handle **520**. An example of an assembled carton **100** is shown in Fig. 3.

[0046] The carton **100** as described herein thus may be constructed and filled on a straight-line carton machine. By the term "straight-line" machine, we mean that the first part **110** and the second part **120** of the carton **100** need not be rotated for the purposes of filling or for placing adhesives thereon. The straight-line machine can be used because the adhesives are only applied to the end panels **170, 180** of the first part **110** and/or the reinforcing panels **290, 300** of the first part **110.** No adhesive thus need be applied to the side panels **190, 200** of the first part **110** or the side panels **390, 400** of the second part **120.** Rather, the intersection of the flaps **330** of the first part **110** and the side panels **390, 400** of the second part **120** provides rigidity along the respective side panels **190, 200, 390, 400.** Stated differently, the flaps **330,** 330 of the tray **110** are not secured to the side panels **390, 400** of the lid **120** in the assembled carton **100.** However, each flap **330** and the associated side panel **390** or **400** mate with each other in face-contacting relationship to form a reinforcing beam extending entirely along the adjacent upper side edge (335) of the carton. The beams enhance the rigidity of the carton such that the end panels **170, 370,** top panel **360** and side panels **190** and **200** are prevented from being overly warped or otherwise deformed when the carton is lifted by the handle **520.** The carton **100,** with the beverage containers **500** in the form of bottles therein, may be lifted and carried by the handle **520.** As is described above, the handle **520** may include three (3) reinforcing layers for strength.

[0047] Figs. 4A and 4B show the carton **100** with the second part or lid **120** removed. As is shown, the second part **120** may be removed or displaced by pulling the zippers **440** on the first and/or second end panels **370, 380.** Removal of at least one of the zippers **440** allows the first and/or second end panel **370, 380** of the second part **120** to be removed from the first and/or second end panel **170, 180** of the first part **110**. The portion or portions of the first end panel **370** and/or second end panel **380** below the zippers **440** may remain attached to the first part **110.** The second part **120** is then removed, either partially or completely, from the first part **110.**

[0048] The beverage containers **500** then may be removed from the first part or tray **110** as desired. Likewise, the first part or tray **110** also may be carried by the handle **520** with all or some of the beverage containers **500** remaining therein. Further, the first part **110** also may serve to return the empty beverage containers **500** or other articles as is desired.

[0049] Figs. 5-7 show a second embodiment of a carton **600** according to the invention. The carton 600 may be a two (2)-piece container with a first part **610** and a second part **620.** The first part **610** may be a tray or a similar type of open basket structure and the second part **620** may be a lid or a similar type of covering structure and/or support structure.

[0050] Fig. 5 shows a blank that may be used to assemble the first part or tray **610.** As described above, the fold lines may define a number of panels. Specifically, a base panel **630,** a first end panel **640,** a second end panel **650,** a first side panel **660,** a second side panel **670,** as well as a number of corner panels as will be described in more detail below. The number of panels may be varied. Each of the panels may be largely rectangular in shape. Any desired size or shape, however, may be used.

[0051] The base panel **630** may have a number of beveled edges **680** such that the base panel **630** as a whole may have a largely octagonal shape. The first end panel **640** may be connected to the base panel **630** via a first base panel fold line **690.** Likewise, the second end panel **650** may be connected to the base panel **630** via a second base panel fold line **700.** The end panels **640, 650** may be largely identical in shape. When folded, the first end panel **640** and the second end panel **650** may be largely parallel to each other.

[0052] The first side panel **660** may be connected to base panel **630** via a third base panel fold line **710** and the second side panel **670** may be connected to the base panel **630** via a fourth base panel fold line **720.** The side panels **660, 670** may be largely identical to each other. When folded, the side panels **660, 670** also may be largely parallel to each other and largely perpendicular to the end panels **640, 650.**

[0053] The first and second side panels **660, 670** also each may be connected to a pair of corner panels. Specifically, a first corner panel **730** and a second corner panel **740.** The corner panels **730, 740** may be hingedly connected to the respective side panel by corner panel fold lines **750.** The corner panel fold lines **750** may run the vertical length of the corner panels **730, 740.** Further, the corner panels **730, 740** each may have a pair of offset lines. Specifically, an offset fold line **760** and an offset cut line **770.** The offset fold line **760** may run from the lower end of the respective corner panel **730** or **740** through most of the vertical length of the panel as is shown. The offset cut line **770** may start from the upper end of the respective corner panel **730** or **740** and extend shortly beyond the termination point of the adjacent offset fold line **760.** The offset fold line **760** may accommodate the beveled edges **680** of the base panel 630. The corner panels **730, 740** as a whole each have a largely step-like shape with an upper corner panel tab **780.** Each corner panel **730, 740** also may have an angled fold line **785** bordering the upper corner panel tab **780.**

[0054] The first and second side panels **660, 670** fur-

ther each may have a side panel flap **790** positioned thereon. The flaps **790** may extend entirely along the upper edges of the side **panels 660, 670 and hingedly connected thereto along fold lines 800 respectively.**

[0055] To form the first part **610,** the side end panels **640, 650, 660, 670** may be folded along the four base panel fold lines **690, 700, 710, 720.** Likewise, the corner panels **730, 740** may be folded along the corner panel fold lines **750, 760** such that a portion of the corner panels **730, 740** are positioned behind of or in front of the end panels **640, 650.** The corner panels **730, 740** may be attached to either the inside or outside surfaces of the end panels **640, 650** respectively by adhesive or other conventional securing means such as staples are mechanical locks.

[0056] Fig. 6 shows a blank for the second part or lid **620.** As above, the fold lines may define a number of panels. In this example, a top panel **850,** a first end panel **860,** a second end panel **870,** a first side panel **880**, a second side panel **890**, and a handle panel **900**. The number of panels may be varied. Each of the panels may be largely rectangular in shape. Any desired size or shape, however, may be used.

[0057] The top panel **850** may have a saddle handle cover panel **910** defined therein. The handle cover panel **910** may be partially defined by a pair of handle apertures formed in the top panel 850. The first and second handle apertures **920, 930** are located on the opposite sides of the handle cover panel **910.** The handle apertures **920, 930** may have a largely extended oval shape. The handle apertures **920, 930** each may define a handle flap **940.** The respective handle flaps **940** may be folded inwardly of the carton for reinforcement as well as to enhance comfort of user's hand. Each handle flap **940** also may have a number of diagonal tear lines 945 positioned therein so as to form the handle flap **940** in a substantial cone shape. The handle apertures **920, 930** may be adjoined on either end by an extension portion **960.** The extension portions **960** may be defined by extension tear lines **965** so that the handle cover panel **910** may be severed, together with the handle flaps **920, 930,** from the top panel **850** and may be raised above the top panel **850.**

[0058] The first end panel **860** may be hingedly connected to the top panel **850** via a first top panel fold line **970.** The first end panel **860** also may have a zipper **980** formed therein. The first end panel **860** also may have a pair of beveled edges **990** positioned adjacent to the top panel 850. The beveled edges **990** may accommodate the corner panels **730, 740** of the first part 610. The beveled edges **990** thus permit the base panel **630** of the first part **610** to be largely octagonal in shape while the top panel **850** of the second part **620** may be largely rectangular in shape.

[0059] The second end panel **870** may be hingedly connected to the top panel **850** via a second base panel fold line **1000.** The second end panel **870** also may include a zipper **980** positioned therein as well as a pair of the beveled edges **990.** The second end panel **870,** when folded, may be largely parallel to the first end panel **860.** The second end panel **870** may be largely identical in shape to the first end panel **860.**

[0060] The first side panel **880** may be hingedly connected to the top panel **850** via a third top panel fold line **1010.** The first side panel **880** may be largely trapezoidal in shape. The second side panel **890** may be hingedly connected to the top panel **850** via a fourth top panel fold line **1020.** The second side panel **890** may be substantially rectangular in shape. Any convenient size or shape, however, may be used.

[0061] The handle panel **900** may be connected to the first and second end panels **860**, **870.** The handle panel **900** may have a first handle end panel **1030,** a second handle end panel **1040,** a handle base panel **1050,** and a handle reinforcement panel **1060.** The handle end panels **1030,** 1040 may be largely rectangular in shape and may be connected to their respective first and second end panels **860, 870** via first and second handle panel fold lines **1070, 1080.** The handle end panels **1030, 1040** each may have an yielding tab **1090** formed therein. Any convenient size or shape may be used for the yielding tab **1090.** The yielding tab **1090** may extend into the handle base panel **1050.**

[0062] The handle reinforcement panel **1060** may be connected to the handle base panel **1050** via a third handle panel fold line **2000.** The handle reinforcement panel **1060** may fold along the third handle panel fold line **2000** to place itself underneath the handle base panel **1050.** The handle base panel **1050** and the handle reinforcement panel **1060** may define a handle cutout **2010.** The handle cutout **2010** may have an extended oval shape. Further, the handle base panel **1050** also may define another handle cutout **2020.** The handle cutout **2020** may have an extended half-oval shape. The handle cutout **2020** defines a handle flap **2040.** The handle flap **2040** may be folded underneath handle base panel **1050.** The handle base panel **1050** may have a width between the handle cutouts **2010, 2020** of about the same dimension as the width between the handle apertures **920, 930** of the top panel **850.**

[0063] To construct the second part **620,** an adhesive may be attached to the first and second handle end panels **1030, 1040** and/or the first and second end panels **860, 870.** The adhesive may be applied such that when the first and the second handle end panels **1030, 1040** are folded **180** degrees along the fold lines **1070, 1080,** they may be attached to the inside surfaces of the first and second end panels **860, 870** below the zipper **980.** Likewise, the handle reinforcing panel 1060 may be attached by glue or other types of adhesives to the handle base panel **1050** by folding the reinforcing panel **1060** about the handle panel fold line **2000.** When folded, the handle cutouts **2010, 2020** of the handle base panel **1050** may align with the first and second handle apertures **920, 930** of the top panel **850.** The first and second end panels **860, 870** then may be folded about 90 degrees downward

as well as the second side panels **880, 890.**

[0064] As described above, the first part **610** may be erected by folding the side panels **660, 670** about the based panel fold lines **710**, **720.** The first part **610** then may be filed with one or more articles, such as the beverage containers **500** in the form of bottles. Any type of article, however, may be used. The flaps **790** on the side panels, **660, 670** may be folded inward. The corner panels **730, 740** may then be folded about the corner panel fold line **750** and the offset fold line **760.** An adhesive then may be applied to the corner panels **730**, **740** or to the end panels **640, 650**. The end panels **640, 650** then may be folded about the base panel fold lines **690, 700** and attached to the corner panels **730, 740** via the adhesive.

[0065] Likewise, the second part **620** may be constructed as described above. Specifically, the handle reinforcing panel **1060** of the handle panel **900** may be attached to the handle base panel **1050.** The first and second handle end panels **1030, 1040** then may be attached to the first and second end panels **860, 870.** The second part **620** may then be attached to the first part **620.** Specifically, the side panels **880, 890** may be folded inward. The second part **620** may be placed on top of the first part **610** such that the side panels **880, 890** may be brought into face-contacting relationship with the flaps **790** of the first part **610.** Each side panel of the second part and the associated flap **790** in cooperation form a rigidity-enhancing beam in a similar manner as in the foregoing embodiment. An adhesive then may be applied to the end panels **640, 650** of the first part **610.** The end panels **860, 870** of the second part **620** then may be folded downward and attached to the end panels **640, 650** of the first part **610.** An example of an assembled carton **600** is shown in Fig. 7.

[0066] As described above, the carton **600** thus may be constructed and filled on a straight-line carton machine. The straight-line machine can be used because the adhesives are only applied to the end panels **640, 650** of the first part **610** and/or the corner panels **730, 740** of the first part **610.** No adhesive thus need be applied to the side panels **660, 670** of the first part **610** or the side panels **880, 890** of the second part **620.** Rather, the beams provided by the flaps **790** and the side panels **880, 890** enhance the rigidity along the side panels **660, 670,** top panel 850 and end panels **860, 870.** Moreover, the handle panel **900** is affixed to the end panels **640, 650** for further stability.

[0067] The carton **600** with the beverage containers **500** therein, in this case in the form of bottles, may be carried via the handle **900.** As is described above, the handle **900** may include three (3) reinforcing layers for strength.

[0068] The second part **620** may be removed by pulling the zippers **980** on the first and second end panels **860**, **870.** Removal of the zippers **980** allows the top panel **850** and parts of the end panels **860, 870** of the second part **620** to be removed from the end panels **640**, **650** of the first part **610**. The portion of the end panels **860, 870** of the second part **620** below the zippers **980** may remain attached to the first part **610.** Likewise, the handle panel **900** of the second part **620** may remain attached via the first and second end panels **630, 640.** The handle panel **900** may remain such that the carton **600** may be carried once the second part **620** is removed as is described above.

[0069] It should be understood that the foregoing relates only to the exemplary embodiments of the present invention and that numerous changes and modifications may be made herein without departing from the general spirit and scope of the invention as defined by the following claims and the equivalents thereof.

Claims

1. A carton (100), comprising: a tray (110) including an end panel (170), a first reinforcing panel (290), and a second reinforcing panel (290); said end panel (170) comprises a first handle aperture (220), said first reinforcing panel (290) comprises a first handle cutout (320) and said second reinforcing panel (290) comprises a second handle cutout (320), said first and said second reinforcing panels (290) are disposed along one of opposite surfaces of said end panels (170) such that said first and second handle cutouts (320) are aligned with each other to form a second handle aperture (320) that in turn is aligned with said first handle aperture (220); and a lid (120) including a lid end panel (370) with a third handle aperture (420), wherein said lid (120) is attached to said tray (110) such that said lid end panel (370) is disposed on one of opposite surfaces of said end panel (170) of said tray (110), and wherein said third handle aperture (420) is aligned with said first and said second handle apertures (220,320).

2. The carton (100) of claim 1, wherein said lid end panel (370) comprises a zipper cutout (440).

3. The carton (100) of claim 1 or claim 2, wherein said tray (110) further comprises a pair of tray side panels (190, 200) and wherein each of said tray side panels (190, 200) comprises a flap (330) connected thereto.

4. The carton (100) of claim 3, wherein said lid (120) further comprises a pair of lid side panels (390, 400) such that when said lid (120) is positioned on said tray (110), said side panel flaps (330) are positioned adjacent to but not attached to said lid side panels (309, 400).

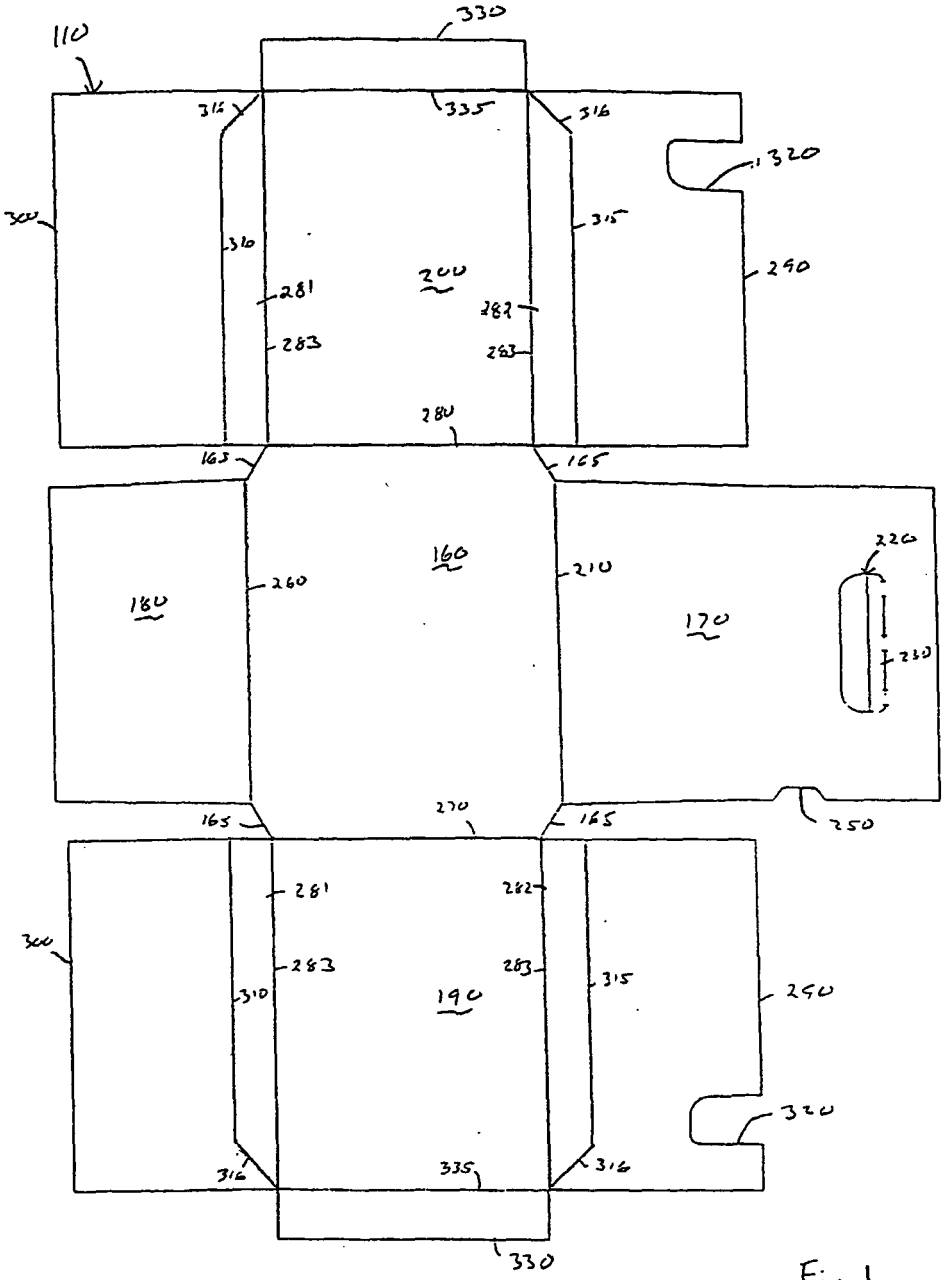
5. The carton (100) of any preceding claim, wherein each lid end panel (370, 380) comprises a zipper (440) thereon.

6. The carton (100) of claims 2 or 5, wherein said lid end panel (370, 380) is fixedly attached to said tray (110) about said zipper (440).

7. A carton (100), comprising: a first part (110), and a removable second part (120), said first part (110) comprises a first panel (170) with a first handle aperture (220) and a reinforcing panel (290) with a first handle cutout (320), said second part (120) comprises a second panel (370) with second handle aperture (420) such that when said second part (120) is attached to said first part (110) said second handle aperture (420) is aligned with said first handle aperture (220) and said first handle cutout (320).

8. The carton (100) of claim 7, wherein said second panel (370) of said second part (120) comprises a zipper (440) thereon and wherein said second part (120) is attached to said first part (110) about said zipper (440).

9. A method of constructing a carton (100) with a tray (110) and a lid (120), comprising: folding a tray (110) blank such that a first panel (170), with a first handle aperture (220) is positioned adjacent to a pair of reinforcing panels (290) with a handle cutout (320); fixedly attaching the first panel to the reinforcing panel to form the tray; folding a lid (120) blank with a first lid panel (370) with a second handle aperture (420) and a zipper (440) to form the lid (120); positioning the lid (120) on the tray (110) such that the second handle aperture (470) aligns with the first handle aperture (220) and the handle cutouts (320); and fixedly attaching the lid (120) to the tray (110) about the zipper (440).


110
330
314
335
316
320
300
310
315
290
200
281
282
283
283
280
165
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210
170
220
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310
190
290
320
314
335
316
330

Fig 1

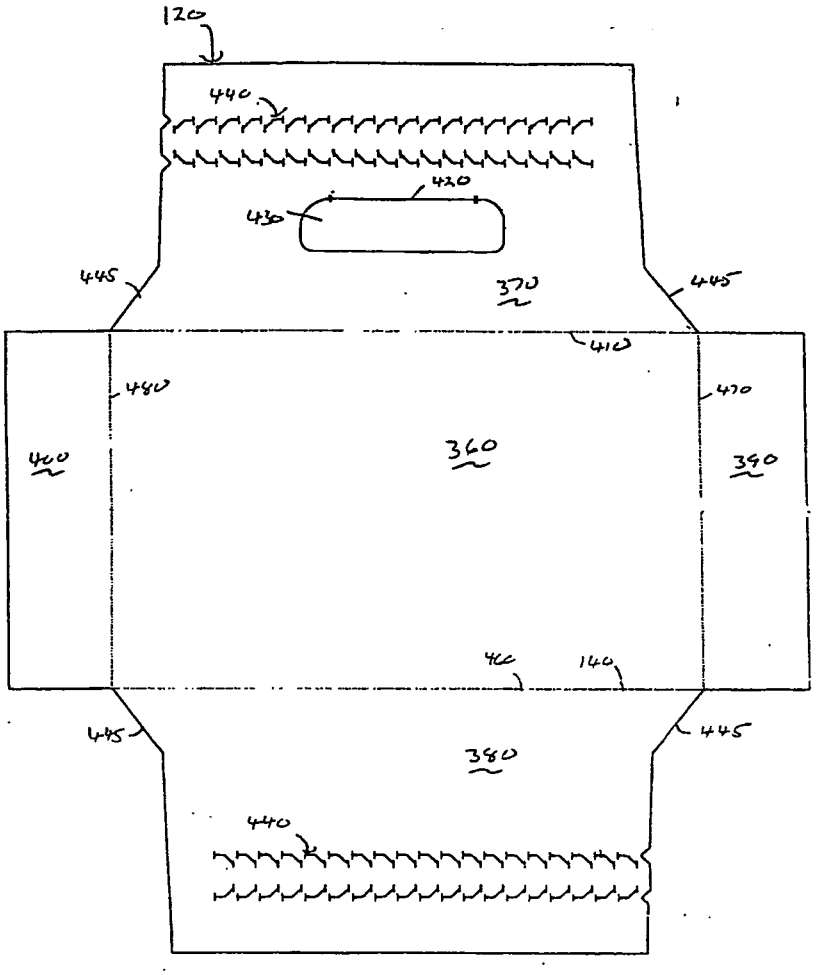

120
440
420
430
445
370
445
410
480
470
360
390
400
42
140
445
380
445
440

Fig.2

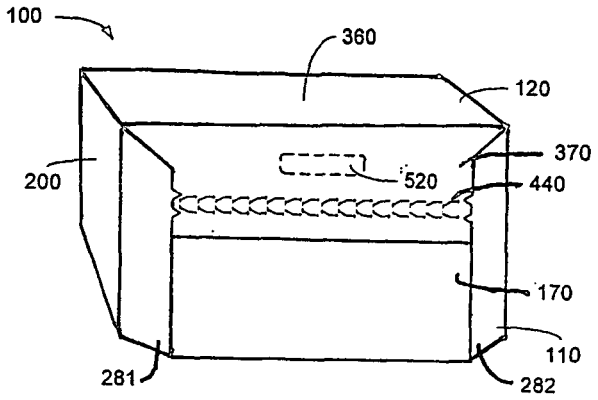


FIG. 3

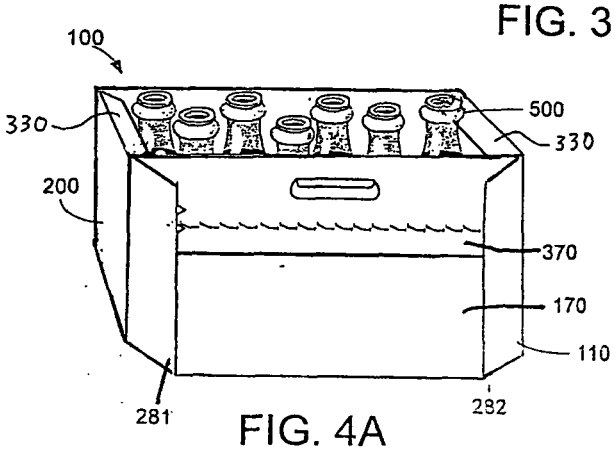


FIG. 4A

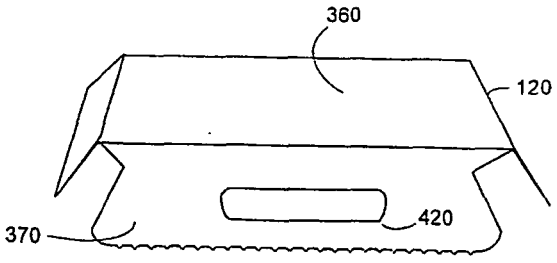


FIG. 4B

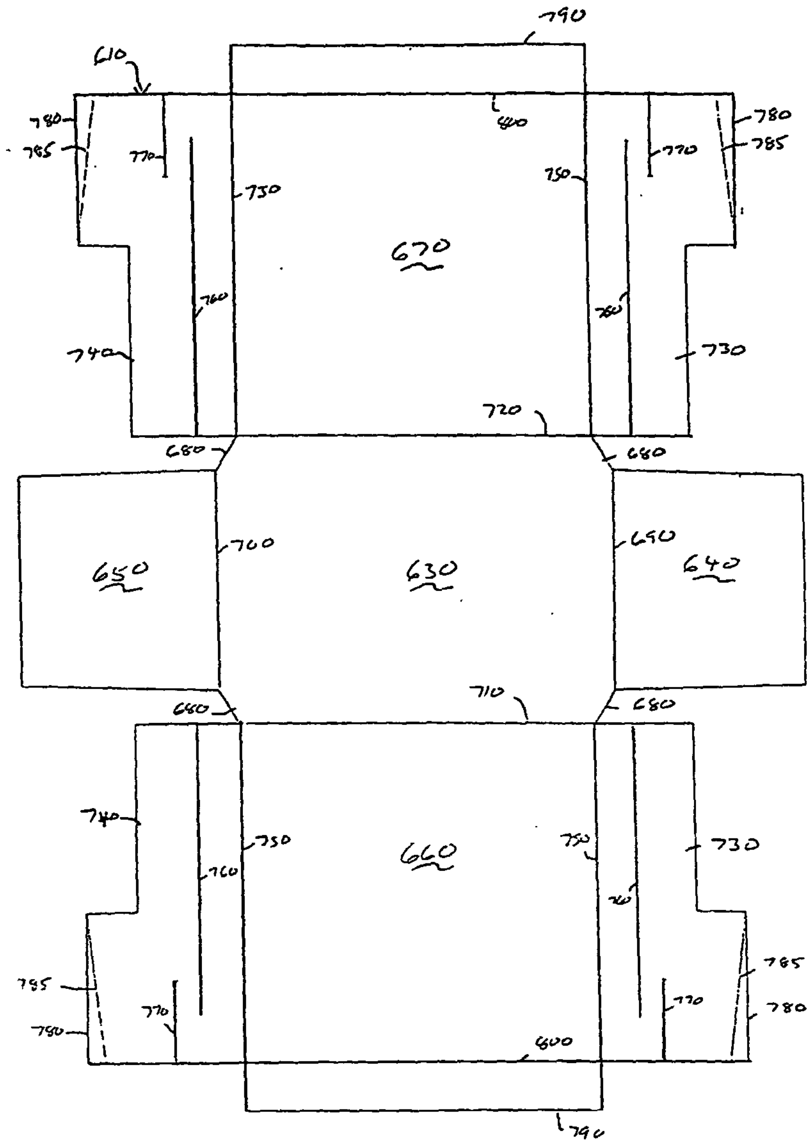
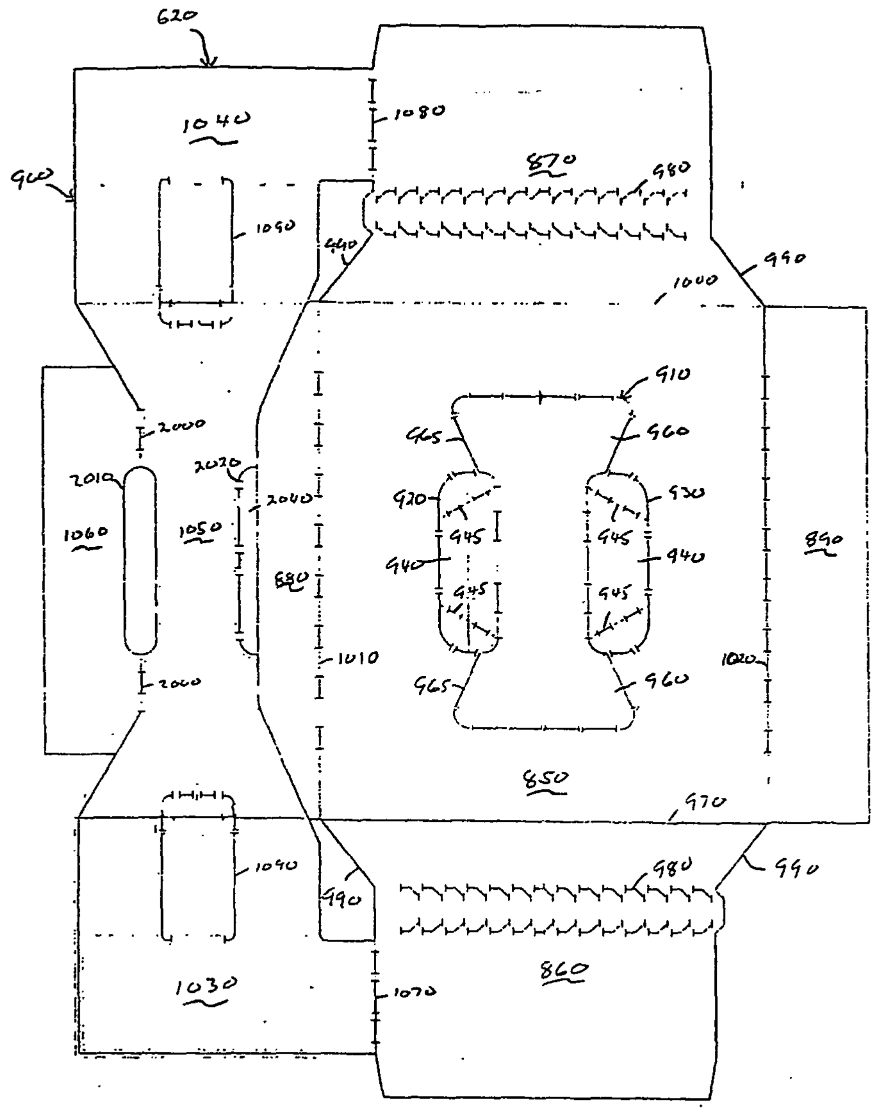

790
610
780
785
770
750
600
670
760
740
730
720
680
700
650
630
690
640
710
660

Fig.5


620
900
1040
1080
870
980
1090
940
990
1000
910
965
960
2000
2010
2020
920
930
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1010
1020
850
970
1030
860
1070

Fig. 6

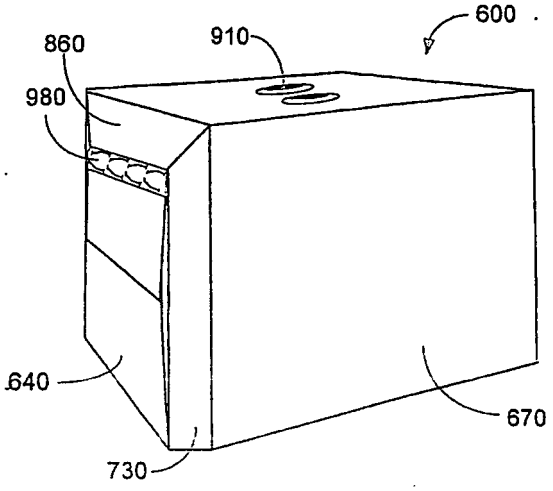

FIG. 7