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- (71) **Applicant** (*for all designated States except US*):
GRAPHIC PACKAGING INTERNATIONAL, INC.
[US/US]; 814 Livingston Court, Marietta, GA 30067 (US).
- (72) **Inventor; and**
- (75) **Inventor/Applicant** (*for US only*): **BLASE, Steven, A.**
[US/US]; 823 Chestnut Street, Manchester, NH 03104
(US).
- (74) **Agents:** **ISAF, Louis, T.** et al.; Womble Carlyle Sandridge
& Rice, PLLC, P.O. Box 7037, Atlanta, GA 30357-0037
(US).
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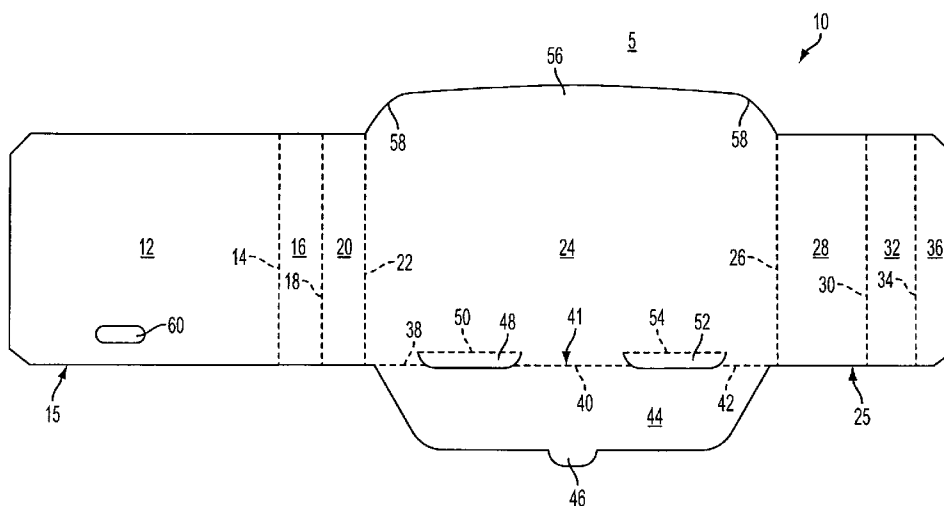


FIG. 1

- (57) Abstract:** A sleeve carton includes a rear wall, two side walls extending from opposite sides of the rear wall, a front wall extending between the side walls, a bottom wall extending between the rear wall and the front wall, and an open top is disclosed. The front wall and side walls are formed by first and second side panels foldably attached to a third side panel forming the rear wall, with the first and second side panels overlapped and attached to each other. The bottom wall is foldably attached to the third side panel and, when folded inwardly, extends at an incline toward the front wall. The bottom wall includes a closure projection arranged to engage a closure aperture in the first side panel when a product is inserted into the carton through the top against the bottom panel, thereby securing the bottom panel into engagement with the first side panel.



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SLEEVE CARTON

BACKGROUND

This invention relates to cartons or sleeves used to store or carry products. The cartons or sleeves are formed from blanks and generally surround or hold at least a portion of the product or articles placed therein.

SUMMARY

In one embodiment, the present invention includes a blank capable of being formed into a carton. The blank includes a first side panel, a second side panel, and a third side panel. The second side panel is disposed between the first side panel and the third side panel, and the first side panel is connected to the second side panel along a first fold line. The second side panel is connected to the third side panel along a second fold line. The first side panel includes at least three first side panel portions and the third side panel includes at least three third side panel portions. The blank also includes a bottom panel connected to the second side panel along a separation line. The bottom panel includes a closure projection extending outwardly. The closure projection is disposed opposite the separation line along the bottom panel. The first side panel includes a closure aperture capable of receiving the closure projection when the blank is formed into the carton.

The blank can also include a first stabilizing flap and a second stabilizing flap disposed between the second side panel and the bottom panel along the separation line. The first stabilizing flap can be defined along one side by a first stabilizing flap fold line disposed between the first stabilizing flap and the second side panel, and the

second stabilizing flap can be defined along one side by a second stabilizing flap fold line disposed between the second stabilizing flap and the second side panel. An upper portion of the second side panel can be defined by generally arcuate corners.

The present invention can also include a carton capable of receiving a product or article therein. The carton includes a front wall, an intermediate wall, a rear wall, a bottom wall, and an open top. The front wall is defined by at least a first front wall portion, a second front wall portion, and a third front wall portion, with the first front wall includes a closure aperture. The intermediate wall is defined by at least a first intermediate wall portion, a second intermediate wall portion, and third intermediate wall portion. The rear wall is connected along a separation line to the bottom wall, which is capable of being folded upwardly along the separation line to a position inside the carton. The bottom wall is defined along its periphery distal the separation by a closure projection, which is generally disposed inside the carton once the bottom wall is folded upwardly. The projection is adapted to be received into the closure aperture. The front wall and the intermediate wall are adhered to one another, by, for example, adhesive such as glue. Further the carton can include a first stabilizing flap and a second stabilizing flap disposed along the separation line between the second side panel and the bottom panel. The first stabilizing flap is defined on a side by a fold line disposed between the first stabilizing flap and the rear wall, and the second stabilizing flap is defined on a side by a fold line disposed between the second stabilizing flap and the rear wall. An upper portion of the rear wall can include two arcuate corners.

Another aspect of the invention includes a method of loading a carton formed from a blank. The blank includes a first side panel, a second side panel, and a third side panel. The second side panel is disposed between the first side panel and the third side panel. The first side panel is connected to the second side panel along a first fold line, and the second side panel is connected to the third side panel along a second fold line. The first side panel includes at least three first side panel portions, and the third side panel includes at least three third side panel portions. The blank also includes a bottom panel connected to the second side panel along a separation line. The bottom panel includes a closure projection extending therefrom. The closure projection being disposed opposite the separation line along the bottom panel. The first side panel includes a closure aperture capable of receiving the closure projection when the blank is formed into the carton. The method includes forming the carton from the blank, inserting a product into the carton, in which the step of inserting the product into the carton forces the closure projection downward and into the closure aperture. Optionally, the blank can include a first stabilizing flap and a second stabilizing flap disposed between the second side panel and the bottom panel along the separation line. The first stabilizing flap is defined along one side by a first stabilizing flap fold line disposed between the first stabilizing flap and the second side panel. The second stabilizing flap is defined along one side by a second stabilizing flap fold line disposed between the second stabilizing flap and the second side panel. The method can include folding the first stabilizing flap about the first stabilizing flap fold line, and folding the second stabilizing flap about the second stabilizing flap fold line when the carton is placed on a substantially flat surface.

Another aspect of the invention provides a method of forming a carton from a blank previously formed into a sleeve by folding and applying an adhesive. The method includes providing the blank having a front wall, an intermediate wall, a rear wall, a bottom wall, and an open top; the front wall being defined by at least a first front wall portion, a second front wall portion, and a third front wall portion. The first front wall includes a closure aperture, and the intermediate wall is defined by at least a first intermediate wall portion, a second intermediate wall portion, and third intermediate wall portion. The rear wall is connected along a separation line to the bottom wall, which is capable of being folded upwardly along the separation line to a position inside the carton; the bottom wall is defined along its periphery distal the separation line by a closure projection that is disposed inside the carton once the bottom wall is folded upwardly. The closure projection can be received into the closure aperture, and the front wall and the intermediate wall are adhered together. The method includes folding the third front wall portion inwardly toward the underside of the rear wall about a first fold line, such that third front wall portion extends transverse to the rear wall. The method also includes partially unfolding first front wall portion and second front wall portion along a second fold line, such that first front wall portion and second front wall portion extend transversely to the third front wall portion, partially unfolding first intermediate wall portion along a third fold line such that first intermediate wall portion extends transverse to the rear wall. Finally, the method includes folding second intermediate wall portion and third intermediate wall portion together along a fourth fold line so that second intermediate wall portion and third intermediate wall portion extend transverse to first intermediate wall portion.

BRIEF DESCRIPTION OF THE DRAWINGS

According to common practice, the various features of the drawings discussed below are not necessarily drawn to scale. Dimensions of various features and elements in the drawings may be expanded or reduced as desired.

FIG. 1 is a plan view of a carton blank used to form a carton according to one embodiment of the invention.

FIG. 2 shows a step of erecting a carton from the blank of **FIG. 1** where the bottom panel is folded under.

FIG. 3 shows a next step of erecting the carton according to the first embodiment with the side panels folded inwardly.

FIG. 4 shows the bottom panel view of the carton erected according to the first embodiment.

FIG. 5 shows the inside view of the erected carton according to the first embodiment.

FIG. 6 shows insertion of a product into the carton in direction **A** to insert the closure projection into the closure aperture.

FIG. 7 shows the bottom panel view of the carton with the closure projection in the closure aperture after the product has been inserted in **FIG. 6**.

FIG. 8 shows the rear view of the carton with the stabilizing portions folded along fold lines.

FIG. 9 shows the folding of the bottom panel and one side panel in an alternate embodiment of a carton erected into a configuration for shipping or storage prior to use.

FIG. 10 shows the second side panel folded inward in the alternate embodiment configuration of the carton of **FIG. 9**.

FIG. 11 shows exemplary dimensions of a blank capable of being formed into a carton or sleeve according to an embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

FIG. 1 is a plan view of a carton blank **10** used to form a sleeve or carton **70** (shown in **FIGS. 4-8**) according to one embodiment of the invention. As shown in **FIG. 1**, blank **10** includes three side panels **15**, **24**, and **25**, and a bottom panel **44** connected to side panel **24** along a separation line **41**. Side panels **15** and **25** are shown generally rectangular, but can be other shapes.

Generally, side panel **15** comprises three side panel portions **12**, **16**, and **20**, with side panel portion **12** are connected to side panel portion **16** along fold line **14** and side panel portion **16** are connected to side panel portion **20** along fold line **18**. Side panel **25** generally comprise side panel portions **28**, **32**, and **36**, with side panel portion **28** being connected to side panel portion **32** along fold line **30** and side panel portion **32** being connected to side panel portion **36** along fold line **34**. Side panel **24** includes an upper portion, indicated at **56**, and a lower portion indicated adjacent separation line **41**. Side panel **24** is connected to side panel portion **20** along fold line **22**, and side panel **24** is connected to side panel portion **28** along fold line **26**. Although upper portion **56** can comprise any known configuration such as sharp or pointed corners, upper portion **56** is shown with curved or arcuate corner portions **58**. Also, upper portion **56** is shown extending into outer periphery **5**, above side panels **15** and **25**.

Side panel 24 is connected to bottom panel 44 along separation line 41, which extends generally parallel and collinear with the lower periphery of side panels 15 and 25. As shown in FIG. 1, bottom panel 44 extends below separation line 41 into periphery 5, a distance below side panels 15 and 25. Also as shown in FIG. 1, a closure protrusion, tab, or projection 46 extends below bottom panel 44. Closure projection 46 can be formed in any configuration, but is shown in a generally half moon, tab, or convex configuration.

Separation line 41 is shown with three fold lines separated by stabilizing flaps 48 and 52. These three fold lines are indicated at 38, 40, and 42, with fold line 38 extending between fold line 22 and stabilizing flap 48, fold line 40 extending between stabilizing flap 48 and stabilizing flap 52, and fold line 42 extending between stabilizing flap 52 and fold line 26. The stabilizing flaps 48 and 52, generally, are cut through blank 10 along separation line 41 and extend into bottom panel 44 below separation line 41. Stabilizing flap 48 being defined at its upper periphery by fold line 50, which can be a crease line, score line, or otherwise, and stabilizing flap 52 being defined at its upper periphery by fold line 54, which can be a crease line, score line, or otherwise. Fold lines 50 and 54 are generally parallel to fold lines 38, 40, and 42. Stabilizing flaps 48 and 52 are shown in FIG. 1 as having a semi-oval shape and are defined along their lower peripheries by cut lines, tear lines, or slits extending between opposite ends of fold lines 50 and 54 and generally extending entirely, or substantially entirely, through blank 10.

As shown in FIG. 1, side panel 15 extends away from side panel 24 a further distance from side panel 24 than the distance side panel 25 extends from side panel 24. Thus, side panel portions 12, 16, and 20 extend a further distance from side

panel 24 than the distance side panel portions 28, 32, and 36 extend from side panel 24. As also shown in FIG. 1, a closure aperture 60 is included in side panel portion 12 of side panel 15 and is sized to receive closure projection 46 when blank 10 is formed into carton or sleeve 70.

FIGS. 2-5 illustrate steps of erecting carton 70 from blank 10 as shown in FIG. 1 according to one embodiment of the invention, with FIGS. 4 and 5 showing the erected carton 70 in a configuration capable of receiving a product or other article therein. To form the carton 70, as shown in FIG. 2, bottom panel 44 is folded inward toward the underside of side panel 24 along fold lines 38, 40, and 42, so as generally to form an acute angle with the underside of the side panel 24. This folding action separates bottom panel 44 from stabilizing flaps 48 and 52 such that the flaps 48 and 52 project generally transversely to bottom panel 44. Thereafter, as shown in FIG. 3, side panels 15 and 25 are folded inward toward the inner surface of side panel 24 along respective fold lines 22 and 26, resulting in side panels 15 and 25 extending generally transversely to side panel 24.

As shown in FIG. 4, before, during, or after folding of side panel 25 along fold line 26, side panel portions 32 and 36 are folded inward, generally together, along fold line 30 such that side panel portions 32 and 36 are disposed generally transversely to side panel portion 28. Further, before, during, or after folding of side panel 15 and before, during, or after folding of side panel portions 32 and 36, side panel portions 12 and 16 are folded inwardly together, with respect to side panel portion 20 such that side panel portions 12 and 16 extend transverse to side panel portion 20. Thereafter, side panel portion 12 is positioned to overlap side panel portion 36 such that the free end of side panel portion 12 is aligned with fold line 34.

The side panel portions **12** and **36** are then attached to each other, for example by way of adhesive applied to the inner surface of side panel portion **12** and/or to the outer surface of side panel portion **36**. Alternatively, side panel portion **36** could be positioned to overlap side panel portion **12** with adhesive being applied in respective portions to attach the side panel portions together.

In the position shown in **FIGS. 4** and **5**, the carton **70** can be erected into a configuration for receiving one or more products (not shown). In such a configuration, the side panels **15** and **25** are wrapped and overlapped so as to form a front wall and lateral walls of the carton **70**, with side panel **24** forming the rear wall of the carton **70** as shown in the figures. As shown in **FIG. 5**, the bottom panel **44** generally is laterally aligned with closure aperture **60** and is positioned slightly above closure aperture **60** such that the closure projection **46** and the closure aperture **60** are not engaged with each other. Thus as shown in **FIGS. 4** and **5**, the top of the carton **70** is open to allow the insertion of one or more products into carton **70**.

As shown in **FIGS. 6-8**, the carton **70** is formed into a storage or use configuration upon the insertion of one or more products or articles (not shown) being placed into the interior of the carton **70**. As best shown in **FIGS. 6** and **7**, when a product is inserted into the carton **70** through the open top of the carton (proceeding in the direction **A** in **FIG. 6**) and comes into contact with the bottom panel **44**, the bottom panel **44** is forced outward from the underside of the side panel **24** along separation line **41** until closure projection **46** engages closure aperture **60**, thereby securing the bottom panel **44** to side panel portion **12**. In this configuration, the bottom panel **44** is capable of supporting a product or products in the carton **70**, such as while the carton is lifted, transported, moved, or otherwise.

FIG. 8 shows stabilizing flaps **48** and **52** that extend beyond bottom panel **44** and form a support or supports for the carton **70**. Thus, the carton **70** can be stored such that it rests on the bottom panel **44** and stabilizing flaps **48** and **52**, such as on a surface **S**.

The carton **70** is suited for storing products, including food products and other types of products, on a shelf or other surface, and may be suitable for use in a refrigerator, cup holder in a car, or other purpose. Further, the stabilizing flaps **48** and **52** can be folded along respective fold lines **50** and **54** to form feet or other surface to provide additional stability to the carton **70**. Once the stabilizing flaps **48** and **52** are folded, generally outwardly, at fold lines **50** and **54**, the stabilizing flaps **48** and **52** will extend rearward from the carton **70** to be oriented in a substantially flat orientation against the support surface, such as the shelf. Alternatively, instead of folding stabilizing flaps **48** and **52** about and along respective fold lines **50** and **54**, the flaps can be allowed to bend by the weight of the fully loaded carton, and so will provide additional support for the carton. That is, when these flaps are not folded and after the carton **70** has been placed on a support surface (e.g., shelf), for a period of time, stabilizing flaps **48** and **52** can begin to fatigue due to, generally, the weight of the product and/or the combination of the weight of the product and the weight of the carton. If this occurs, for example, at the stabilizing flaps **48** and **52**, the stabilizing flaps **48** and **52** will pivot or otherwise be oriented in a pivoting manner at and along fold lines **50** and **54**, respectively. This desired or affected fatiguing can thus be anticipated by the use of the fold lines at **10**, **18**, **22**, **26**, **30**, **34**, **38**, **40**, **42**, **50**, and **54**. Further, if desired, the stabilizing flaps **48** and **52** can be folded at respective fold

lines 50 and 54 during formation of the carton 70 from the blank 10 before, during, or after insertion of product into the sleeve or carton 70.

FIGS. 9 and 10 illustrate an alternate embodiment of a carton 170, similar to carton 70, erected into a configuration for shipping or storage prior to use. As shown in FIG. 9, bottom panel 144 of blank 110 is folded inward toward the underside of side panel 124 along separation line 141. This folding action generally separates the bottom panel 144 from the stabilizing flaps 148 and 152 with the stabilizing flaps 148 and 152 forming extensions or feet that project transversely to bottom panel 144. As shown in FIG. 9, side panel 125 and bottom panel 144 lie substantially flat against the underside of side panel 124. Then, as shown in FIG. 10, side panel portions 112 and 116 are folded inward together toward the underside of side panel 124, approximately 180° about fold line 118, such that side panel portion 112 lies substantially flat atop side panel 124 and side panel portion 116 lies substantially flat atop side panel portion 120. Here, side panel portion 112 also lies atop bottom panel 144 and overlaps side panel portion 136 of side panel 125 such that the free edge of side panel 125 is aligned with fold line 134. Due to its function in folding the carton 110 in a general flat configuration, fold line 132 may also be referred to as a “false working score”. Side panel portions 112 and 136 are thereafter attached to one another, for example by way of adhesive applied to the inner surface of side panel portion 112 and/or the outer surface of side panel portion 136, or in any manner as detailed above or otherwise, thereby completing erection of carton 170.

When carton 170 is ready for use, in this configuration, it may be expanded from the position shown in FIG. 10 into position shown in FIGS. 4-5 by substantially simultaneously carrying out the following steps: folding side panel portion 120

inward toward the underside of side panel 124 about fold line 122 such that side panel portion 120 extends transverse to side panel 124; partially unfolding side panel portions 112 and 116 together along fold line 118 such that side panel portions 112 and 116 extend transverse to side panel portion 120; partially unfolding side panel portion 128 along fold line 126 such that side panel portion 128 extends transverse to side panel 124; and folding side panel portions 132 and 136 together along fold line 130 such that side panel portions 132 and 136 extend transverse to side panel portion 128. FIG. 11 shows exemplary dimensions of a blank capable of being formed into a carton or sleeve according to an embodiment of the invention.

If desired, a moisture barrier, such as wax or a plastic film may be applied to blanks 10 or 110, or sleeves or cartons 70 or 170. Further, and in accordance with the above-referenced embodiments of the invention, blanks 10 or 110 are constructed of paperboard, or the like, and the paperboard can optionally have one or more other materials coated or laminated thereon. For example, paperboard is typically heavier and more rigid than ordinary paper. The blanks 10 or 110 can also be constructed of other materials, such as cardboard, or any other material having properties suitable for enabling the carton to function at least generally as described above. For example, one or both sides of blanks 10 or 110 can be coated with a clay coating, or the like.

The clay coating can be printed over with product, advertising, and other information or images. The blanks 10 or 110 may then be coated with a varnish or other protective coating to protect any information printed on the blank. The blanks 10 or 110 may be coated with, for example, a moisture barrier layer, on either or both sides of the blank. Other coating and laminating upon the blanks 10 or 110 is also within the scope of the invention.

As mentioned above, each of the above-described fold lines can be any at least somewhat line-like arranged form of weakening that facilitates folding therealong. Such fold lines are not necessarily straight, with the fold lines possibly being tear lines that facilitates tearing therealong. More specifically, but not for the purpose of narrowing the scope of the present invention, fold lines include: a crease, such as formed by folding; a score line, such as formed with a blunt scoring knife, or the like, which creates a crushed portion in the material along the desired line of weakness; a slit that extends partially into the material along the desired line of weakness, and/or a series of spaced apart slits that extend partially into and/or completely through the material along the desired line of weakness; or various combinations of these features. More specifically, but not for the purpose of narrowing the scope of the present invention, tear lines include a slit that extends at least partially into the material along the desired line of weakness, a series of spaced apart slits that extend partially into and/or completely through the material along the desired line of weakness, or any combination of these features.

As a more specific example, one type of tear line is in the form of a series of spaced apart slits that extend completely through the material, with adjacent slits being spaced apart slightly so that a nick (e.g., a small somewhat bridging-like piece of the material) is defined between the adjacent slits for connecting, typically temporarily, the material across the tear line. The nicks generally are broken during tearing along the tear line. The nicks typically comprise a relatively small percentage of the tear line, and alternatively the nicks can be omitted from or torn in a tear line such that the tear line is or forms a continuous cut line. Also, it is within the scope of

the invention that each of the tear lines herein can be replaced with a continuous slit, or the like.

The preceding description merely presents exemplary embodiments of the invention, and the invention is not to be considered limited to what is shown in the drawings and described in the specification. It will be apparent that modifications in accordance with the invention can be made by those skilled in the art without departing from the spirit thereof, and it is further apparent that the assembly involving the application of glue and folding of the carton blanks may be rearranged in the order of accomplishing these steps without departing from the scope of the invention.

CLAIMS

What is claimed is:

1. A blank (10) capable of being formed into a carton (70), the blank (10) being characterized in that:

a first side panel (15), a second side panel (24), and a third side panel (25); the second side panel (24) being disposed between the first side panel (15) and the third side panel (25);

the first side panel (15) being connected to the second side panel (24) along a first fold line (22); the second side panel (24) being connected to the third side panel (25) along a second fold line (26);

the first side panel (15) includes at least three first side panel portions and the third side panel (25) includes at least three third side panel portions;

a bottom panel (44) connected to the second side panel (24) along a separation line (41);

the bottom panel (44) includes a closure projection (46) extending therefrom; the closure projection (46) being disposed opposite the separation line (41) along the bottom panel (44);

the first side panel (15) includes a closure aperture (60);

the closure aperture (60) capable of receiving the closure projection (46) when the blank (10) is formed into the carton (70).

2. The blank of claim 1 wherein a first stabilizing flap (48) and a second stabilizing flap (52) are disposed between the second side panel (24) and the bottom panel (44) along the separation line (41).

3. The blank of claim 2 wherein the first stabilizing flap (48) is defined along one side by a first stabilizing flap fold line (50) disposed between the first stabilizing flap (48) and the second side panel (24), and the second stabilizing flap (52) is defined along one side by a second stabilizing flap fold line (54) disposed between the second stabilizing flap (52) and the second side panel (24).

4. The blank of claim 1 wherein an upper portion (56) of the second side panel (24) is defined by generally arcuate corners (58).

5. A carton (70) capable of receiving a product therein, the carton (70) being characterized in that:

a front wall (15), an intermediate wall (25), a rear wall (24), a bottom wall (44), and an open top;

the front wall (15) being defined by at least a first front wall portion (12), a second front wall portion (16), and a third front wall portion (20); the first front wall (15) includes a closure aperture (60);

the intermediate wall (25) being defined by at least a first intermediate wall portion (28), a second intermediate wall portion (32), and third intermediate wall portion (36);

the rear wall (24) being connected along a separation line (41) to the bottom wall (44), which is capable of being folded upwardly along the separation line (41) to a position inside the carton (70);

the bottom wall (44) being defined along its periphery distal the separation line (41) by a closure projection (46); the closure projection (46)

being generally disposed inside the carton (70) once the bottom wall (44) is folded upwardly;

the closure projection (46) being capable of being received into the closure aperture (60); and

the front wall (15) and the intermediate wall (25) being adhered together.

6. The carton of claim 5 wherein a first stabilizing flap (48) and a second stabilizing flap (52) are disposed along the separation line (41) between the rear wall (24) and the bottom wall (44).

7. The carton of claim 6 wherein the first stabilizing flap (48) is defined on a side by a first stabilizing flap fold line (50) disposed between the first stabilizing flap (48) and the rear wall (24), and the second stabilizing flap (52) being defined on a side by a second stabilizing flap fold line (54) disposed between the second stabilizing flap (52) and the rear wall (24).

8. The carton of claim 5 wherein an upper portion (56) of the rear wall (24) includes two arcuate corners (58).

9. A method of loading a carton (70), the method being characterized in that:
forming the carton (70) from a blank (10);
the blank (10) comprising:

a first side panel (15), a second side panel (24), and a third side panel (25); the second side panel (24) being disposed between the first side panel (15) and the third side panel (25);

the first side panel (15) being connected to the second side panel (24) along a first fold line (22); the second side panel (24) being connected to the third side panel (25) along a second fold line (26);

the first side panel (15) includes at least three first side panel portions and the third side panel (25) includes at least three third side panel portions;

a bottom panel (44) connected to the second side panel (24) along a separation line (41);

the bottom panel (44) includes a closure projection (46) extending therefrom; the closure projection (46) being disposed opposite the separation line (41) along the bottom panel (44);

the first side panel (15) includes a closure aperture (60);

the closure aperture (60) capable of receiving the closure projection (46) when the blank (10) is formed into the carton (70);

inserting a product into the carton (70);

wherein the step of inserting the product into the carton (70) forces the closure projection (46) downward and inserts the closure projection (46) into the closure aperture (60).

10. The method of claim 9 wherein the blank (10) includes a first stabilizing flap (48) and a second stabilizing flap (52) disposed between the second side panel (24) and the bottom panel (44) along the separation line (41).

11. The method of claim 10 wherein the first stabilizing flap (48) is defined along one side by a first stabilizing flap fold line (50) disposed between the first stabilizing flap (48) and the second side panel (24), and the second stabilizing flap (52) is defined along one side by a second stabilizing flap fold line (54) disposed between the second stabilizing flap (52) and the second side panel (24).

12. The method of claim 11 wherein the first stabilizing flap (48) is folded about the first stabilizing flap fold line (50) and the second stabilizing flap (52) is folded about the second stabilizing flap fold line (54) when the carton (70) is placed on a substantially flat surface.

13. A method of forming a carton (170) from a blank (110) previously formed into a sleeve by folding and applying an adhesive, the method being characterized in that:

providing the blank (110) includes a front wall (115), an intermediate wall (125), a rear wall (124), a bottom wall (144), and an open top; the front wall (115) being defined by at least a first front wall portion (112), a second front wall portion

(116), and a third front wall portion (120); the first front wall (115) includes a closure aperture (160); the intermediate wall (125) being defined by at least a first intermediate wall portion (128), a second intermediate wall portion (132), and third intermediate wall portion (136); the rear wall (124) being connected along a separation line (141) to the bottom wall (144), which is capable of being folded upwardly along the separation line (141) to a position inside the carton (170); the bottom wall (144) being defined along its periphery distal the separation line (141) by a closure projection (146); the closure projection (146) being generally disposed inside the carton (170) once the bottom wall (144) is folded upwardly; the closure projection (146) being capable of being received into the closure aperture (160); and the front wall (115) and the intermediate wall (125) being adhered together;

folding the third front wall portion (120) inward toward the underside of the rear wall (124) about a first fold line (122) such that third front wall portion (120) extends transverse to the rear wall (124);

partially unfolding first front wall portion (112) and second front wall portion (116) along a second fold line (118) such that first front wall portion (112) and second front wall portion (116) extend transverse to third front wall portion (120);

partially unfolding first intermediate wall portion (128) along a third fold line (126) such that first intermediate wall portion (128) extends transverse to the rear wall (124); and

folding second intermediate wall portion (132) and third intermediate wall portion (136) together along a fourth fold line (130) such that second intermediate wall portion (132) and third intermediate wall portion (136) extend transverse to first intermediate wall portion (128).

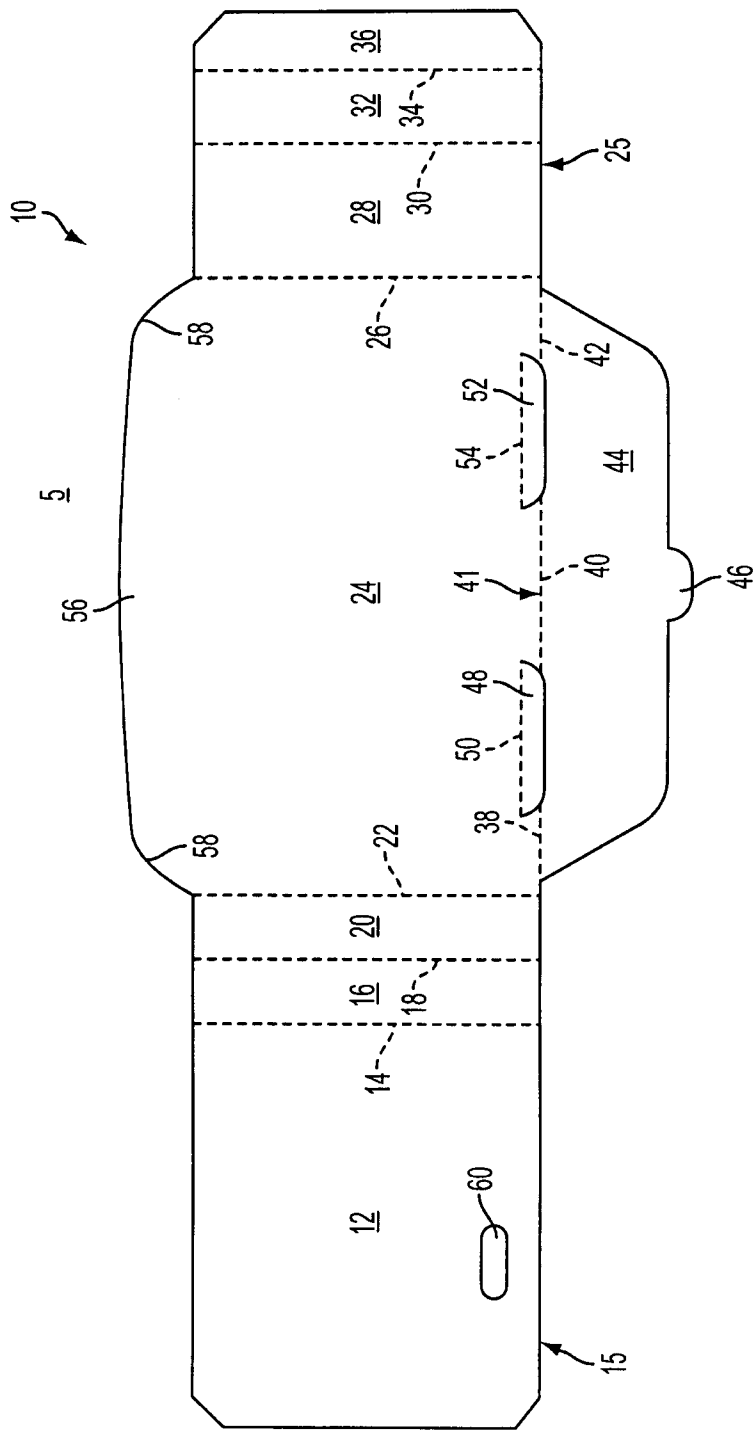


FIG. 1

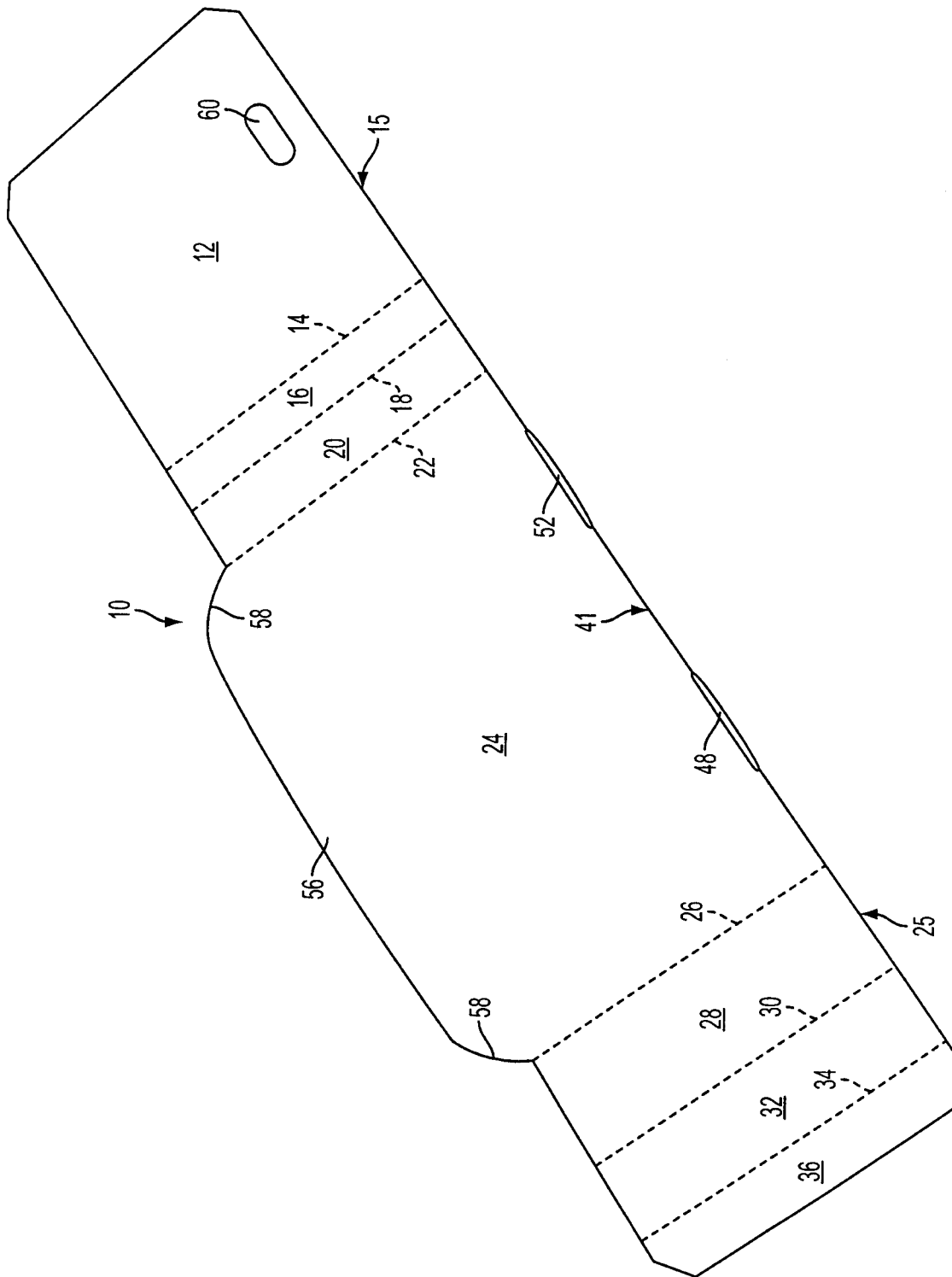


FIG. 2

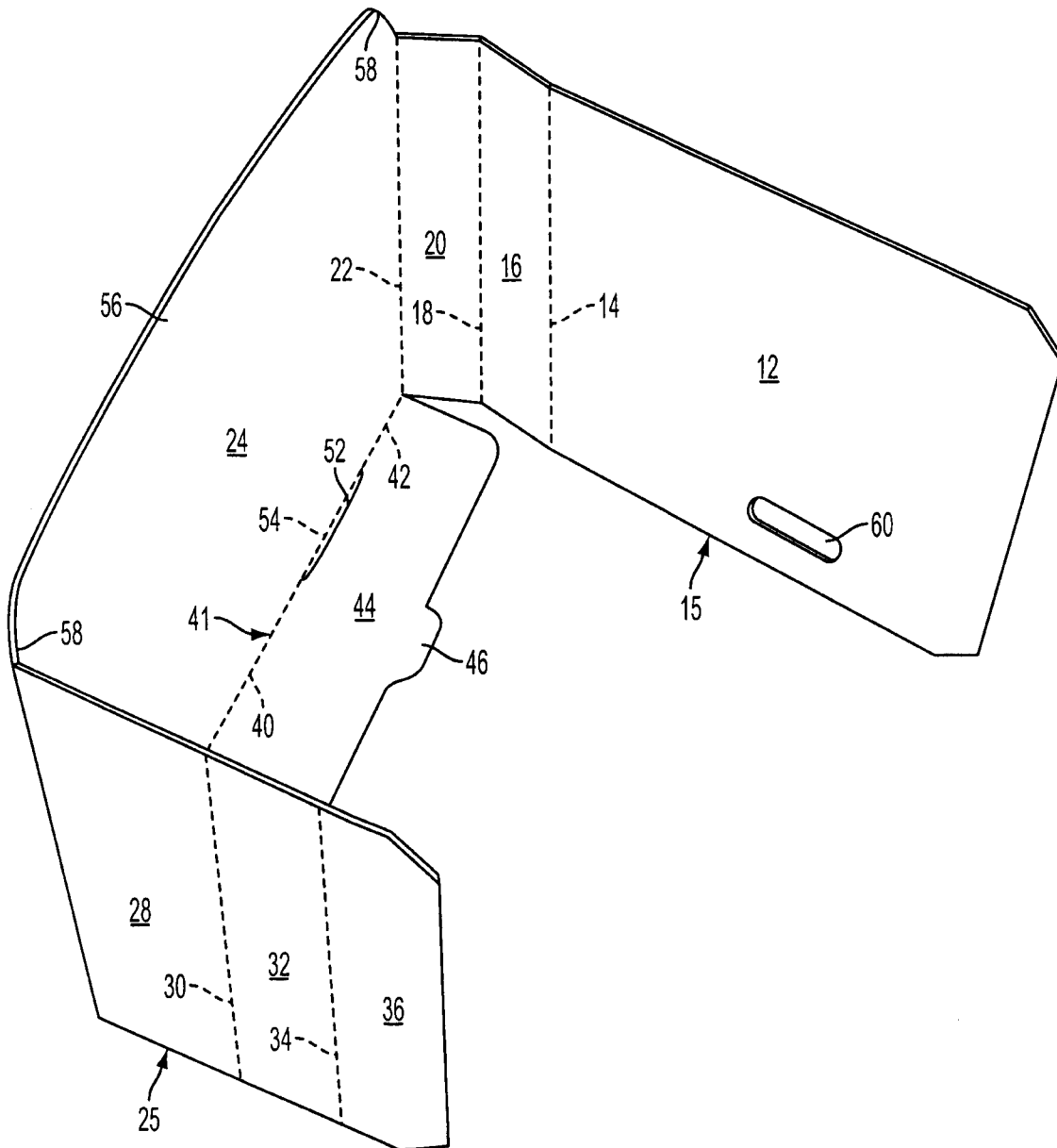


FIG. 3

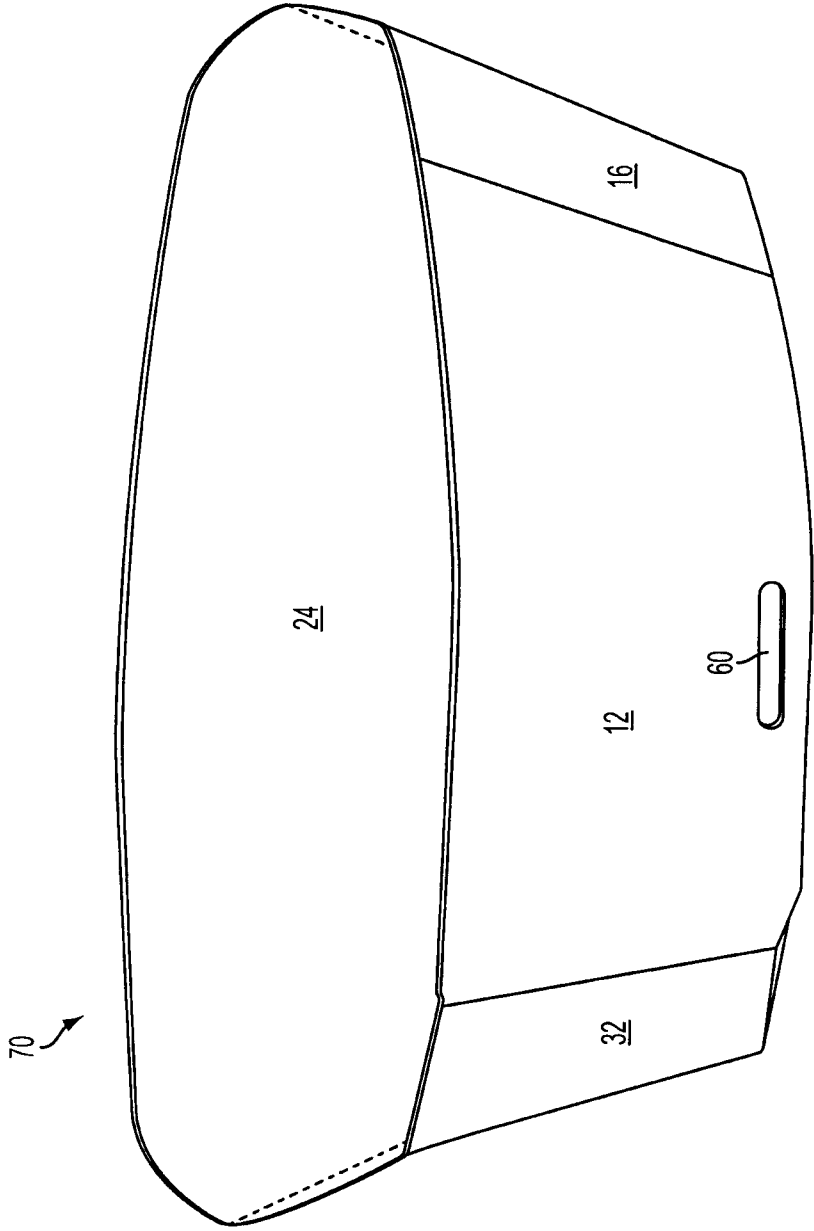
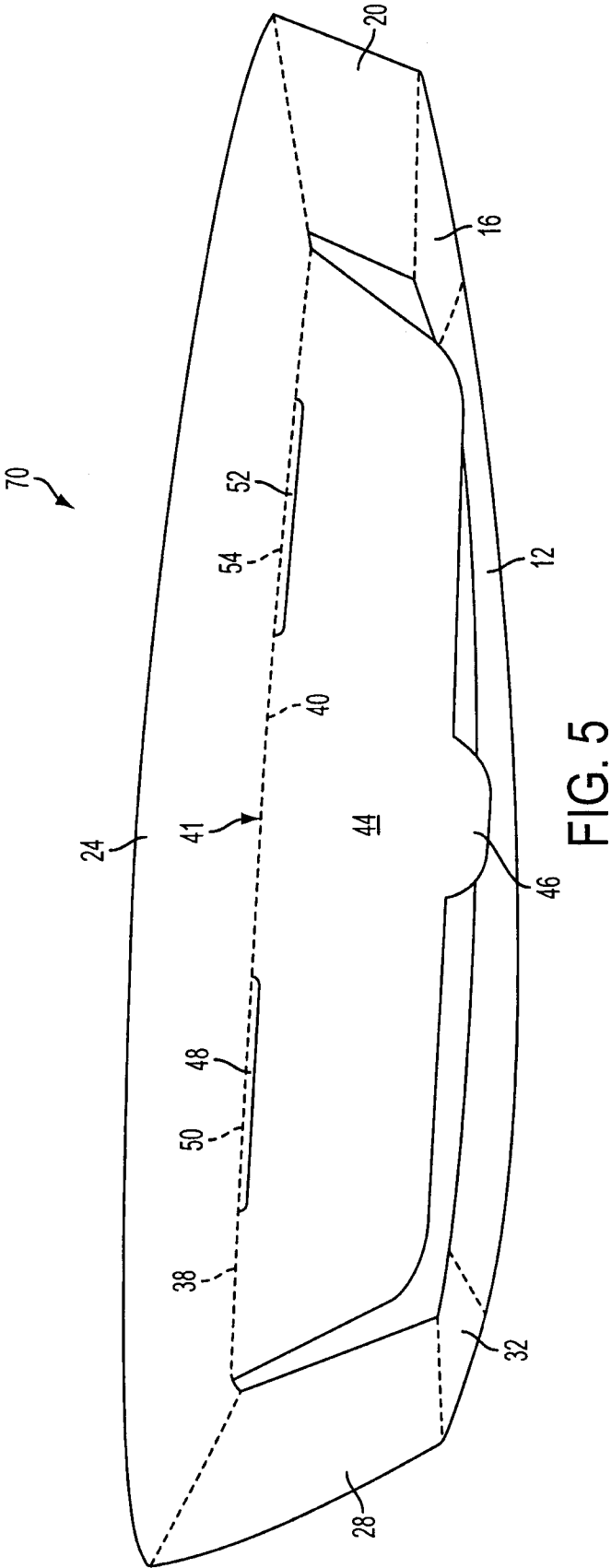


FIG. 4



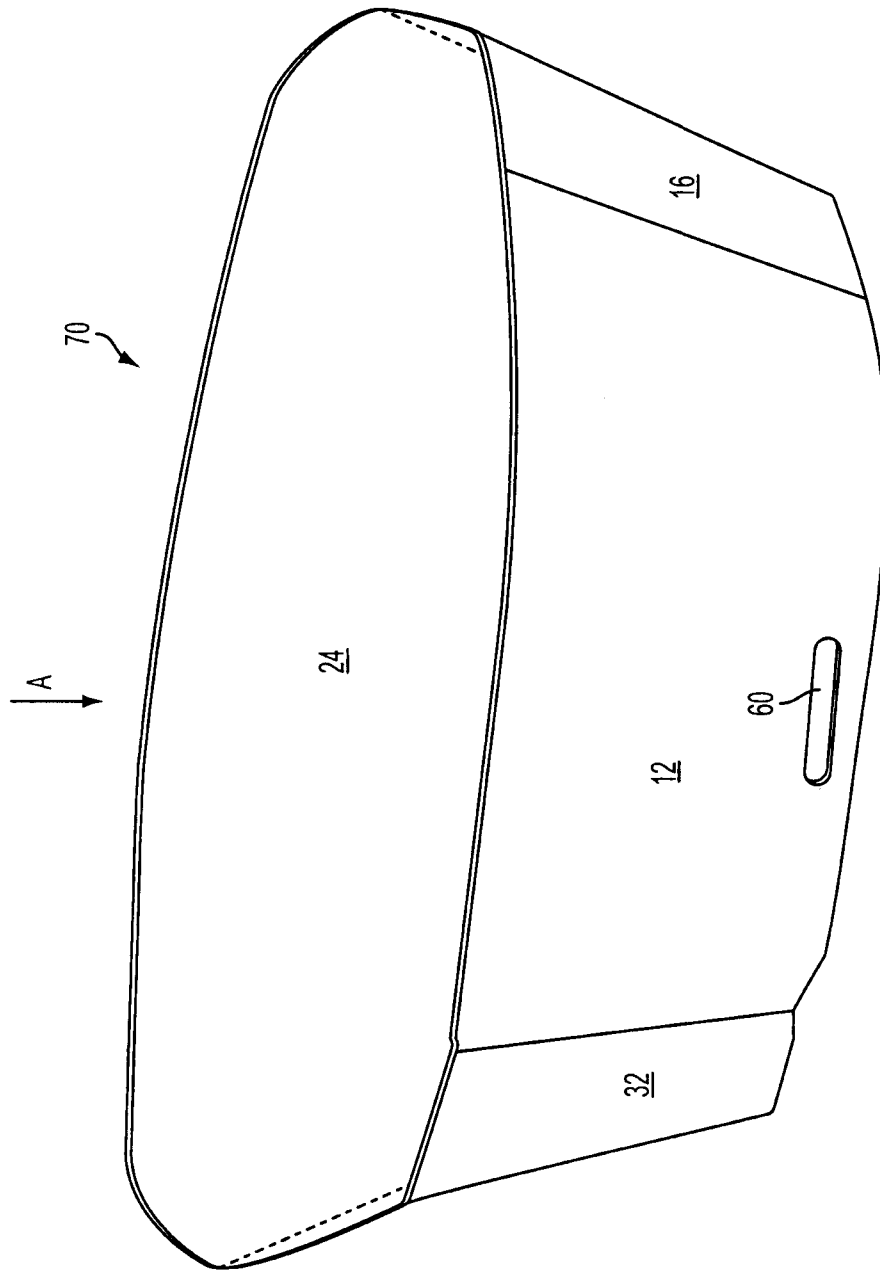


FIG. 6

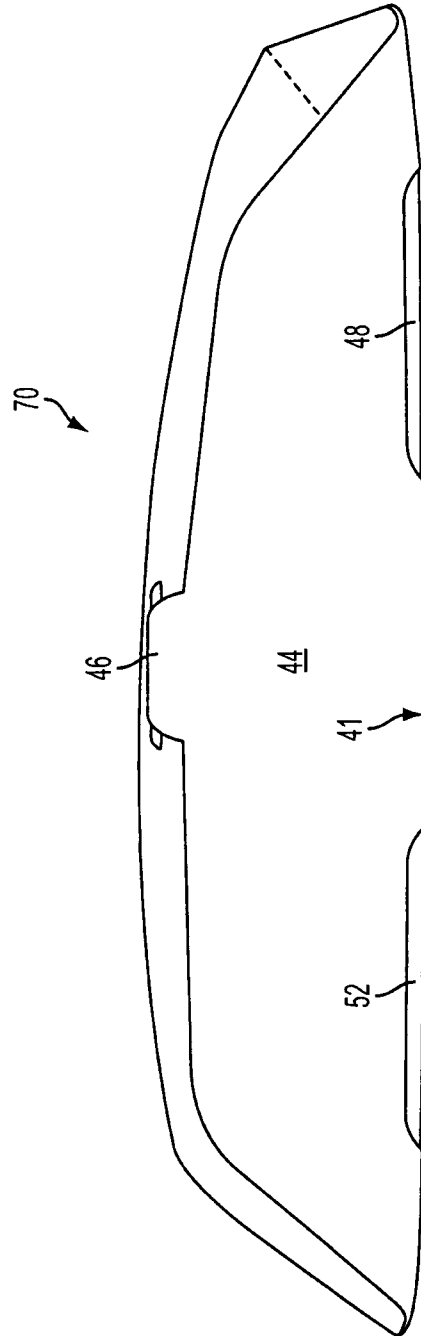


FIG. 7

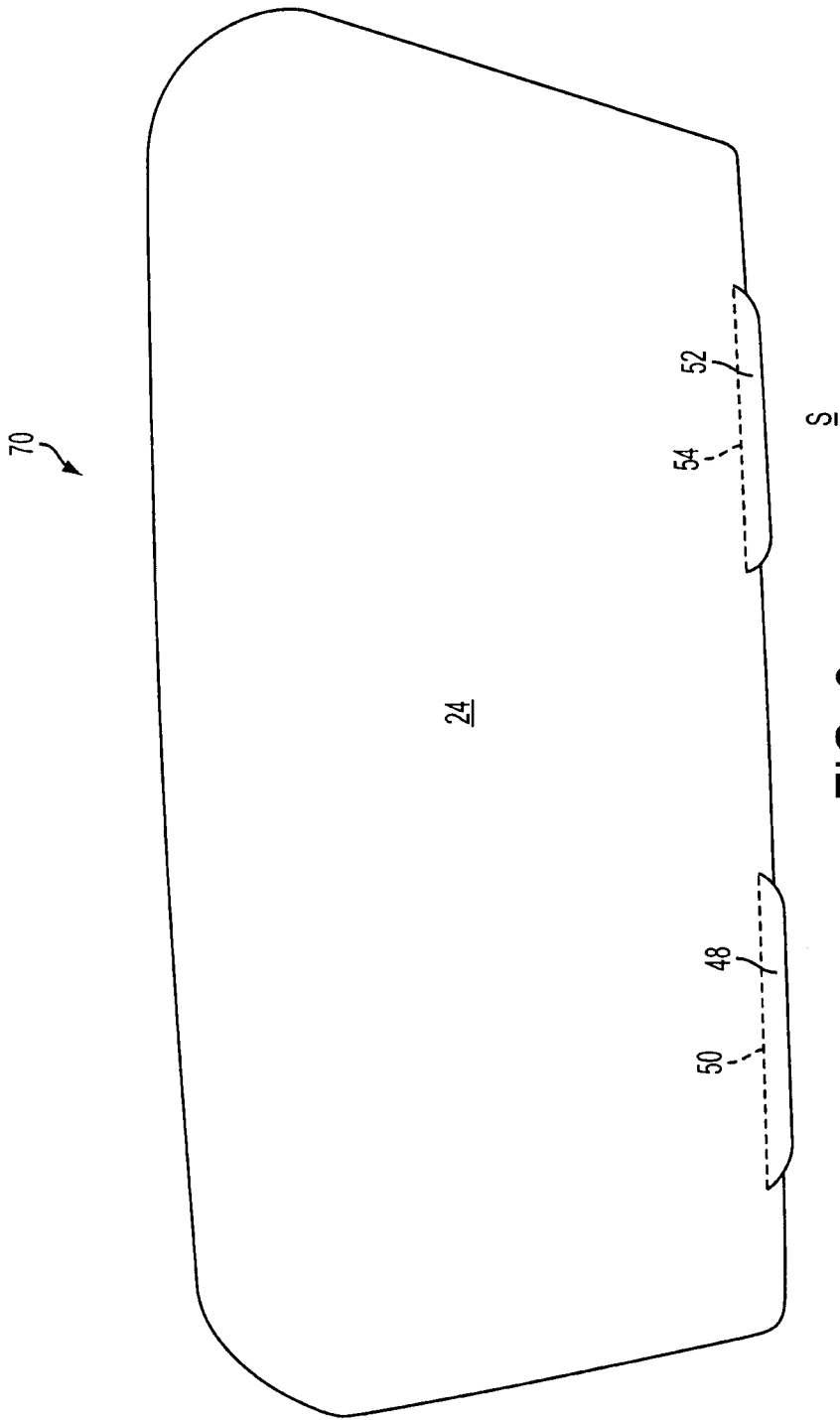
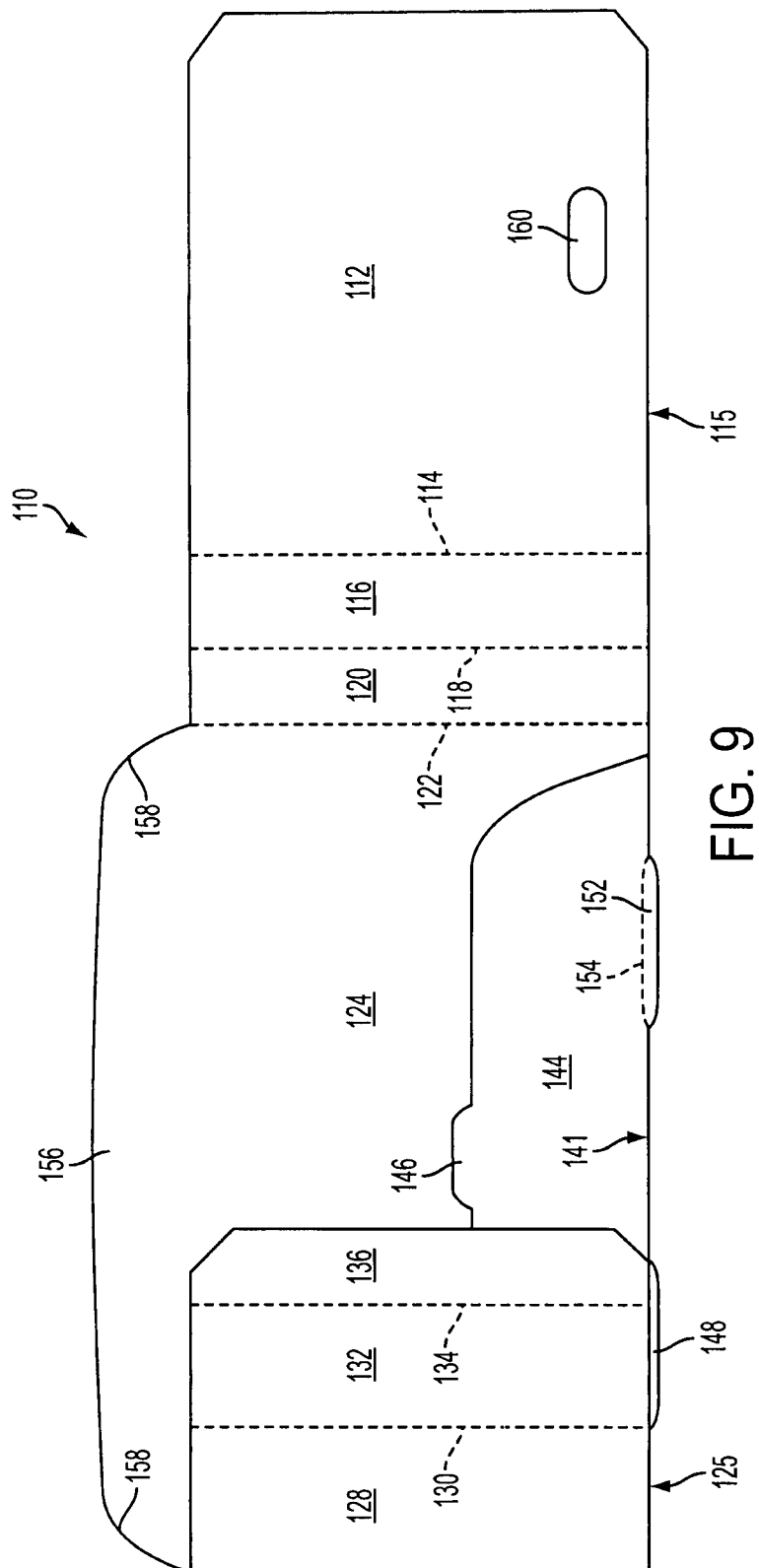
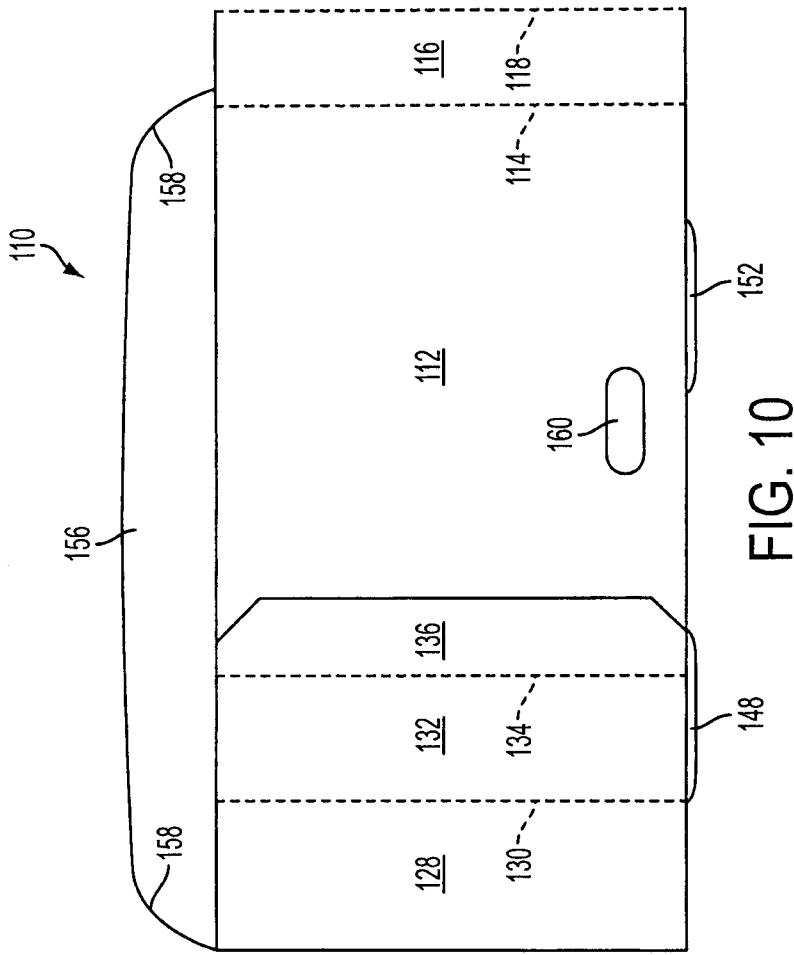


FIG. 8





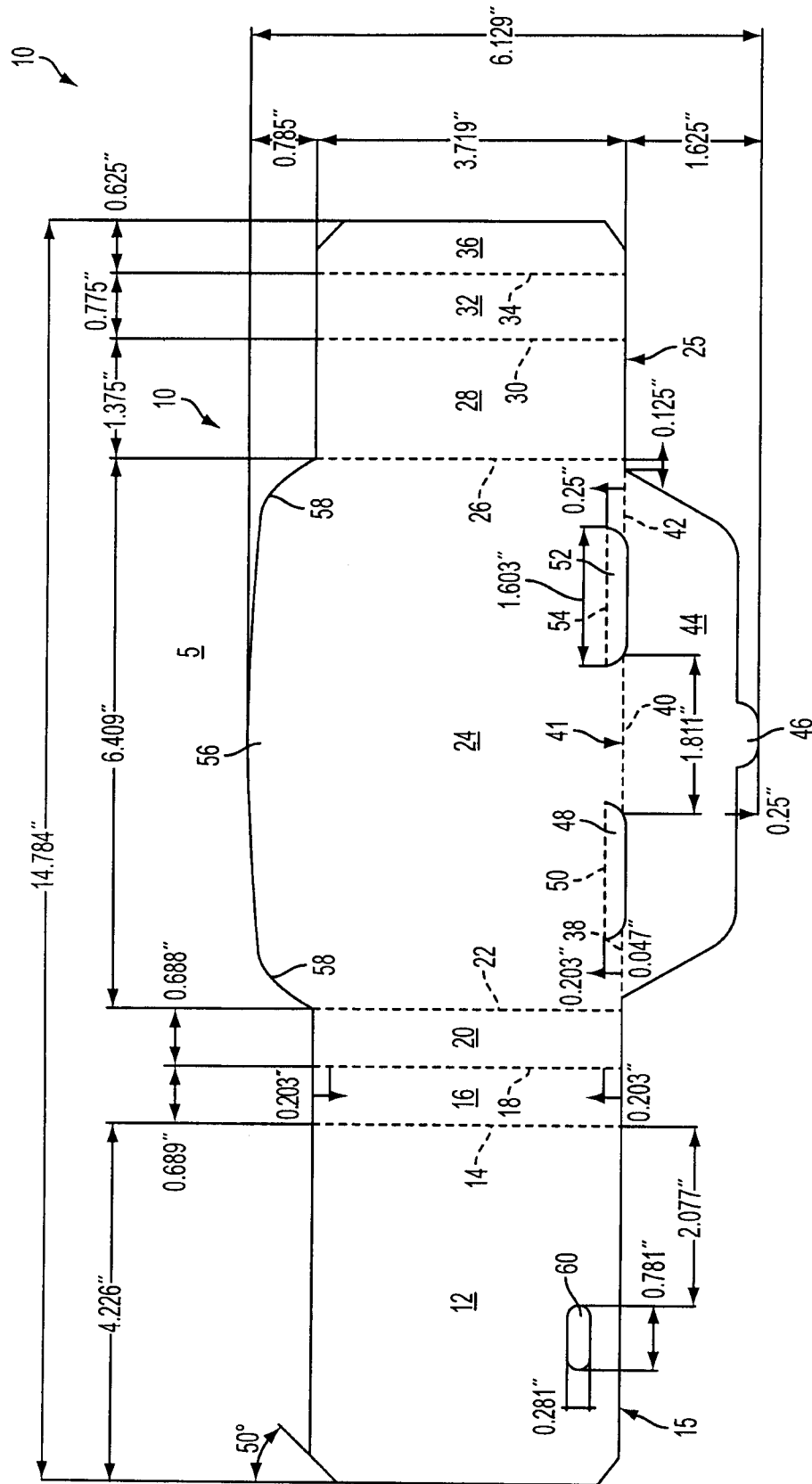


FIG. 11

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/070154**A. CLASSIFICATION OF SUBJECT MATTER*****B65D 5/20(2006.01)i, B65D 5/02(2006.01)i***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 8 B65D 5/18; 5/20; 5/34; 5/36; 5/42

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO internal) & keywords : "carton"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6349874 B1(MARK HILL) 26 FEBRUARY 2002 See column 2, line 39 - column 4, line 17 and figures 1,2.	1-13
A	US 5034234 A(DAVID W. ANDREAS et al.) 23 JULY 1991 See column 4, line 46 - column 5, line 42 and figures 7-10.	1-13
A	US 5720428 A(KURT D. JENSEN) 24 FEBRUARY 1998 See column 1, line54 - column 2, line 33 and figures 1-3.	1-13
A	US 4267955 A(GLENN E. STRUBLE) 19 MAY 1981 See column 2, line 16 - column 4, line 29 and figures 1-5.	1-13
A	US 4714190 A(DIANE M. MORROCCO) 22 DECEMBER 1987 See column 2, line 21 - column 3, line 2 and figures 1,2.	1-13

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

13 NOVEMBER 2008 (13.11.2008)

Date of mailing of the international search report

13 NOVEMBER 2008 (13.11.2008)

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Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM, Bo Cheol

Telephone No. 82-42-481-5509



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2008/070154

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 5034234 A	23.07.1991	AT 150413 T AU 2860589 A AU 619516 B2 CA 1326473 C DE 3855840 D1 DE 3888344 D1 DK 120289 A EP 0332782 A1 EP 0332782 B1 EP 0573127 A3 EP 0573127 B1 EP 0752379 A1 ES 2050713 T3 FI 891220 A NO 891093 A US 5084601 US 5175404 US 4943439 A	15.04.1997 21.09.1989 30.01.1992 25.01.1994 24.04.1997 14.04.1994 16.09.1989 20.09.1989 09.03.1994 12.01.1994 19.03.1997 08.01.1997 01.06.1994 16.09.1989 18.09.1989 28.01.1992 29.12.1992 24.07.1990
US 5720428 A	24.02.1998	None	
US 4267955 A	19.05.1981	None	
US 4714190 A	22.12.1987	None	
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