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(54) **CRUSH-TOLERANT CONTAINER AND BLANK AND METHOD FOR FORMING THE SAME**

(71) Applicant: **WestRock Shared Services, LLC**, Atlanta, GA (US)

(72) Inventors: **David G. Couture**, Hoschton, GA (US); **Timothy L. McCarthy**, Wilmette, IL (US); **Victoria Bernstein**, Atlanta, GA (US)

(73) Assignee: **WestRock Shared Services, LLC**, Atlanta, GA (US)

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B65D 5/42	(2006.01)
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B31B 100/00	(2017.01)
B31B 120/00	(2017.01)

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CPC ***B65D 5/443*** (2013.01); ***B65D 5/001*** (2013.01); ***B65D 5/02*** (2013.01); ***B65D 5/4266*** (2013.01); *B31B 50/26* (2017.08); *B31B 50/62* (2017.08); *B31B 50/81* (2017.08); *B31B 2100/00* (2017.08); *B31B 2120/502* (2017.08)

(58) **Field of Classification Search**
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See application file for complete search history.

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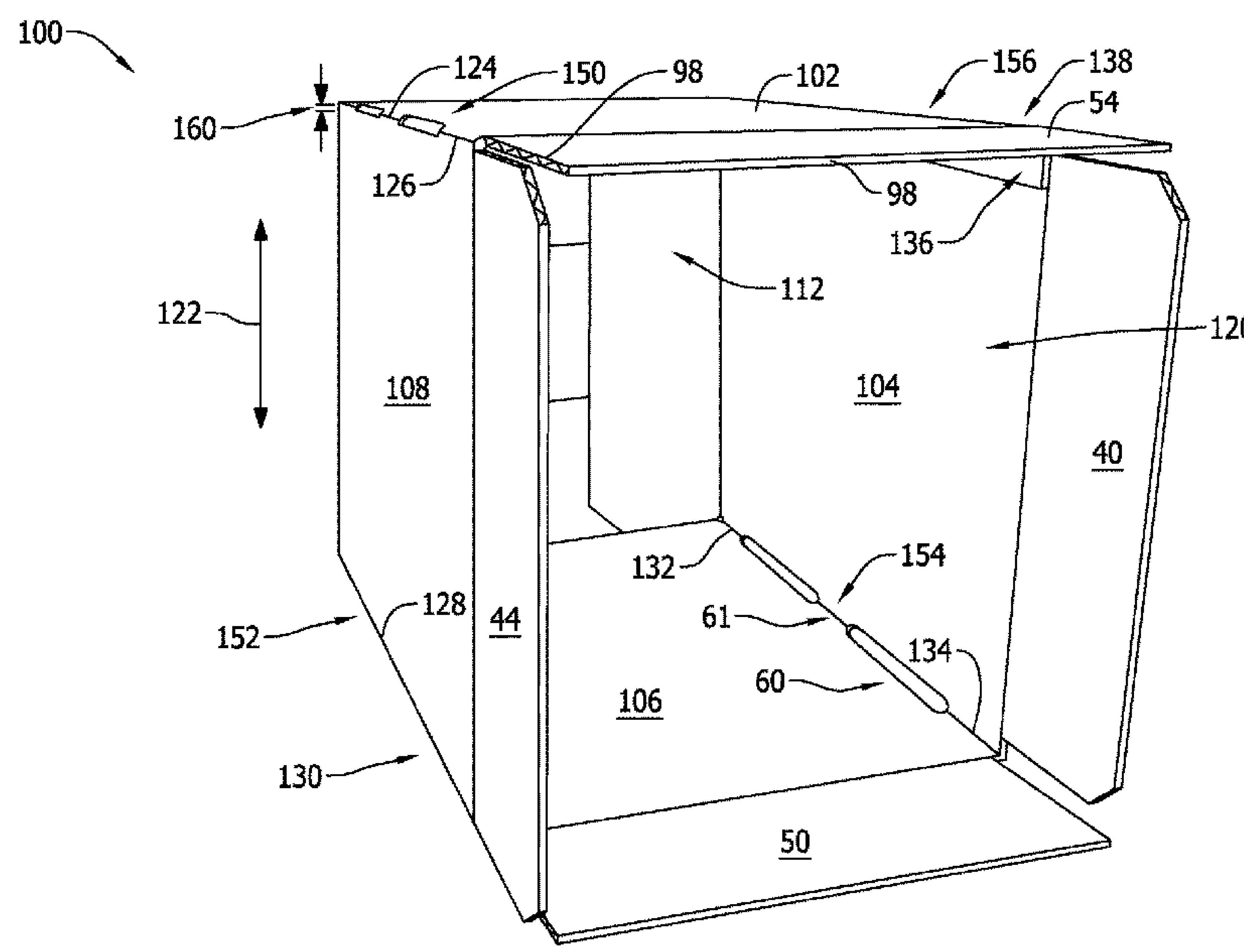
Primary Examiner — Patricia L Engle
(74) *Attorney, Agent, or Firm* — Neil G. Cohen; Rohini K. Garg

(57) **ABSTRACT**

A blank for constructing a crush-tolerant container includes a first side panel, a bottom panel, a second side panel, and a top panel coupled together in series. At least one cutout and at least one bridge portion are defined along a first fold line between the top panel and the first side panel. The at least one bridge portion and the at least one cutout are configured to maintain the top panel in a plane spaced above a top edge of the first side panel when the container is formed and the top panel is not under a stacking load, and to allow the top panel to move downwardly such that at least a portion of the top panel is substantially co-planar with the top edge of the first side panel when the container is formed and the top panel is under the stacking load.

46 Claims, 6 Drawing Sheets



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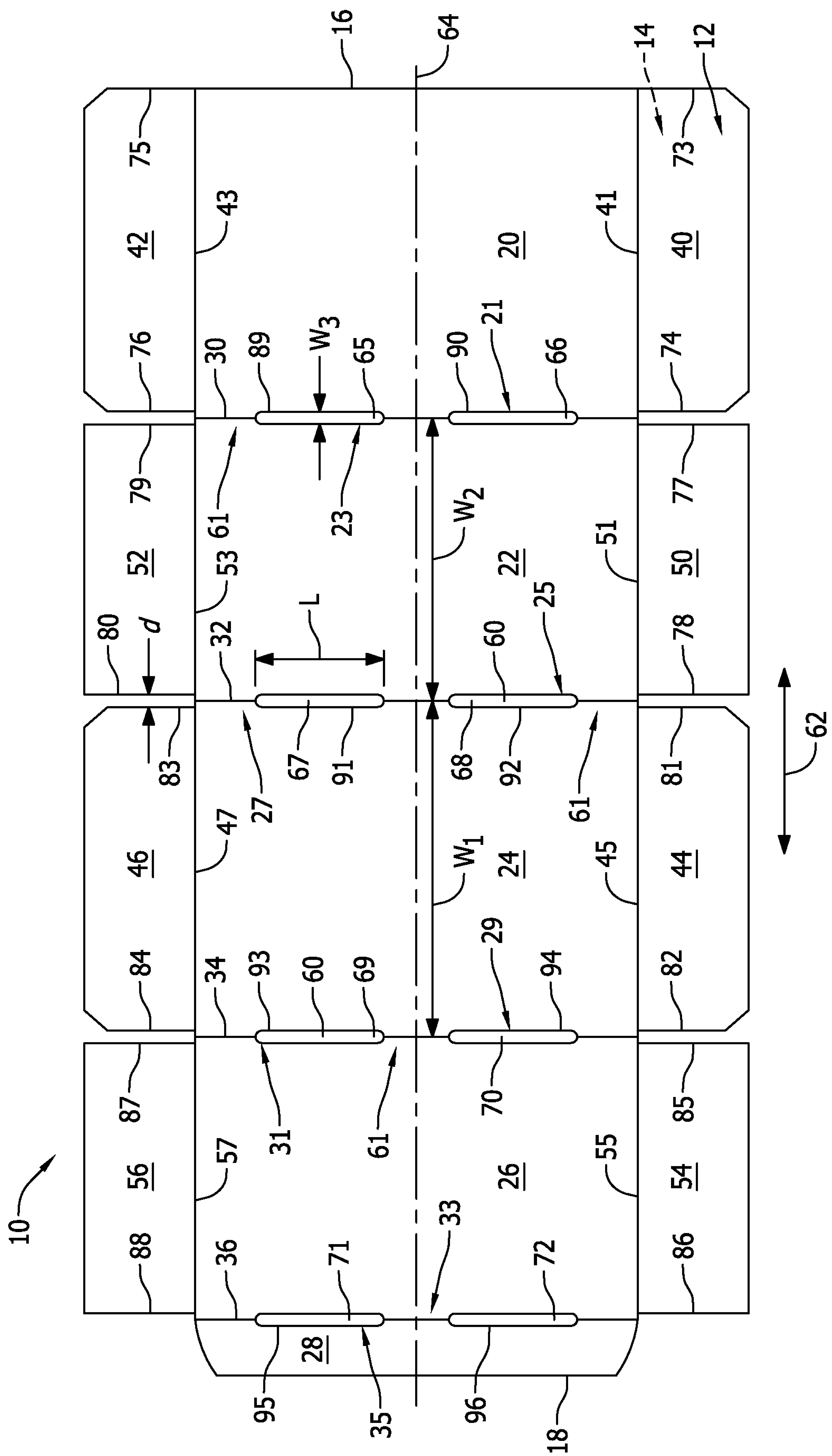
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FIG. 1

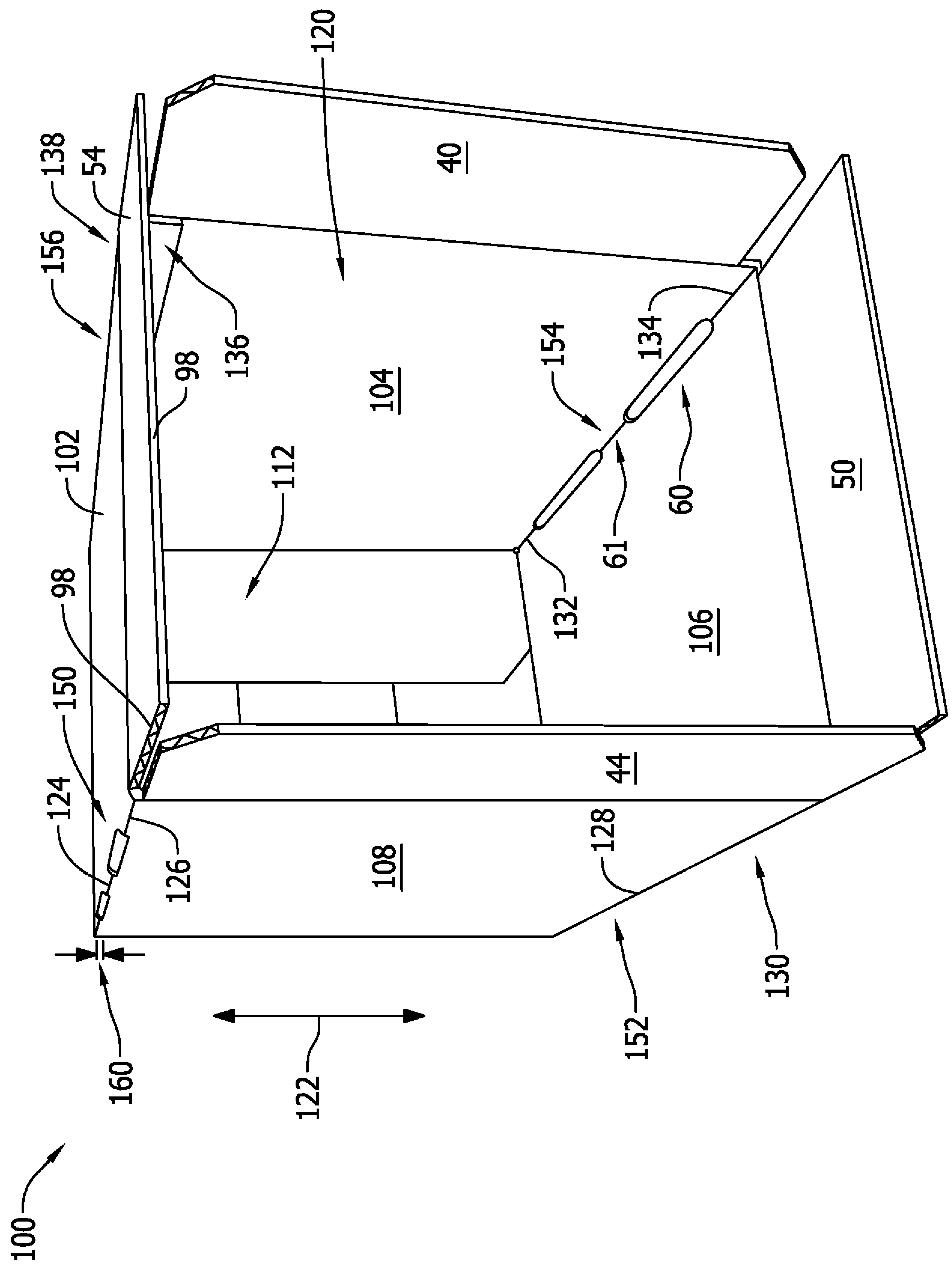
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FIG. 2

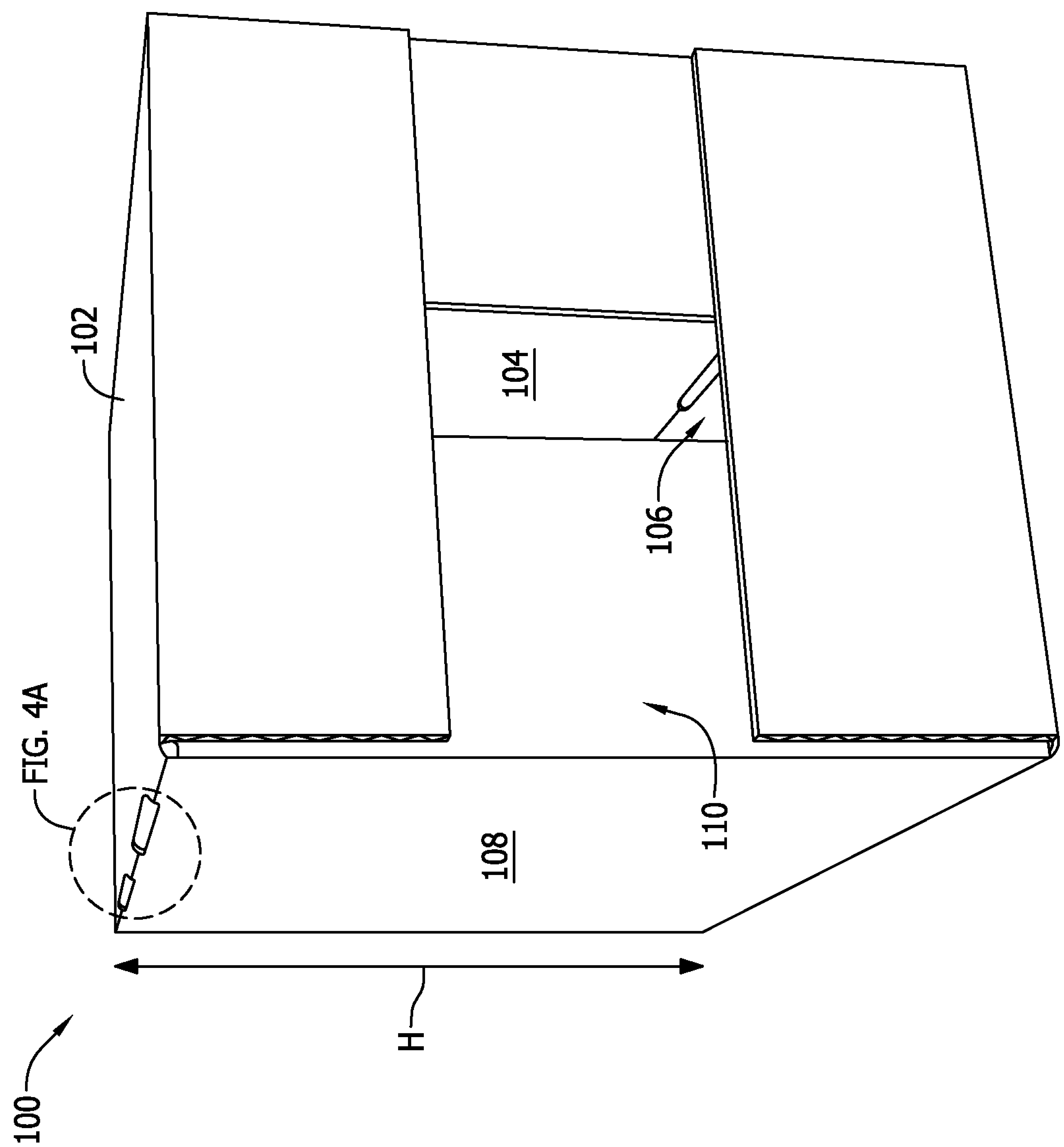


FIG. 3

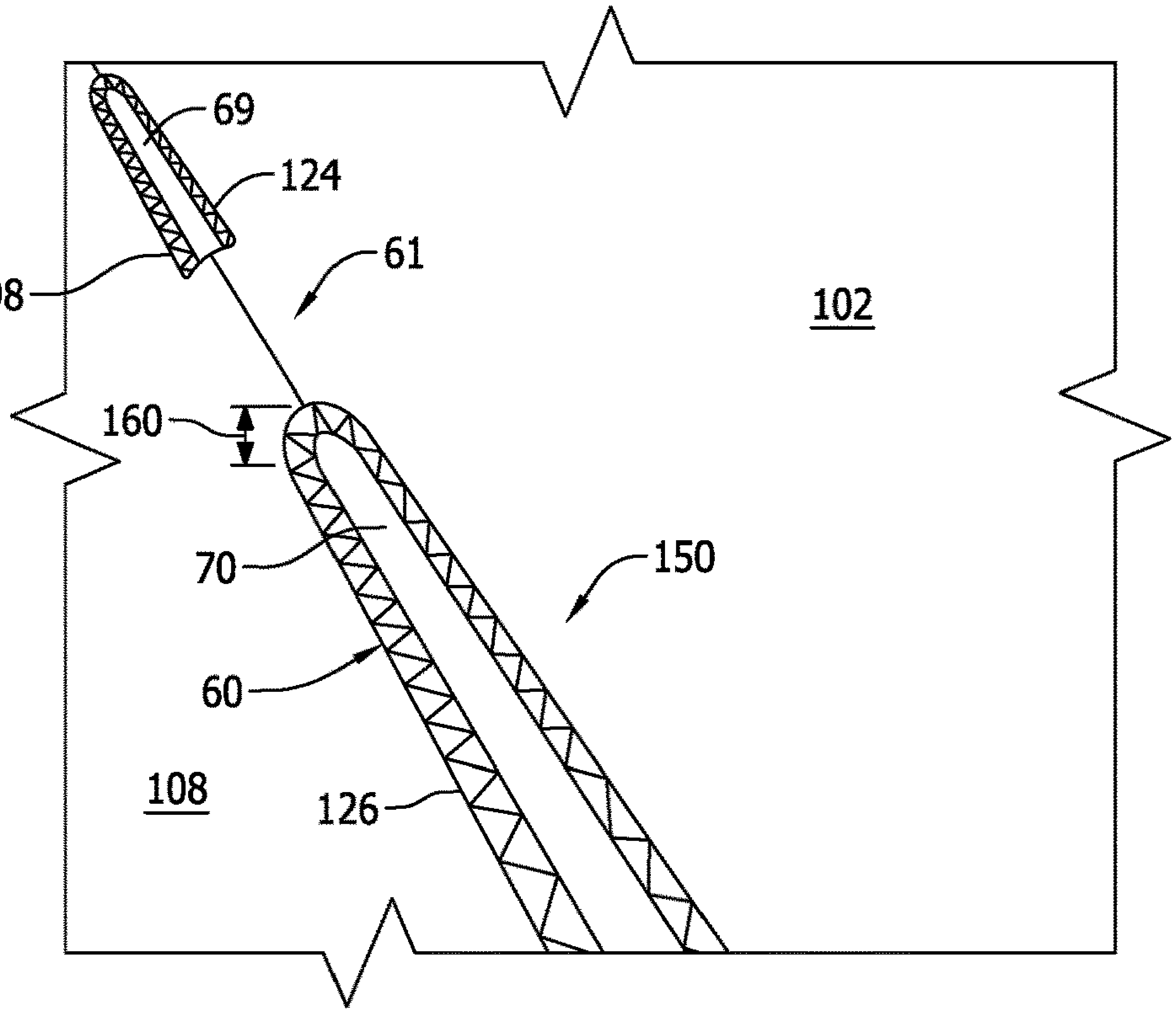


FIG. 4A

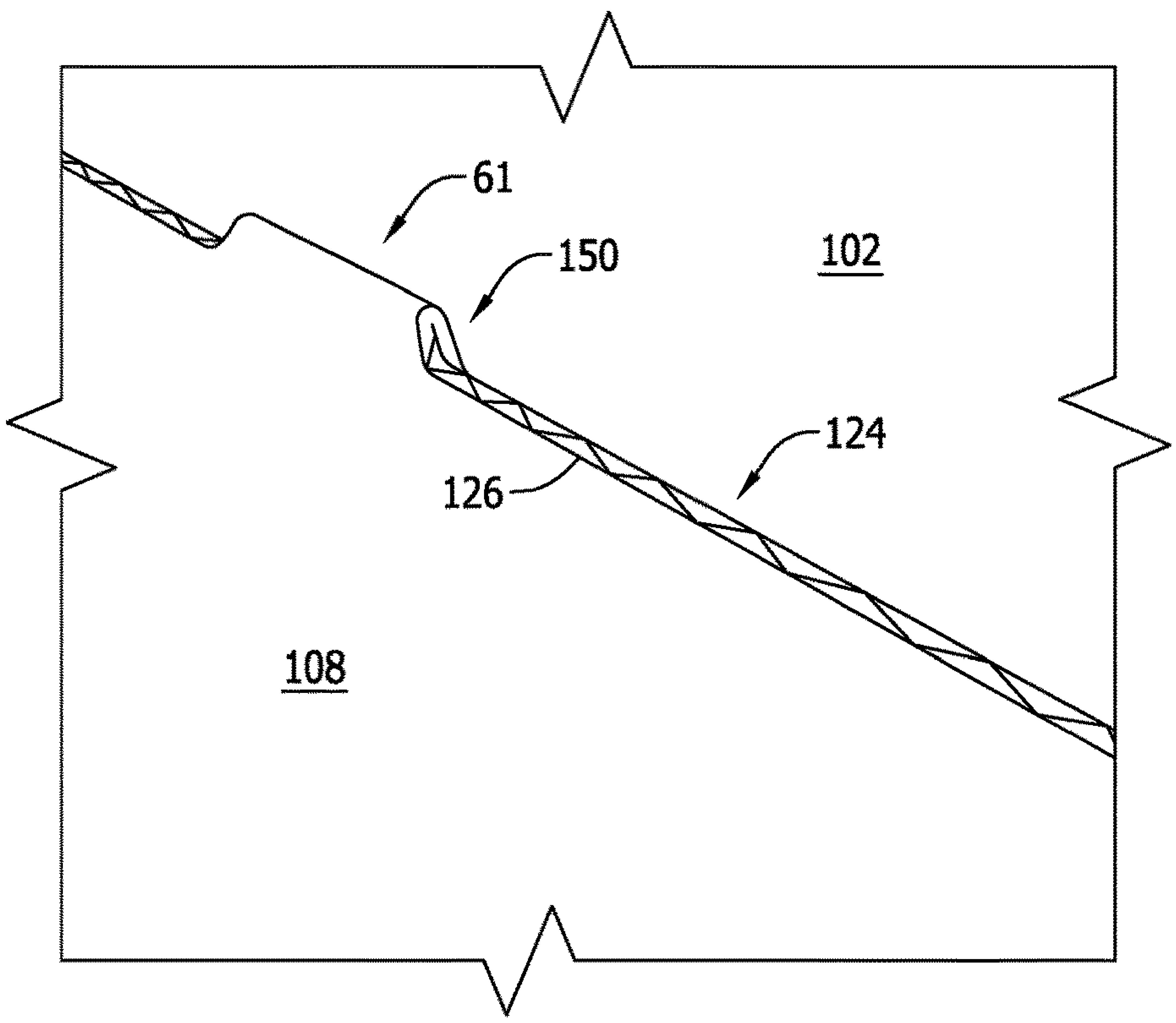


FIG. 4B

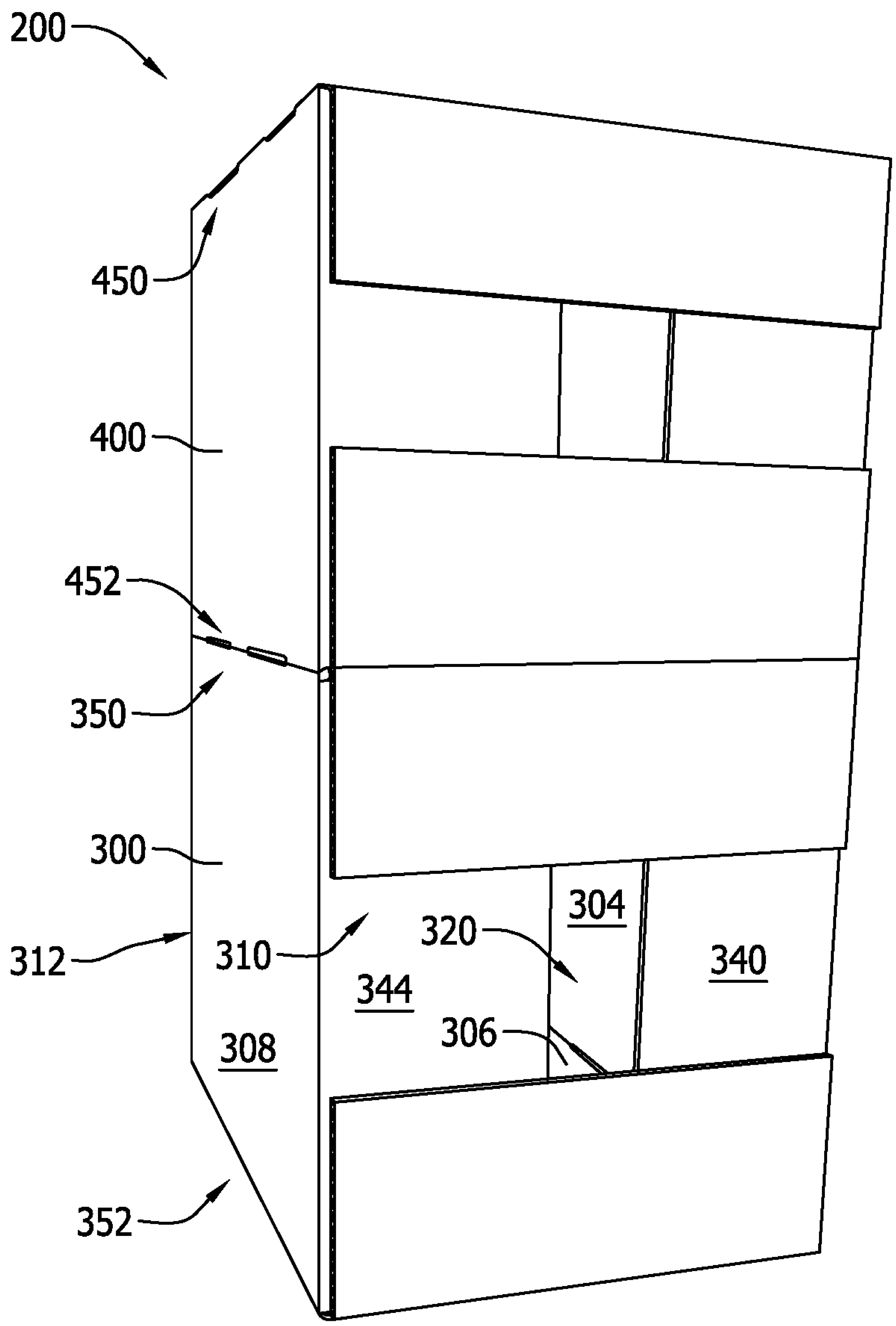
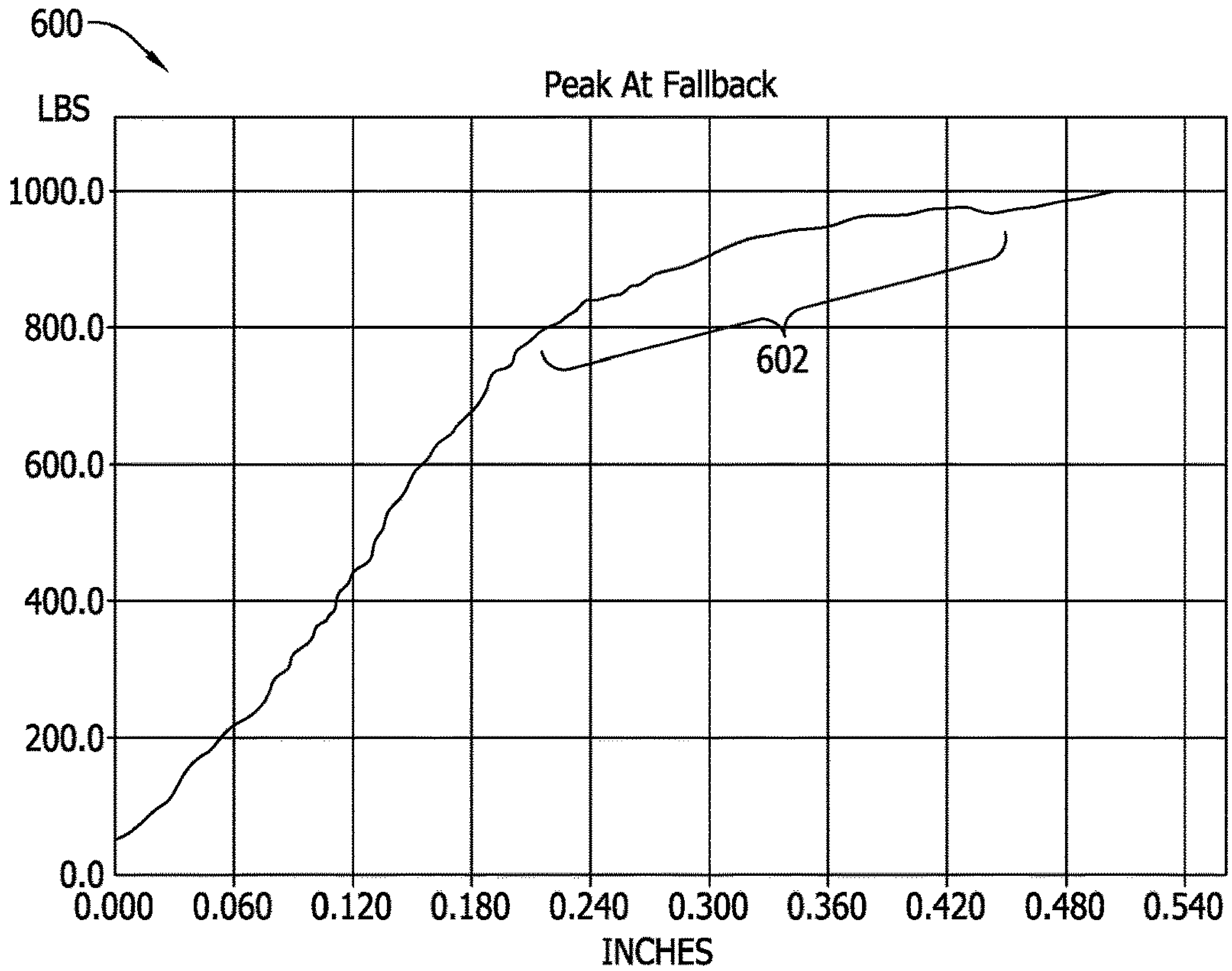


FIG. 5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INCHES
602

FIG. 6

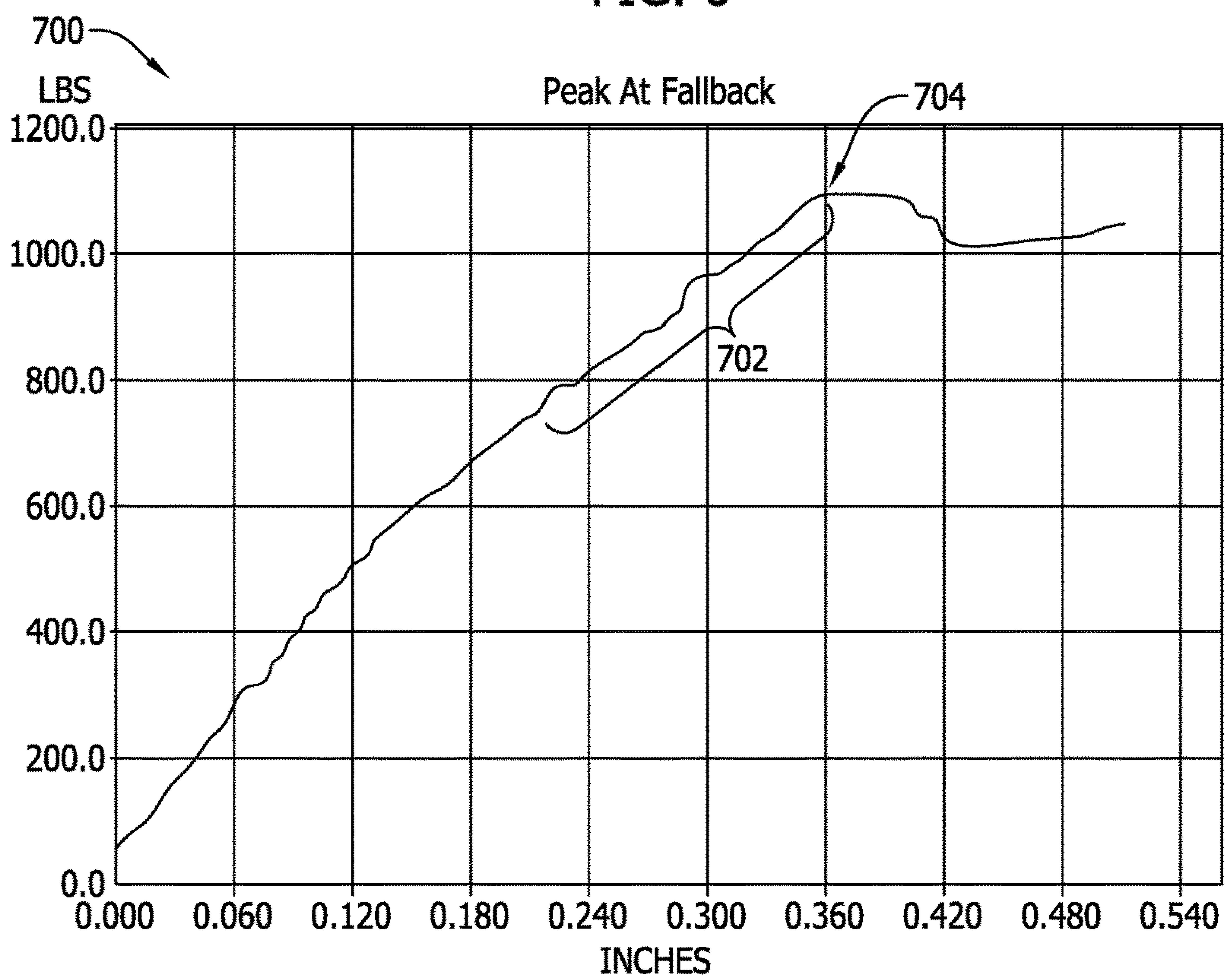
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FIG. 7

CRUSH-TOLERANT CONTAINER AND BLANK AND METHOD FOR FORMING THE SAME

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue; a claim printed with strikethrough indicates that the claim was canceled, disclaimed, or held invalid by a prior post-patent action or proceeding.

REFERENCE TO RELATED APPLICATION

This *application is a Reissue of U.S. patent application Ser. No. 10,882,657, which issued on Jan. 5, 2021, from U.S. patent application Ser. No. 15/428,770, filed Feb. 9, 2017, which* application claims the benefit of priority under 35 U.S.C. § 119(e) of U.S. provisional application Ser. No. 62/293,856 filed on Feb. 11, 2016*, each of* which is hereby incorporated by reference in its entirety.

BACKGROUND

This disclosure relates generally to containers formed from blanks of sheet material, and, more specifically, to a blank of sheet material for forming a crush-tolerant container, and methods for forming the container.

Corrugated board containers are often used to hold products therein, and are frequently stacked during shipping and storage of those products. At least some known containers are configured such that the side walls must hold the weight of the containers(s) stacked thereupon. If the weight on the bottommost container(s) increases to the point that the sidewalls fail (i.e., collapse inwards or outwards relative to the interior of the container), and the products inside may be damaged or crushed. At least some known containers are manufactured to include double- or triple-ply walls to increase the stacking strength thereof, but such an approach necessitates the use of more blank material, which increases the cost of the container.

BRIEF DESCRIPTION

In one aspect, a blank for constructing a crush-tolerant container is provided. The blank includes a plurality of panels coupled together in series along substantially parallel fold lines, the plurality of panels including a first side panel, a bottom panel, a second side panel, and a top panel. The blank also includes at least one cutout and at least one bridge portion positioned along a first fold line between the top panel and the first side panel. The at least one bridge portion is configured to maintain the top panel in a plane spaced above a top edge of the first side panel when the container is formed and the top panel is not under a stacking load. The at least one bridge portion and the at least one cutout are configured to allow the top panel to move downwardly such that at least a portion of the top panel is substantially co-planar with the top edge of the first side panel when the container is formed and the top panel is under the stacking load.

In another aspect, a crush-tolerant container formed from a blank of sheet material is provided. The container includes a top wall, an opposing bottom wall, and two opposing side walls. The top wall, the two side walls, and the bottom wall define a cavity. The container further includes a first compression zone defined between the top wall and a first side wall of the two side walls. The first compression zone includes a first cutout and at least a first bridge portion. The first compression zone maintains the top wall in a first plane separated from a top edge of the first side wall by a compression depth when the top wall is not under a stacking load, and the first compression zone is configured to enable displacement of the top wall toward the cavity by the compression depth when the top wall is under the stacking load.

In yet another aspect, a method for forming a crush-tolerant container from a blank of sheet material is provided. The blank includes a plurality of panels coupled together in a series along substantially parallel fold lines. The plurality of panels includes a top panel, a first side panel, a bottom panel, a second side panel, and a glue flap. The blank further includes at least one cutout and at least one bridge portion positioned along a first fold line between the top panel and the first side panel. The method includes rotating the plurality of panels about the plurality of fold lines to form a plurality of walls of the container, such that the plurality of walls define a cavity, and such that the at least one bridge portion extends between a first side wall and a top wall of the plurality of walls. The method also includes securing the glue flap to the top panel. The at least one bridge portion maintains the top wall in a plane spaced above a top edge of the first side wall by a compression depth when the top wall is not under a stacking load. The at least one bridge portion and the at least one cutout are configured to allow the top wall to move downwardly such that at least a portion of the top panel is substantially co-planar with the top edge of the first side panel when the top wall is under the stacking load.

An assembly of stacked crush-tolerant containers is provided, the assembly including a first crush-tolerant container and a second crush-tolerant container stacked vertically on top of the first container. The first container includes a top wall, an opposing bottom wall, and two opposing side walls. The top wall, the two side walls, and the bottom wall define a cavity. The first container also includes a first compression zone defined between the top wall and a first side wall of the two side walls, the first compression zone including a first cutout and at least a first bridge portion. Under a load of the second container, the first compression zone enables displacement of the top wall toward the cavity of the first container by a compression depth.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top plan view of an interior surface of an example embodiment of a blank of sheet material.

FIG. **2** is a perspective view of an example embodiment of a partially formed container, formed from the blank of FIG. **1**.

FIG. **3** is a perspective view of an example embodiment of a fully formed container, formed from the blank of FIG. **1**.

FIG. **4**A is a first expanded view of the container shown in FIG. **3**, illustrating a compression zone under no load.

FIG. **4**B is a second expanded view of the container shown in FIG. **3**, illustrating the compression zone shown in FIG. **4**A under a vertical load.

FIG. **5** is a perspective view of a stacked assembly of containers as shown in FIG. **3**.

FIG. **6** depicts a plot of load vs. compression for a non-crush-tolerant container.

FIG. **7** depicts a plot of load vs. compression for the crush-tolerant container shown in FIGS. **2**, **3**, and **5**.

DETAILED DESCRIPTION

The following detailed description illustrates the disclosure by way of example and not by way of limitation. The description clearly enables one skilled in the art to make and use the disclosure, describes several embodiments, adaptations, variations, alternatives, and use of the disclosure, including what is presently believed to be the best mode of carrying out the disclosure.

The embodiments described herein provide a stackable, crush-tolerant container formed from a single sheet of blank material, and a method for constructing the container. The container may be constructed from a blank of sheet material using a machine and/or by hand. In one embodiment, the blank is fabricated from a corrugated cardboard material. The blank, however, may be fabricated using any suitable material, and therefore is not limited to a specific type of material. In alternative embodiments, the blank is fabricated using cardboard, plastic, fiberboard, paperboard, foamboard, corrugated paper, and/or any suitable material known to those skilled in the art and guided by the teachings herein provided.

In an example embodiment, the blank includes at least one marking thereon including, without limitation, indicia that communicates the product, a manufacturer of the product and/or a seller of the product. For example, the marking may include printed text that indicates a product's name and briefly describes the product, logos and/or trademarks that indicate a manufacturer and/or seller of the product, and/or designs and/or ornamentation that attract attention. "Printing," "printed," and/or any other form of "print" as used herein may include, but is not limited to including, ink jet printing, laser printing, screen printing, giclée, pen and ink, painting, offset lithography, flexography, relief print, rotogravure, dye transfer, and/or any suitable printing technique known to those skilled in the art and guided by the teachings herein provided. In another embodiment, the blank is void of markings, such as, without limitation, indicia that communicates the product, a manufacturer of the product and/or a seller of the product.

Referring now to the drawings, and more specifically to FIG. **1**, a top plan view of a blank **10** of sheet material for forming a container is shown. FIG. **2** is a perspective view of a container **100** formed from blank **10**, shown in a partially formed configuration. FIG. **3** is a perspective view of container **100** formed from blank **10**, shown in a fully formed configuration. FIGS. **4**A and **4**B illustrate a compression zone **150** of container **100** under no load and vertical load conditions.

Blank **10** has a first or interior surface **12** and an opposing second or exterior surface **14**. Further, blank **10** defines a leading edge **16** and an opposing trailing edge **18**. In one embodiment, blank **10** includes, in series from leading edge **16** to trailing edge **18**, a plurality of panels including a first side panel **20**, a bottom panel **22**, a second side panel **24**, a top panel **26**, and a glue flap **28**, coupled together along preformed, generally parallel, fold lines **30**, **32**, **34**, and **36**, respectively. More specifically, first side panel **20** extends between leading edge **16** and fold line **30**, bottom panel **22** extends from fold line **30**, second side panel **24** extends from fold line **32**, top panel **26** extends from fold line **34**, and glue flap **28** extends between fold line **36** and trailing edge **18**. In an alternative embodiment, glue flap **28** extends from first side panel **20** opposite bottom panel **22**.

Fold lines **30**, **32**, **34**, and **36**, as well as other fold lines and/or hinge lines described herein, may include any suitable line of weakening and/or line of separation known to those skilled in the art and guided by the teachings herein provided.

In the example embodiment, first side panel **20** and second side panel **24** are substantially congruent and have a rectangular shape, and bottom panel **22** and top panel **26** are substantially congruent and have a rectangular shape. In alternate embodiments, panels **20**, **22**, **24**, and **26** have any suitable shape that enables blank **10** to function as described herein. Moreover, first side panel **20** and second side panel **24** each have a width W_1, and bottom panel **22** and top panel **26** each have a width W_2 that is less than W_1. In alternative embodiments, W_2 is substantially equal to or greater than W_1.

In addition, blank **10** includes a plurality of end flaps extending from the plurality of panels. More specifically, a first major end flap **40** extends from a first end edge of first side panel **20** defined by a fold line **41**, and a second major end flap **42** extends from a second end edge of first side panel **20** defined by fold line **43**. A third major end flap **44** extends from a first end edge of second side panel **24** defined by a fold line **45**, and a fourth major end flap **46** extends from a second end edge of second side panel **24** defined by a fold line **47**. In the example embodiment, first major end flap **40**, second major end flap **42**, third major end flap **44**, and fourth major end flap **46** are substantially congruent. In alternative embodiments, at least one of major end flap **40**, **42**, **44**, and **46** is other than substantially congruent to at least one other of major end flaps **40**, **42**, **44**, and **46**.

A first minor end flap **50** extends from a first end edge of bottom panel **22** defined by a fold line **51**, and a second minor end flap **52** extends from a second end edge of bottom panel **22** defined by a fold line **53**. A third minor end flap **54** extends from a first end edge of top panel **26** defined by a fold line **55**, and a fourth minor end flap **56** extends from a second end edge of top panel **26** defined by a fold line **57**. In the example embodiment, first minor end flap **50**, second minor end flap **52**, third minor end flap **54**, and fourth minor end flap **56** are substantially congruent. In alternative embodiments, at least one of minor end flap **50**, **52**, **54**, and **56** is other than substantially congruent to at least one other of minor end flaps **50**, **52**, **54**, and **56**. In the example embodiment, fold lines **41**, **43**, **45**, **47**, **51**, **53**, **55**, and **57** are generally parallel to each other and generally perpendicular to fold lines **30**, **32**, **34**, and **36**.

Blank **10** further includes a plurality of cutouts **60**. In the example embodiment, each of cutouts **60** is defined along one of fold lines **30**, **32**, **34**, and **36**. More specifically, each of cutouts **60** extends symmetrically from one of fold lines **30**, **32**, **34**, **36** into the adjacent ones of panels **20**, **22**, **24**, **26**, and **28**. In the example embodiment, a pair of congruent cutouts **60** is disposed along each of fold lines **30**, **32**, **34**, and **36**. More particularly, two cutouts **65** and **66** are disposed along fold line **30** and extend into first side panel **20** and bottom panel **22**, two cutouts **67** and **68** are disposed along fold line **32** and extend into bottom panel **22** and second side panel **24**, two cutouts **69** and **70** are disposed along fold line **34** and extend into second side panel **24** and top panel **26**, and two cutouts **71** and **72** are disposed along fold line **36** and extend into top panel **26** and glue flap **28**. In an alternative embodiment in which glue flap **28** extends from first side panel **20**, cutouts **71** and **72** are disposed along a fold line between glue flap **28** and first side panel **20** and extend into glue flap **28** and first side panel **20**. It should be understood that any reference to cutouts **60** refers generally and collectively to cutouts **65**, **66**, **67**, **68**, **69**, **70**, **71**, and **72**. In the illustrated embodiment, cutouts **60** are arranged symmetrically about a longitudinal axis **64** of blank **10**, thereby defining bridge portions **61** along fold lines **30**, **32**, **34**, and **36**. Accordingly, in the example embodiment, blank **10** includes eight cutouts **60** and twelve bridge portions **61**, wherein two cutouts **60** and three bridge portions **61** are disposed along fold lines **30**, **32**, **34**, and **36**. In other embodiments, blank **10** includes additional, fewer, or differently arranged cutouts and/or no cutouts along one or more of fold lines **30**, **32**, **34**, and/or **36**. For example, in alternative embodiments, cutouts **60** are not arranged symmetrically about longitudinal axis **64**.

In the example embodiment, each end flap **40**, **42**, **44**, **46**, **50**, **52**, **54**, and **56** includes a pair of opposing side edges. More specifically, first major end flap **40** includes opposing side edges **73** and **74**, second major end flap **42** includes opposing side edges **75** and **76**, first minor end flap **50** includes opposing side edges **77** and **78**, second minor end flap **52** includes opposing side edges **79** and **80**, third major end flap **44** includes opposing side edges **81** and **82**, fourth major end flap **46** includes opposing side edges **83** and **84**, third minor end flap **54** includes opposing side edge **85** and **86**, and fourth minor end flap **56** include opposing side edge **87** and **88**. Adjacent side edges of end flaps **40**, **42**, **44**, **46**, **50**, **52**, **54**, and **56** are spaced apart from one another by a distance d, which is measured between adjacent side edges. For example, side edge **76** of second major end flap **42** is spaced apart from side edge **79** of second minor end flap **52** by distance d.

In the illustrated embodiment, cutouts **60** have a width W_3 that is approximately equal to distance d, and defined parallel to a direction **62** of internal, corrugated flutes **98** (shown in FIG. **2**) of blank **10**. In alternative embodiments, width W_3 may be greater than or less than distance d. Additionally, in the example embodiment, a major dimension of each cutout **60**, designated as length L, is oriented perpendicular to direction **62** of flutes **98**. Moreover, in the illustrated embodiment, side edges of cutouts **60** that are defined in first side panel **20**, second side panel **24**, and/or glue flap **28** (in other words, those panels of blank **10** that are oriented vertically when container **100** is formed from blank **10**) substantially align with side edges of respective ones of major end flaps **40**, **42**, **44**, and **46**. Specifically, a side edge **89** of cutout **65** and a side edge **90** of cutout **66** substantially align with side edge **74** of first major end flap **40** and side edge **76** of second major end flap **42**, a side edge **91** of cutout **67** and a side edge **92** of cutout **68** substantially align with side edge **81** of third major end flap **44** and side edge **83** of fourth major end flap **46**, and a side edge **93** of cutout **69** and a side edge **94** of cutout **70** substantially align with side edge **82** of third major end flap **44** and side edge **84** of fourth major end flap **46**. When container **100** is formed from blank **10**, a side edge **95** of cutout **71** and a side edge **96** of cutout **72** substantially align with side edge **73** of first major end flap **40** and side edge **75** of second major end flap **42**.

A top edge of first side panel **20** is defined by leading edge **16**. Cutouts **65** and **66** and fold line **30** collectively define a bottom edge **21** of first side panel **20** and a first side edge **23** of bottom panel **22**. Cutouts **67** and **68** and fold line **32** collectively define a second side edge **25** of bottom panel **22** and a bottom edge **27** of second side panel **24**. Cutouts **69** and **70** and fold line **34** collectively define a top edge **29** of second side panel **24** and a first side edge **31** of top panel **26**. Cutouts **71** and **72** and fold line **36** collectively define a second side edge **33** of top panel **26** and a side edge **35** of glue flap **28**. Trailing edge **18** defines a free edge of glue flap **28**. Moreover, when container **100** is formed from blank **10**, as shown in FIG. **2**, top edge **29** of second side panel **24** and first side edge **31** of top panel **26** cooperate to define a first compression zone **150**, second side edge **25** of bottom panel **22** and bottom edge **27** of second side panel **24** cooperate to define a second compression zone **152**, bottom edge **21** of first side panel **20** and first side edge **23** of bottom panel **22** cooperate to define a third compression zone **154**, and second side edge **33** of top panel **26** and side edge **35** of glue flap **28** cooperate to define a fourth compression zone **156**, as will be described herein.

Container **100** includes a top wall **102**, a first side wall **104**, a bottom wall **106**, a second side wall **108**, a first end wall **110** (shown in FIG. **3**), and a second end wall **112**. In the example embodiment, each of side walls **104** and **108** is generally perpendicular to each of end walls **110** and **112**, and each of side walls **104** and **108** and end walls **110** and **112** is generally perpendicular to bottom wall **106** and top wall **102**, such that container **100** has a generally rectangular prismatic shape. Top wall **102**, bottom wall **106**, side walls **104** and **108**, and end walls **110** and **112** cooperate to define cavity **120** of container **100**.

In the example embodiment, top wall **102** includes top panel **26**, first side wall **104** includes first side panel **20** and glue flap **28**, bottom wall **106** includes bottom panel **22**, and second side wall **108** includes second side panel **24**. First end wall **110** includes first major end flap **40**, third major end flap **44**, first minor end flap **50**, and third minor end flap **54**. Second end wall includes second major end flap **42**, fourth major end flap **46**, second minor end flap **52**, and fourth minor end flap **56**. In an alternative embodiment in which glue flap **28** extends from first side panel **20**, top wall **102** includes top panel **26** and glue flap **28**, and first side wall includes first side panel **20**.

Moreover, when container **100** is formed from blank **10**, each of side walls **104** and **108** includes corrugated flutes **98** oriented in a vertical direction **122**. Accordingly, side walls **104** and **108** have improved stacking strength as compared to, for example, a container having side walls with horizontally oriented flutes (i.e., flutes oriented perpendicular to direction **122**). Additionally, when container **100** is formed from blank **10**, each of major end flaps **40**, **42**, **44**, and **46** includes corrugated flutes **98** oriented in vertical direction **122**.

In the example embodiment, exterior surface **14** of each of first and third major end flaps **40** and **44** is coupled to interior surface **12** of first and third minor end flaps **50** and **54**, and similarly, exterior surface **14** of each of second and fourth major end flaps **42** and **46** is coupled to interior surface of second and fourth minor end flaps **52** and **56**, such that each of end walls **110** and **112** are configured with the improved stacking strength of major end flaps **40**, **42**, **44**, and **46** due to vertical flutes **98** therein. More specifically, by arranging minor and major end flaps such that the minor end flaps are exterior of the major end flaps, with respect to cavity **120**, top panel **26** of top wall **102** rests on (i.e., is disposed directly on top of) major end flaps **40**, **42**, **44**, and **46**. In alternative embodiments, at least one of end walls **110** and **112** includes an alternative arrangement of minor and major end flaps.

Container **100** further includes first compression zone **150** at an intersection of top wall **102** and second side wall **108**, or more specifically, between a first side edge **124** of top wall **102** and a top edge **126** of second side wall **108**. Container **100** includes second compression zone **152** at an intersection of second side wall **108** and bottom wall **106**, between a bottom edge **128** of second side wall **108** and a first side edge

130 of bottom wall **106**. Container **100** also includes third compression zone **154** at an intersection of bottom wall **106** and first side wall **104**, between a second side edge **132** of bottom wall **106** and a bottom edge **134** of first side wall **104**. Container **100** further includes fourth compression zone **156** at an intersection of first side wall **104** and top wall **102**, between a top edge **136** of first side wall **104** and a second side edge **138** of top wall **102**. Each compression zone **150**, **152**, **154**, and **156** extends from first end wall **110** to second end wall **112**.

Top wall **102** defines a plane that is separated by a compression depth **160** from top edges **126** and **136** of side walls **108** and **104**, respectively, in first and fourth compression zones **150** and **156**, when top wall **102** is not under a stacking load. For example, top wall **102** defines a plane that is compression depth **160** of approximately ½ d above top edges **126** and **136** of side walls **108** and **104**, respectively, in first and fourth compression zones **150** and **156**, under no vertical load. Similarly, bottom wall **106** defines a plane that is separated by compression depth **160** from bottom edges **128** and **136** of side walls **108** and **104**, respectively, in second and third compression zones **152** and **154**, when top wall **102** is not under the stacking load. Compression zones **150**, **152**, **154**, and **156** are configured to facilitate slight compression or crushing of container **100** under a force exerted substantially vertically on container **100** (i.e., parallel to direction **122**), such as under a stacking load exerted when multiple containers **100** including products in cavity **120** are stacked upon one another. The stacking load may include any load or exerted force that exceeds a threshold amount to initiate compression of compression zones **150**, **152**, **154**, and/or **156**. The stacking load may vary between containers of different dimensions and/or containers having different numbers and/or orientations of cutouts **60** and bridge portions **61**.

As shown in FIG. **4**A, under no stacking load, each bridge portion **61** extends through approximately a 90° angle, and bridge portions **61** are configured to maintain top wall **102** in a plane above side walls **104** and **108** by compression depth **160**, and bottom wall **106** in a plane below side walls **104** and **108** by compression depth **160**. When the force of a stacking load is placed on container **100**, for example when a second container **100** containing product is stacked upon top wall **102**, bridge portions **61** in first and fourth compression zones **150** and **156** allow top wall **102** to be displaced vertically downwards, or towards cavity **120**, by an amount up to compression depth **160**. In one embodiment, as shown in FIG. **4**B, bridge portions **61** deform, enabling top wall **102** to shift into a position generally between side walls **104** and **108**, such that at least a portion of first side edge **124** of top wall **102** is substantially co-planar with top edge **126** of second side wall **105**, and at least a portion of second side edge **138** is substantially co-planar with top edge **136** of first side wall **104**. In another embodiment (not shown), bridge portions **61** deform, with top wall **102** shifting into a position directly on top of side walls **104** and **108**, such that interior surface of top wall **102** is positioned against top edges **126** and **136** of side walls **108** and **104**, respectively.

Accordingly, in either embodiment, top edges **126** and **136** of side walls **104** and **108**, respectively, are engaged in supporting the load, thereby engaging the stacking strength of side walls **104** and **108** to support the load on container **100**. Bridge portions **61** in second and third compression zones **152** and **154** allow side walls **104** and **108** to be displaced downwards towards bottom wall **106** by compression depth **160**. In one embodiment, bridge portions **61** deform, enabling side walls **104** and **108** to shift into position on either side of bottom wall **106**, such that at least a portion of bottom edge **128** of second side wall **108** is substantially co-planar with first side edge **130** of bottom wall, and at least a portion of bottom edge **134** of first side wall **104** is substantially co-planar with second side edge **132** of bottom wall **106**. In another embodiment, bridge portions **61** deform, with side walls **104** and **108** shifting into a position directly on top of bottom wall **106**, such that interior surface of bottom wall **106** is positioned against bottom edges **128** and **134** of side walls **108** and **104**, respectively.

In addition, in the example embodiment, as container **100** is vertically compressed (top wall **102** being displaced downwards, side walls **104** and **108** being displaced downwards), interior surface **12** of top wall **102** adjacent fold line **41** engages at least one of major end flaps **40** and **44**, and/or interior surface **12** of top wall **102** adjacent fold line **43** engages at least one of major end flaps **42** and **46**. Accordingly, at least one of major end flaps **40**, **42**, **44**, and **46** is engaged to support the load on container **100**. In the example embodiment, the alignment of side edges of major end flaps **40**, **42**, **44**, **46** with side edges of cutouts **60**, as described above with respect to FIG. **1**, facilitates substantially simultaneous engagement of major end flaps **40**, **42**, **44**, **46** and side walls **104** and **108** to support the load on container **100**. In some embodiments, in which any product within container **100** is approximately the same height H as container **100**, such vertical compression also facilitates engagement of any product within container **100** to support the load on container **100**.

In containers without compression zones, the side walls are immediately engaged in supporting a full amount of any stacking load and, as such, are vulnerable to buckling or collapsing. By contrast, compression zones **150**, **152**, **154**, and **156** in container **100** absorb an initial impact of a stacking load, such that side walls **104** and **108** and major end flaps **40**, **42**, **44**, **46** of end walls **110** and **112** are not immediately engaged but rather are more incrementally engaged, which improves the integrity and viability of container **100** under heavier stacking loads. Moreover, container **100** is crush-tolerant under increased loads, by permitting initial compression in compression zones **150**, **152**, **154**, and **156** to prevent side-wall buckling. Thus, container **100** exhibits improved stacking strength over other single-walled containers without requiring double- or triple-walled construction.

To form container **100** from blank **10**, first side panel **20** is rotated inwardly about fold line **30** toward interior surface **12** of bottom panel **22**, into a substantially perpendicular relationship with bottom panel **22**. Second side panel **24** is rotated inwardly about fold line **32** into a substantially perpendicular relationship with bottom panel **22**, and top panel **26** is rotated inwardly about fold line **34** into a substantially perpendicular relationship with second side panel **24**. Glue flap **28** is coupled to first side panel **20**, using, for example, adhesive, another suitable bonding material, fasteners, and/or any other suitable method for attaching panels. In the example embodiment, exterior surface **14** of glue flap **28** is coupled to interior surface **12** of first side panel **20**. In an alternative embodiment, interior surface **12** of glue flap **28** is coupled to exterior surface **14** of first side panel **20**.

In addition, each of end flaps **40**, **42**, **44**, **46**, **50**, **52**, **54**, **56** is rotated inwardly into a substantially perpendicular relationship with the respective panel **20**, **22**, **24**, **26** from which the end flap extends. First and third minor end flaps

50 and **54** are placed into face-to-face relationship with first and third major end flaps **40** and **44**, and second and fourth minor end flaps **52** and **56** are placed into face-to-face relationship with second and fourth major end flaps **42** and **46**. First and third minor end flaps **50** and **54** are then coupled to first and third major end flaps **40** and **44** as described above, and second and fourth minor end flaps **52** and **56** are coupled to second and fourth major end flaps **42** and **46** as described above, using, for example, adhesive, another suitable bonding material, fasteners, and/or any other suitable method for attaching panels.

FIG. **5** is a perspective view of an assembly **200** of stacked containers **300**, **400**. First container **300** and second container **400** are similar to container **100**, as shown and described with respect to FIGS. **2**, **3**, **4**A, and **4**B. Accordingly, where similar or substantially equivalent features are shown in FIG. **5** as in any of the preceding Figures, the same reference numerals are employed. As shown, when a vertical load (i.e., a weight of second container **400** containing product, not shown, therein) is exerted on first container **300**, first container **300** is compressed. More specifically, as illustrated, a first compression zone **350** and a second compression zone **352** of first container **300** compress by compression depth **160** (shown in FIGS. **2** and **4**A). Although not shown, it should be understood that a third and fourth compression zone of first container **300** also compress. A top wall (not shown in the view of FIG. **5**) of first container **300** is displaced by compression depth **160** into a cavity **320** of first container **320**. First and second side walls **304** and **308** of first container **300**, as well as at least one of major end flaps (e.g., end flaps **340** and **344**) of end walls **310** and/or **312** of first container **300**, are engaged to support the load of second container **400** thereon. Accordingly, first and second side walls **304** and **308** may be displaced downwardly by compression depth **160**. Conversely, first and second compression zones **450**, **452** of second container **400** are not compressed, as no vertical load is exerted on second container **400**.

FIGS. **6** and **7** depict two example graphs to illustrate performance of container **100** (as shown in FIGS. **2**, **3**, and **5**) under a stacking load. More specifically, FIG. **6** depicts a plot **600** of load vs. compression depth for a non-crush-tolerant container (not shown). A peak stacking load of about 1000 lbs. is exerted on the non-crush-tolerant container before compression of the container by about 0.51 inches. Moreover, the non-crush tolerant-container exhibits non-linear compression **602** under loads greater than about 800 lbs. By contrast, FIG. **7** depicts a plot **700** of load vs. compression depth for crush-tolerant container **100**. Crush-tolerant container **100** exhibits substantially linear compression **702** due to the gradual engagement of side walls **104** and **108** and/or major end flaps **40**, **42**, **44**, and/or **46** to support container **100**. Effectively, the load on container **100** is reduced, which enables container **100** to withstand greater load amount (e.g., up to about 1050-1100 lbs., in this example) before being fully engaged and/or compressed. At **704**, a stacking load of about 1100 lbs. is exerted on container **100**, causing compression of about 0.36 inches, at which point compression zones **150**, **152**, **154**, and/or **156** are substantially fully compressed.

Exemplary embodiments of blanks, containers, and methods, are described and/or illustrated herein in detail. The blanks, containers, and methods are not limited to the specific embodiments described herein, but rather, elements of each blank and container and steps of each method may be utilized independently and separately from other elements and steps described herein. Each blank and container element and each method step can also be used in combination with other blank and container elements and/or method steps.

When introducing elements, components, etc. of the methods and assemblies described and/or illustrated herein, the articles "a", "an", "the" and "said" are intended to mean that there are one or more of the element(s), component(s), etc. The terms "comprising", "including" and "having" are intended to be inclusive and mean that there may be additional element(s), component(s), etc. other than the listed element(s), component(s), etc.

This written description uses examples to disclose the embodiments of the present disclosure, including the best mode, and also to enable any person skilled in the art to practice embodiments of the present disclosure, including making and using any devices or systems and performing any incorporated methods. The patentable scope of the embodiments described herein is defined by the claims, and may include other examples that occur to those skilled in the art. Such other examples are intended to be within the scope of the claims if they have structural elements that do not differ from the literal language of the claims, or if they include equivalent structural elements with insubstantial differences from the literal languages of the claims.

The invention claimed is:

1. A blank for constructing a crush-tolerant container, the blank comprising:

a plurality of panels coupled together in series along substantially parallel fold lines, the plurality of panels including a first side panel, a bottom panel, a second side panel, **[**and**]** a top panel*, and a glue flap extending from the top panel*; and

at least one cutout and at least one bridge portion positioned along a first fold line between the top panel and **[**the first side panel**]** *the glue flap*,

wherein the at least one bridge portion is configured to maintain the top panel in a plane spaced above a top edge of the first side panel when the container is formed and the top panel is not under a stacking load, and

wherein the at least one bridge portion and the at least one cutout are configured to allow the top panel to move downwardly such that at least a portion of the top panel is substantially co-planar with the top edge of the first side panel when the container is formed and the top panel is under the stacking load; wherein the blank further comprises a plurality of end flaps, the plurality of end flaps including:

a first major end flap extending from a first end edge of the first side panel; and

a first minor flap extending from an end edge of the top panel;

wherein the first minor flap and the first major end flap are configured to be in face-to-face relationship with one another in a set-up container;

wherein the at least one cutout includes a first side edge disposed in the **[**first side panel**]** *glue flap* and offset a distance from the first fold line, wherein the first major end flap includes a first side edge, and wherein the first side edge of the at least one cutout is *configured to be* substantially aligned with the first side edge of the first major end flap *in a set-up container*.

2. The blank of claim **1**, wherein the blank is formed from so corrugated cardboard including a plurality of flutes, and wherein the plurality of flutes are oriented parallel to a transverse axis of the blank such that the plurality of flutes on the first and second side panels are oriented vertically when the container is formed.

3. The blank of claim 2, wherein a major dimension of the at least one cutout is defined perpendicular to the plurality of flutes.

4. The blank of claim 1, wherein the at least one cutout is defined symmetrically about the first fold line.

5. The blank of claim 1, wherein the first major end flap includes internal flutes that are oriented vertically when the container is formed, and wherein the top panel is configured to engage the first major end flap to support the stacking load when the container is formed and the top panel is under the stacking load.

[6. The blank of claim 1, wherein the plurality of panels further includes a glue flap extending from the top panel.]

[7. The blank of claim 1, wherein the plurality of panels further includes a glue flap extending from the first side panel.]

8. A crush-tolerant container formed from a blank, the container comprising:

a top wall and an opposing bottom wall;

two opposing side walls, wherein the top wall, the two side walls, and the bottom wall define a cavity;

and a first compression zone defined between the top wall and a first side wall of the two side walls, the first compression zone including a first cutout and at least a first bridge portion positioned along a first fold line between the top *wall* and [the first side wall] *a glue flap*,

wherein the first compression zone maintains the top wall in a first plane separated from a top edge of the first side wall by a compression depth when the top wall is not under a stacking load, and wherein the first compression zone is configured to enable displacement of the top wall toward the cavity by the compression depth when the top wall is under the stacking load;

further comprising two opposing end walls, wherein a first end wall of the two end walls includes a first major end flap that emanates from a first end edge of the first side wall, wherein the first major end flap includes internal flutes oriented vertically with respect to the bottom wall, and wherein upon displacement of the top wall by the compression depth, the top wall engages the first major end flap to support the stacking load;

wherein the first end wall further includes a first minor end flap that emanates from an end edge of the top wall, the first major end flap and the first minor end flap being secured to one another in a face-to-face relationship;

wherein the first cutout includes a first side edge disposed in the [first side wall] *glue flap* and offset a distance from the first fold line, and the first major end flap includes a first side edge substantially aligned with the first side edge of the first cutout, and wherein upon displacement of the top wall by the compression depth, the top wall engages the first side wall and the first major end flap substantially simultaneously.

9. The container of claim 8, wherein upon displacement of the top wall by the compression depth, the top wall engages the first side wall to support the stacking load.

10. The container of claim 8, wherein the first bridge portion deforms to enable displacement of the top wall toward the cavity by the compression depth.

11. The container of claim 8, further comprising a second compression zone defined between the first side wall and the bottom wall, the second compression zone including a second cutout and a second bridge portion, wherein the second compression zone maintains the bottom wall in a second plane separated from a bottom edge of the first side wall by the compression depth when the top wall is not under the stacking load, and wherein the second compression zone is configured to enable displacement of the first side wall towards the bottom wall by the compression depth when the top wall is under the stacking load.

12. The container of claim 8, wherein the two side walls include internal flutes oriented vertically with respect to the bottom wall.

13. A method for forming a crush-tolerant container from a blank,

the blank including a plurality of panels coupled together in a series along substantially parallel fold lines, the plurality of panels including a top panel, a first side panel, a bottom panel, a second side panel, and a glue flap,

the blank also including at least one cutout and at least one bridge portion positioned along a first fold line between the top panel and the [first side panel] *glue flap*,

the method comprising:

rotating the plurality of panels about the plurality of fold lines to form a plurality of walls of the container, such that the plurality of walls define a cavity, [and such that the at least one bridge portion extends between a first side wall and a top wall of the plurality of walls]; and

securing the glue flap to the top panel *such that the at least one bridge portion extends between a top wall of the plurality of walls and the glue flap*, wherein the at least one bridge portion maintains the top wall in a plane spaced above a top edge of the first side wall by a compression depth when the top wall is not under a stacking load, and the at least one bridge portion and the at least one cutout are configured to allow the top panel to move downwardly such that at least a portion of the top panel is substantially co-planar with the top edge of the first side panel when the top wall is under the stacking load;

wherein the blank further includes a first minor end flap extending from an end edge of the top panel and a first major end flap extending from an end edge of the first side panel,

the method further comprising: rotating the first major end flap inwards towards the cavity, wherein the first major end flap includes internal flutes oriented vertically after said rotating, and wherein the top wall is configured to engage the first major end flap to support the stacking load when the top wall is under the stacking load;

rotating the first minor end flap inwards towards the cavity and into a face-to-face relationship with the first major end flap; and

securing the first minor end flap to the first major end flap, wherein the at least one cutout includes a first side edge disposed in the [first side panel] *glue flap* and offset a distance from the first fold line, and the first major end flap includes a first side edge substantially aligned with the first side edge of the at least one cutout.

14. An assembly of stacked crush-tolerant containers comprising:

a first crush-tolerant container comprising:

a top wall and an opposing bottom wall;

two opposing side walls, wherein the top wall, the two side walls, and the bottom wall define a cavity; and

a first compression zone defined between the top wall and a first side wall of the two side walls, the first compression zone including a [first] cutout and [at least a first] *a* bridge portion positioned along a first fold line between the top wall and [the first side wall] *the glue flap*; and

a second crush-tolerant container stacked vertically on top of the first container, wherein, under a load of the second container, the first compression zone of the first container enables displacement of the top wall toward the cavity of the first container by a compression depth;

wherein the first container further comprises*:*

two opposing end walls,

a first end wall of the two end walls including a first major end flap that emanates from a first end edge of the first side wall, the first end wall further including a first minor end flap that emanates from an end edge of the top wall, the first major end flap and the first minor end flap being secured to one another in a face-to-face relationship,

wherein the first major end flap includes a first side edge and the [first] cutout of the first container includes a first side edge disposed in [the first side wall] *the glue flap* and offset a distance from the first fold line,

wherein the first side edge of the [first] cutout is substantially aligned with the first side edge of the first major end flap, and wherein upon displacement of the top wall by the compression depth, the top wall engages the first side wall and the first major end flap substantially simultaneously to support the load of the second container.

15. The assembly of stacked crush-tolerant containers of claim **14**, wherein upon displacement of the top wall of the first container by the compression depth, the top wall of the first container engages the first side wall of the first container to support the load of the second container.

16. The assembly of stacked crush-tolerant containers of claim **14**, wherein the first container further comprises a second compression zone defined between the first side wall and the bottom wall, the second compression zone including a second cutout and a second bridge portion, wherein, under the load of the second container, the second compression zone is configured to enable displacement of the first side wall towards the bottom wall by the compression depth when the top wall is under the stacking load.

17. A blank for constructing a crush-tolerant container, the blank comprising:

a plurality of panels coupled together in series along substantially parallel fold lines, the plurality of panels including a first side panel, a bottom panel, a second side panel, and a top panel; and

at least one cutout and at least one bridge portion positioned along a first fold line between the bottom panel and the first side panel,

wherein the at least one bridge portion is configured to maintain the first side panel in a plane spaced above a bottom edge of the bottom panel when the container is formed and the top panel is not under a stacking load, and

wherein the at least one bridge portion and the at least one cutout are configured to allow the first side panel to move downwardly such that at least a portion of the first side panel is substantially co-planar with the bottom edge of the bottom panel when the container is formed and the top panel and first side panel are under the stacking load; wherein the blank further comprises a plurality of end flaps, the plurality of end flaps including:

a first major end flap extending from a first end edge of the first side panel; and

a first minor flap extending from an end edge of the bottom panel;

wherein the first minor flap and the first major end flap are configured to be in face-to-face relationship with one another in a set-up container;

wherein the at least one cutout includes a first side edge disposed in the first side panel and offset a distance from the first fold line, wherein the first major end flap includes a first side edge, and wherein the first side edge of the at least one cutout is configured to be substantially aligned with the first side edge of the first major end flap in a set-up container.

18. The blank of claim 17, wherein the blank is formed from corrugated cardboard including a plurality of flutes, and wherein the plurality of flutes are oriented parallel to a transverse axis of the blank such that the plurality of flutes on the first and second side panels are oriented vertically when the container is formed.

19. The blank of claim 18, wherein a major dimension of the at least one cutout is defined perpendicular to the plurality of flutes.

20. The blank of claim 17, wherein the at least one cutout is defined symmetrically about the first fold line.

21. The blank of claim 17, wherein the first major end flap includes internal flutes that are oriented vertically when the container is formed, and wherein the top panel is configured to engage the first major end flap to support the stacking load when the container is formed and the top panel is under the stacking load.

22. The blank of claim 17, wherein the plurality of panels further includes a glue flap extending from the top panel.

23. The blank of claim 17, wherein the plurality of panels further includes a glue flap extending from the first side panel.

24. A crush-tolerant container formed from a blank, the container comprising:

a top wall and an opposing bottom wall;

two opposing side walls, wherein the top wall, the two side walls, and the bottom wall define a cavity;

and a first compression zone defined between the bottom wall and a first side wall of the two side walls, the first compression zone including a first cutout and at least a first bridge portion positioned along a first fold line between the bottom wall and the first side wall,

wherein the first compression zone maintains the first side wall in a first plane separated from a bottom edge of the bottom wall by a compression depth when the top wall is not under a stacking load, and wherein the first compression zone is configured to enable displacement of the top wall toward the cavity and the first side wall toward the bottom wall by the compression depth when the top wall and first side wall are under the stacking load;

further comprising two opposing end walls, wherein a first end wall of the two end walls includes a first major end flap that emanates from a first end edge of the first side wall, wherein the first major end flap includes internal flutes oriented vertically with respect to the bottom wall, and wherein upon displacement of the top wall by the compression depth, the top wall engages the first major end flap to support the stacking load;

wherein the first end wall further includes a first minor end flap that emanates from an end edge of the bottom *wall, the first major end flap and the first minor end flap being secured to one another in a face-to-face relationship;*

wherein the first cutout includes a first side edge disposed in the first side wall and offset a distance from the first fold line, and the first major end flap includes a first side edge substantially aligned with the first side edge of the first cutout, and wherein upon displacement of the top wall and the first side wall by the compression depth, the bottom wall engages the first side wall and the first major end flap substantially simultaneously.

25. The container of claim 24, wherein upon displacement of the top wall by the compression depth, the top wall engages the first side wall to support the stacking load.

26. The container of claim 24, wherein the first bridge portion deforms to enable displacement of the top wall toward the cavity by the compression depth.

27. The container of claim 24, further comprising a second compression zone defined between the first side wall and the top wall, the second compression zone including a second cutout and a second bridge portion, wherein the second compression zone maintains the top wall in a second plane separated from a top edge of the first side wall by the compression depth when the top wall is not under the stacking load, and wherein the second compression zone is configured to enable displacement of the top wall towards the first side wall by the compression depth when the top wall is under the stacking load.

28. The container of claim 24, wherein the two side walls include internal flutes oriented vertically with respect to the bottom wall.

29. A method for forming a crush-tolerant container from a blank,

the blank including a plurality of panels coupled together in a series along substantially parallel fold lines, the plurality of panels including a top panel, a first side panel, a bottom panel, a second side panel, and a glue flap,

the blank also including at least one cutout and at least one bridge portion positioned along a first fold line between the bottom panel and the first side panel,

the method comprising:

rotating the plurality of panels about the plurality of fold lines to form a plurality of walls of the container, such that the plurality of walls define a cavity; and

securing the glue flap to the top panel such that the at least one bridge portion extends between a bottom wall and a first side wall of the plurality of walls, wherein the at least one bridge portion maintains the first side wall in a plane spaced above a bottom edge of the bottom wall by a compression depth when the top wall and first side wall are not under a stacking load, and the at least one bridge portion and the at least one cutout are configured to allow the first side panel to move downwardly such that at least a portion of the bottom panel is substantially co-planar with the bottom edge of the first side panel when the top wall and first side wall are under the stacking load;

wherein the blank further includes a first minor end flap extending from an end edge of the top panel and a first major end flap extending from an end edge of the first side panel,

the method further comprising: rotating the first major end flap inwards towards the cavity, wherein the first major end flap includes internal flutes oriented vertically after said rotating, and wherein the bottom wall is configured to engage the first major end flap to support the stacking load when the top wall is under the stacking load;

rotating the first minor end flap inwards towards the cavity and into a face-to-face relationship with the first major end flap; and

securing the first minor end flap to the first major end flap, wherein the at least one cutout includes a first side edge disposed in the first side panel and offset a distance from the first fold line, and the first major end flap includes a first side edge substantially aligned with the first side edge of the at least one cutout.

30. An assembly of stacked crush-tolerant containers comprising:

a first crush-tolerant container comprising:

a top wall and an opposing bottom wall;

two opposing side walls, wherein the top wall, the two side walls, and the bottom wall define a cavity; and

a first compression zone defined between the top wall and a first side wall of the two side walls, the first compression zone including a cutout and a bridge portion positioned along a first fold line between the bottom wall and the first side wall; and

a second crush-tolerant container stacked vertically on top of the first container, wherein, under a load of the second container, the first compression zone of the first container enables displacement of the top wall toward the cavity of the first container by a compression depth;

wherein the first container further comprises:

two opposing end walls,

a first end wall of the two end walls including a first major end flap that emanates from a first end edge of the first side wall, the first end wall further including a first minor end flap that emanates from an end edge of the top wall, the first major end flap and the first minor end flap being secured to one another in a face-to-face relationship,

wherein the first major end flap includes a first side edge and the cutout of the first container includes a first side edge disposed in the first side wall and offset a distance from the first fold line,

wherein the first side edge of the cutout is substantially aligned with the first side edge of the first major end flap, and wherein upon displacement of the top wall by the compression depth, the bottom wall engages the first side wall and the first major end flap substantially simultaneously to support the load of the second container.

31. The assembly of stacked crush-tolerant containers of claim 30, wherein upon displacement of the top wall and the first side wall of the first container by the compression depth, the first side wall of the first container engages the bottom wall of the first container to support the load of the second container.

32. The assembly of stacked crush-tolerant containers of claim 30, wherein the first container further comprises a second compression zone defined between the first side wall and the top wall, the second compression zone including a second cutout and a second bridge portion, wherein, under the load of the second container, the second compression zone is configured to enable displacement of the top wall towards the first side wall by the compression depth when the top wall is under the stacking load.

33. A blank for constructing a crush-tolerant container, the blank comprising:

a plurality of panels coupled together in series along substantially parallel fold lines, the plurality of panels including a first side panel, a bottom panel, a second side panel, and a top panel; and

at least one cutout and at least one bridge portion positioned along a first fold line between the top panel and the second side panel,

wherein the at least one bridge portion is configured to maintain the top panel in a plane spaced above a top edge of the second side panel when the container is formed and the top panel is not under a stacking load, and

wherein the at least one bridge portion and the at least one cutout are configured to allow the top panel to move downwardly such that at least a portion of the top panel is substantially co-planar with the top edge of the second side panel when the container is formed and the top panel is under the stacking load; wherein the blank further comprises a plurality of end flaps, the plurality of end flaps including:

a first major end flap extending from a first end edge of the second side panel; and

a first minor flap extending from an end edge of the top panel;

wherein the first minor flap and the first major end flap are configured to be in face-to-face relationship with one another in a set-up container;

wherein the at least one cutout includes a first side edge disposed in the second side panel and offset a distance from the first fold line, wherein the first major end flap includes a first side edge, and wherein the first side edge of the at least one cutout is configured to be substantially aligned with the first side edge of the first major end flap in a set-up container.

34. The blank of claim 33, wherein the blank is formed from corrugated cardboard including a plurality of flutes, and wherein the plurality of flutes are oriented parallel to a transverse axis of the blank such that the plurality of flutes on the first and second side panels are oriented vertically when the container is formed.

35. The blank of claim 34, wherein a major dimension of the at least one cutout is defined perpendicular to the plurality of flutes.

36. The blank of claim 34, wherein the at least one cutout is defined symmetrically about the first fold line.

37. The blank of claim 34, wherein the first major end flap includes internal flutes that are oriented vertically when the container is formed, and wherein the top panel is configured to engage the first major end flap to support the stacking load when the container is formed and the top panel is under the stacking load.

38. The blank of claim 34, wherein the plurality of panels further includes a glue flap extending from the top panel.

39. The blank of claim 34, wherein the plurality of panels further includes a glue flap extending from the first side panel.

40. A crush-tolerant container formed from a blank, the container comprising:

a top wall and an opposing bottom wall;

two opposing side walls, wherein the top wall, the two side walls, and the bottom wall define a cavity; and

a first compression zone defined between the top wall and a second side wall of the two side walls, the first compression zone including a first cutout and at least a first bridge portion positioned along a first fold line between the top and the second side wall,

wherein the first compression zone maintains the top wall in a first plane separated from a top edge of the second side wall by a compression depth when the top wall is not under a stacking load, and wherein the first compression zone is configured to enable displacement of the top wall toward the cavity by the compression depth when the top wall is under the stacking load;

further comprising two opposing end walls, wherein a first end wall of the two end walls includes a first major end flap that emanates from a first end edge of the second side wall, wherein the first major end flap includes internal flutes oriented vertically with respect to the bottom wall, and wherein upon displacement of the top wall by the compression depth, the top wall engages the first major end flap to support the stacking load;

wherein the first end wall further includes a first minor end flap that emanates from an end edge of the top wall, the first major end flap and the first minor end flap being secured to one another in a face-to-face relationship;

wherein the first cutout includes a first side edge disposed in the second side wall and offset a distance from the first fold line, and the first major end flap includes a first side edge substantially aligned with the first side edge of the first cutout, and wherein upon displacement of the top wall by the compression depth, the top wall engages the second side wall and the first major end flap substantially simultaneously.

41. The container of claim 40, wherein upon displacement of the top wall by the compression depth, the top wall engages the second side wall to support the stacking load.

42. The container of claim 40, wherein the first bridge portion deforms to enable displacement of the top wall toward the cavity by the compression depth.

43. The container of claim 40, further comprising a second compression zone defined between the second side wall and the bottom wall, the second compression zone including a second cutout and a second bridge portion, wherein the second compression zone maintains the bottom wall in a second plane separated from a bottom edge of the second side wall by the compression depth when the top wall is not under the stacking load, and wherein the second compression zone is configured to enable displacement of the second side wall towards the bottom wall by the compression depth when the top wall is under the stacking load.

44. The container of claim 40, wherein the two side walls include internal flutes oriented vertically with respect to the bottom wall.

45. A method for forming a crush-tolerant container from a blank,

the blank including a plurality of panels coupled together in a series along substantially parallel fold lines, the plurality of panels including a top panel, a first side panel, a bottom panel, a second side panel, and a glue flap,

the blank also including at least one cutout and at least one bridge portion positioned along a first fold line between the top panel and the second side panel,

the method comprising:

rotating the plurality of panels about the plurality of fold lines to form a plurality of walls of the container, such that the plurality of walls define a cavity, and such that the at least one bridge portion extends between a second side wall and a top wall of the plurality of walls; and *securing the glue flap to the top panel, wherein the at least one bridge portion maintains the top wall in a plane spaced above a top edge of the second side wall by a compression depth when the top wall is not under a stacking load, and the at least one bridge portion and the at least one cutout are configured to allow the top panel to move downwardly such that at least a portion of the top panel is substantially co-planar with the top edge of the second side panel when the top wall is under the stacking load;*

wherein the blank further includes a first minor end flap extending from an end edge of the top panel and a first major end flap extending from an end edge of the second side panel,

the method further comprising: rotating the first major end flap inwards towards the cavity, wherein the first major end flap includes internal flutes oriented vertically after said rotating, and wherein the top wall is configured to engage the first major end flap to support the stacking load when the top wall is under the stacking load;

rotating the first minor end flap inwards towards the cavity and into a face-to-face relationship with the first major end flap; and

securing the first minor end flap to the first major end flap; wherein the at least one cutout includes a first side edge disposed in the second side panel and offset a distance from the first fold line, and the first major end flap includes a first side edge substantially aligned with the first side edge of the at least one cutout.

46. An assembly of stacked crush-tolerant containers comprising:

a first crush-tolerant container comprising:

a top wall and an opposing bottom wall; two opposing side walls, wherein the top wall, the two side walls, and the bottom wall define a cavity; and a

first compression zone defined between the top wall and a second side wall of the two side walls, the first compression zone including a first cutout and at least a first bridge portion positioned along a first fold line between the top wall and the second side wall; and

a second crush-tolerant container stacked vertically on top of the first container, wherein, under a load of the second container, the first compression zone of the first container enables displacement of the top wall toward the cavity of the first container by a compression depth;

wherein the first container further comprises:

two opposing end walls,

a first end wall of the two end walls including a first major end flap that emanates from a first end edge of the second side wall, the first end wall further including a first minor end flap that emanates from an end edge of the top wall, the first major end flap and the first minor end flap being secured to one another in a face-to-face relationship,

wherein the first major end flap includes a first side edge and the first cutout of the first container includes a first side edge disposed in the second side wall and offset a distance from the first fold line,

wherein the first side edge of the first cutout is substantially aligned with the first side edge of the first major end flap, and wherein upon displacement of the top wall by the compression depth, the top wall engages the second side wall and the first major end flap substantially simultaneously to support the load of the second container.

47. The assembly of stacked crush-tolerant containers of claim 46, wherein upon displacement of the top wall of the first container by the compression depth, the top wall of the first container engages the second side wall of the first container to support the load of the second container.

48. The assembly of stacked crush-tolerant containers of claim 46, wherein the first container further comprises a second compression zone defined between the second side wall and the bottom wall, the second compression zone including a second cutout and a second bridge portion, wherein, under the load of the second container, the second compression zone is configured to enable displacement of the second side wall towards the bottom wall by the compression depth when the top wall is under the stacking load.

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