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(71) Applicant: **WM. WRIGLEY JR. COMPANY** [US/US]; 1132 W. Blackhawk Street, Chicago, Illinois 60642 (US).

(72) Inventor: **NUNEZ, Justin**; WM. Wrigley Jr. Company, 1132 W. Blackhawk Street, Chicago, Illinois 60642 (US).

(74) Agents: **FELICETTY, Stephanie** et al.; WM. Wrigley Jr. Company, 1132 W. Blackhawk Street, Chicago, Illinois 60642 (US).

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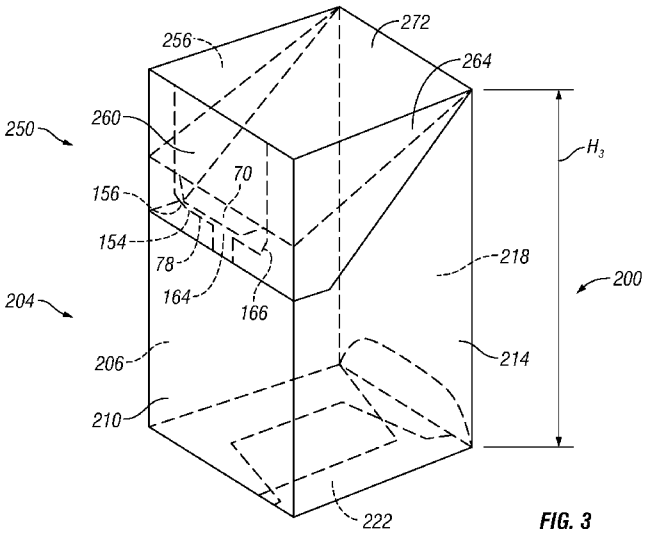


FIG. 3

(57) Abstract: Blank of sheet material for forming a container includes a plurality of side panels connected together by a plurality of generally parallel fold lines. A first inner end panel of the plurality of side panels is configured to be in a substantially face-to-face relationship with a first outer end panel of the plurality of side panels when the container is formed. A height of the first outer end panel is less than a height of the first inner end panel. The blank also includes a top panel extending from a top edge of a second end panel, a first top end panel extending from a top edge of the top panel, and a locking tab extending from a top edge of the first inner end panel. The locking tab is configured to releasably couple against the first top end panel when the container is in a closed configuration.

CONTAINER WITH TAB-LOCKABLE LID AND BLANK AND METHOD FOR FORMING SAME

BACKGROUND

[0001] This invention relates generally to a container formed from a blank of sheet material, and more specifically to a container with a tab-lockable lid suitable for retail packaging.

[0002] Containers fabricated from plastic, paperboard, and/or corrugated paperboard material are often used to package and display goods for retail marketing. At least some such containers are formed from blanks of sheet material that are folded along a plurality of preformed fold lines to form the container. Each such container may package a number of units of a product. At least some known containers are recloseable, such that a consumer may remove a portion of the product units and securely maintain the remaining units in the container. However, at least some such recloseable containers include opening portions disposed solely at an end of the container, which limits consumer access to a narrow, potentially difficult to manipulate opening in the container.

[0003] Additionally, at least some known recloseable containers are susceptible to unintended or accidental opening. A potential for such unintended or accidental openings can be lessened by the inclusion of a securing mechanism on the container. However, at least some such securing mechanisms increase an amount of material and a complexity required to manufacture the container. Moreover, at least some such securing mechanisms result in a footprint or profile of the container that disadvantageously decreases a number of containers that can be shipped or stored in a given volume, and/or disadvantageously decreases an aesthetic appeal of the container, especially if the container has an outer footprint or profile wherein a lid and body portion are overlapping instead of having a smooth clean profile.

BRIEF DESCRIPTION OF THE DISCLOSURE

[0004] In one aspect, a blank of sheet material for forming a container is provided. The container includes a recloseable lid portion. The blank includes a plurality of side panels connected together by a plurality of generally parallel fold lines. A first inner end panel of the plurality of side panels is configured to be in a substantially face-to-face relationship with a first outer end panel of the plurality of side panels when the container is formed. A height of the first outer end panel is less than a height of the first inner end panel. The blank also includes a top panel extending from a top edge of a second end panel of the plurality of side panels, a first top end panel extending from a top edge of the top panel, and a locking tab extending from a fold line defined at a top edge of the first inner end panel. The locking tab is configured to releasably couple against the first top end panel when the container is in a closed configuration.

[0005] In another aspect, a container formed from a blank of sheet material is provided. The container includes a body portion that includes a pair of side walls, a first end wall, and a second end wall. The first end wall includes a first inner end panel and a first outer end panel. A height of the first outer end panel is less than a height of the first inner end panel. The body portion also includes a locking tab rotatably connected to a top edge of the first end wall. The body portion further includes a bottom wall emanating from at least one of the pair of side walls, the first end wall, and the second end wall. Additionally, the body portion includes a lid portion rotatably connected to a top edge of the second end wall. The lid portion includes a first lid end wall. The locking tab is configured to releasably couple against the first lid end wall when the container is in a closed configuration.

[0006] In another aspect, a method for forming a container from a blank of sheet material is provided. The method includes rotating a first inner side panel, a first inner end panel, and a second inner side panel of the blank about a first plurality of generally parallel fold lines, such that the first inner end panel and a second end panel of the blank are substantially parallel, and such that the first and second inner side panels are substantially perpendicular to the first and second end

panels. The method also includes rotating a second outer side panel, a first outer end panel, and a first outer side panel of the blank about a second plurality of generally parallel fold lines that are generally parallel to the first plurality of fold lines, such that the first outer side panel is in a substantially face-to-face relationship with the first inner side panel to form a body first side wall, the first outer end panel is in a substantially face-to-face relationship with the first inner end panel to form a body first end wall, and the second outer side panel is in a substantially face-to-face relationship with the second inner side panel to form a body second side wall. The second end panel forms a body second end wall, and a height of the first outer end panel is less than a height of the first inner end panel. The method further includes rotating a plurality of bottom panels of the blank about respective fold lines to form a bottom wall, and rotating a first top side panel of the blank and a second top side panel of the blank about respective fold lines toward a top panel of the blank, such that the first and second top side panels form, respectively, a first lid side wall and a second lid side wall in parallel relationship. The top panel forms a top wall substantially perpendicular to the first lid side wall and the second lid side wall. Additionally, the method includes rotating a first top end panel of the blank about a respective fold line toward the top panel of the blank, such that the first top end panel forms a first lid end wall substantially perpendicular to the top wall, and rotating the top panel about a fold line defined at a top edge of the second end wall, such that a locking tab disposed at a top edge of the first end wall releasably couples against the first lid end wall.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Fig. 1 is a top plan view of an example embodiment of a blank of sheet material that may be used to form a container.

[0008] Fig. 2 is perspective view of an example embodiment of a container that may be formed from the blank shown in Fig. 1 in an open configuration.

[0009] Fig. 3 is a perspective view of the example container shown in Fig. 2 in a closed configuration.

DETAILED DESCRIPTION OF THE DISCLOSURE

[0010] The containers and methods for forming containers from a blank described herein overcome the limitations of known recloseable containers. The containers and methods described herein include a recloseable lid that covers a top and, at least partially, a side portion of the container to increase ease of access into the container when the lid is open. The containers and methods described herein also include a locking mechanism for the lid that is formed as part of a single blank used to form the container. The locking mechanism enables the container to maintain a smooth, regular, or cleaner profile that improves a packing density and aesthetic appeal of the container.

[0011] Fig. 1 illustrates a top plan view of an example embodiment of a substantially flat blank 10 of sheet material. Fig. 2 is perspective view of an example embodiment of container 200 formed from blank 10 in an open configuration, and Fig. 3 is a perspective view of container 200 in the closed configuration. It should be understood that blanks having shapes, sizes, and configurations different from blank 10 described and illustrated herein may be used to form container 200 shown in Figs. 2-3 without departing from the scope of the present disclosure.

[0012] With particular reference to Fig. 1, in certain embodiments, blank 10 is fabricated from a plastic material. In alternative embodiments, blank 10 is fabricated from any suitable material, and therefore is not limited to a specific type of material. For example, in alternative embodiments, blank 10 is fabricated from at least one of paperboard, cardboard, fiberboard, foamboard, corrugated paper, and any other suitable material known to those skilled in the art and guided by the teachings herein provided. As shown in Fig. 1, blank 10 has an interior surface 12 and an exterior surface 14. In certain embodiments, portions of exterior surface 14 and/or interior

surface 12 of blank 10 include printed graphics, such as advertising and/or promotional materials.

[0013] Blank 10 includes a plurality of aligned side panels connected together by a plurality of preformed, generally parallel, fold lines. Specifically, the side panels include, in series, a first outer side panel 20, a first outer end panel 24 (also referred to as an outer front panel 24), a second outer side panel 28, a second end panel 32 (also referred to as a back panel 32), a first inner side panel 36, a first inner end panel 40 (also referred to as an inner front panel 40), and a second inner side panel 44. First outer side panel 20 extends from a first free edge 18 to fold line 22, first outer end panel 24 extends from first outer side panel 20 along fold line 22, second outer side panel 28 extends from first outer end panel 24 along fold line 26, second end panel 32 extends from second outer side panel 28 along fold line 30, first inner side panel 36 extends from second end panel 32 along fold line 34, first inner end panel 40 extends from first inner side panel 36 along fold line 38, and second inner side panel 44 extends from first inner end panel 40 along fold line 42 to a second free edge 46. In the illustrated embodiment, each of first free edge 18 and second free edge 46 is generally parallel to fold lines 22, 26, 30, 34, 38, and 42. In alternative embodiments, at least one of first free edge 18 and second free edge 46 is not parallel to generally parallel fold lines 22, 26, 30, 34, 38, and 42.

[0014] First outer end panel 24 has a height H_1 measured from a bottom edge 82 to a top edge 48, and defined parallel to fold lines 22, 26, 30, 34, 38, and 42. Top edge 48 of first outer end panel 24 is generally perpendicular to fold lines 22, 26, 30, 34, 38, and 42. In the illustrated embodiment, a bottom edge of each of first inner side panel 36, first inner end panel 40, and second inner side panel 44 is offset by a distance 68 from bottom edge 82 of first outer end panel 24. Offset distance 68 facilitates formation of a bottom wall of container 200, as will be described herein. However, in alternative embodiments, the bottom edge of at least one of first inner side panel 36, first inner end panel 40, and second inner side panel 44 is not offset from bottom edge 82 of first outer end panel 24.

[0015] First inner end panel 40 has a height H_2 defined parallel to fold lines 22, 26, 30, 34, 38, and 42, and defined relative to bottom edge 82 of first outer end panel 24. Thus, height H_2 is measured from a top edge 58 of first inner end panel 40 and includes offset distance 68 in the illustrated embodiment. Top edge 58 of first inner end panel 40 is generally perpendicular to fold lines 22, 26, 30, 34, 38, and 42. First inner end panel 40 height H_2 is at least slightly greater than first outer end panel 24 height H_1.

[0016] Similarly, each of first outer side panel 20, second outer side panel 28, second end panel 32, first inner side panel 36, and second inner side panel 44 has a substantially equal height H_3 defined parallel to fold lines 22, 26, 30, 34, 38, and 42, and defined relative to bottom edge 82 of first outer end panel 24.

[0017] A top edge of first outer side panel 20 includes an oblique portion 50 and, in the illustrated embodiment, a second portion 52. Oblique portion 50 is oriented obliquely with respect to top edge 48 of first outer end panel 24. More specifically, oblique portion 50 is oriented at an angle α_1 with respect to top edge 48 that is between zero and ninety degrees. In the illustrated embodiment, second portion 52 extends from fold line 22 and is generally parallel to top edge 48. In alternative embodiments, second portion 52 is other than parallel to top edge 48. In other alternative embodiments, the top edge of first outer side panel 20 does not include second portion 52, and oblique portion 50 extends from fold line 22.

[0018] Similarly, a top edge of second outer side panel 28 includes an oblique portion 54 and, in the illustrated embodiment, a second portion 56. Oblique portion 54 is oriented obliquely with respect to top edge 48 of first outer end panel 24. More specifically, oblique portion 54 is oriented at an angle α_2 with respect to top edge 48 that is between zero and ninety degrees. In the illustrated embodiment, angle α_2 is equal to angle α_1. In alternative embodiments, angle α_2 is one of greater than and less than angle α_1. In the illustrated embodiment, second portion 56 extends from fold line 26 and is generally parallel to top edge 48. In alternative embodiments, second portion 56 is other than parallel to top edge 48. In other alternative

embodiments, the top edge of second outer side panel 28 does not include second portion 56, and oblique portion 54 extends from fold line 26.

[0019] A top edge of first inner side panel 36 includes at least an oblique portion 60. Oblique portion 60 is oriented obliquely with respect to top edge 58 of first inner end panel 40. More specifically, oblique portion 60 is oriented at an angle β_1 with respect to top edge 58 that is between zero and ninety degrees. In the illustrated embodiment, oblique portion 60 extends from fold line 38. In alternative embodiments, the top edge of first inner end panel 40 includes a second portion (not shown) that extends from fold line 38 and is generally parallel to top edge 58. In other alternative embodiments, the top edge of first inner end panel 40 includes a second portion (not shown) that extends from fold line 38 and is other than parallel to top edge 58.

[0020] Similarly, a top edge of second inner side panel 44 includes at least an oblique portion 64. Oblique portion 64 is oriented obliquely with respect to top edge 58 of first inner end panel 40. More specifically, oblique portion 64 is oriented at an angle β_2 with respect to top edge 58 that is between zero and ninety degrees. In the illustrated embodiment, angle β_2 is equal to angle β_1. In alternative embodiments, angle β_2 is one of greater than and less than angle β_1. In the illustrated embodiment, oblique portion 64 extends from fold line 42. In alternative embodiments, the top edge of second inner side panel 44 includes a second portion (not shown) that extends from fold line 42 and is generally parallel to top edge 58. In other alternative embodiments, the top edge of second inner side panel 44 includes a second portion (not shown) that extends from fold line 42 and is other than parallel to top edge 58.

[0021] A locking tab 70 extends from a fold line defined at top edge 58 of first inner end panel 40. In certain embodiments, the fold line is defined at top edge 58 only at opposing end portions of locking tab 70, and a cut line is defined at top edge 58 between the opposing end portions. Locking tab 70 is configured to releasably lock a lid 250 of container 200 in a closed configuration, as will be described herein. In certain embodiments, locking tab 70 is configured to releasably

couple against a first lid end wall 260 of container 200 when container 200 is in the closed configuration. For example, locking tab 70 is configured to releasably couple against a first top end panel 130 of blank 10 that at least partially defines first lid end wall 260. Additionally or alternatively, a shape of a free edge 78 of locking tab 70 is configured to cooperate with a shape of at least one locking panel 140 to releasably lock lid 250 of container 200 in the closed configuration, as will be described herein.

[0022] In the illustrated embodiment, free edge 78 is partially defined by a pair of opposing side edges, first side edge 72 and second side edge 74, that extend from top edge 58. In the illustrated embodiment, each of first side edge 72 and second side edge 74 is oriented at an angle with respect to top edge 58 that is between zero and ninety degrees. In the illustrated embodiment, free edge 78 also is partially defined by an end edge 76 that extends between side edges 72 and 74. In the illustrated embodiment, end edge 76 extends generally parallel to top edge 58. In an alternative embodiment, end edge 76 extends other than generally parallel to top edge 58. In alternative embodiments, free edge 78 is defined by any other suitable shape that enables locking tab 70 to function as described herein. For example, but not by way of limitation, free edge 78 includes at least one arcuate portion. For another example, but not by way of limitation, free edge 78 includes at least one of a projection and a notch.

[0023] Locking tab 70 has a height H_4 measured parallel to fold lines 22, 26, 30, 34, 38, and 42 between top edge 58 of first inner end panel 40 and end edge 76. In certain embodiments, height H_4 is less than or equal to a difference between height H_2 of first inner end panel 40 and height H_1 of first outer end panel 24 such that, when container 200 is in the closed configuration, locking tab 70 is rotated 180 degrees, exterior surface 14 of locking tab 70 is disposed in a substantially face-to-face relationship with exterior surface 14 of first inner end panel 40, and interior surface 12 of locking tab 70 is disposed in a substantially face-to-face relationship with interior surface 12 of first top end panel 130. In alternative embodiments, height H_4 is greater than a difference between height H_2 and height H_1.

[0024] A first bottom end panel 80 extends from a fold line defined at a bottom edge 82 of first outer end panel 24, a first bottom side panel 90 extends from a fold line defined at a bottom edge 92 of first outer side panel 20, and a second bottom side panel 94 extends from a fold line defined at a bottom edge 96 of second outer side panel 28. First bottom end panel 80, first bottom side panel 90, and second bottom side panel 94 are configured to form a bottom wall of container 200, as will be described herein. A bottom closure flap 86 extends from a fold line defined at a bottom edge 84 of first bottom end panel 80. A pair of cut lines 88 are defined at opposite ends of bottom edge 84. Cut lines 88 facilitate insertion of bottom closure flap 86 between first bottom side panel 90 and second bottom side panel 94 when the bottom wall is formed. In alternative embodiments, blank 10 includes any suitable number and arrangement of bottom panels that enable a suitable bottom to be formed for container 200.

[0025] A top panel 100 extends from a fold line defined at a top edge 98 of second end panel 32. Top edge 98 is generally parallel to top edges 48 and 58. A first top side panel 104 extends from a fold line defined at a first side edge 102 of top panel 100, and a second top side panel 114 extends from a fold line defined at an opposing second side edge 112 of top panel 100. Each of first side edge 102 and second side edge 112 is generally parallel to fold lines 22, 26, 30, 34, 38, and 42.

[0026] A bottom edge of first top side panel 104 includes at least an oblique portion 106. Oblique portion 106 is oriented obliquely with respect to top edge 98 of second end panel 32. More specifically, in the illustrated embodiment, oblique portion 106 is oriented at an angle γ_1 with respect to top edge 98 that is complementary to angle α_1, such that angles α_1 and γ_1 add to ninety degrees. The complementary relationship between angles α_1 and γ_1 facilitates a fitted closure between first top side panel 104 and first outer side panel 20 when container 200 is in the closed configuration, as will be described herein.

[0027] Additionally, in the illustrated embodiment, first top side panel 104 includes a side edge 108. Side edge 108 has a shape that is complementary to a shape of second portion 52 of the top edge of first outer side panel 20. For

example, side edge 108 is generally parallel to fold lines 22, 26, 30, 34, 38, and 42, and side edge 108 has a length that is substantially equal to a length of second portion 52. The complementary relationship between the shapes of side edge 108 and second portion 52 facilitates a fitted closure of first top side panel 104 and first outer side panel 20 when container 200 is in the closed configuration, as will be described herein. In alternative embodiments, first outer side panel 20 does not include second portion 52, and first top side panel 104 does not include side edge 108. For example, oblique portion106 extends to a top edge 110 of first top side panel 104.

[0028] A bottom edge of second top side panel 114 includes at least an oblique portion 116. Oblique portion 116 is oriented obliquely with respect to top edge 98 of second end panel 32. More specifically, in the illustrated embodiment, oblique portion 116 is oriented at an angle γ_2 with respect to top edge 98 that is complementary to angle α_2, such that angles α_2 and γ_2 add to ninety degrees. The complementary relationship between angles α_2 and γ_2 facilitates a fitted closure between second top side panel 114 and second outer side panel 28 when container 200 is in the closed configuration, as will be described herein.

[0029] Additionally, in the illustrated embodiment, second top side panel 114 includes a side edge 118. Side edge 118 has a shape that is complementary to a shape of second portion 56 of the top edge of second outer side panel 28. For example, side edge 118 is generally parallel to fold lines 22, 26, 30, 34, 38, and 42, and side edge 118 has a length that is substantially equal to a length of second portion 56. The complementary relationship between the shapes of side edge 118 and second portion 56 facilitates a fitted closure of second top side panel 114 and second outer side panel 28 when container 200 is in the closed configuration, as will be described herein. In alternative embodiments, second outer side panel 28 does not include second portion 56, and second top side panel 114 does not include side edge 118. For example, oblique portion 116 extends to a top edge 120 of second top side panel 114.

[0030] A first top end panel 130, also referred to as a front top end panel 130, extends from a fold line defined at a top edge 128 of top panel 100. First top panel 130 extends to a free top edge 132. Each of top edge 128 and top edge 132

is generally parallel to top edges 48 and 58. First top end panel 130 has a height H_5 measured parallel to fold lines 22, 26, 30, 34, 38, and 42 between top edge 128 of top panel 100 and top edge 132 of first top end panel 130. In certain embodiments, height H_5 is equal to a difference between height H_3 of second end panel 32 and height H_1 of first outer end panel 24 such that, when container 200 is in the closed configuration, top edge 132 of first top end panel 130 couples against top edge 48 of first outer end panel 24 to form a front wall of container 200 having height H_3, as will be described herein. In alternative embodiments, height H_5 is other than equal to the difference between height H_3 of second end panel 32 and height H_1 of first outer end panel 24.

[0031] As described above, in certain embodiments, blank 10 also includes at least one locking panel 140 having a shape configured to cooperate with the shape of free edge 78 of locking tab 70 to releasably lock lid 250 in the closed configuration. In the illustrated embodiment, the at least one locking panel 140 includes a first locking panel 150 and a second locking panel 160. First locking panel 150 extends from a fold line defined at top edge 110 of first top side panel 104, and second locking panel 160 extends from a fold line defined at top edge 120 of second top side panel 114. Top edges 110 and 120 are generally parallel to top edges 48 and 58.

[0032] First locking panel 150 includes a free edge 152, and second locking panel 160 includes a free edge 162. Each of free edge 152 and free edge 162 is configured to couple against locking tab free edge 78 to releasably lock lid portion 250 in the closed configuration. For example, each of free edge 152 and free edge 162 is at least partially complementary to the shape of locking tab free edge 78.

[0033] More specifically, in the illustrated embodiment, free edge 152 includes at least a first portion 154, free edge 162 includes at least a first portion 164, and each of first portion 154 and first portion 164 is configured to couple against locking tab end edge 76 to releasably lock lid portion 250 in the closed configuration. For example, each of first portion 154 and first portion 164 has a shape complementary to a shape of locking tab end edge 76. In alternative embodiments, at least one of first portion 154 and first portion 164 is not configured to releasably

couple against locking tab end edge 76 when container 200 is in the closed configuration In other alternative embodiments, blank 10 does not include the at least one locking panel 140.

[0034] Additionally, in the illustrated embodiment, free edge 152 includes a second portion 156 configured to couple against locking tab first side edge 72 to releasably lock lid portion 250 in the closed configuration. For example, second portion 156 has a shape complementary to a shape of locking tab first side edge 72. Similarly, in the illustrated embodiment, free edge 162 includes a second portion 166 configured to couple against locking tab second side edge 74 to releasably lock lid portion 250 in the closed configuration. For example, second portion 166 has a shape complementary to a shape of locking tab second side edge 74. In alternative embodiments, at least one of second portion 156 and second portion 166 does not have a shape that is complementary to locking tab side edges 72 and 74, respectively.

[0035] First locking panel 150 further includes a side edge 158, and second locking panel 160 further includes a side edge 168. In the illustrated embodiment, side edges 158 and 168 are generally parallel to fold lines 22, 26, 30, 34, 38, and 42. In alternative embodiments, side edges 158 and 168 are other than parallel to fold lines 22, 26, 30, 34, 38, and 42.

[0036] With particular reference to Figs. 1-3, in the example embodiment, container 200 includes a plurality of walls defining a cavity 202. More specifically, container 200 includes a body portion 204 and a lid portion 250. A reference to container 200 in the closed configuration also is a reference to lid portion 250 in the closed configuration, and vice versa. Similarly, a reference to container 200 in the open configuration also is a reference to lid portion 250 in the open configuration, and vice versa.

[0037] Body portion 204 includes a first side wall 206, a first end wall 210, a second side wall 214, and a second end wall 218. In the illustrated embodiment, first side wall 206 includes first outer side panel 20 and first inner side panel 36, first end wall 210 includes first outer end panel 24 and first inner end panel

40, second side wall 214 includes second outer side panel 28 and second inner side panel 44, and second end wall 218 includes second end panel 32 and bottom closure flap 86. In alternative embodiments, second end wall 218 does not include bottom closure flap 86.

[0038] Body portion 204 also includes a bottom wall 222 that emanates from a bottom edge of at least one of first side wall 206, first end wall 210, second side wall 214, and second end wall 218. In the illustrated embodiment, bottom wall 222 includes first bottom end panel 80, first bottom side panel 90, and second bottom side panel 94.

[0039] In the illustrated embodiment, end walls 210 and 218 are substantially parallel to each other, and side walls 206 and 214 are substantially parallel to each other. In alternative embodiments, end walls 210 and 218 are other than substantially parallel to each other, and/or side walls 206 and 214 are other than substantially parallel to each other. In the illustrated embodiment, bottom wall 222 is substantially perpendicular to first side wall 206, first end wall 210, second side wall 214, and second end wall 218. In alternative embodiments, bottom wall 222 is other than substantially perpendicular to first side wall 206, first end wall 210, second side wall 214, and second end wall 218.

[0040] First end wall 210 has a substantially constant height H_2 as defined by first inner end panel 40. A top edge 230 of first end wall 210 is defined by top edge 58 of first inner end panel 40, and locking tab 70 extends from top edge 230. More specifically, locking tab 70 is rotatably connected to first end wall 210 at top edge 230. The rotatable connection is defined by the fold line defined at top edge 58 of first inner end panel 40. First end wall 210 also includes an intermediate edge 232 at a height H_1 above bottom wall 222. Intermediate edge 232 is defined by top edge 48 of first outer end panel 24. Thus, first inner end panel 40 and first outer end panel 24 are disposed in a face-to-face relationship between bottom wall 222 and intermediate edge 232, and solely first inner end panel 40 extends between intermediate edge 232 and top edge 230. In certain embodiments, when container 200

is in the closed configuration, locking tab 70 also extends solely between intermediate edge 232 and top edge 230.

[0041] Second end wall 218 has a substantially constant height H_3, as defined by second end panel 32. A top edge 242 of second end wall 218 is defined by top edge 98 of second end panel 32.

[0042] First side wall 206 has a height that varies between height H_2, as defined by first inner end panel 40, and height H_3, as defined by second end panel 32. An oblique top edge 234 of first side wall 206 is defined by oblique portion 60 of first inner side panel 36. First side wall 206 also includes an intermediate edge 236 at a height that varies between height H_1, as defined by first outer end panel 24, and height H_3, as defined by second end panel 32. At least a portion of intermediate edge 236 is defined by oblique portion 50 of first outer side panel 20 and, thus, intermediate edge 236 is disposed at angle α_1 with respect to bottom wall 222. In the illustrated embodiment, intermediate edge 236 is further defined by second portion 52 of first outer side panel 20. First inner side panel 36 and first outer side panel 20 are disposed in a face-to-face relationship between bottom wall 222 and intermediate edge 236, and solely first inner side panel 36 extends between intermediate edge 236 and top edge 234.

[0043] Similarly, second side wall 214 has a height that varies between height H_2, as defined by first inner end panel 40, and height H_3, as defined by second end panel 32. An oblique top edge 238 of second side wall 214 is defined by oblique portion 64 of second inner side panel 44. Second side wall 214 also includes an intermediate edge 240 at a height that varies between height H_1, as defined by first outer end panel 24, and height H_3, as defined by second end panel 32. Intermediate edge 240 is defined at least partially by oblique portion 54 of second outer side panel 28 and, thus, intermediate edge 240 is disposed at angle α_2 with respect to bottom wall 222. In the illustrated embodiment, intermediate edge 240 is further defined by second portion 56 of second outer side panel 28. Second inner side panel 44 and second outer side panel 28 are disposed in a face-to-face relationship between bottom

wall 222 and intermediate edge 240, and solely second inner side panel 44 extends between intermediate edge 240 and top edge 238.

[0044] The height H_2 of first end wall 210 that is less than height H_3 of second end wall 218, the oblique top edge 234 of first side wall 206, and the oblique top edge 238 of second side wall 214 cooperate to define an opening 248 of container 200 when container 200 is in the open configuration. Opening 248 is in communication with cavity 202.

[0045] As compared to a container with an opening defined solely within a single wall, opening 248 facilitates an improved ease of access and gripping of a product disposed within cavity 202. In addition, in certain embodiments, the extension of solely first inner end panel 40 beyond intermediate edge 232, solely first inner side panel 36 beyond intermediate edge 236, and solely second inner side panel 44 beyond intermediate edge 240 facilitates an improved aesthetic appeal of container 200 in the open configuration. For example, in some embodiments, exterior surface 14 of each of first inner end panel 40, first inner side panel 36, and second inner side panel 44 is a different color from exterior surface 14 of each of first outer end panel 24, first outer side panel 20, and second outer side panel 28, creating a stripe on container 200 in the open configuration.

[0046] Lid portion 250 is rotatably connected to body portion 204 at top edge 242 of second end wall 218. The rotatable connection at top edge 242 is defined by the fold line defined at top edge 98 of second end panel 32. Lid portion 250 includes a first lid side wall 256, a first lid end wall 260, and a second lid side wall 264. In the illustrated embodiment, first lid side wall 256 includes first top side panel 104, first lid end wall 260 includes first top end panel 130 and, in certain embodiments, first locking panel 150 and second locking panel 160, and second lid side wall 264 includes second top side panel 114. Lid portion 250 also includes a top wall 272 that emanates from second end wall 218 and includes top panel 100.

[0047] A bottom edge 282 of first lid end wall 260 is configured to couple against intermediate edge 232 of first end wall 210 when container 200 is in

the closed configuration. Bottom edge 282 is at least partially defined by top edge 132 of first top end panel 130. In certain embodiments, bottom edge 282 also is defined by at least one of side edge 158 of first locking panel 150 and side edge 168 of second locking panel 160.

[0048] A bottom edge 286 of first lid side wall 256 has a shape that is complementary to a shape of intermediate edge 236 of first side wall 206. Bottom edge 286 is configured to couple against intermediate edge 236 of first side wall 206 when container 200 is in the closed configuration. More specifically, at least a portion of bottom edge 286 is defined by oblique portion 106 of first top side panel 104. Thus, at least a portion of bottom edge 286 is disposed at angle γ_1 with respect to first lid end wall 260, and is complementary to the portion of intermediate edge 236 disposed at angle α_1. In the illustrated embodiment, bottom edge 286 is further defined by side edge 108 of first top side panel 104, and is complementary to the portion of intermediate edge 236 defined by second portion 52 of first outer side panel 20.

[0049] Similarly, a bottom edge 290 of second lid side wall 264 has a shape that is complementary to a shape of intermediate edge 240 of second side wall 214. Bottom edge 290 is configured to couple against intermediate edge 240 of second side wall 214 when container 200 is in the closed configuration. More specifically, at least a portion of bottom edge 290 is defined by oblique portion 116 of second top side panel 114. Thus, at least a portion of bottom edge 290 is disposed at angle γ_2 with respect to first lid end wall 260, and is complementary to the portion of intermediate edge 240 disposed at angle α_2. In the illustrated embodiment, bottom edge 290 is further defined by side edge 118 of second top side panel 114, and is complementary to the portion of intermediate edge 240 defined by second portion 56 of second outer side panel 28.

[0050] Locking tab 70 is configured to releasably couple against first lid end wall 260 when container 200 is in the closed configuration. In the illustrated embodiment, when container 200 is in the closed configuration, locking tab 70 is rotated 180 degrees such that exterior surface 14 of locking tab 70 is in face-to-face

relationship with first end wall 210, and interior surface 12 of locking tab 70 is in face-to-face relationship with first lid end wall 260.

[0051] Additionally, in certain embodiments, locking tab 70 cooperates with the at least one locking panel 140 to releasably lock lid 250 of container 200 in the closed configuration. More specifically, a shape of free edge 78 of locking tab 70 cooperates with a shape of the at least one locking panel 140 to releasably lock lid 250 of container 200 in the closed configuration. For example, free edge 78 of locking tab 70 couples against each of free edge 152 of first locking panel 150 and free edge 162 of second locking panel 160. In the illustrated embodiment, each of first portion 154 of free edge 152 and first portion 164 of free edge 162 couples against locking tab end edge 76 when container 200 is in the closed position. Additionally or alternatively, second portion 156 of free edge 152 couples against first side edge 72 of locking tab free edge 78 and second portion 166 of free edge 162 couples against second side edge 74 of locking tab free edge 78.

[0052] When container 200 is in the closed configuration, container 200 has a constant height substantially equal to height H_3. In addition, first lid side wall 256 is in a substantially flush relationship with first side wall 206, first lid end wall 260 is in a substantially flush relationship with first end wall 210, and second lid side wall 264 is in a substantially flush relationship with second side wall 214 to define a substantially smooth outer surface of container 200. For example, the disposition of locking tab 70 solely between intermediate edge 232 and top edge 230 facilitates the substantially flush relationship of first lid end wall 260 and first end wall 210, and reduces or eliminates a bulge in a rectangular profile of container 200 that might otherwise be caused by locking tab 70. For another example, the complementary shapes of bottom edge 286 of first lid side wall 256 and intermediate edge 236 of first side wall 206, and of bottom edge 290 of second lid side wall 264 and intermediate edge 240 of second side wall 214, facilitates the substantially flush relationship of first lid side wall 256 and first side wall 206, and of second lid side wall 264 and second side wall 214, respectively.

[0053] To construct container 200 from blank 10, in certain embodiments, first inner side panel 36 is rotated about fold line 34 toward interior surface 12 of second end panel 32, first inner end panel 40 is rotated about fold line 38 toward interior surface 12 of first inner side panel 36, and second inner side panel 44 is rotated about fold line 42 toward interior surface 12 of first inner end panel 40, such that second end panel 32 and first inner end panel 40 are substantially parallel and first inner side panel 36 and second inner side panel 44 are substantially perpendicular to second end panel 32 and first inner end panel 40.

[0054] In addition, second outer side panel 28 is rotated about fold line 30 toward interior surface 12 of second end panel 32, first outer end panel 24 is rotated about fold line 26 toward interior surface 12 of second outer side panel 28, and first outer side panel 20 is rotated about fold line 22 toward interior surface 12 of first outer end panel 24 such that interior surface 12 of first outer side panel 20 is in a substantially face-to-face relationship with exterior surface 14 of first inner side panel 36 to form body first side wall 206, interior surface 12 of first outer end panel 24 is in a substantially face-to-face relationship with exterior surface 14 of first inner end panel 40 to form body first end wall 210, and interior surface 12 of second outer side panel 28 is in a substantially face-to-face relationship with exterior surface 14 of second inner side panel 44 to form body second side wall 214. Second end panel 32 forms body second end wall 218, and side walls 206 and 214 and end walls 210 and 218 define cavity 202. In some embodiments, at least one of second outer side panel 28 and second inner side panel 44, first outer end panel 24 and first inner end panel 40, and first outer side panel 20 and first inner side panel 36 are coupled together in any suitable fashion, such as but not limited to at least one of heat sealing, welding, adhesives, sonic sealing, and fasteners.

[0055] To form bottom wall 222, bottom closure flap 86 is rotated about the fold line defined at bottom edge 84 toward interior surface 12 of first bottom end panel 80. First bottom side panel 90 is rotated about the fold line defined at bottom edge 92, second bottom side panel 94 is rotated about the fold line defined at bottom edge 96, and first bottom end panel 80 is rotated about the fold line defined at bottom edge 82 toward cavity 202 such that first bottom end panel 80, first bottom

side panel 90, and second bottom side panel 94 are disposed substantially perpendicular to side walls 206 and 214 and end walls 210 and 218 to form bottom wall 222. In some embodiments, at least one of first bottom end panel 80 and first bottom side panel 90, first bottom end panel 80 and second bottom side panel 94, and first bottom side panel 90 and second bottom side panel 94are coupled together in any suitable fashion, such as but not limited to at least one of heat sealing, welding, adhesives, sonic sealing, and fasteners. Additionally or alternatively, bottom closure flap 86 may be coupled to second end wall 218 in similar fashion.

[0056] To form lid portion 250, first locking panel 150 is rotated about the fold line defined at top edge 110 toward interior surface 12 of first top side panel 104 and second locking panel 160 is rotated about the fold line defined at top edge 120 toward interior surface 12 of second top side panel 114. First top side panel 104 is rotated about the fold line defined at first side edge 102 and second top side panel 114 is rotated about the fold line defined at second side edge 112 toward interior surface 12 of top panel 100 to form, respectively, first lid side wall 256 and second lid side wall 264 substantially parallel to each other. Top panel 100 forms top wall 272 substantially perpendicular to first lid side wall 256 and second lid side wall 264. First top end panel 130 is rotated about the fold line defined at top edge 128 toward interior surface 12 of top panel 100, such that first top end panel 130 is substantially perpendicular to first top side panel 104 and second top side panel 114, and, in certain embodiments, in substantially face-to-face relationship with first locking panel 150 and second locking panel 160, to form first lid end wall 260. In some embodiments, at least one of first locking panel 150 and second locking panel 160 is coupled to first top end panel 130 in any suitable fashion, such as but not limited to at least one of heat sealing, welding, adhesives, sonic sealing, and fasteners.

[0057] To close container 200, locking tab 70 is rotated at least partially toward exterior surface 14 of first end wall 210 to enable interior surface 12 of locking tab 70 to be engaged by lid portion 250. Top panel 100 is rotated about the fold line defined at top edge 98 toward cavity 202 such that locking tab 70 is in a substantially face-to-face relationship with exterior surface 14 of body front end wall 210, and such that bottom edge 286 of first lid side wall 256 couples against

intermediate edge 236 of body first side wall 206, bottom edge 282 of first lid end wall 260 couples against intermediate edge 232 of body first end wall 210, and bottom edge 290 of second lid side wall 264 couples against intermediate edge 240 of body second side wall 214.

[0058] In certain embodiments, when container 200 is initially closed, lid portion 250 is sealed to body portion 204 such that a product disposed in cavity 202 is kept separate from the ambient environment, for example during shipping, display, and storage, until container 200 is opened for the first time. In some embodiments, the seal is formed by releasably coupling together at least one of first lid side wall 256 and first side wall 206, first lid end wall 260 and first end wall 210, and second lid side wall 264 and second side wall 214. For example, the at least one of first lid side wall 256 and first side wall 206, first lid end wall 260 and first end wall 210, and second lid side wall 264 and second side wall 214 are releasably coupled together using one of an adhesive or a heat seal. To open container 200 for the first time, a consumer applies a pulling force to cause the at least one of first lid side wall 256 and first side wall 206, first lid end wall 260 and first end wall 210, and second lid side wall 264 and second side wall 214 to uncouple. In alternative embodiments, the seal is formed using any suitable method, such as but not limited to at least one of hot- or cold-seal adhesives, sonic welding, and insert molding.

[0059] The example embodiments described herein provide a container that includes a recloseable lid portion. The recloseable lid portion covers a top and, at least partially, a side portion of the container, advantageously facilitating an improved ease of access into the container when the lid is open. The example embodiments also include a locking mechanism for the lid that is formed as part of a single blank used to form the container. The example embodiments reduce or eliminate a bulge in a rectangular profile of the container that might otherwise be caused by a locking mechanism, advantageously facilitating an improved packing density and aesthetic appeal of the container.

[0060] Example embodiments of containers and methods for forming containers from a blank are described above in detail. The containers and methods for

forming containers from a blank are not limited to the specific embodiments described herein, but rather, components of systems and/or steps of the methods may be utilized independently and separately from other components and/or steps described herein. For example, the method may also be used in combination with other blanks and containers, and is not limited to practice with only the blank and container described herein.

[0061] Although specific features of various embodiments of the disclosure may be shown in some drawings and not in others, this is for convenience only. In accordance with the principles of the disclosure, any feature of a drawing may be referenced and/or claimed in combination with any feature of any other drawing.

[0062] This written description uses examples to illustrate the disclosure, including the best mode, and also to enable any person skilled in the art to practice the disclosure, including making and using any devices or systems and performing any incorporated methods. The patentable scope of the disclosure 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 language of the claims.

WHAT IS CLAIMED IS:

1. A blank of sheet material for forming a container, the container including a recloseable lid portion, the blank comprising:

a plurality of side panels connected together by a plurality of generally parallel fold lines, wherein a first inner end panel of the plurality of side panels is configured to be in a substantially face-to-face relationship with a first outer end panel of the plurality of side panels when the container is formed, and wherein a height of the first outer end panel is less than a height of the first inner end panel;

a top panel extending from a top edge of a second end panel of the plurality of side panels;

a first top end panel extending from a top edge of the top panel; and

a locking tab extending from a fold line defined at a top edge of the first inner end panel, the locking tab configured to releasably couple against the first top end panel when the container is in a closed configuration.

2. The blank of claim 1, wherein the locking tab is further configured such that, when the container is in the closed configuration, an exterior surface of the locking tab is in a substantially face-to-face relationship with an exterior surface of the first inner end panel and an interior surface of the locking tab is in a substantially face-to-face relationship with an interior surface of the first top end panel.

3. The blank of claims 1 and 2, wherein the locking tab has a height that is less than or equal to a difference between the height of first inner end panel and the height of the first outer end panel.

4. The blank of claims 1 to 3 further comprising:

at least one top side panel extending from a side edge of the top panel; and

at least one locking panel extending from a top edge of the at least one top side panel and having a shape configured to releasably couple with a shape of a free edge of the locking tab when the container is in the closed configuration.

5. The blank of claim 4, wherein the at least one locking panel includes a free edge, the free edge of the locking panel comprising:

a first portion configured to releasably couple to an end edge of the free edge of the locking tab when the container is in the closed configuration; and

a second portion configured to releasably couple to a side edge of the free edge of the locking tab when the container is in the closed configuration.

6. The blank of claims 4 and 5, wherein the at least one locking panel comprises a first locking panel and a second locking panel.

7. The blank of claims 1 to 6, wherein the plurality of side panels further comprises a pair of inner side panels and a pair of outer side panels, wherein a top edge of each of the inner side panels includes an oblique portion oriented obliquely with respect to the top edge of the first inner end panel, and wherein a top edge of each of the outer side panels includes an oblique portion oriented obliquely with respect to a top edge of the first outer end panel.

8. The blank of claim 7, wherein the top edge of each of the outer side panels further includes a second portion oriented substantially parallel to a bottom edge of the outer side panels.

9. The blank of claims 7 and 8, further comprising a pair of top side panels, each top side panel extending from one of a pair of opposing side edges of the top panel, wherein each top side panel includes a bottom edge comprising an oblique portion oriented obliquely with respect to the top edge of the second end panel, wherein each top side panel oblique portion is configured to couple against the oblique portion of one of the outer side panels.

10. A container formed from a blank of sheet material, the container comprising:

a body portion comprising:

a pair of side walls, a first end wall, and a second end wall, the first end wall including a first inner end panel and a first outer end panel, wherein a height of the first outer end panel is less than a height of the first inner end panel;

a locking tab rotatably connected to a top edge of the first end wall; and

a bottom wall emanating from at least one of the pair of side walls, the first end wall, and the second end wall; and

a lid portion rotatably connected to a top edge of the second end wall, the lid portion comprising a first lid end wall, wherein the locking tab is configured to releasably couple against the first lid end wall when the container is in a closed configuration.

11. The container of claim 10, wherein the first lid end wall comprises at least one locking panel configured to releasably couple with the locking tab to releasably lock the container in the closed configuration.

12. The container of claim 11, wherein the at least one locking panel includes a free edge having a shape complementary to a shape of a free edge of the locking tab.

13. The container of claims 11 and 12, wherein the at least one locking panel comprises a first locking panel and a second locking panel.

14. The container of claims 10 to 13, wherein each of the pair of side walls comprises an inner side panel and an outer side panel, a top edge of each

inner side panel defining a top edge of the respective side wall, and a top edge of each outer side panel defining an intermediate edge of the respective side wall, and

wherein a top edge of the first inner end panel defines the top edge of the first end wall and a top edge of the first outer end panel defines an intermediate edge of the first end wall.

15 The container of claim 14, wherein the top edge of each side wall comprises an oblique portion oriented obliquely with respect to the top edge of the first end wall, and

wherein the intermediate edge of each side wall comprises an oblique portion oriented obliquely with respect to the top edge of the first end wall.

16. The container of claim 15, wherein the lid portion further comprises a pair of lid side walls each having a bottom edge, wherein the bottom edge of each of the pair of lid side walls comprises an oblique portion configured to couple against the oblique portion of the intermediate edge of a respective outer side panel when the container is in the closed configuration, and wherein a bottom edge of the first lid end wall is configured to couple against the intermediate edge of the first end wall when the container is in the closed configuration.

17. A method for forming a container from a blank of sheet material, the method comprising:

rotating a first inner side panel, a first inner end panel, and a second inner side panel of the blank about a first plurality of generally parallel fold lines, such that the first inner end panel and a second end panel of the blank are substantially parallel, and such that the first and second inner side panels are substantially perpendicular to the first and second end panels;

rotating a second outer side panel, a first outer end panel, and a first outer side panel of the blank about a second plurality of generally parallel fold lines that are generally parallel to the first plurality of fold lines, such that the first outer side panel is in a substantially face-to-face relationship with the first inner side panel

to form a body first side wall, the first outer end panel is in a substantially face-to-face relationship with the first inner end panel to form a body first end wall, and the second outer side panel is in a substantially face-to-face relationship with the second inner side panel to form a body second side wall, wherein the second end panel forms a body second end wall, and wherein a height of the first outer end panel is less than a height of the first inner end panel;

rotating a plurality of bottom panels of the blank about respective fold lines to form a bottom wall;

rotating a first top side panel of the blank and a second top side panel of the blank about respective fold lines toward a top panel of the blank, such that the first and second top side panels form, respectively, a first lid side wall and a second lid side wall in parallel relationship, wherein the top panel forms a top wall substantially perpendicular to the first lid side wall and the second lid side wall;

rotating a first top end panel of the blank about a respective fold line toward the top panel of the blank, such that the first top end panel forms a first lid end wall substantially perpendicular to the top wall; and

rotating the top panel about a fold line defined at a top edge of the second end wall such that a locking tab disposed at a top edge of the first end wall releasably couples against the first lid end wall.

18. The method of claim 17, wherein a top edge of the first inner end panel defines the top edge of the first end wall and a top edge of the first outer end panel defines an intermediate edge of the first end wall, the method further comprising coupling a bottom edge of the first lid end wall against the intermediate edge of the first end wall.

19. The method of claims 17 and 18, wherein a top edge of the first inner side panel defines a top edge of the first side wall and a top edge of the first outer side panel defines an intermediate edge of the first side wall, the method further

comprising coupling a bottom edge of the first lid side wall against the intermediate edge of the first side wall.

20. The method of claims 17 to 19, wherein the blank further comprises at least one locking panel extending from a top edge of one of the first and second top side panels, the method further comprising:

rotating the at least one locking panel about a respective fold line such that the locking panel is in a face-to-face relationship with the first lid end wall; and

releasably coupling the at least one locking panel with the locking tab.

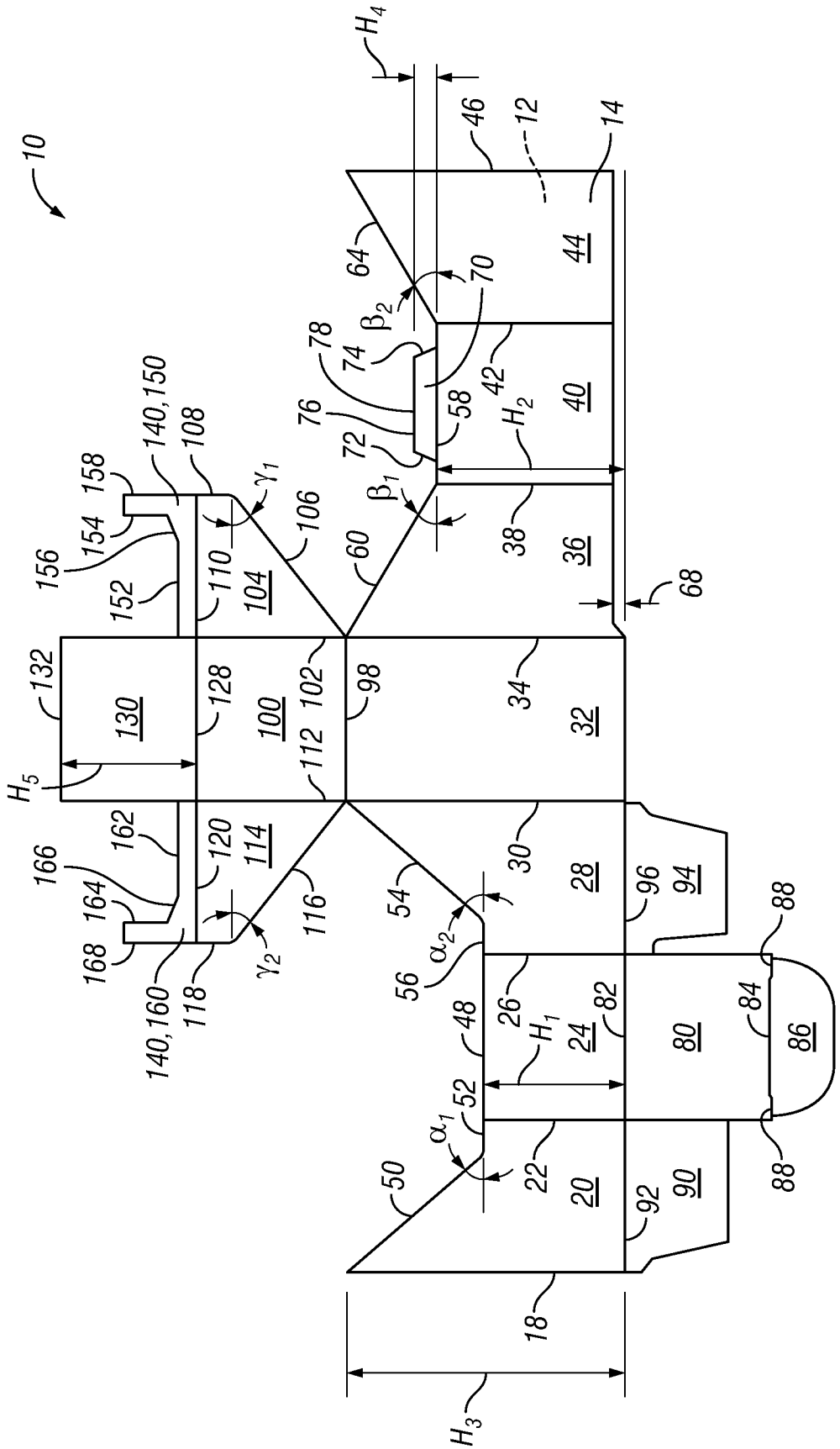

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FIG. 1

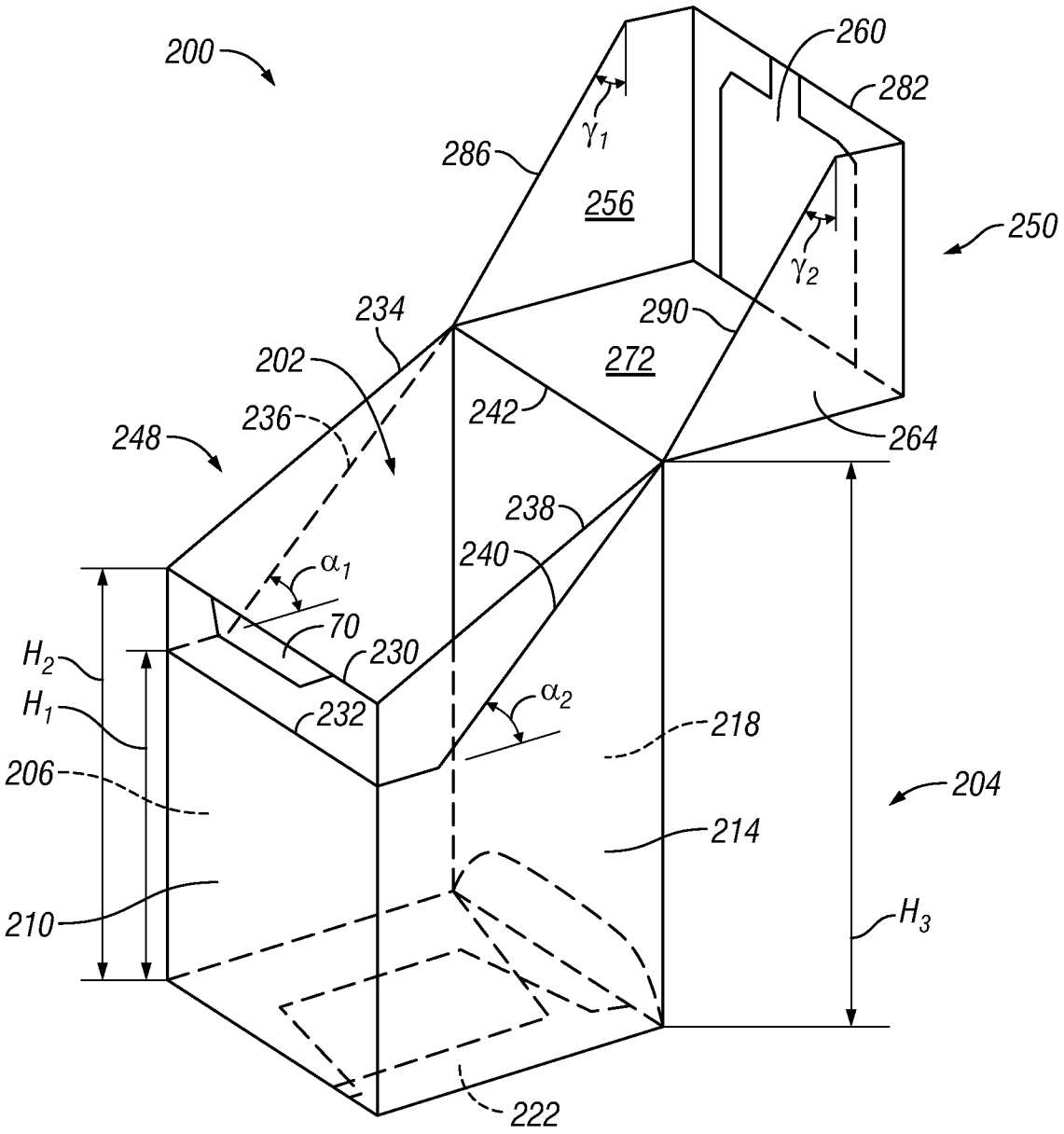

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FIG. 2

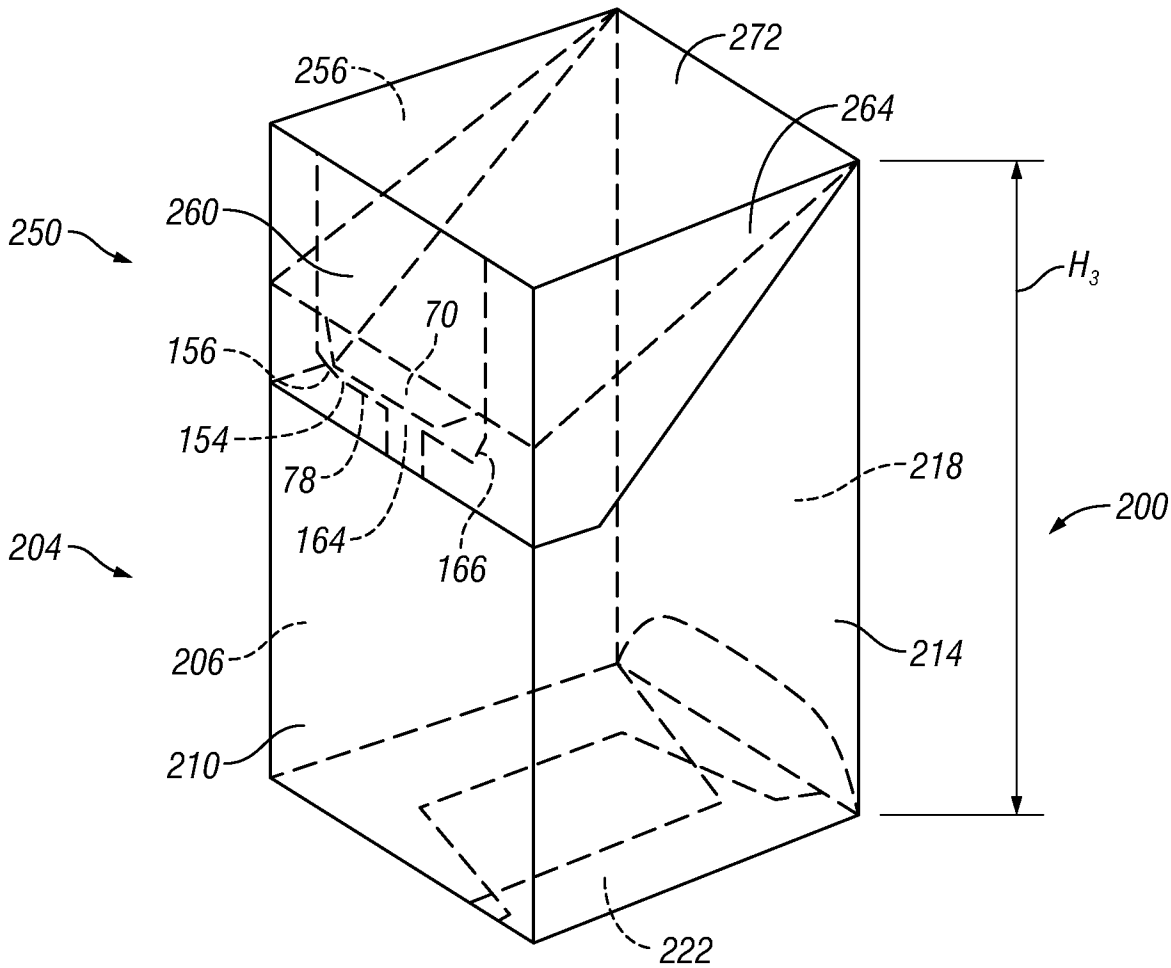

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FIG. 3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/056849

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D5/66 B65D5/02
ADD.

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)
B65D

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP H06 6231 U (*) 25 January 1994 (1994-01-25) figures 1-3	10-12, 14-16 1-7,9, 13,17-20
Y	EP 2 740 682 A2 (SASIB SPA [IT]) 11 June 2014 (2014-06-11) paragraph [0028] - paragraph [0032]; figures 4-5	1-7,9, 13,17-20
Y	JP 2008 247398 A (TOPPAN PRINTING CO LTD) 16 October 2008 (2008-10-16) abstract; figures 1-4	4-6,13, 20
A	DE 10 2007 034867 A1 (HENKEL AG & CO KGAA [DE]) 29 January 2009 (2009-01-29) paragraph [0015]; figures 1-2	8

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

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

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
8 January 2016	18/01/2016

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Grondin, David

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Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/056849

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
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		WO 2007060395 A1	31-05-2007