



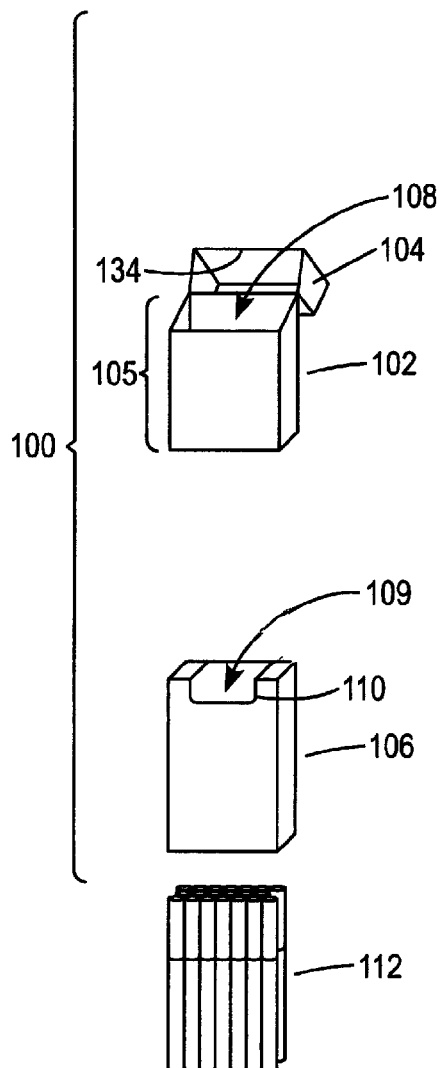
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Bellamah(10) **Pub. No.: US 2021/0130080 A1**(43) **Pub. Date: May 6, 2021**(54) **BOX-IN-BOX PACKAGE**(71) Applicant: **Altria Client Services LLC**,
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ABSTRACT

A box-in-box package includes a rigid outer box made of a foil lined paperboard having a hinged lid configured to provide access to an inner volume of the outer box, a rigid inner box made of a foil lined paperboard having a front wall, a back wall, a top wall, a bottom wall and side walls, and a single opening extending across the top wall and part way down the front wall, the opening configured to provide access to consumer goods in an inner volume of the inner box. The opening in the inner box is a cut-out in the foil lined paperboard. The package can provide an improved barrier to loss of flavor characteristics, a simplified opening arrangement which eliminates a re-sealable pull tab over the opening, better physical protection of product contained in the package, a unique method of opening and closing the package, and a less expensive manufacturing process by eliminating package materials and processing steps to assemble the package with tobacco products such as cigarettes therein.



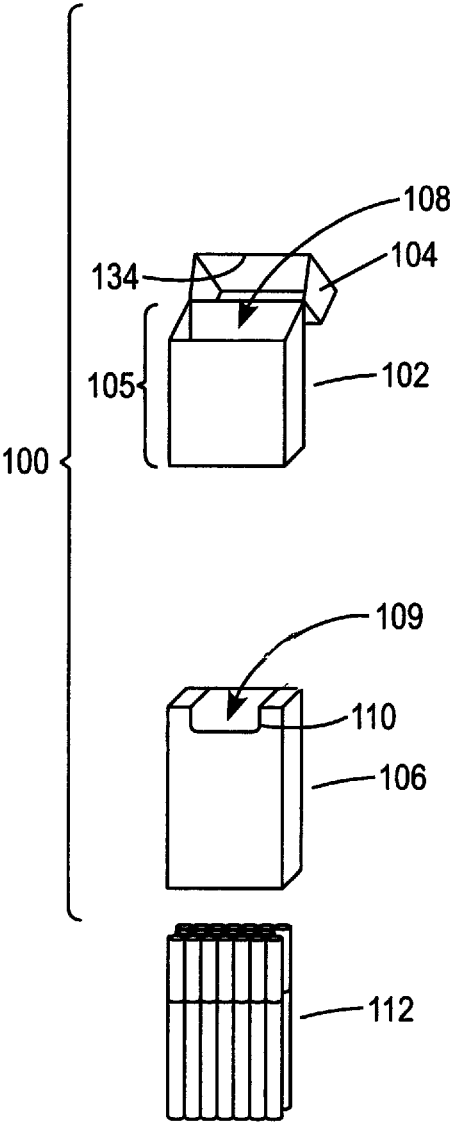


FIG. 1

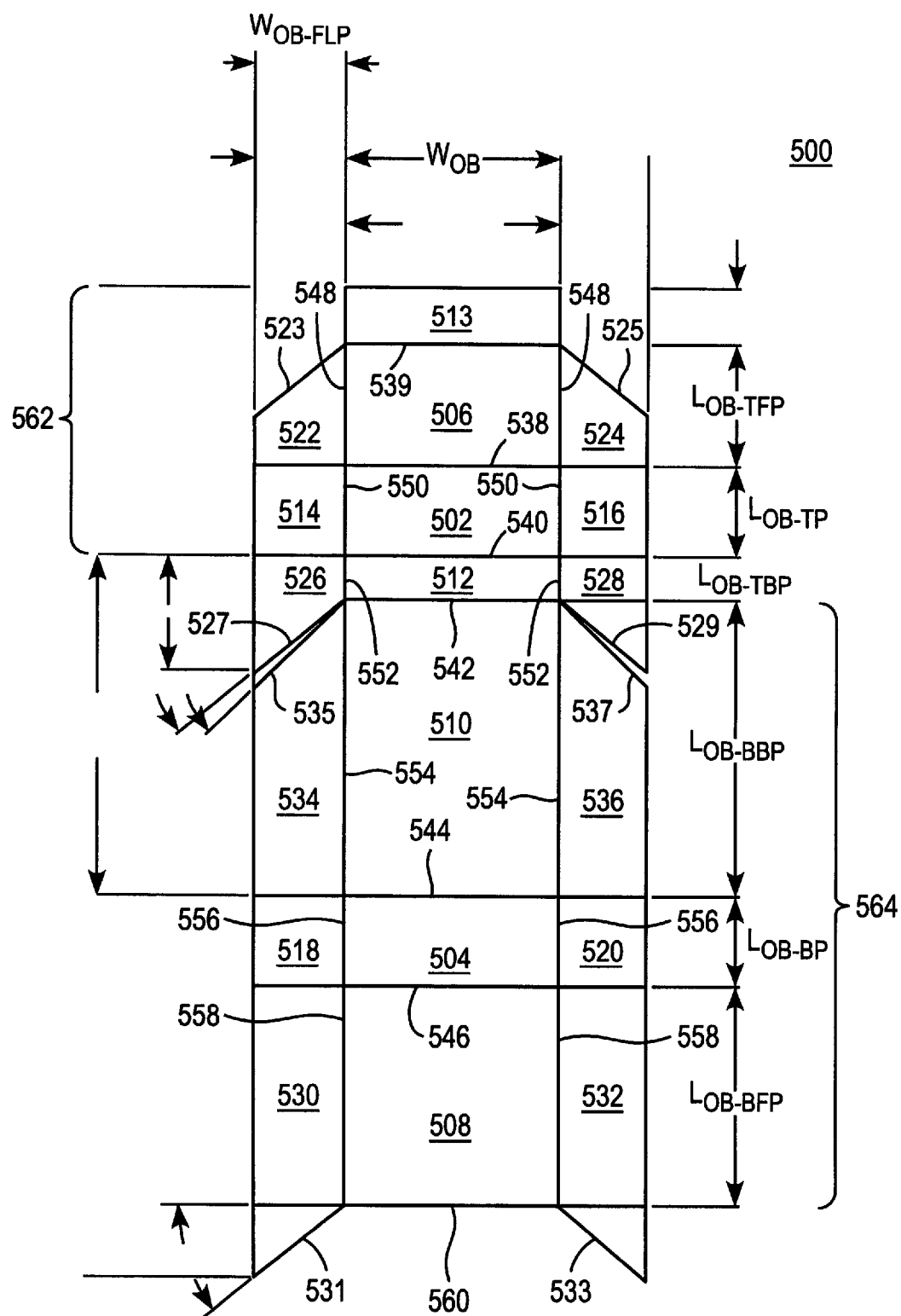


FIG. 2

FIG. 3

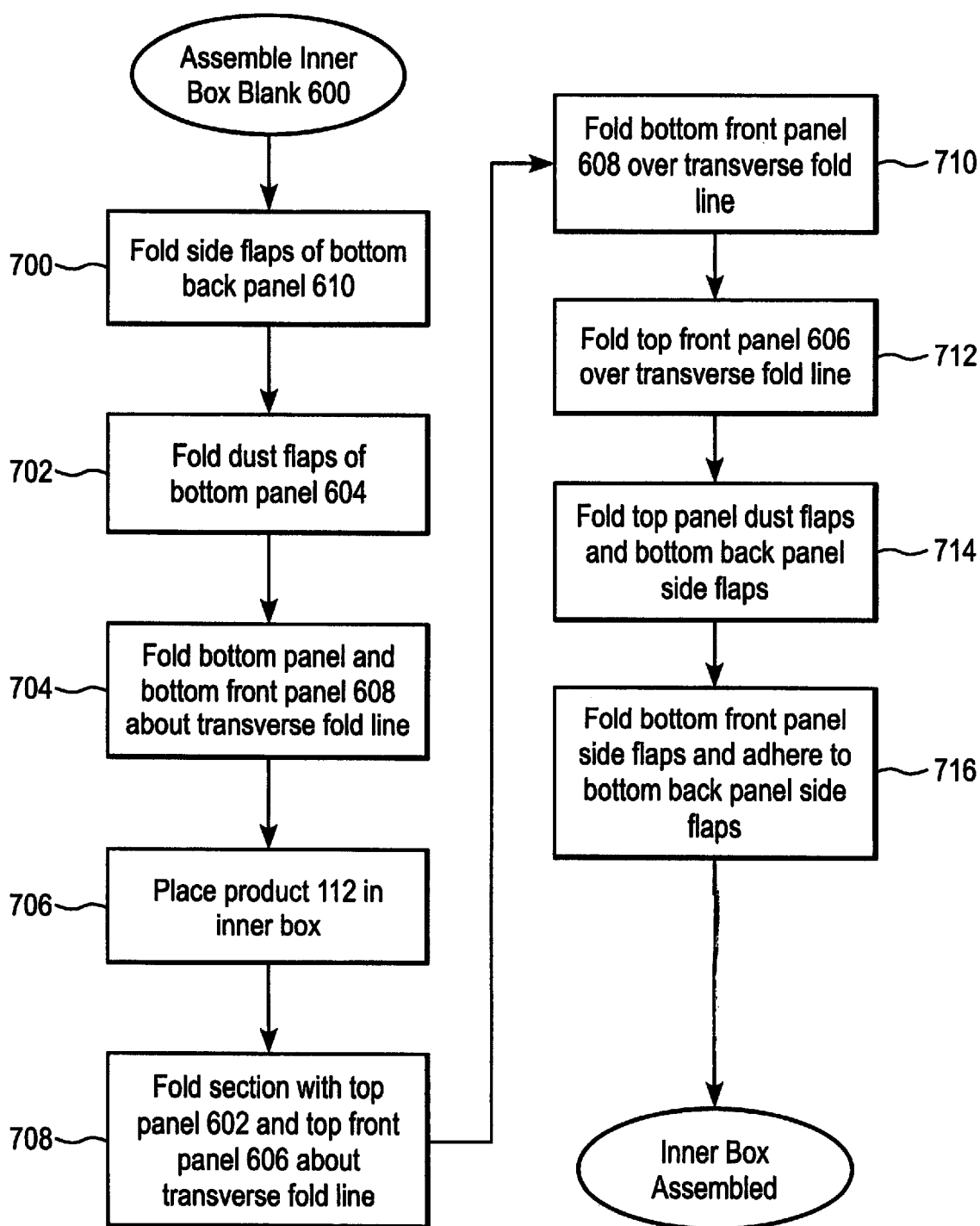


FIG. 4a

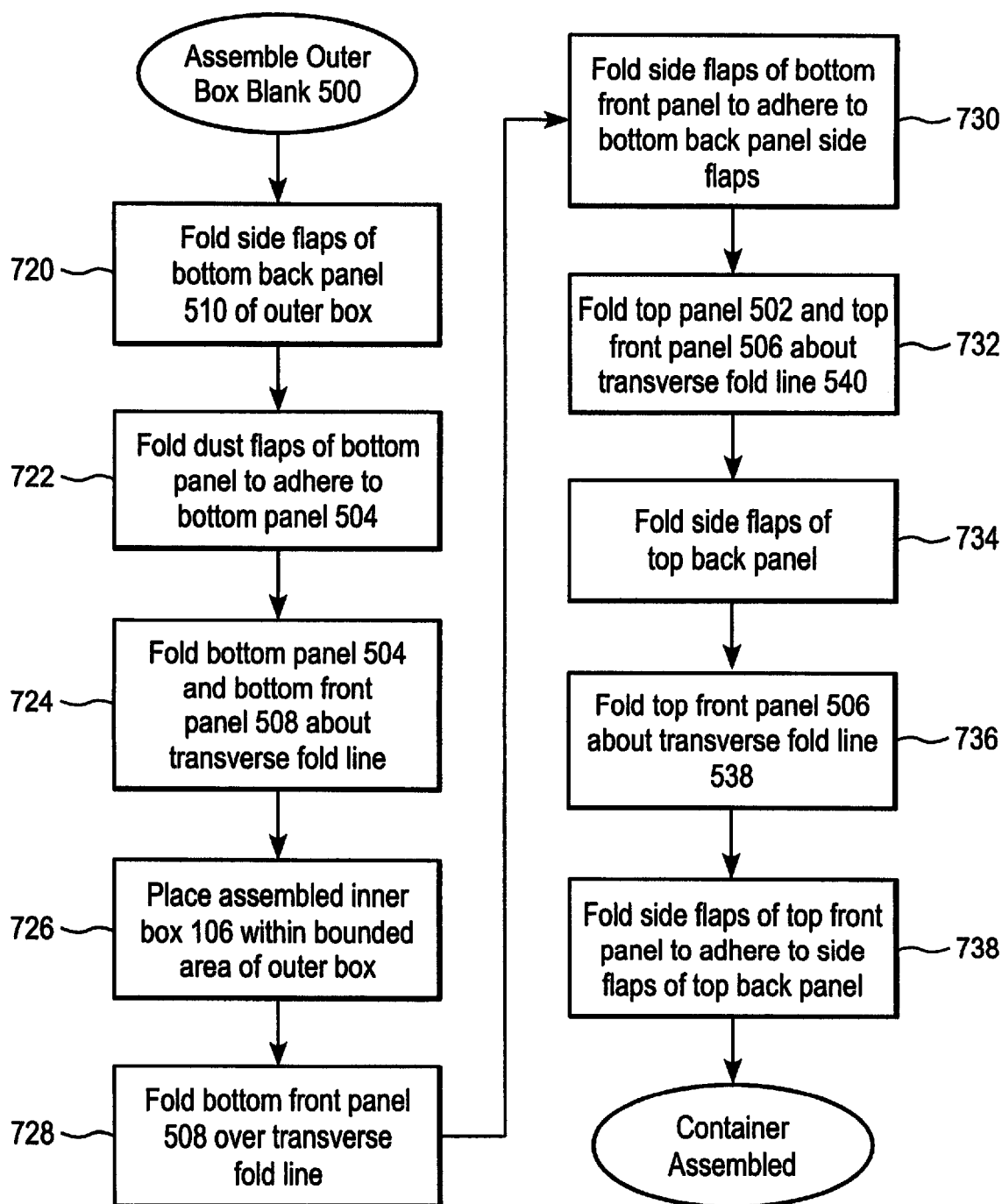
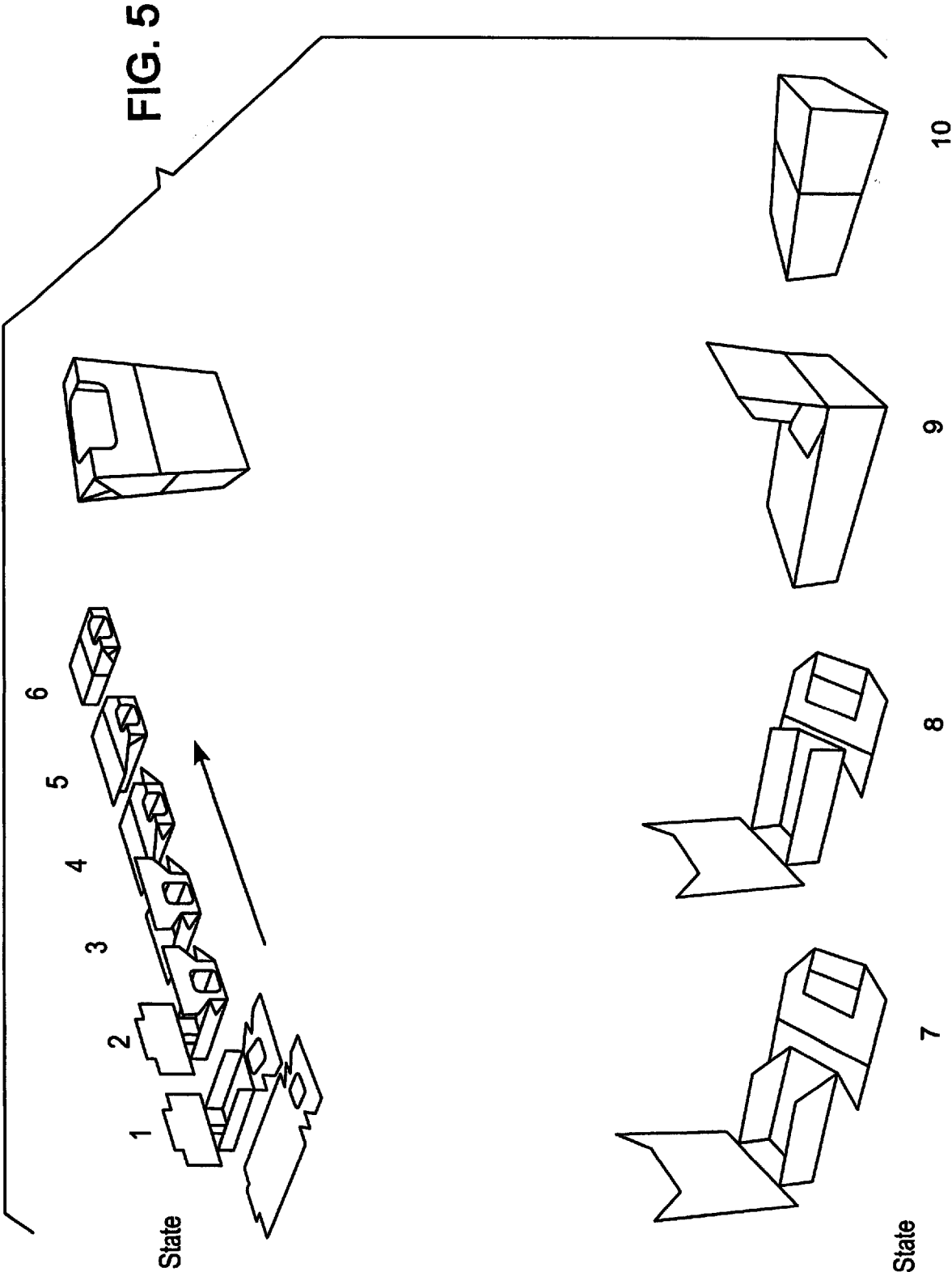


FIG. 4b



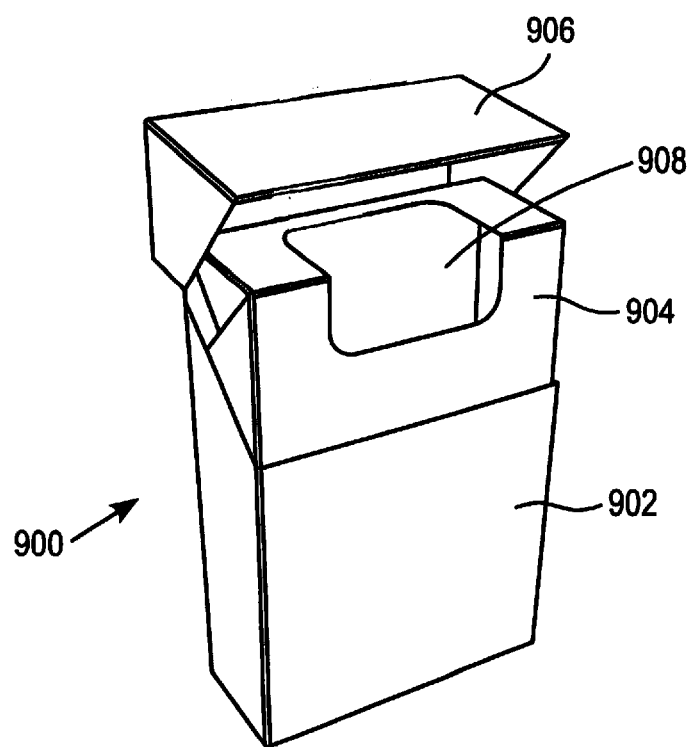


FIG. 6

BOX-IN-BOX PACKAGE

FIELD

[0001] The present disclosure relates to a package for consumer goods and particularly to a package for smoking article.

BACKGROUND

[0002] Numerous approaches have been made for packaging consumer goods. In the case of cigarettes, for example, packages are designed to preserve the flavor and freshness of the consumer goods and also protect the goods from contamination. Known packages employ outer containers having a hinged lid providing access to an inner container with an opening for accessing the consumer goods. The outer containers are generally formed of a rigid paperboard, cardboard, or other suitable material. The inner container is generally formed of a material or combination of materials having substantially less rigidity than the outer container. For example, the inner container is known to be formed of paperboard, packing material, paper, and/or aluminium. In known designs, a label with a tacky substance for sealing and re-sealing can be used to cover the opening of the inner container.

SUMMARY

[0003] In one example, a box-in-box package comprises a rigid outer box made of a foil lined paperboard having a hinged lid configured to provide access to an inner volume of the outer box; a rigid inner box made of a foil lined paperboard having a front wall, a back wall, a top wall, a bottom wall and side walls, a single opening extending across the top wall and part way down the front wall, the opening configured to provide access to consumer goods in an inner volume of the inner box; the opening in the inner box comprising a die-cut opening in the foil lined paperboard.

[0004] Some example embodiments described herein are directed to a box-in-box package wherein the foil lined paperboard includes a foil layer between a paper layer and a paperboard layer, an outer surface of the paper layer adhered to an inner surface of the foil layer by a first adhesive layer and an inner surface of the paperboard layer adhered to an outer surface of the foil layer a second adhesive layer and further comprising a polypropylene layer on an outer surface the paperboard layer, wherein the polypropylene layer comprises a polypropylene film and further comprising a polyester layer on an outer surface of the paperboard layer, wherein the polyester layer comprises a metallized polyester material, wherein the paperboard layer comprises solid bleached sulfate (SBS) board stock, wherein the first adhesive layer comprises sodium silicate, wherein consumer goods are contained in the inner box and the paper layer of the inner box is in direct contact with consumer goods within the inner box.

[0005] In some example embodiments, the inner box comprises a front panel, a top panel, a back panel, and a bottom panel, wherein the inner box further comprises side panels, wherein the front panel includes a top front panel and a bottom front panel, wherein the inner box contains cigarettes in direct contact with the paper layer of the inner box and the paper layer of the outer box, wherein the inner box includes a top front panel separated from a top panel by a

first transverse fold line, a back panel separated from the top panel by a second transverse fold line, a bottom panel separated from the back panel by a third transverse fold line, and a bottom front panel separated from the bottom panel by a fourth transverse fold line, wherein the inner box includes a first side panel and a second side panel, and wherein the first side panel is separated from the back panel by a first longitudinal fold line, and the second side panel is separated from the back panel by a second longitudinal fold line.

[0006] In some example embodiments, a box blank is configured to form an outer box of the box-in-box package, wherein the box blank is made of foil lined paperboard, the foil lined paperboard including a paper layer, a foil layer and a paperboard layer, an outer surface of the paper layer adhered to an inner surface of the foil layer and an inner surface of the paperboard layer adhered to an outer surface of the foil layer, the inner surface of the foil layer adhered to the outer surface of the paper layer by a first adhesive layer and the inner surface of the paperboard layer adhered to the outer surface of the foil layer by a second adhesive layer. The box blank can further include a polypropylene layer on an outer surface of the paperboard layer or a polyester layer on an outer surface of the paperboard layer. The paperboard layer can comprise solid bleached sulfate (SBS) board stock, wherein the second layer further comprises sodium silicate between the foil layer and the paper layer. The box blank can include fold lines forming panels of a body portion and a lid portion, the body portion including a front panel, a bottom panel, a back panel, side panels and dust flaps, and the lid portion including a front panel, top panel, back panel, side panels and dust flaps.

[0007] In a further example embodiment, the foil lined paperboard of the outer box and inner box comprises a first layer comprising paperboard, a second layer comprising a paper layer and a foil layer, and an adhesive layer adhering the first layer to the second layer, wherein the foil layer is between the paperboard and the paper layer.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0008] The scope of the present disclosure is best understood from the following detailed description of embodiments when read in conjunction with the accompanying drawings.

[0009] FIG. 1 illustrates a box-in-box package wherein the hinged lid of an outer rigid box is open and access to consumer products in an inner rigid box can be obtained through a cut-out in the upper portion of the inner box.

[0010] FIG. 2 illustrates a planar view of an outer box blank of the container in accordance with an embodiment of the present disclosure.

[0011] FIG. 3 illustrates a planar view of an inner box blank of the container in accordance with an embodiment of the present disclosure.

[0012] FIGS. 4a and 4b is a flow chart of a process for assembling the container in accordance with an embodiment of the present disclosure.

[0013] FIG. 5 illustrates a sequence of assembly states of the container according to the assembly process of FIGS. 4a and 4b.

[0014] FIG. 6 shows a percentage of the inner box within the outer box.

DETAILED DESCRIPTION

[0015] Reference will now be made in detail to the various embodiments, one or more examples of which are illustrated in each figure. Each example is provided by way of explanation and is not meant as a limitation. For example, features and/or method steps illustrated or described as part of one embodiment and/or method can be used on or in conjunction with other embodiments and/or method steps to yield yet further embodiments or methods. It is intended that the present disclosure includes such modifications and variations.

[0016] Embodiments of the present disclosure are directed to a box blank useful for forming a container for consumer goods having rigid inner and outer boxes. The outer box has a hinged lid that opens and closes to allow access the inner box. The inner box has a die-cut opening for accessing the consumer goods. The package of the present disclosure can provide a more durable package by protecting the product from physical damage while the product is in use and a less expensive packaging solution as fewer pieces of equipment are needed to make the package. Moreover, the package assembly can be performed faster and with fewer material components compare to known re-sealable packaging designs.

[0017] A box-in-box package includes a rigid outer box made of a foil lined paperboard having a hinged lid configured to provide access to an inner volume of the outer box, a rigid inner box made of a foil lined paperboard having a front wall, a back wall, a top wall, a bottom wall and side walls, and a die-cut opening extending across the top wall and part way down the front wall, the opening configured to provide access to consumer goods in an inner volume of the inner box. The package can provide an improved barrier to loss of flavor characteristics, a simplified opening arrangement which eliminates a re-sealable pull tab over the opening, better physical protection of product contained in the package, a unique method of opening and closing the package, and a less expensive manufacturing process by eliminating package materials and processing steps to assemble the package with tobacco products such as cigarettes therein.

[0018] FIG. 1 illustrates a layout of a container for consumer goods in accordance with an embodiment of the present disclosure. As shown in FIG. 1, the container **100** includes a rigid outer box **102** having a hinged top **104** configured to provide access to a rigid inner box **106** and having a body **105** within which the inner box **106** is deposited. The inner box **106** has a die-cut opening **110** configured to provide access to consumer goods **112** stored or contained within an inner volume **109**. The inner box **106** is of sufficient size to slidably and snugly fit within an inner volume **108** of the outer box **102**. The inner box **106** can be securely held within the outer box **102** via contact friction between the surfaces of the inner box **106** and outer box **102**. The opening **110** in the inner box **106** is a cut-out forming a through hole in one or more panels of the blank which forms the inner box **106**. The inner box **106** does not include a re-sealable label (pull tab or cover) over the opening **110**. The inner box **106** can contain unwrapped consumer products such as a group of smoking articles and thus provide ready access to consumer items therein. In the case of smoking articles, since the smoking articles are not enclosed in bundle wrap, the consumer can have access to the items upon opening the outer box without the need to remove any

bundle wrap of re-sealable pull-tab over the opening. The inner box can provide other advantages such as an improved barrier for the product's flavour characteristics, simplified consumer opening process by eliminating a re-sealable label, more durable package, and/or packaging which can be assembled with fewer pieces of equipment.

[0019] The inner box **106** and the outer box **102** are made of foil lined paperboard including a paper layer, a foil layer and a paperboard layer. To provide rigidity to the inner and out boxes, the paperboard layer preferably has a thickness of at least 0.010 inch, e.g., 10 or 12 point paperboard. The paperboard layer can be formed of solid bleached sulfate (SBS) paperboard such as Promina SBS C1S Paperboard. The paperboard can be embossed with a design, lettering, pattern, and/or symbol as desired. The paperboard can include an ink, varnish, metallization, or other suitable material for product identification. When the container **100** is fully assembled, the outer box **102** can be wrapped with a covering layer such as a polypropylene film with or without a tear tape that allows for tearing open the polypropylene film.

[0020] The paper layer of the foil lined paperboard can be thin paper of the type suitable for wrapping a bundle of cigarettes for example, the paper layer can be 10 pound or 32 pound paper. The foil layer can be a thin sheet of metal foil such as aluminium having a thickness of at least 0.003 inch. For example, the foil layer can be 0.0035 inch thick aluminium foil. Because the paper layer of the foil lined paperboard is an inner layer in direct contact with the consumer goods inside the inner box, it is not necessary to wrap the consumer goods in bundle wrap. The paperboard layer and the foil layer can be adhered to each other via an adhesive, such as a polyvinyl alcohol (PVA) based adhesive, cold glue, hot melt glue, or other suitable material.

[0021] In accordance with another embodiment, the foil lined paperboard can include a further layer formed on an outer surface of the paperboard layer. For example, the further layer can include a polypropylene film or a metallized polyester (MET) material such that the layer structure of the inner box **106** includes bundle wrap/board/film or bundle wrap/board/MET, and more particularly the layer structure includes paper/foil/board/film or paper/foil/board/MET.

[0022] The box-in-box package does not include a re-sealable pull tab attached to the outer box or to the inner box. Instead, the opening in the inner box is a cut-out in the foil lined paperboard which allows ready access to consumer products in the inner box when the hinged lid is opened. The cut-out thus eliminates any need for a pull tab and simplifies the manufacturing process by eliminating the material of the pull tab along with the specialized equipment and manufacturing steps needed to construct a package with re-sealable pull tab.

[0023] FIG. 2 illustrates a planar view of an outer box blank of the container in accordance with an embodiment of the present disclosure. As shown in FIG. 2, the blank **500** for forming outer box **102** includes a top panel **502**, a bottom panel **504**, a top front panel **506**, a bottom front panel **508**, a bottom back panel **510**, and a top back panel **512**. The top panel **502** includes a front flap **513**. The outer box blank is made of foil lined paperboard wherein a layer of paperboard is adhered to a foil layer which is adhered to a paper layer. The top panel **502** and the bottom panel **504** include left and right dust flaps. The top panel **502** includes a left dust flap

514 and a right dust flap **516**, and the bottom panel **504** includes a left dust flap **518** and a right dust flap **520**. An upper section **562** of the outer box blank **500** includes the top panel **502**, the top back panel **512**, and the top front panel **508** and their associated side and dust flaps are configured to form the hinged top **104** of the assembled outer box **102** when folded. A lower section **564** of the outer box blank **500** includes the bottom panel **504**, the bottom front panel **506**, the bottom back panel **510** and their associated side and dust flaps discussed below are configured to form the body **105** of the assembled outer box **102** when folded.

[0024] The top back panel **512**, the bottom front panel **508**, and the bottom back panel **510** include left and right flaps. For example, the top front panel **506** includes a left side flap **522** and a right side flap **524**; the top back panel **512** includes a left side flap **526** and a right side flap **528**; the bottom front panel **508** includes a left side flap **530** and a right side flap **532**; and the bottom back panel **510** includes a left side flap **534** and a right side flap **536**.

[0025] Each panel of the outer box **102** and the associated left and right flaps are separated from an adjacent panel and its associated left and right flaps by a transverse fold line. The front flap **513** and the top front panel **506** are separated by transverse fold line **539**. The top front panel **506**, the left side flap **522**, and the right side flap **524** are separated from the top panel **502**, the left dust flap **514**, and the right dust flap **516**, respectively, by transverse fold line **538**. The top panel **502**, the left dust flap **514**, and the right dust flap **516** are separated from the top back panel **512**, the left side flap **526**, and the right side flap **528**, respectively, by transverse fold line **540**. The top back panel **512**, the left side flap **526**, and the right side flap **528** are separated from the bottom back panel **510**, the left side flap **534**, and the right side flap **536**, respectively, by transverse fold line **542**. The bottom back panel **510**, the left side flap **534**, and the right side flap **536** are separated from the bottom panel **504**, the left dust flap **518** and the right dust flap **520**, respectively, by transverse fold line **544**. The bottom panel **504**, the left dust flap **518**, and the right dust flap **520** are separated from the bottom front panel **508**, the left side flap **530**, and the right side flap **532**, respectively, by transverse fold line **546**.

[0026] Each side flap and dust flap of the outer box **102** is separated from the associated and adjacent panel by a longitudinal fold line. The top front panel **506** is separated from the left and right side flaps **522**, **524** by longitudinal fold lines **548**. The right side flap **524** has a pre-cut edge **525** that extends at an angle of approximately -45° from the transverse fold line **539**. The left side flap **522** has a pre-cut edge **523** that extends at an angle of approximately -135° from the transverse fold line **539**. The top panel **502** is separated from the left and right dust flaps **514**, **516** by longitudinal fold lines **550**. The top back panel **512** is separated from the left and right side flaps **526**, **528** by longitudinal fold lines **552**. The left side flap **526** has a pre-cut edge **527** that extends at an angle of approximately -50° from the transverse fold line **542**. The right side flap **528** of top back panel **512** has a pre-cut edge **529** that extends at an angle approximately -140° from the transverse fold line **542**. The bottom back panel **510** is separated from the left and right side flaps **534**, **536** by longitudinal fold lines **554**. The left side flap **534** has a pre-cut edge **535** that extends at an angle of approximately -45° from the transverse fold line **542**. The right side flap **536** of the bottom back panel **510** has a pre-cut edge **537** that extends at an

angle of approximately -135° from the transverse fold line **542**. The bottom panel **504** is separated from the left and right dust flaps **518**, **520** by longitudinal fold lines **556**. The bottom front panel **508** is separated from the left and right side flaps **530**, **532** by longitudinal fold lines **558**. The left side flap **530** and the right side flap **532** extend past an edge **560** of the bottom front panel **508**. The left side flap **530** has a pre-cut edge **531** that extends at approximately -45° , and in an embodiment -39° , from the bottom edge **560** of the bottom front panel **508**. The right side flap **532** a pre-cut an edge **533** that extends at approximately -135° , and in an embodiment -129° , from the edge **560** of the front panel **508**.

[0027] The pre-cut angle of the flaps associated with the bottom front panel **508** and bottom back panel **510** are complementary to the pre-cut angle of the flaps associated with the top front panel **506** and the top back panel **512** so that a side surface of the hinged top of the outer box mates with a side surface of a body of the outer box when the outer box is in a closed state.

[0028] The outer box **102** has dimensions suitable for providing a snug fit for the inner box **106** when disposed within the outer box **102**. The outer box **102** has a width W_{OB} that is common to each of the top panel **502**, bottom panel **504**, top front panel **506**, bottom front panel **508**, bottom back panel **510**, and top back panel **512**. The bottom back panel **510** has a length L_{OB-BBP} that is substantially longer than the length of the top back panel (L_{OB-TBP}) **512**. The sum of L_{OB-BBP} and L_{OB-TBP} is approximately equal to the length of a cigarette pack, e.g., the length of the inner box **106**. The length of the bottom front panel (L_{OB-BFP}) **508** is substantially longer than the length of the top front panel (L_{OB-TFP}) **506**. The sum of L_{OB-BFP} and L_{OB-TFP} is substantially equal to the sum of L_{OB-BBP} and L_{OB-TBP} . According to an embodiment $L_{OB-BBP}=75.10$ mm, $L_{OB-TBP}=11.40$ mm, $L_{OB-BFP}=55.5$ mm, and $L_{OB-TFP}=31.0$ mm. The depth or thickness of the outer box **102** is equal to the width (W_{OB-FLP}) of the side and dust flaps and the length (e.g., shortest edge) of the top panel (L_{OB-TF}) **502** and bottom panel (L_{OB-BP}) **504**. According to an embodiment $L_{OB-TF}=L_{OB-BP}=W_{OB-FLP}=21.9$ mm.

[0029] FIG. 3 illustrates a planar view of a blank for forming an inner box **106** of the container in accordance with an embodiment of the present disclosure. As shown in FIG. 3, the blank **600** for inner box **106** includes a top panel **602**, a bottom panel **604**, a top front panel **606**, a bottom front panel **608**, and a back panel **610**. The opening **110** of the inner box extends across the top front panel **606** and the top panel **602**. The inner box blank is made of foil lined paperboard wherein a layer of paperboard is adhered to a foil layer and the foil layer is adhered to a paper layer which establishes the product side surface of the assembled inner box **106**.

[0030] Each panel is separated from an adjacent panel by a transverse fold line. The top front panel **606** is separated from the top panel **602** by a transverse fold line **612**. The top panel **602** is separated from the back panel **610** by a transverse fold line **614**. The back panel **610** is separated from the bottom panel **604** by a transverse fold line **616**. The bottom panel **604** and the bottom front panel **608** are separated by transverse fold line **618**.

[0031] Each panel includes associated side flaps. The top front panel **606** includes a left side flap **620** and a right side flap **622**. The left side flap **620** has a pre-cut edge **621** that

extends at an angle of approximately 45° from the transverse fold line 612. The right side flap 622 has a pre-cut edge 623 that extends at an angle of approximately 135° from the transverse fold line 612. The top panel 602 includes a left side flap 624 and a right side flap 626. The left side flap 624 has a pre-cut edge 625 that extends at an angle of approximately 45° from the transverse fold line 614. The right side flap 626 has a pre-cut edge 627 that extends at an angle of approximately 135° from the transverse fold line 614. The back panel 610 includes left side flap 628 and a right side flap 630. The front panel 608 includes a left side flap 632 and a right side flap 634.

[0032] The bottom panel 604 includes a left dust flap 636 and a right dust flap 638.

[0033] The inner box 106 has dimensions suitable for storing a desired number (e.g., count) of consumer goods, which according to an embodiment are cigarette articles. The inner box 106 has a width W_{IB} that equals the width of each of the top panel 602, bottom panel 604, top front panel 606, bottom front panel 608 and back panel 610. The back panel 610 has a height or length (L_{IB-BKP}) sufficient for enclosing the consumer goods. The sum of the lengths of the top front panel 606 (L_{IB-TFP}) and the bottom front panel 608 is equivalent to L_{IB-BKP} . According to an embodiment of the present disclosure, $L_{IB-BKP}=83.6$ mm, $L_{IB-TFP}=27.2$ mm, and $L_{IB-BFP}=43.39$ mm. The depth or thickness of the inner box 106 is established by the width W_{IB-FLP} shared by each of the side and dust flaps and the length (e.g., shortest edge) of the top panel (L_{IB-TP}) 602 and bottom panel (L_{IB-BP}) 604. According to an embodiment, $L_{IB-TP}=L_{IB-BP}=W_{IB-FLP}=20.55$ mm.

[0034] According to embodiments of the present disclosure, a sum of lengths of the top back panel 512 and bottom back panel 510 of the outer box 102 is at least equal to a length of the back panel 610 of the inner box 106, where ($L_{OB-TBP}+L_{OB-BBP}=L_{IB-BKP}$), and in an embodiment the sum of lengths is greater, where ($L_{OB-TBP}+L_{OB-BBP}>L_{IB-BKP}$), so that the proper fit of the inner box 106 within the outer box 102 and closure of the hinged top 104 can be realized.

[0035] Each side and dust flap of the inner box 106 is separated from the associated and/or adjacent panel by a longitudinal fold line. The top front panel 606 is separated from the left and right side flaps 620, 622 by longitudinal fold lines 640. The top panel 602 is separated from left and right side flaps 624, 626 by longitudinal fold lines 642. The back panel 610 is separated from left and right side flaps 628, 630 by longitudinal fold lines 644. The bottom panel 604 is separated from left and right dust flaps 636, 638 by longitudinal fold lines 646. The bottom front panel 608 is separated from left and right side flaps 632, 634 by longitudinal fold lines 648.

[0036] FIGS. 4a and 4b are flow charts of a process for making the container in accordance with an embodiment of the present disclosure; and FIG. 5 illustrates a sequence of assembly states of the container according to the assembly process of FIGS. 4a and 4b. As shown in FIGS. 4a and 4b, the process includes a first step (S700) in which the inner box 106 is assembled from the inner box blank 600 by folding the left and right side flaps 628, 630 about the longitudinal fold lines so that they are substantially orthogonal to the back panel 610. In step S702, the dust flaps 636, 638 of the bottom panel 604 are folded over the longitudinal fold lines 646 so that they are substantially planar with the bottom panel 604. According to an embodiment, an adhesive

can be applied to the dust flaps 636, 638 so that they adhere to the bottom panel 604 when folded. As shown in State 1 of FIG. 5, a lower section 650 including the bottom panel 604 and the bottom front panel 608 is folded about transverse fold line 616 so that it is substantially orthogonal to the bottom panel 604 (S704). The consumer goods or product is then placed into the area bounded by the left and right side flaps 628, 630 and the bottom panel 604 (S706). An upper section 652 including the top panel 602 and the top front panel 606 is folded about transverse fold line 614 so that the upper section 652 is substantially orthogonal to the back panel 610 (S708, State 2). The bottom front panel 608 is folded over transverse fold line 618 so that it is parallel with the back panel 610 (S710, State 3). The top front panel 606 is folded over transverse fold line 612 so that it is parallel with the back panel 610 and planar with the bottom front panel 608 (S712, State 4).

[0037] An adhesive can be applied to the left and right side flaps 624, 626 of the top panel 602. The left and right side flaps 624, 626 of the top panel 602 are folded over longitudinal fold lines 642 and adhere to the side flaps 628, 630 of the back panel 610 (S714, State 5). An adhesive can be applied to the side flaps 632, 634 of the bottom front panel 608 and to the left and right side flaps 620, 622 of the top front panel 606. The side flaps 632, 634 of the bottom front panel 608 are folded about longitudinal fold lines 648 and adhere to the left and right side flaps 628, 630, respectively, of the back panel 610 (S716, State 6). The left and right side flaps 620, 622 of the top front panel 606 are folded about longitudinal fold lines 640 and adhere to the left and right side flaps 628, 630, respectively, of the back panel 610 (S718, State 6). It is noted that the left and right side flaps 620, 622 of the top front panel 606 are planar with and do not overlap the side flaps 624, 626, respectively of the top panel 602 because of the pre-cut angles of their respective edges.

[0038] The outer box 102 is assembled from the outer box blank 500 by folding the left and right side flaps 534, 536 of the bottom back panel 510 about longitudinal fold lines 554 so that the left and right side flaps 534, 536 are substantially orthogonal to the bottom back panel 510 (S720). The left and right dust flaps 518, 520 of bottom panel 504 are folded over longitudinal fold lines 556 so that they are substantially planar with each other and parallel with the bottom panel 504 (S722, State 7). According to an embodiment, adhesive can be applied to the left and right dust flaps 518, 520 so that they adhere to the bottom back panel 510 when folded. A lower section 505 of the outer box 102 including the bottom panel 504 and the bottom front panel 508 is folded about transverse fold line 544 so that the lower section 505 is substantially orthogonal to the bottom back panel 510 (S724, State 7). The assembled inner box 106 is placed within the area of the outer box 102 bounded by the left and right side flaps 534, 536 and the bottom panel 504 (S726, State 8). The bottom front panel 508 is folded over transverse fold line 546 so that the panel is substantially parallel with the bottom back panel 510 (S728, State 9). An adhesive can be applied to the left and right side flaps 530, 532 of the bottom front panel 508. The side flaps 530, 532 are then folded about longitudinal fold lines 558 and adhere to the left and right side flaps 534, 536, respectively, of the bottom back panel 510 (S730).

[0039] An upper section 503 of the outer box 102 including the top panel 502 and the top front panel 506 is folded

about transverse fold line **540** so that the upper section **503** is substantially orthogonal to the bottom back panel **510** (S732, State 9). The left and right side flaps **526**, **528** of the top back panel **512** are folded about longitudinal fold lines **552** so that they are planar with the left and right side flaps **534**, **536**, respectively, of the bottom back panel **510** (S734). It is noted that the angled edges of the left and right side flaps **534**, **536** of the bottom back panel **510** and the angled edges of the left and right side flaps **526**, **528**, respectively, of the top back panel **512** are pre-cut so that they do not overlap and allow for opening of the hinged top **104** of the outer box **102**. The top front panel **506** is folded about transverse fold line **538** so that the top front panel **506** is parallel with the bottom back panel **510** and planar with the bottom front panel **508** (S736, State 16). An adhesive is applied to the left and right side flaps **522**, **524** of the top front panel **506**. The left and right side flaps **522**, **524** of the top front panel **506** are then folded about longitudinal fold lines **548** and adhere to the folded left and right side flaps **526**, **528**, respectively of the top back panel **512** (S738, State 10). According to another embodiment, the front flap **513** can be adhered to a back surface **147** of the top front panel **506** after being folded about the transverse fold line **539**.

[0040] FIG. 6 shows an assembled packing **900** with an opening **908** in an inner box **904** located within an outer box **902**. The outer box has a hinged lid **906** which when opened allows access to consumer items in the inner box **904**.

[0041] Thus, it will be appreciated by those skilled in the art that the present invention can be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The presently disclosed embodiments are therefore considered in all respects to be illustrative and not restricted. The scope of the invention is indicated by the appended claims rather than the foregoing description and all changes that come within the meaning and range and equivalence thereof are intended to be embraced therein.

1. A box-in-box package comprising:

- a rigid outer box made of a foil lined paperboard, the rigid outer box having a hinged lid configured to provide access to an inner volume of the outer box; and
- a rigid inner box made of a foil lined paperboard, the rigid inner box including,
 - a front wall,
 - a back wall,
 - a top wall,
 - a bottom wall,
 - side walls, and
 - a single uncovered opening extending across the top wall and part way down the front wall, the single uncovered opening configured to provide access to consumer goods in an inner volume of the inner box, the single uncovered opening in the inner box including,
 - a cut-out in the foil lined paperboard, the single uncovered opening excluding a re-sealable label.

2. The box-in-box package of claim 1, wherein the foil lined paperboard of the outer box includes a foil layer adhered to a paper layer and a paperboard layer, an outer surface of the paper layer adhered to an inner surface of the foil layer by a first adhesive layer and an inner surface of the paperboard layer adhered to an outer surface of the foil layer by a second adhesive layer.

3. The box-in-box package of claim 2, further comprising; a polypropylene layer on an outer surface the paperboard layer of the outer box.

4. The box-in-box package of claim 3, wherein the polypropylene layer comprises a polypropylene film.

5. The box-in-box package of claim 2, further comprising; a polyester layer on an outer surface of the paperboard layer of the outer box.

6. The box-in-box package of claim 5, wherein the polyester layer comprises a metallized polyester material.

7. The box-in-box package of claim 2, wherein the paperboard layer of the outer box comprises solid bleached sulfate (SBS) board stock.

8. The box-in-box package of claim 2, wherein the first adhesive layer comprises sodium silicate.

9. The box-in-box package of claim 2, wherein consumer goods are contained in the inner box and the paper layer of the inner box is in direct contact with consumer goods within the inner box.

10. The box-in-box package of claim 2, wherein the inner box is formed from an inner box blank which comprises a front panel corresponding to the front wall, a top panel corresponding to the top wall, a back panel corresponding to the back wall, and a bottom panel corresponding to the bottom wall.

11. The box-in-box package of claim 10, wherein the inner box blank further comprises side panels corresponding to the side walls.

12. The box-in-box package of claim 10, wherein the front panel includes a top front panel and a bottom front panel.

13. The box-in-box package of claim 2, wherein the inner box contains cigarettes in direct contact with the paper layer of the inner box and a portion of the paper layer of the outer box in direct contact with ends of cigarettes located in the single uncovered opening in the inner box.

14. The box-in-box package of claim 1, wherein the inner box is formed from an inner box blank which includes a top front panel corresponding to an upper portion of the front wall separated from a top panel corresponding to the top wall by a first transverse fold line, a back panel corresponding to the back wall separated from the top panel by a second transverse fold line, a bottom panel corresponding to the bottom wall separated from the back panel by a third transverse fold line, and a bottom front panel corresponding to a lower portion of the front wall separated from the bottom panel by a fourth transverse fold line.

15. The box-in-box package of claim 14, wherein the inner box blank includes a first side panel and a second side panel corresponding to the side walls, and wherein the first side panel is separated from the back panel by a first longitudinal fold line, and the second side panel is separated from the back panel by a second longitudinal fold line.

16. A box blank configured to form a box having a hinged lid, the box blank formed of a foil lined paperboard, the foil lined paperboard including,

- a paper layer,
- a foil layer, and
- a paperboard layer, an outer surface of the paper layer adhered to an inner surface of the foil layer and an inner surface of the paperboard layer adhered to an outer surface of the foil layer, the inner surface of the foil layer adhered to the outer surface of the paper layer by a first adhesive layer and the inner surface of the paperboard layer adhered to the outer surface of the foil layer by a second adhesive layer, the paper layer

forming an exposed inner surface of the box when the box blank is formed into the box.

17. The box blank of claim **16**, further comprising:
a polypropylene layer on an outer surface of the paperboard layer.

18. The box blank of claim **17**, wherein the polypropylene layer comprises a polypropylene film.

19. The box blank of claim **16**, further comprising:
a polyester layer on an outer surface of the paperboard layer.

20. The box blank of claim **16**, wherein the paperboard layer comprises solid bleached sulfate (SBS) board stock.

21. The box blank of claim **16**, wherein the second adhesive layer further comprises sodium silicate between the foil layer and the paper layer.

22. The box blank of claim **16**, further comprising:
fold lines configured to form panels of a body portion and a lid portion, the body portion including a front panel, a bottom panel, a back panel, side panels, and dust flaps, and the lid portion including a front panel, top panel, back panel, side panels, and dust flaps.

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