



- (51) **International Patent Classification:**
B65D 5/16 (2006.01) *B65D 5/42* (2006.01)
- (21) **International Application Number:**
PCT/US2016/024130
- (22) **International Filing Date:**
25 March 2016 (25.03.2016)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
62/138,062 25 March 2015 (25.03.2015) US
- (71) **Applicant: INTERNATIONAL PAPER COMPANY**
[US/US]; 6400 Poplar Avenue, Memphis, TN 38197 (US).
- (72) **Inventor: MUISE, Herbert, D.;** 11124 Northstar Ave,
Mira Loma, CA 91752 (US).
- (74) **Agents: RYAN, THOMAS W. et al.;** International Paper
Company, 6283 Tri-ridge Boulevard, Loveland, OH 45140
(US).
- (81) **Designated States** (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,

HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,
MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC,
SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ,
TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU,
TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE,
DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the
earlier application (Rule 4.17(iii))*

Published:

- *with international search report (Art. 21(3))*

(54) **Title:** SHIPPING AND DISPLAY CONTAINER WITH SUPPORTING INSERT

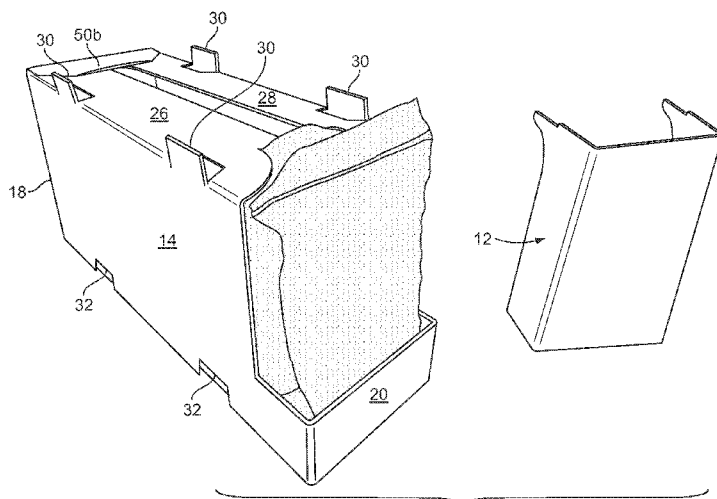


FIG. 4

(57) **Abstract:** A one-piece shipping and display container is formed from a single unitary blank of corrugated paperboard. The one-piece shipping and display container includes opposed parallel side walls, opposed parallel end walls, bottom flaps, and top flaps all of which are foldably joined to one another for closing bottom and top portions of the one-piece shipping and display container. The one-piece shipping and display container includes a supporting insert panel that is removed from the container when the container is in a knock-down position. The supporting insert panel is inserted back into the container before or after the container is filled with products to provide protection for the products and further enhances the strength of the container during shipping and transportation.

5

SHIPPING AND DISPLAY CONTAINER WITH SUPPORTING INSERT

10

CROSS REFERENCE TO RELATED APPLICATION

This application claims priority to US provisional patent application serial no. 62/138,062, filed on 25 March 2015, which is hereby incorporated herein by reference as if fully restated herein.

15

FIELD OF THE INVENTION

This invention relates generally to shipping and display containers, and more particularly to a shipping and display container having a supporting insert and supporting stacked products at a point of sale.

20

BACKGROUND OF THE INVENTION

Containers made of corrugated paperboard are commonly used for storing and shipping agricultural produce. Typically, such containers are formed from a blank scored with score lines and cut lines and have a bottom and opposed sidewalls. As used herein, the term “sidewalls” refers to the side walls extending along opposite sides of a container and the end walls extending across opposite ends of a container. The term “side wall” or “end wall” is used when a particular wall is intended. The blanks are most often formed by automated machines in a continuous in-line process involving cutting, scoring and molding continuous sheets of paperboard. The paperboard is then folded along the score lines and cut lines to form a container. The blanks may be folded into a container by an automated

5 machine or may be set up by hand. For stability in stacking the containers it is common to have stacking tabs extending upward from the top edge of the container sidewalls. These stacking tabs often fit into corresponding notches cut into a superjacent container to help secure the stack. Since containers are usually stacked on top of like-sized containers, the stacking tabs that extend upwardly from a lower container are positioned directly into the
10 sidewalls of a superjacent container. Thus, to accommodate the stacking tabs on a lower container, a complementary notch must be cut out of the bottom edge of the sidewall of a higher container.

Many retailers of agricultural produce and other commodities display and sell their products directly from the container they were shipped in. To do this efficiently, retailers
15 want containers to be strong enough to protect their products during shipping and then can be converted quickly and easily to display the products. The display feature or the window in the container must show enough of the product to allow it to be readily recognized, and then easily removed from the container. To more effectively and efficiently utilize the shelf space in a retail store, retailers prefer to display the product from the narrow end of
20 the container. This makes the compromise between shipping strength and large display area more difficult, as it often requires that the entire width of the container be removed for display.

Corrugated paperboard or fiberboard that is usually used for this type of container is generally produced in one of two container styles. One is the "Regular Slotted Container"
25 or RSC that is the common style of container with four side walls and flaps to form the top and bottom. These are simple and economical. The other style is a "Tray", with a solid

5 bottom, often little or no top, and the side walls and end walls are folded in to place by hand or glued on a machine. These are more complicated and more expensive trays. The claimed invention uses the RSC type construction. The usual shortcoming of display RSC's is that in order to facilitate the display and removal of the product, the strength of this simple structure is severely compromised.

10 Therefore, it is desirable to have a shipping and display container with a supporting insert that significantly improves the strength and simplicity of using it for packing agricultural and/ or other products.

SUMMARY OF THE INVENTION

15

The claimed invention uses a simple and cost efficient RSC structure. The existing way to manufacture a display RSC's is to either cut out the display window as scrap, or perforating its borders so that it can be separated at the point of sale. Both of these options leave the shipping strength of the container severely compromised. Cutting out the window also makes the product exposed. And perforating the borders is a compromise in and of itself. The more is cut to make it easier to remove, the more strength is removed for the shipping function. In the present invention, the material removed for display position is modified to become a supporting insert to be placed inside the container when it is being packed. In the knock-down position of the container prior to packing, the supporting insert remains attached to the container which eliminates additional inventory. The placement of the insert provides protection for the product in the container and substantially enhances the structural strength when compared to cutting out the window. This supporting insert is then

5 easily removed at the point of sale to allow very effective display and removal of the product from the container.

Preliminary testing shows that compared to a plain non-display RSC, one with a cut out window on the end loses approximately 47% of its stacking strength. One with a nicked in window loses about 36%, and the proposed display containers with insert lost only 16%.

10 Three samples of each were tested and averaged.

An advantage of the claimed invention is the simplicity of the structure of the container that allows laborers readily use it for packing of agricultural produce and other products, either in field locations, packing houses, or manufacturing facilities. This container is manufactured using a standard "flexo folder gluer" with minimal re-adjustment from a standard setup for a comparable RSC. At the packing site, the packer or the person setting up the containers would detach the supporting insert from the container by popping the nicks holding them together. The bottom flaps of the container are set up as with most agricultural produce and many other products that are sold in this manner. The supporting insert can be put in place either before, during or after the product is packed in the container as preferred by the packer. Finally, everything is held in place by the top flaps, closed in the fashion common to agricultural produce and other commodities. At the retailer, the container is placed on the shelf, display table, or wherever they chose and the supporting insert is simply pulled out through the display window and recycled with other old corrugated containers (OCC).

25 Accordingly, one aspect of the present invention is directed to a one-piece shipping and display container formed from a single unitary blank of corrugated paperboard. The one-piece shipping and display container comprises opposed parallel side walls, opposed

5 parallel end walls, bottom flaps, and top flaps all of which are foldably joined to one another for closing bottom and top portions of the one-piece shipping and display container. a supporting insert panel is removed from the container when the container is in a knock-down configuration. The supporting insert panel is inserted back into the container before or after the container is filled with products to provide protection for the products and
10 further enhances the strength of the container during shipping and transportation.

Another aspect of the present invention is directed to a one-piece shipping and display container formed from a single unitary blank of corrugated paperboard. The one-piece shipping and display container comprises opposed parallel side walls having respective top and bottom flaps foldably joined to respective top and bottom ends thereof.

15 Opposed parallel end walls are foldably joined to the side walls so that the respective top and bottom flaps are used for closing bottom and top portions of the one-piece shipping and display container. The one-piece shipping and display container includes a supporting insert that is formed on one of the end walls and both of side walls or one of the side walls and both of end walls. The supporting insert is formed by three frangible lines and is
20 defined by first, second, and third frangible lines intersecting one another. The supporting insert panel is removed from the container when the container is in a knock-down position. The supporting insert panel is inserted back into the container before or after the container is filled with products to provide protection for the products and further enhances the strength of the container during shipping and transportation.

25 A further aspect of the present invention is directed to a blank for making a shipping and display container which comprises a single unitary piece of material cut and scored to define a plurality of parallel vertical folds delineating side wall panels, end wall panels, and

5 a glue flap foldably joined to free edge of one of the side walls. Respective top and bottom flaps are foldably joined to respective longitudinal edges of the side walls. Each of the top flaps includes a single first L-shaped slot forming in proximity of one end of the top flap. Each of the bottom flaps includes a pair of space-apart second L-shaped slots forming in proximity of both ends of the respective bottom flaps. Respective depending flanges are
10 foldably joined to respective lateral edges of the end walls. Two of the depending flanges include locking tabs each of which is engaged with corresponding L-shaped slots when the blank is fully constructed. First, second, and third frangible lines are formed on the side wall and end wall panels to define a supporting insert panel that is detached from the blank after the glue flap is attached to one of the end walls.

15 Other features may be incorporated, such as locating tabs, access holes for insert removal, or clearance cutouts to match other features of the container. These would not alter the purpose or function of the invention.

BRIEF DISCRIPTION OF THE DRAWINGS

20

The foregoing, as well as other objects and advantages of the invention, will become apparent from the following detailed description when taken in conjunction with the accompanying drawings, wherein like reference characters designate like parts throughout the several views, and wherein:

25

FIG. 1 is a top perspective view of a shipping and display container having a supporting insert in accordance to a preferred embodiment of the invention;

5 FIG. 2 is a top perspective view of the shipping and display container shown in FIG. 1 illustrating the supporting insert in a partially open position;

 FIG. 3 is a top perspective view of the shipping and display container shown in FIGS. 1 and 2 packed with products;

 FIG. 4 is a top perspective view of the shipping and display container shown in FIG. 3 packed with products and in a display position;

 FIG. 5 is a top plan view of one-piece blank B1 for making the shipping and display container shown in FIGS. 1-4;

 FIGS. 6A-6C depicts the folding sequences of the one-piece blank B1 for making the shipping and display container shown in FIG. 5;

15 FIG. 7 is a knock-down position of the of the shipping and display container shown in FIG. 1 with the supporting insert separated;

 FIG. 8 is a top perspective view of a shipping and display container having a supporting insert in accordance to an alternative embodiment of the invention;

 FIG. 9 is a top plan view of one-piece blank B2 for making the alternative shipping and display container shown in FIG. 8; and

 FIG. 10 is a knock-down position of the alternative shipping and display container shown in FIG. 8 with the supporting insert separated.

5

DETAILED DISCRIPTION OF THE INVENTION

While this invention is susceptible of embodiment in many different forms, there is shown in the drawings and will herein be described in detail preferred embodiments of the invention with the understanding that the present disclosure is to be considered as an
10 exemplification of the principles of the invention and is not intended to limit the broad aspect of the invention to the embodiments illustrated. In the present invention the use of prime character in the numeral references in the drawings directed to the different embodiment indicate that those elements are either the same or at least function the same.

FIG. 1 is a top perspective view of a shipping and display container 10 having a
15 supporting insert 12 in accordance to a preferred embodiment of the invention. The container 10 is preferably rectangular configuration in a "Regular Slotted Container" or RSC with opposed parallel side walls 14, 16; opposed parallel first and second end walls 18, 20; bottom flaps 22, 24, and top flaps 26, 28 closing the bottom and top portions of the container 10. In the claimed invention, the material that removed for display
20 configuration is modified to become a supporting insert 12 to be placed inside the container 10 when it is being packed. In the knock-down configuration or position as shown in FIG. 6C the supporting insert 12 remains attached to the container 10 which eliminates additional inventory. As depicted in FIG. 3, the placement of the supporting insert 12 provides protection for the products in the container and substantially enhances the
25 structural strength when compared to cutting out the window. This supporting insert 12 is then easily removed at the point of sale to allow very effective display and facilitates removal of the product from the container as illustrated in FIG. 4. As illustrated in FIGS. 3

5 and 4, the container 10 may include optional stacking tabs 30 each of which is formed on the respective top flaps 26 and 28.

During use, containers 10 are often stacked on top of one another for ease of shipping and for optimum use of space. For stability in stacking the containers it is common to have stacking tabs 30 extending upward from the top edge of the container
10 sidewalls 14 and 16. These stacking tabs 30 often fit into corresponding notches 32 cut into a superjacent container to help secure the stack. Since containers 10 are usually stacked on top of like-sized containers, the stacking tabs 30 that extend upwardly from a lower container are positioned directly into the sidewalls of a superjacent container. Thus, to accommodate the stacking tabs 30 on a lower container, a complementary notch must be
15 cut out of the bottom edge of the sidewall of a higher container.

FIG. 5 is a top plan view of one-piece blank B1 for making the shipping and display container shown in FIGS. 1-4. The one-piece blank B1 is preferably an integral piece of a material such as continuous sheet of conventional corrugated paperboard. The blank B1 is cut along its outer margins to form its specific shape so that corresponds to the shape of the
20 shipping and display container 10 having the supporting insert 12. In this embodiment, the supporting insert 12 is formed substantially on the end wall panel 20 and partially on the side walls 14 and 16. The blank B1 is divided into side walls 14, 16 and end walls 18, 20 by three parallel fold lines 34, 36, and 38. Moreover, the bottom flaps 22, 24, and the top flaps 26, 28 are also defined by two parallel longitudinal fold lines 46 and 48. A glue flap
25 47 foldably joined to the side wall panel 16 and is defined by fold line 49. The widths of respective side wall panels 14 and 16 are substantially larger than the widths of the respective end wall panels 18 and 20. This configuration provides the retailers to display

5 the product from the narrow end of the container 10. The supporting insert 12 is defined by three orthogonal frangible lines defined by first, second, and third frangible lines 42, 40, and 44 intersecting one another. The first frangible line extends transversely across one of the end walls and both of the side walls and each of the respective second and third frangible lines extends laterally on the respective opposed parallel side walls.

10 Alternatively, the first frangible line extends transversely across one of the side walls and both of the end walls and each of the respective second and third frangible lines extends laterally on the respective end walls. The supporting insert 12 is delineated by frangible lines 40, 42, and 44. The central portion C of the supporting insert 12 is defined two fold lines 36 and 38 and a portion of the fold line 42. The left side L is defined by fold line 36 and the frangible line 44 and a portion of the fold line 42. The right side R is defined by fold line 38 and the frangible line 40 and a portion of fold line 42. It should be noted that when the supporting insert 12 is removed, a major portion of the end wall panel 20 that is defined by frangible line 42 as well as a small portion of the respective side walls 14 and 16 are also removed.

20 The supporting insert 12 includes a hand hole 61 that is used to pull out or remove the supporting insert. The two side wall panels 14, 16 are substantially the same and the respective top and bottom flaps 22, 24, 26, and 28 are substantially the same as well. The side wall 14 includes two spaced apart stacking tabs 30a, 30b formed on fold line 48 which defines the boundary of the side wall 14 and the top flap 26. The two spaced apart stacking tabs 30a, 30b are formed on the top end of the side wall 14. In addition, the side wall 14 includes two spaced apart notches 32a', 32b' formed on fold line 46 which defines the boundary of the side wall 14 and the bottom flap 22. The two spaced apart notches

5 32a', 32b' are formed on the bottom end of the side wall 14. Similarly, the side wall 16 includes two spaced apart stacking tabs 30c, 30d formed on fold line 48 which defines the boundary of the side wall 16 and the top flap 28. The two spaced apart stacking tabs 30c, 30d are formed on the top end of the side wall 16. In addition, the side wall 16 includes two spaced apart notches 32c', 32d' formed on fold line 46 which defines the boundary of
10 the side wall 16 and the bottom flap 24. The two spaced apart notches 32c', 32d' are formed on the bottom end of the side wall 16. When the blank B1 is fully constructed, the stacking tabs 30a', 30b' form the stacking tabs 30 as described hereinbefore. The top flap 26' includes an L-shaped slot 54a and the bottom flap 22' includes two spaced apart L-shaped slot 54c which is a single "L" lock to secure the top flap 26'. The shape of the slots
15 is not restricted to the L-shaped and can be other geometrical shapes as one of ordinary skilled in the art would appreciate it. The end wall 18' includes two opposed first depending flanges 50a' 50b' each which foldably extends from respective opposed lateral edges defined by fold lines 52a', 52b'. The depending flange 50a' includes two first locking tabs 58a', 58b' each of which is engaged with corresponding L-shaped slots 56b'
20 and 54c'. Similarly, the depending flange 50b' includes two rounded edges 59a', 59b' each of which is engaged with corresponding L-shaped slots 54a' and 54b' which is a double "L" lock to secure the bottom flap. The end wall 20' includes a second depending flange 50c' which foldably extends from lateral edge defines by fold line 62. The second depending flange 50c' includes two second locking tabs 60a', 60b' each of which is
25 engaged with corresponding L-shaped slots 56a' and 54d'. The respective wings 64a', 64b' fit under the top flaps 26' and 28' to ensure the supporting insert 12' is securely in place.

5 FIGS. 6A-6C depicts the folding sequences of the one-piece blank B1 for making the shipping and display container shown in FIG. 3. First, the side wall 16' including the glue flap 47' is folded 180 degree along the fold line 38 so that it coextensively lies onto the end wall panel 20' and side wall panel 14'. Next, adhesive is applied to the glue flap 47' and the end wall panel 18' is adhesively attached to the tip of the glue flap 47' as
10 illustrated in FIG. 6C. Prior to erecting the blank B1, the supporting insert 12 is separated from the blank B1 as illustrated in FIG. 7. Then, the bottom flaps 22' and 24' are brought together and locked to one another to form the bottom wall of the container 10 and the top flaps 26' and 28' are brought together and locked to one another to form the top wall of the container 10. It should be noted that in using the container 10, the shipping and display
15 container 10 is filled with products and the supporting insert 12 is placed inside the container and finally the top flaps 26' and 28' are brought together and locked to one another to form the top wall of the container 10. At the point of sale, the retailer removes the supporting insert 12 so that the product is fully exposed for sale.

 FIG. 8 is a top perspective view of a shipping and display container 10' having a
20 supporting insert 12'' in accordance to an alternative embodiment of the invention. FIG. 9 is a top plan view of one-piece blank B2 for making the alternative shipping and display container shown in FIG. 8. FIG. 10 is a knock-down position of the alternative shipping and display container shown in FIG. 8 with the supporting insert separated. In the alternative embodiment, the supporting insert 12'' is formed on the side wall rather than the
25 end wall. Otherwise, the two configurations principally functions and operate the same manner. Since the two configurations are principally the same, then the description of Blank B1 is equally applicable to Blank B2 and the construction of the two blanks B1 and

5 B2 are substantially the same. Applicant does not describe the blank B2 and the construction thereof to avoid redundancy.

While the invention has been described and illustrated with reference to one or more preferred embodiments thereof, it is not the intention of the Applicant that the invention be restricted to such detail. Rather, it is the intention of the Applicant that the invention be
10 defined by all equivalents, both suggested hereby and known to those of ordinary skill in the art, of the preferred embodiments. For example, the supporting insert may be changed so that it contains different length and width corresponds to the size of the product contained therein. Moreover, the geometry of the side wall and end wall panels may be changed so that it can carry more weight within the container. The locking tabs and
15 attachments of the panels to one another may be configured differently so as to correspond to the retailer demands.

5 WHAT IS CLAIMED IS:

1. A one-piece shipping and display container formed from a single unitary blank of corrugated paperboard, the one-piece shipping and display container comprising:

10 opposed parallel side walls, opposed parallel end walls, bottom flaps, and top flaps all of which foldably joined to one another for closing bottom and top portions of the one-piece shipping and display container wherein the one-piece shipping and display container includes

 a supporting insert panel being removed from the container when the
15 container being in a knock-down configuration and wherein the supporting insert panel being inserted back into the container before or after the container is filled with products to provide protection for the products and further enhances the strength of the container during shipping and transportation.

2. The one-piece shipping and display container of claim 1 wherein the
20 supporting insert is formed substantially on one of the opposed parallel end walls and is delineated by frangible lines formed thereon.

3. The one-piece shipping and display container of claim 1 wherein the supporting insert is formed substantially on one of the opposed parallel side walls and is delineated by frangible lines formed thereon.

25 4. The one-piece shipping and display container of claim 1 wherein the supporting insert is formed by three orthogonal frangible lines defined by first, second, and third frangible lines intersecting one another.

5 5. The one-piece shipping and display container of claim 4 wherein the first
frangible line extends transversely across one of the end walls and both of the side
walls and wherein each of the respective second and third frangible lines extends
laterally on the respective opposed parallel side walls.

10 6. The one-piece shipping and display container of claim 4 wherein the first
frangible line extends transversely across one of the side walls and both of the end
walls and wherein each of the respective second and third frangible lines extends
laterally on the respective end walls.

15 7. The one-piece shipping and display container of claim 1 wherein the top
flaps and bottom flaps are foldably joined to respective top and bottom ends of the
respective opposed parallel side walls.

8. The one-piece shipping and display container of claim 1 wherein each of the
top flaps includes a single first L-shaped slot forming in proximity of one end of the
top flap and wherein each of the bottom flaps includes a pair of space-apart second
L-shaped slots forming in proximity of both ends of the respective bottom flaps.

20 9. The one-piece shipping and display container of claim 1 wherein each of the
opposed parallel end walls is defined by a first end wall and a second end wall
wherein the first end wall includes two opposed first depending flanges each of
which foldably extends from respective opposed lateral edges thereof and wherein
the second end wall includes a single second depending flange that extends from a
25 lateral edge thereof.

5 10. The one-piece shipping and display container of claim 9 wherein one of the first depending flanges includes a pair of first locking tabs each of which is engaged with the respective L-shaped slots.

 11. A one-piece shipping and display container formed from a single unitary blank of corrugated paperboard, the one-piece shipping and display container
10 comprising:

 opposed parallel side walls having respective top and bottom flaps foldably joined to respective top and bottom ends thereof and opposed parallel end walls being foldably joined to the side walls so that the respective top and bottom flaps being used for closing bottom and top portions of the one-piece shipping and
15 display container wherein the one-piece shipping and display container includes

 a supporting insert being formed on one of the end walls and both of the side walls or one of the side walls and both of the end walls, the supporting insert being defined by three frangible lines defined by first, second, and third frangible lines intersecting one another wherein the supporting insert panel being
20 removed from the container when the container being in a knock-down position and wherein the supporting insert panel being inserted back into the container before or after the container is filled with products to provide protection for the products and further enhances the strength of the container during shipping and transportation.

 12. The one-piece shipping and display container of claim 11 wherein the first
25 frangible line extends transversely across one of the end walls and both of the side walls and wherein each of the respective second and third frangible lines extends laterally on the respective opposed parallel side walls.

5 13. The one-piece shipping and display container of claim 11 wherein the first frangible line extends transversely across one of the side walls and both of the end walls and wherein each of the respective second and third frangible lines extends laterally on the respective end walls.

10 14. The one-piece shipping and display container of claim 11 wherein each of the top flaps includes a single first L-shaped slot forming in proximity of one end of the top flap and wherein each of the bottom flaps includes a pair of space-apart second L-shaped slots forming in proximity of both ends of the respective bottom flaps.

15 15. The one-piece shipping and display container of claim 11 wherein each of the opposed parallel end walls is defined by a first end wall and a second end wall wherein the first end wall includes two opposed first depending flanges each of which foldably extends from respective opposed lateral edges thereof and wherein the second end wall includes a single second depending flange that extends from a lateral edge thereof.

20 16. A blank for making a shipping and display container, comprising:
 a single unitary piece of material cut and scored to define a plurality of parallel vertical folds delineating side wall panels, end wall panels, and a glue flap foldably joined to free edge of one of the side walls;

 respective top and bottom flaps foldably joined to respective longitudinal
25 edges of the side walls, each of the top flaps includes a single first L-shaped slot forming in proximity of one end of the top flap and wherein each of the bottom

5 flaps includes a pair of space-apart second L-shaped slots forming in proximity of both ends of the respective bottom flaps;

respective depending flanges foldably joined to respective lateral edges of the end walls wherein two of the depending flanges include locking tabs each of which is engaged with corresponding L-shaped slots when the blank is fully

10 constructed; and

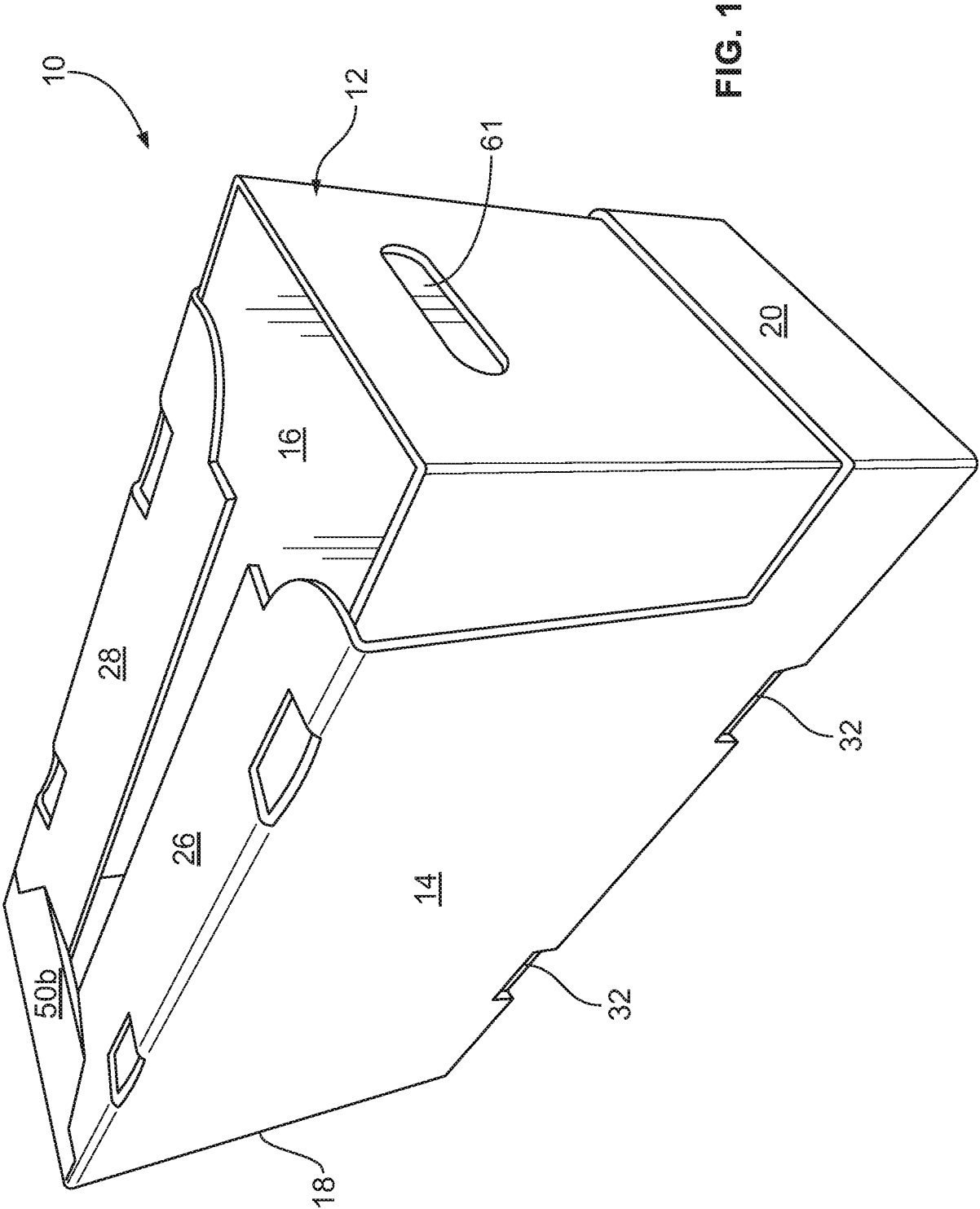
first, second, and third frangible lines are formed on the side wall and end wall panels to define a supporting insert panel that is detached from the blank after the glue flap is attached to one of the end walls.

15

20

25

30



2/9

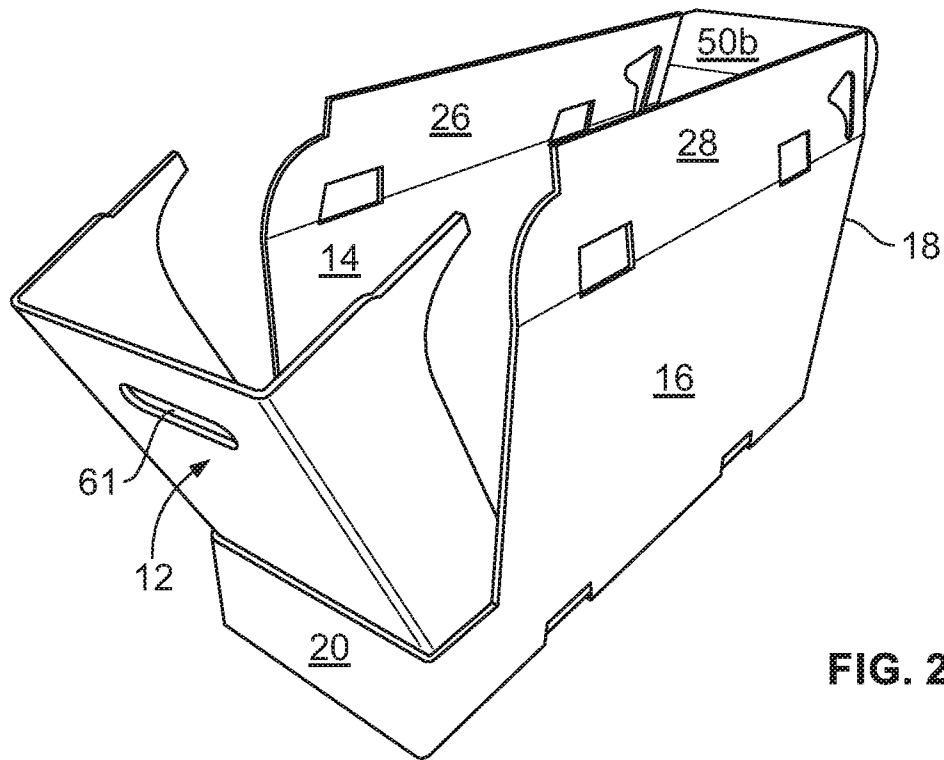


FIG. 2

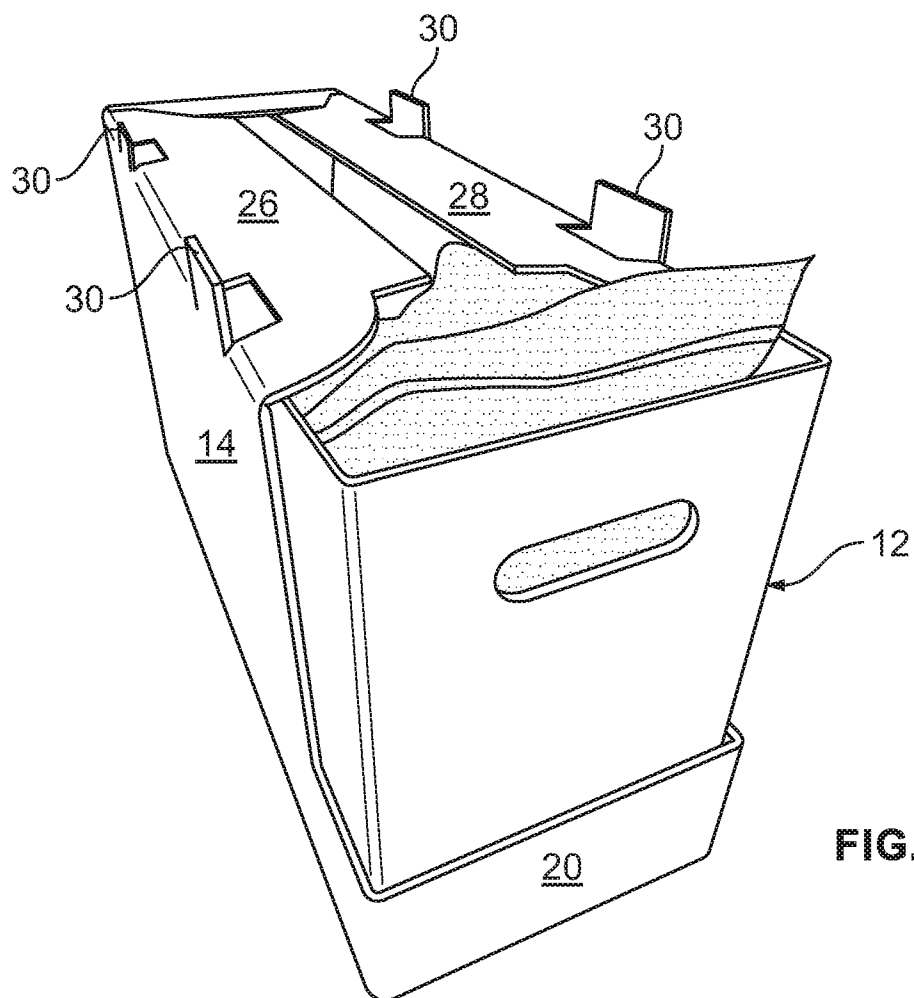
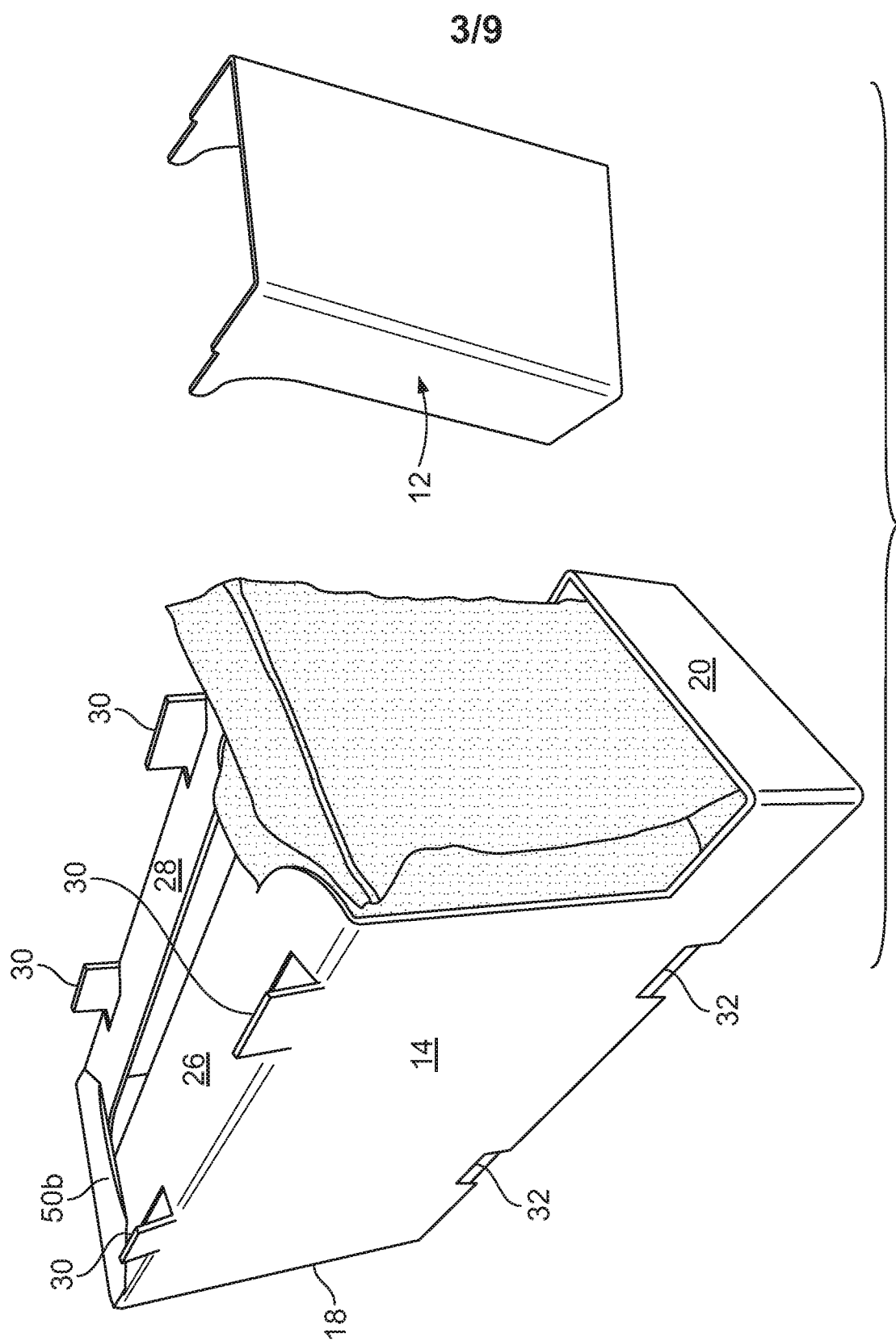
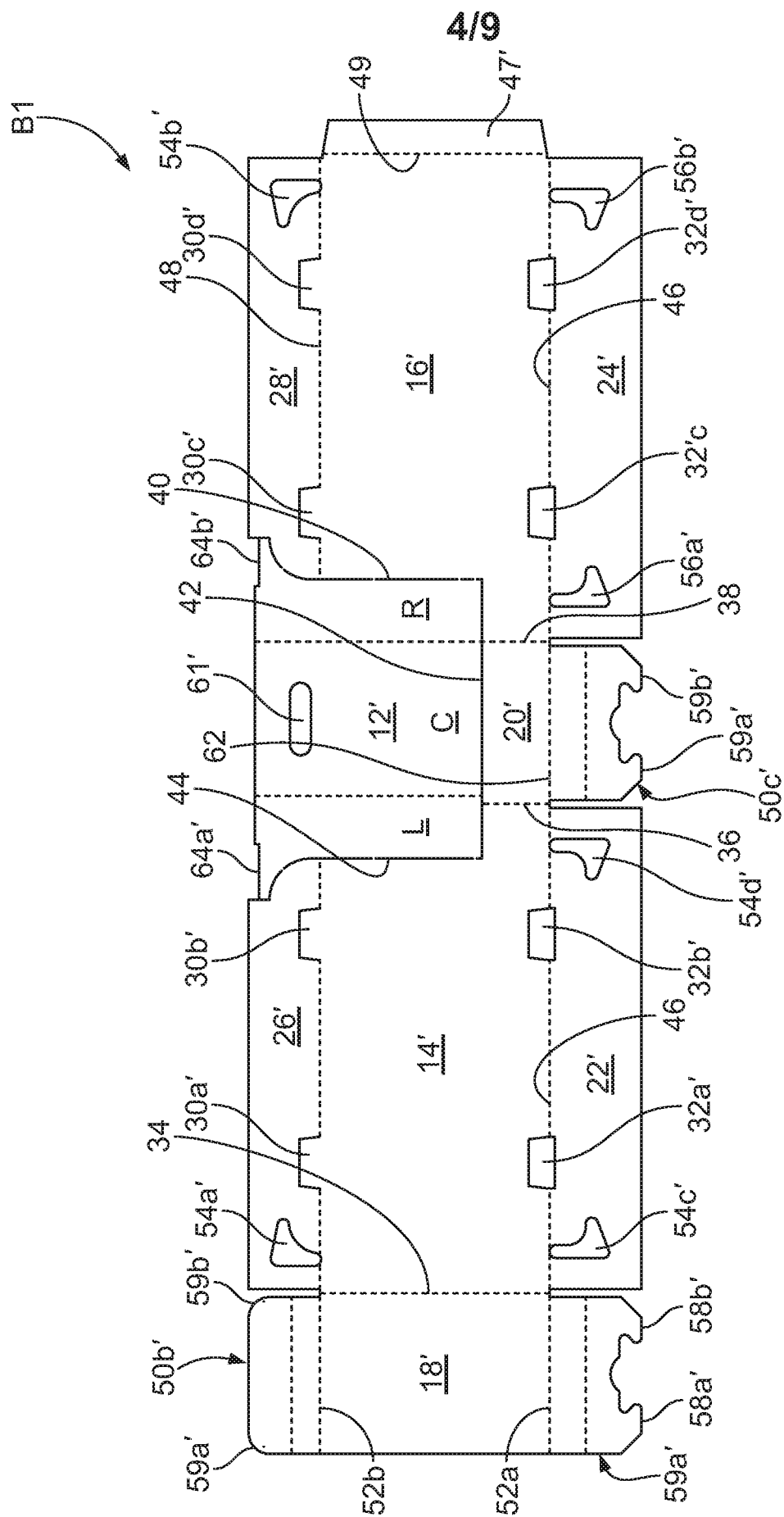


FIG. 3





50

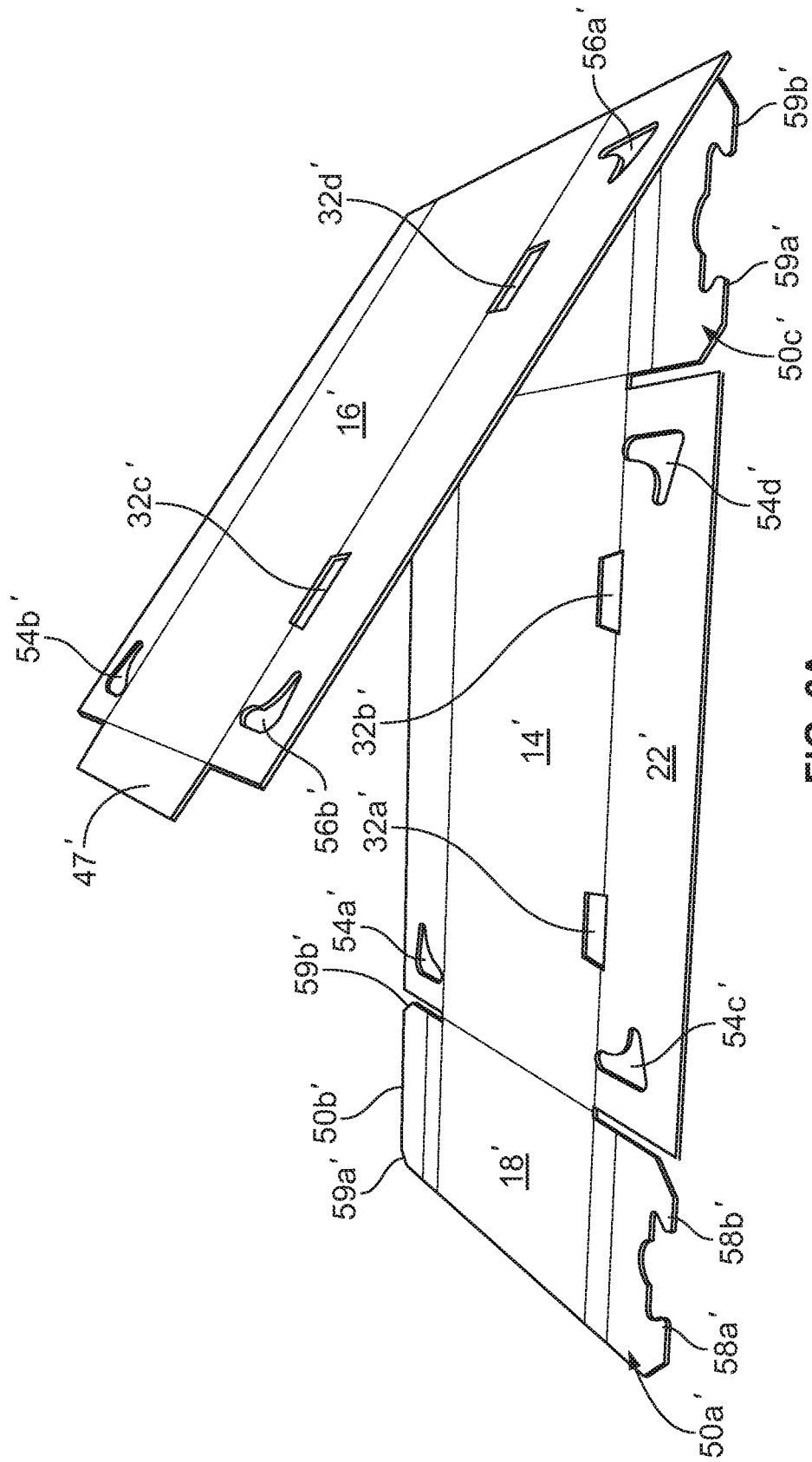


FIG. 6A

6/9

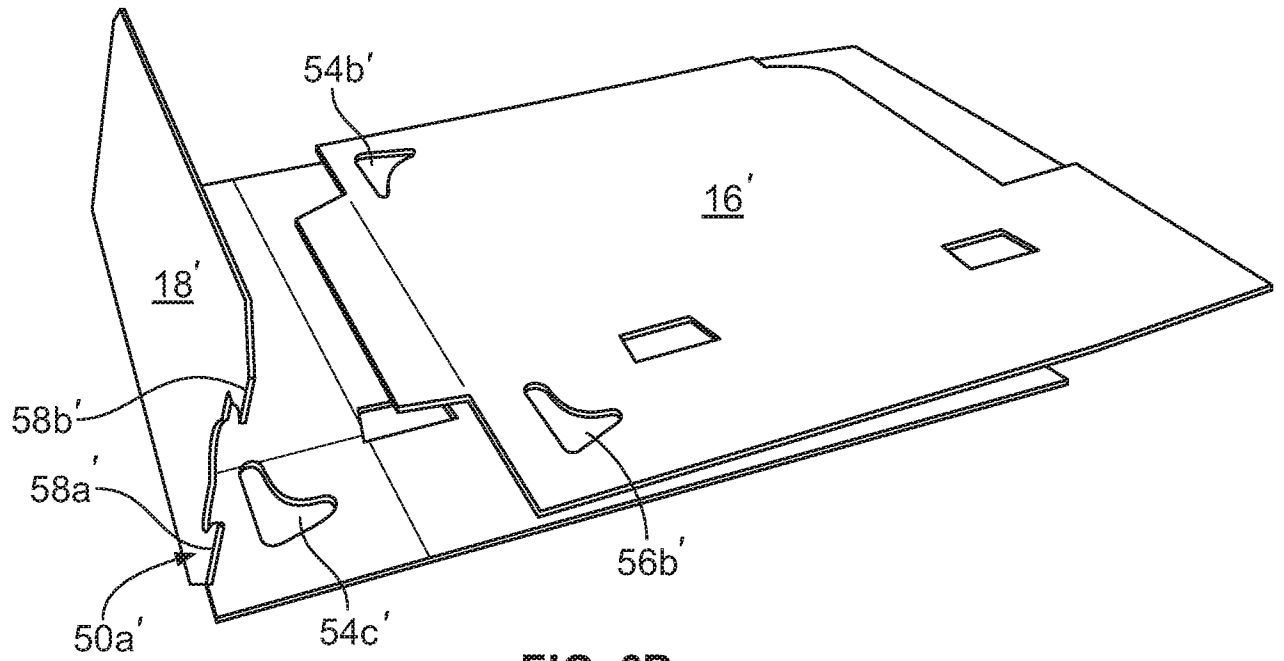


FIG. 6B

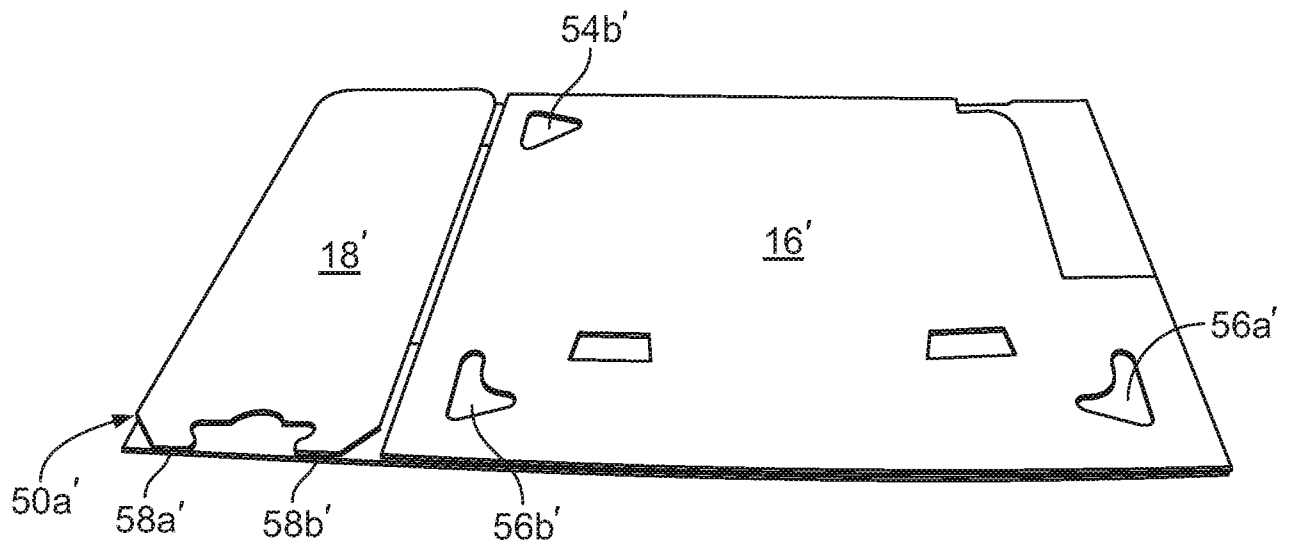


FIG. 6C

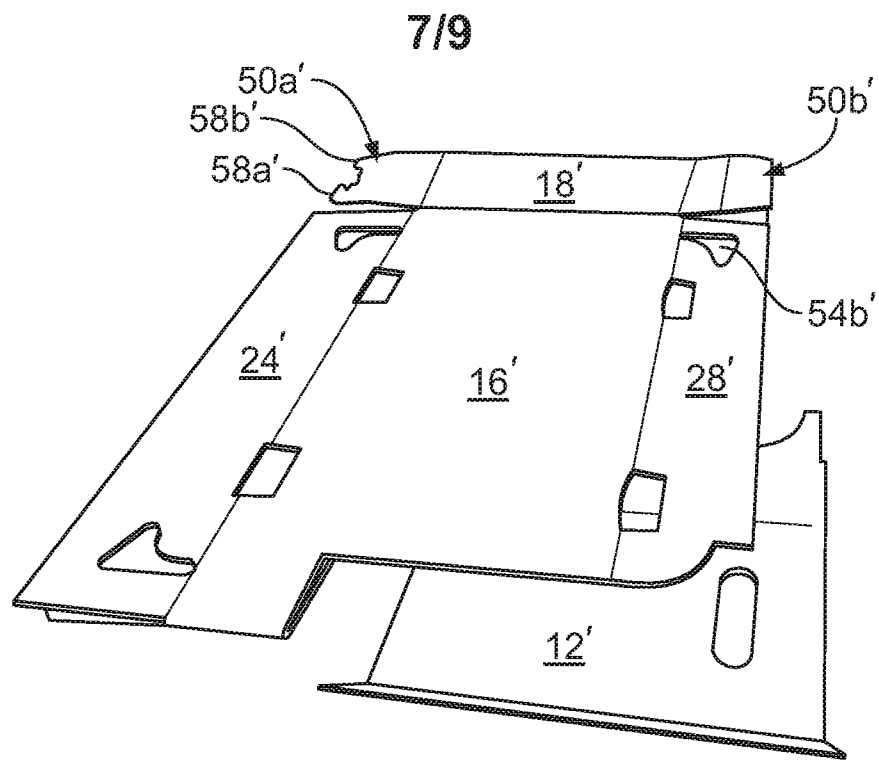


FIG. 7

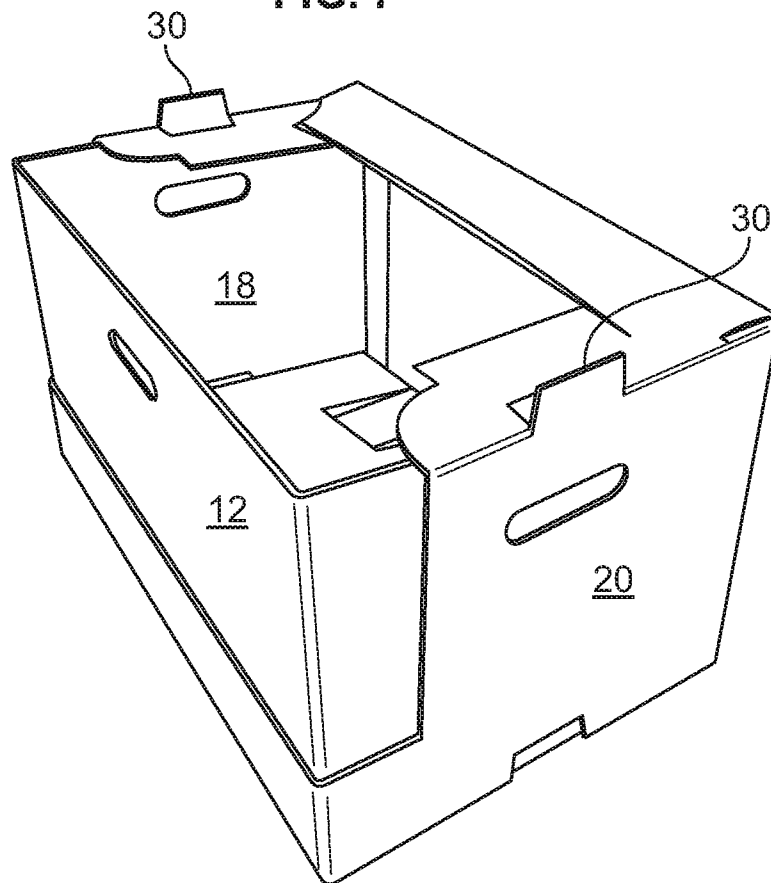
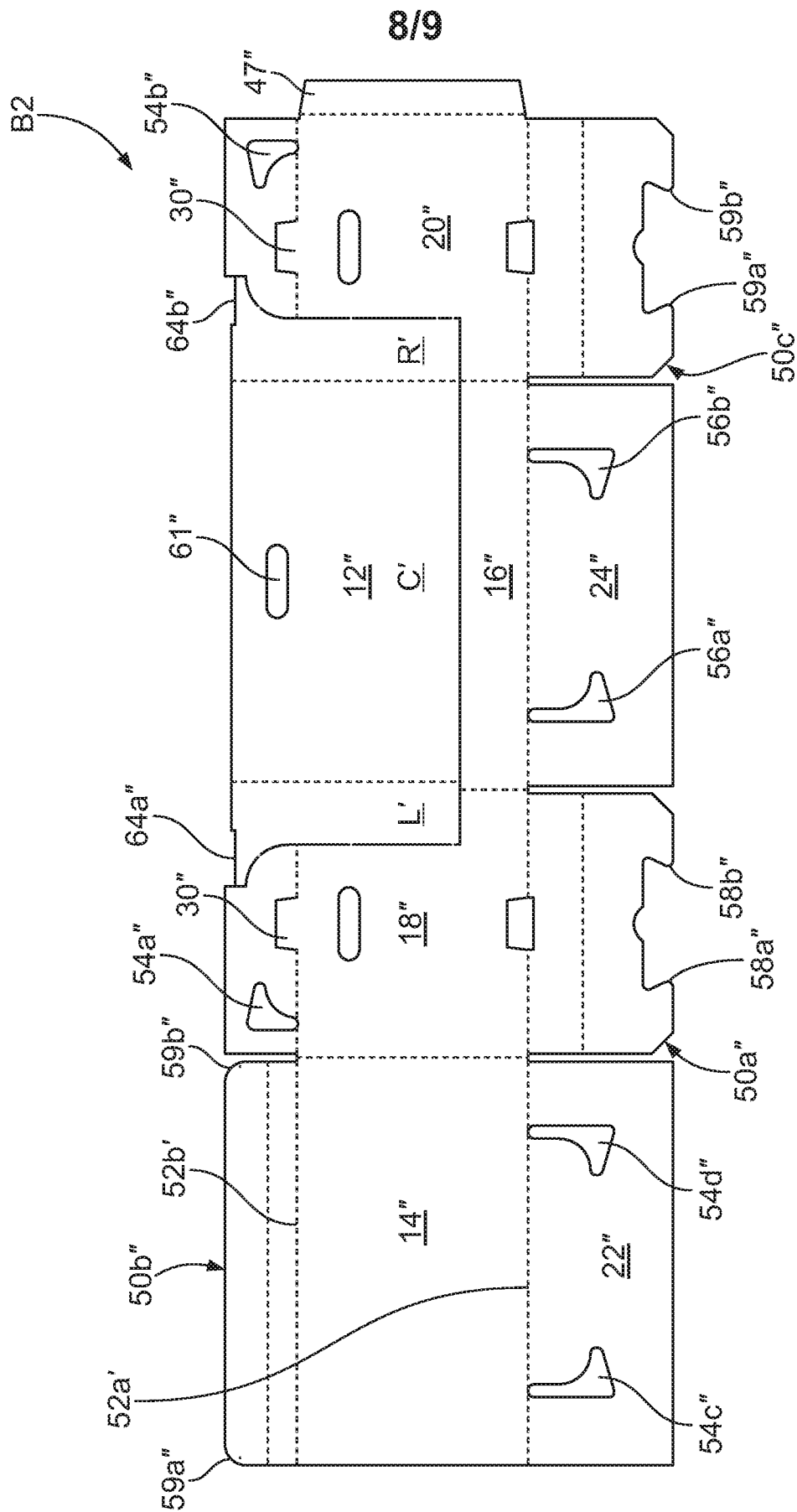
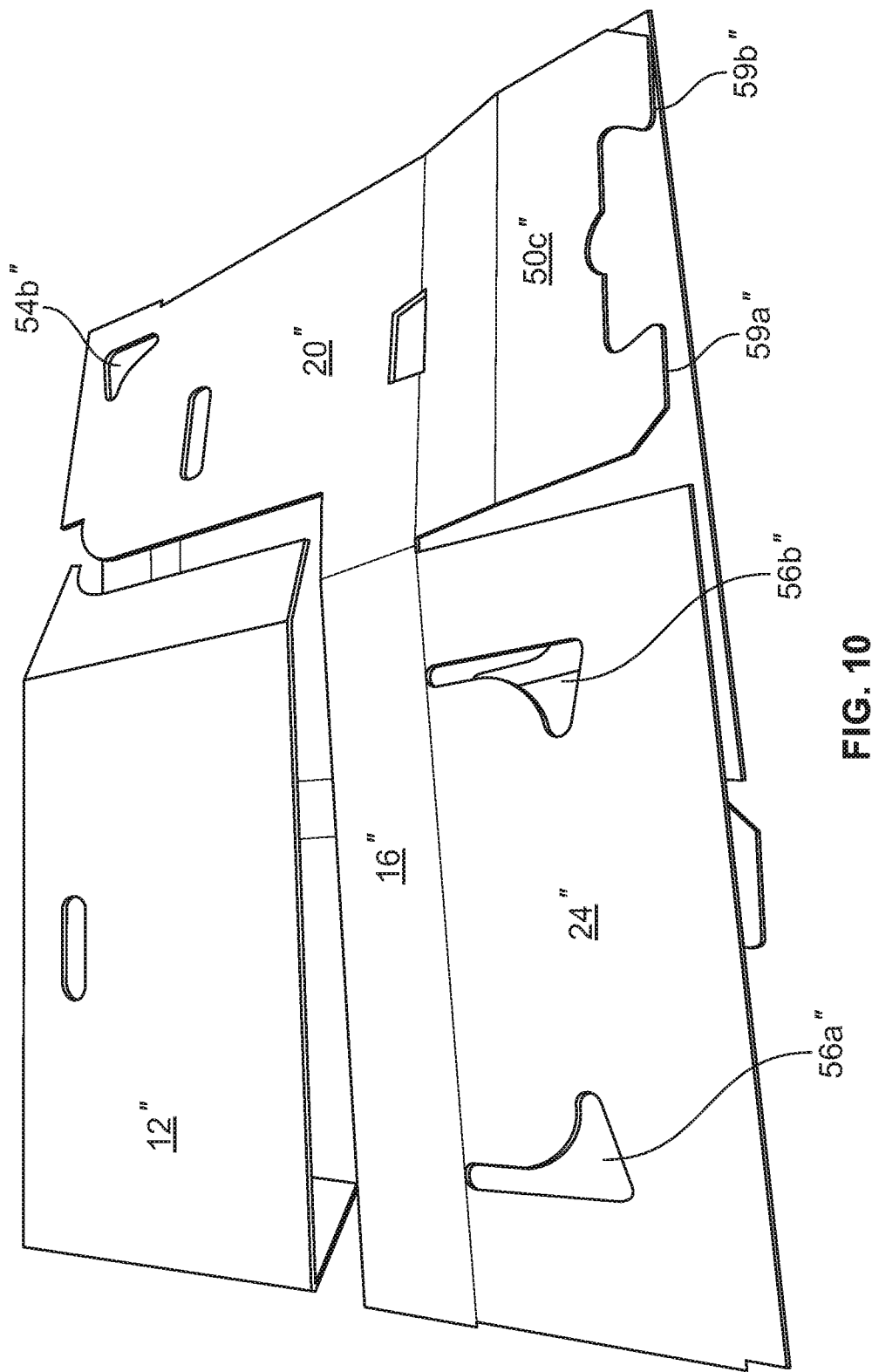


FIG. 8





INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2016/024130

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2016/024130

A. CLASSIFICATION OF SUBJECT MATTER

INV. B65D5/16 B65D5/42
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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	AT 8 062 U1 (MOSBURGER GES M B H [AT]) 15 January 2006 (2006-01-15)	1-4,7
Y	page 2, column 24 - page 3, column 19;	8-10
A	claim 1; figures 4-8	5,6, 11-14,16
Y	----- US 2006/163333 A1 (KORNACKI RANDALL P [US]) 27 July 2006 (2006-07-27)	8-10
A	paragraph [0022]; figures 1, 7	14-16
A	----- WO 2013/062792 A1 (INT PAPER CO [US]) 2 May 2013 (2013-05-02)	1-7, 11-13,16
A	figures 4, 5	
A	----- EP 1 950 141 A1 (DS SMITH KAYSERSBERG [FR]) 30 July 2008 (2008-07-30)	1-7, 11-13,16
	figures 1, 2	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search

12 May 2016

Date of mailing of the international search report

23/05/2016

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Czerny, M

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2016/024130

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
AT 8062	U1	15-01-2006	NONE
US 2006163333	A1	27-07-2006	NONE
WO 2013062792	A1	02-05-2013	CA 2853649 A1 02-05-2013
		EP 2771248 A1 03-09-2014	
		ES 2564279 T3 21-03-2016	
		US 2013105355 A1 02-05-2013	
		WO 2013062792 A1 02-05-2013	
EP 1950141	A1	30-07-2008	EP 1950141 A1 30-07-2008
		FR 2911583 A1 25-07-2008	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-16

Shipping and display container made from one foldable piece of material

1.1. claims: 1-7, 11-13(completely); 16(partially)

Container having a removable insert, the insert enhancing the strength of the container during shipping and transportation when placed within the erected container, the container being convertible into a display container when the insert is removed and a respective blank.

1.2. claims: 8-10, 14, 15(completely); 16(partially)

Container having slots and locking tabs which matingly engage when the container is fully erected.
